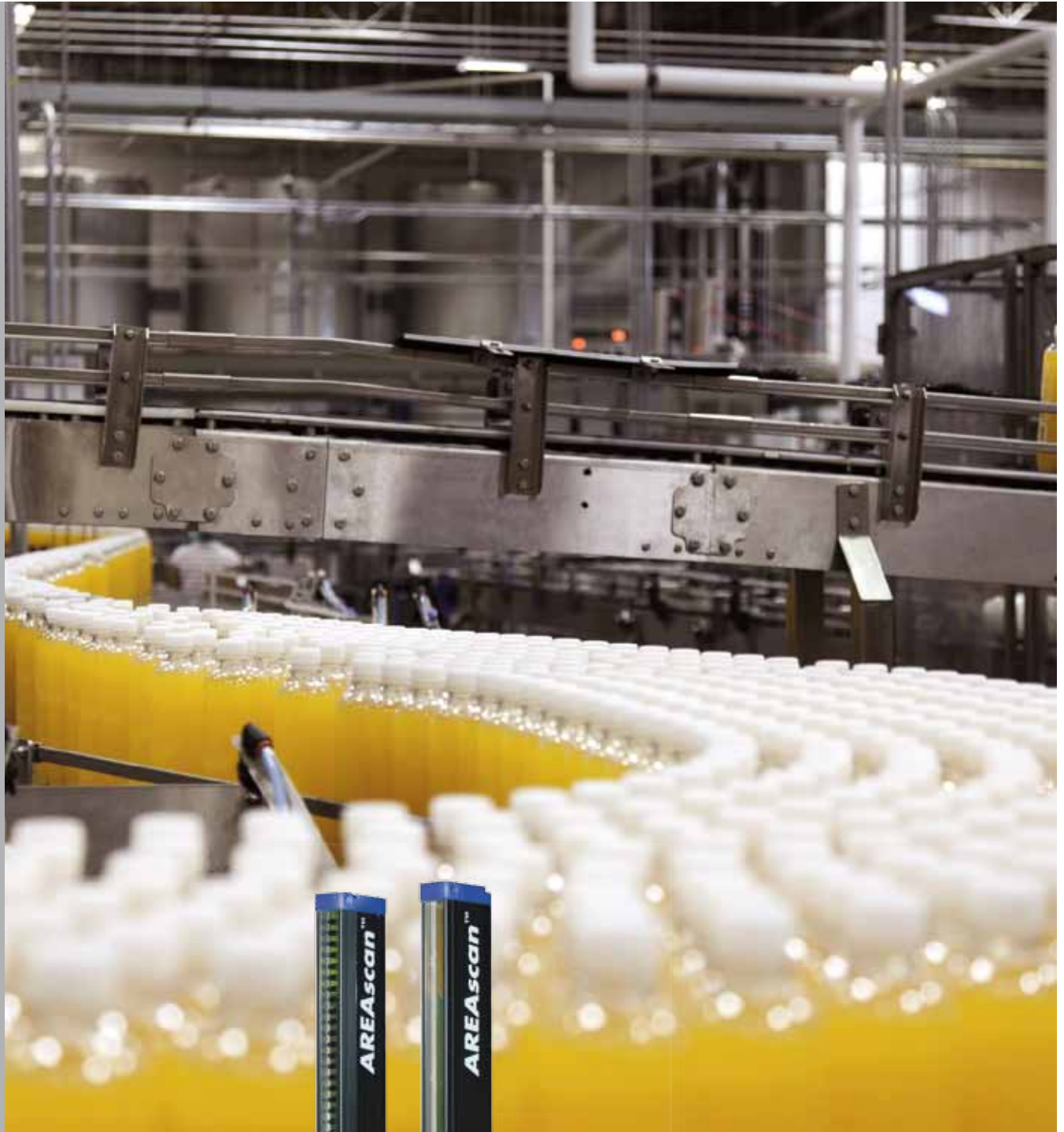


REFERENCE GUIDE



>Photoelectric
Sensors

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

DATALOGIC: SOLUTIONS FOR INDUSTRIAL AUTOMATION

Datalogic Industrial Automation is an industry-leader in products and solutions for material handling, traceability, inspection and detection applications.

With the acquisitions of Accu-Sort and PPT Vision in 2012, the company offers a comprehensive portfolio of products, technologies and solutions delivered by a team of skilled professionals dedicated in providing superior service to customers.

Datalogic is the partner of choice for organizations in the Industrial Automation market.

Factory Automation

- AUTOMOTIVE
- ELECTRONICS
- FOOD & BEVERAGE
- GENERAL MANUFACTURING
- HEALTHCARE - PHARMACEUTICAL

Transportation & Logistics

- AIRPORTS
- COURIER, EXPRESS PARCEL (CEP)
- POSTAL
- RETAIL DISTRIBUTION

Product portfolio

Datalogic Industrial Automation has the most comprehensive offering of products and solutions for traceability, inspection and detection applications in factory automation and logistics processes: industrial LASER scanners, cameras and vision systems, sensors, machine safety devices and LASER markers.

Identification

Even the most demanding and efficient automation of identification processes can leverage Datalogic Industrial Automation's leadership in the market. We manufacture the world's most comprehensive family of fixed-mount line and omnidirectional scanners.

We also offer the latest CCD vision technology with the world's largest installed base of CCD systems for bar code reading and dimensioning.

All of our AUTO-ID products and solutions leverage the broadest decoding library that has been developed through the years. Datalogic's comprehensive AUTO-ID portfolio is used in a wide range of applications and machines which are behind many of the everyday processes that keeps the global economy running.

Sensors & Safety

Datalogic Industrial Automation offers a best-in-class, comprehensive product portfolio of photoelectric and proximity sensors, rotary encoders, temperature controllers and measurement devices, as well as type 2 and type 4 safety light curtains.

These product lines provide solutions for applications involving color, contrast and luminescence, label detection, dimensional and distance measurement, in addition to machine safeguarding and access control in dangerous areas.

Machine Vision

The Datalogic Industrial Automation machine vision product line encompasses both hardware and software while covering a wide range of performance and price point requirements. The vision portfolio of products and solutions ranges from simple vision sensors to smart cameras and embedded vision systems.

Laser Marking

Laser Marking sources and systems provide value driven marking solutions for automotive, metal tools, medical, electronics and packaging. Datalogic Industrial Automation offers an extensive range of state-of-the-art technology, excellent performance and high reliability marking equipment.



PHOTOELECTRIC SENSORS

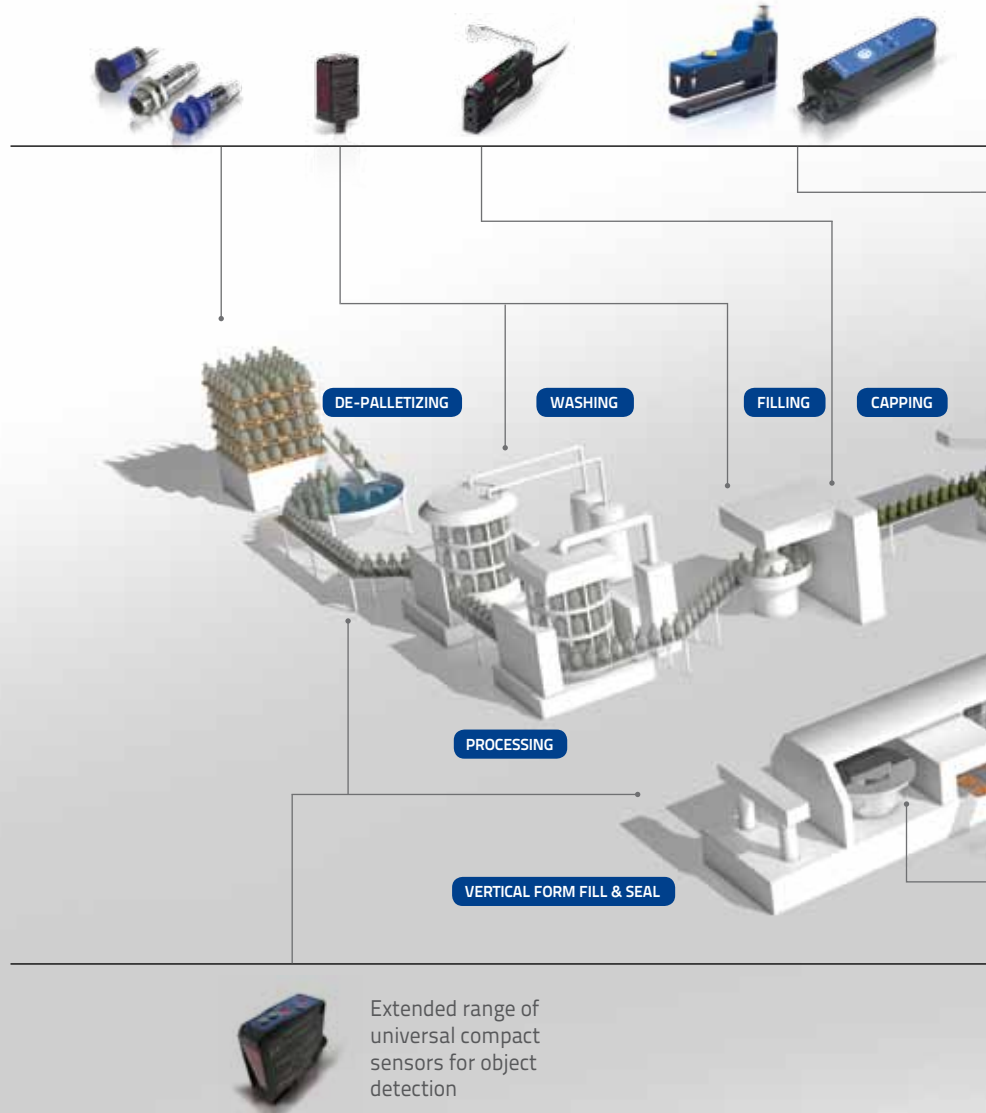
Datalogic has more than 40 years of experience in the sensors and safety sector, developing their first product, a **Photoelectric Sensor**, in 1972. Today, Datalogic is one of the largest manufacturers of sensor and safety products worldwide.

Datalogic is the market leader in Italy for photoelectric sensors and safety light curtains, ranking among the **top-10 manufacturers** in Europe by market share.

Datalogic's **Sensors and Safety** portfolio solves customer applications in **Factory Automation**, specializing in Processing and Packaging machinery, and Automated Material Handling Systems related to manufacturing industries such as Automotive, Electronics, Pharmaceutical, Food & Beverage, Paper and Printing, Wood-working, Ceramics, Glass, and Textiles.

Tubular, Miniature and Fiber Optic sensors for object detection in reduced space

Fork sensors for label detection



- APPLICATIONS**
- De-Palletizing
 - Washing
 - Filling
 - Capping
 - Labeling
 - Case Packing
 - Stretch-wrapping
 - Palletizing
 - Storage & Retrieval
 - Cartoning
 - Wrapping
 - Vertical Form Fill & Seal
 - Processing

Extended range of universal compact sensors for object detection

SENSOR PRODUCTS



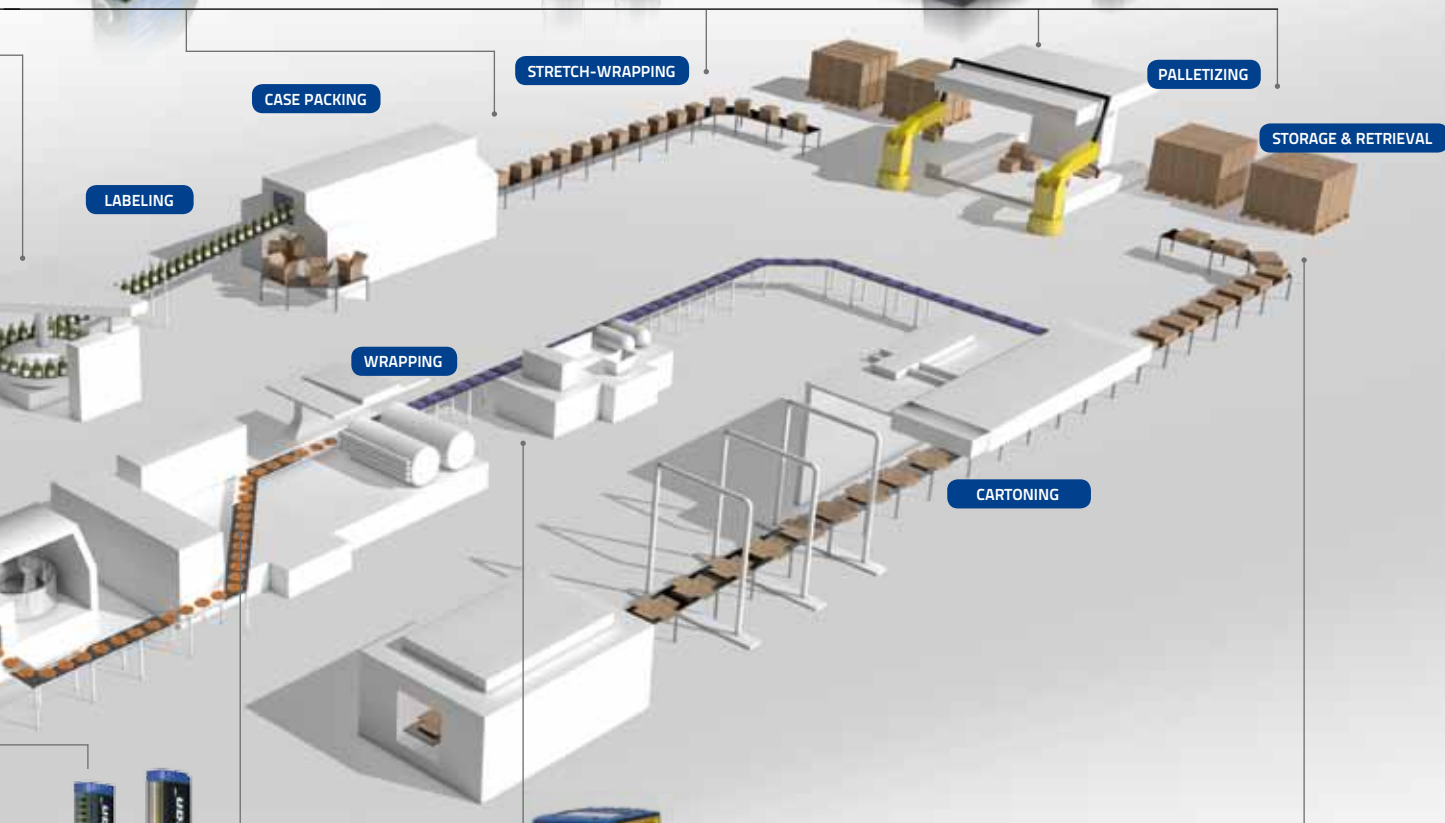
Contrast and Luminescence sensors for registration marks detection



Area sensors for the detection of objects with different shape and dimensions



Maxi and Compact sensors for object detection



Dimensional sensors for height/width measurement and object positioning



TOF distance sensors for measurement and object positioning



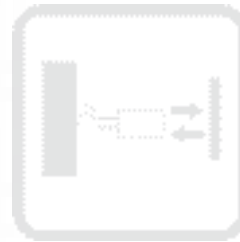
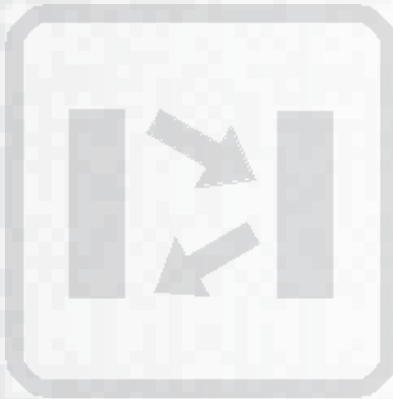
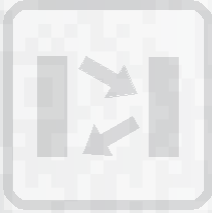
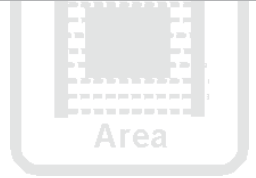
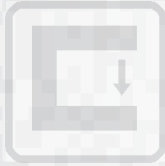


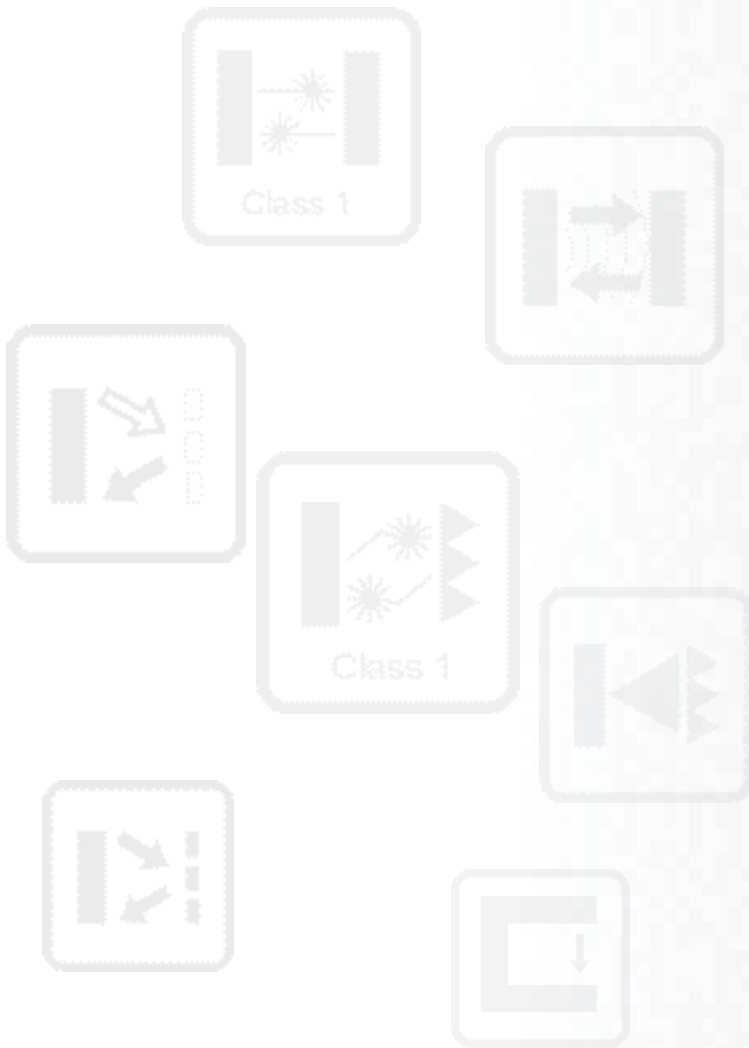
12-11-2009 14:00:00

Photoelectric sensors	8
Selection chart	14
Reference guide	18
Tubular sensors	20
Miniature sensors	38
Compact sensors	64
Maxi sensors	88
Fiber optic sensors	96
Fork sensors	106
Contrast sensors	122
Luminescence sensors	130
Color & Contrast sensors	134
Area sensors	138
Dimension light grids	142
Distance sensors	150
Accessories	162



PHOTOELECTRIC SENSORS





A Photoelectric sensor is a device used to detect the distance, absence or presence of an object, as well as to distinguish different items on the basis of their light absorption and reflection properties.

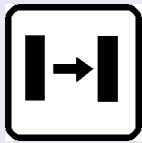
A photoelectric sensor consists of an emitter and receiver unit, coupled by either a modulated LED or LASER light beam. Photoelectric sensors are available in three different functional types depending the environment and the detection objects physical properties: through beam, retroreflective, and proximity. These sensors are ideal for generic industrial applications such as counting, presence control, or automatic positioning.

In addition, Datalogic offers solutions in a variety of applications such as contrast reading, distance and area measuring, as well as luminescence and color detection.

PHOTOELECTRIC SENSORS

PHOTOELECTRIC SENSORS

THROUGH BEAM



The light emitter and receiver are contained in two different housings and installed facing each other. The light beam released by the emitter directly hits the receiver; every object interrupting the beam is therefore detected. This system is used to obtain significant signal differences (when the light directly hits the receiver and when the object interrupts the beam) with the highest Excess Gain and the largest operating distance (up to 60 m). Moreover, these sensors can operate in the harshest working conditions, such as dirty or dusty environments. The through beam optic function typically operates in the dark mode: the output is activated when the object interrupts the light beam between emitter and receiver.

RETROREFLECTIVE



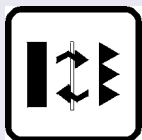
Both emitter and receiver are located inside the same housing for retro-reflective photoelectric sensors. Utilizing a prismatic reflector, the emitted light beam is reflected onto the receiver, detecting the object when it interrupts the light beam.

POLARIZED RETROREFLECTIVE



In polarized retroreflective sensors, the emitted light is polarized on a vertical plane through a polarization filter. The prismatic reflector rotates the light plane by 90°. A polarization filter placed on the receiver selects only the horizontal plane reflected by the prismatic reflector, ignoring the light reflected by other light sources. This technique guarantees a reliable signal reception, reaching significant distances.

RETROREFLECTIVE FOR TRANSPARENT



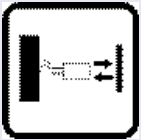
For the detection of transparent objects, such as PET bottles or Mylar sheets, a low-hysteresis polarized retroreflective model (which detects small signal differences) can be used.

These sensors elaborate the slight signal differences received when the light beam passes through a transparent object, avoiding false detections due to the nature of this kind of targets.

This technique mostly suits applications for the detection of objects positioned at considerable distances, where a prismatic reflector can be installed.

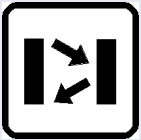
Typically, the operating distance proportionally increases with the reflector's dimensions.

DIFFUSE PROXIMITY



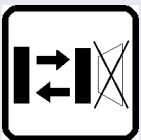
In photoelectric sensors with this optic function, both emitter and receiver are placed inside the same housing. These sensors work with weaker signals because the emitted light beam is reflected to the receiver by the object. As a consequence, the excess gain and the operating distance are reduced. However objects are detected without a prismatic reflector, making installations quick and easy.

FIXED FOCUS PROXIMITY



Fixed focus proximity sensors have a simple fixed background suppression distance, beyond which no objects are detected. The fixed triangulation of the optics greatly reduces the detection distance of reflective objects. The visible red emission simplifies the sensor's installation.

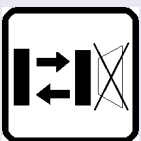
BACKGROUND SUPPRESSION



Background suppression sensors detect objects while avoiding reflections from the background. When the sensor is used for the first time, the proper background suppression distance has to be set through a distance adjustment trimmer. Once the background has been acquired, the objects can be detected regardless of their color. Background suppression sensors are not very reliable with highly clear, transparent or shiny objects.

BACKGROUND SUPPRESSION

FOR CLEAR DETECTION



Background suppression technology often has difficulty reliably detecting transparent, clear, or shiny objects. These objects generate false detections due to their highly reflective surfaces. Datalogic's patented background suppression technology guarantees reliable and repeatable detection, ignoring the false detections. Models are available with LED emission, ideal for reflections caused by moving surfaces such as conveyor belts, or with LASER emission for the detection of small objects on fixed or highly reflective backgrounds. Since background suppression sensors do not require a prismatic reflector, these sensors can substitute for a polarized retroreflective sensor for transparent objects for shorter distances.

PHOTOELECTRIC SENSORS

CONTRAST



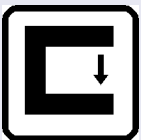
Contrast sensors distinguish the received light beams on the basis of their degrees of intensity, which depend on the color or material of the detected surfaces. A typical application of these sensors is the detection of colored registration marks used in packaging machines to synchronize the folding, cutting and welding phases. In presence of colored surfaces, the contrast is highlighted using a LED with colored light emission, typically a selectable red, green or blue LED. The white light emission allows to detect very slight contrasts in similar materials and colors.

LUMINESCENCE



Luminescence sensors emit invisible ultraviolet light, which is reflected at a higher wavelength (minor energy) on the fluorescent and phosphorescent surface, shifting into the visible light spectrum. The ultraviolet emission is modulated and the visible light reception is synchronized. The maximum immunity against external interferences, like reflections caused by very shiny surfaces, is obtained and fluorescent targets, invisible to the human eye, can be detected. Luminescence sensors are used in several industrial fields to detect items containing phosphorous such as labels on glass or mirrors, fluorescent marks marked on tiles, fluorescent glues on paper, cutting and sewing guides, as well as fluorescent paints or lubricants.

FORK



A fork sensor, is based on a particular model of the through beam sensor, where emitter and receiver are placed opposite to each other on the internal sides of an 'U-shaped' housing. Any target passing through the internal slot interrupts the beam and is detected. The most typical fork sensor applications are hole/teeth detection on wheels, label detection on thin supports, and control of edge and continuity of sheets of labels or tapes. The emission is generally infrared or red light in order to detect colored registration marks on translucent films.

COLOR



The color of an object is identified according to the different reflection coefficients obtained with the red (R), green (G) and blue (B) light emissions. For instance, yellow is characterized by R=50% G=50% B=0% reflections, orange by R=75% G=25% B=0%, pink by R=50% G=0% B=0%, the combinations are infinite. Color sensors cover a wide variety of applications, ranging from quality and process controls to automatic material handling for the identification, orientation, and selection of objects according to their color.

DISTANCE



Datalogic distance sensors are based on Time of Flight (T.O.F.): the distance is calculated on the basis of the time between the moment the LASER pulse is generated and the moment the emitted light is reflected off the object, back to the sensor. These sensors are generally used to measure an object's distance within a selected range, while the output is linearly scaled to the analog signal (4...20mA). This technology provides high precision and fast measurements in many applications, such as automatic warehousing (to drive industrial vehicles and avoid collisions), packaging and material handling.

AREA/DIMENSION LIGHT GRIDS



Area and Dimension light grids utilize several light beams for area or dimensional measurements of objects. An object's area and size are measured using parallel cross-beams, which identify obscured beams, providing accurate information to a host GUI or PC. Models of light grids vary by length to match each application requirements.

SELECTION CHART

UNIVERSAL PHOTO

	TUBULAR		MINIATURE				
	S15	S50/S51	S100	S3Z	S45	S40	S41
MAX OPERATING DISTANCE							
Through beam 	0...20 m	0...30 m  0...60 m	0...12 m	0...15 m  0...30 m	0...15 m  0...20 m		0,1...6 m
Retroreflective 	0,1...5 m	0,1...5 m	0,01...8 m				
Polarized retroreflective 	0,1...4 m	0,1...4,5 m 0,1...16 m 	0,01...3 m 0,01...5,5 m	0,05...4 m  0,3...10 m	0,1...7 m 0,5...2 m (coaxial)  0,1...15 m 	0,1...2,5 m  0,1...6 m	0,1...2,5 m
Retroreflective for transparent 	0,1...0,8 m	0,1...1,7 m		0...2 m	0,5...2 m	100...700 mm	100...700 mm
Diffuse proximity 	1...100 mm 1...350 mm 1...1000 mm	0...100 mm 0...400 mm 0...700 mm 0...350 mm 	2...300 mm 2...500 mm	5...150 mm 0...700 mm	0...800 mm  1...250 mm	5...300 mm  5...150 mm	2...350 mm
Fixed focus 	0...50 mm	100 mm	70 mm				110 mm
Background suppression 	40...120 mm	0...100 mm	0...100 mm	0...300 mm  0...300 mm	1...200 mm  3...400 mm 4...120 mm	15...100 mm  15...60 mm	
Fiber optic 		0...100 mm (through beam) 0...30 mm (diffuse proximity)					
Contrast 		10 ±2 mm			10 ±2 mm		
Luminescence 		0...20 mm					
Page	20	26	38	42	48	52	56

(*) The maximum operating distance is determined by the optic fiber and accessory lens used and the response speed selected in the specific model

The table shows the maximum operating distance reached by different sensors models. Some measures indicate only the highest performances obtained by the corresponding sensor. Other operating distance values might be available for the same series and some optic functions might be carried out through LED or LASER emission, reaching different distances. For more specific information refer to the dedicated product page in this guide or download datasheets and manuals from our website (www.datalogic.com)

ELECTRIC SENSORS

	COMPACT				MAXI		FIBER OPTIC	
SMall	S8	S62	S6	S90	S300 PA	S300 PR	S7	S70
								
0...2 m	0...25 m	0...25 m	20 m	0...60 m 	0...50 m	0...60 m	0...300 mm (*)	0...1740 mm (*)
0,05...1,5 m		0,1...13 m	0,1...6 m		0,1...15 m			
0,1...1 m	0...5 m 0...10 m 	0,1...8 m 0,3...20 m 	0,1...5 m	0...3 m 0,1...6 m 0,1...20 m 	0,1...10 m	0,1...22 m		
	0...08 m 0...2 m			0...1,5 m				
	0...500 mm	0...900 mm 0...2000 mm 0...900 mm 	10...900 mm 10...2000 mm	10...1000 mm 50...2000 mm 0...600 mm 	50...2000 m	0...5000 mm	0...100 mm (*)	0...550 mm (*)
3...15 mm 3...20 mm 3...30 mm 3...50 mm								
	50...300 mm 20...200 mm 	30...300 mm 60...600 mm 60...1200 mm 200...2000 mm 30...1500 mm  50...350 mm 	10...100 mm 30...250 mm 100...500 mm	20...200 mm 5...100 mm 	0,2...2 m	400...2500 mm		
	9 ±2 mm			19 ±2 mm				
	10...20 mm			0...40 mm				
60	64	70	76	82	88	92	92	100

SELECTION CHART

APPLICATION PHOTO

		FORK				CONTRAST	
		SR23	SR21	SRX3	SRF	TLμ	TL46
MAX OPERATING DISTANCE							
Slot (width)		5 mm	2 mm	3 mm	30, 50, 80, 120 mm		
Contrast						6..60 mm (*)	9 ±3 mm (*)
Luminescence							
Color & Contrast							
Area							
Dimensional							
Distance							
Page		106	110	114	118	122	126




(*) The maximum operating distance is determined by the lens used in the specific model

The table shows the maximum operating distance reached by different sensors models. Some measures indicate only the highest performances obtained by the corresponding sensor. Other operating distance values might be available for the same series and some optic functions might be carried out through LED or LASER emission, reaching different distances. For more specific information refer to the dedicated product page in this guide or download datasheets and manuals from our website (www.datalogic.com)

DELECTRIC SENSORS

LUMINESCENCE	COLOR & CONTRAST	AREA	DIMENSION LIGHT GRIDS		DISTANCE		
LD-46 	S65 	AS1 	DS1 	DS2 	S85 	S80 	S81 
	12...20 mm						
10...50 mm (*)							
	5...45 mm						
		0,3...3 m					
			0,15...4 m	0,3...10 m			
					0,2...20 m	0,3...100,3 m	0,3...4 m
130	134	138	142	146	150	154	158

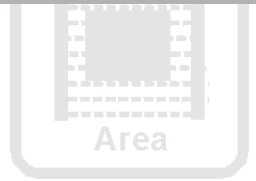
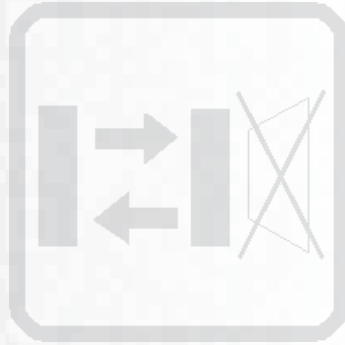
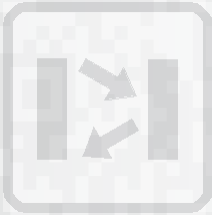
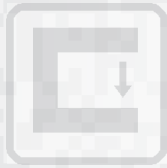
ACCESSORIES

	FIBER OPTIC	CONNECTORS	REFLECTORS
	OF/OFA 	CS 	R 
Page	104	162	164

REFERENCE GUIDE



Tubular
Miniature
Compact
Maxi



Fiber optic

Fork

Contrast

Luminescence

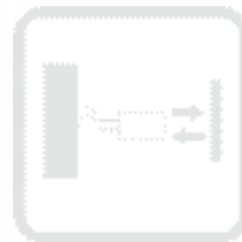
Color & Contrast

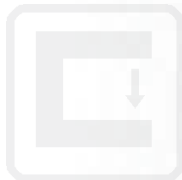
Area

Dimension light grids

Distance

Accessories





REFERENCE GUIDE

TUBULAR SENSORS

S15

Plastic and stainless steel tubular M18 photoelectric sensors every environment

- Short case models for cost and space savings
- Plastic and stainless steel case with IP69K protection
- All optic functions at optimal operating distances
- Models with fixed settings or adjustment trimmer
- Cable, M12 connector and pig-tail models



APPLICATIONS

- Processing and Packaging machinery
- Assembling and Conveyor lines



(*) Stainless steel models.
ATEX II 3DG

S15		
Through beam		0...20 m
Retroreflective (on R2 reflector)		0,1...5 m
Polarized retroreflective		0,1...4 m
Retroreflective for transparent (on R2 reflector)		0,1...0,8 m
Diffuse proximity		short distance 0...100 mm medium distance 0...350 mm long distance 1 m
Fixed focus		0...50 mm
Background suppression		40...120 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	▪
Approximate dimensions (mm)		M18x44/48
Housing material		ABS, INOX AISI 316L
Mechanical protection		IP65 - IP67 - IP69K

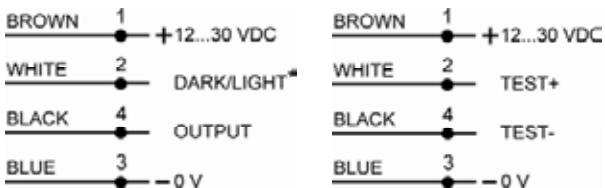
TECHNICAL DATA

Power supply	12 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption	25 mA max.
Light emission	red LED 660 nm (mod. S15...B/D/T/M) IR LED 880 nm (mod. S15...A/C/G)
Setting	mono-turn trimmer (mod. S15...A01/B01/Cx1/T01/F01) and 4 turns (mod. S15...M01)
Operating mode	white wire or pin 2 not connected: LIGHT mode (mod. S15...C/D/M)/DARK mode (mod. S15...A/B/T/F) white wire or pin 2 connected to: 0 V DARK mode, +Vcc LIGHT mode
Indicators	yellow OUTPUT LED green STABILITY LED, POWER LED (mod. S15...G)
Output	PNP or NPN
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	1 ms (mod. S15...A/B/C/T/M) 2 ms (mod. S15...F) 500 µs (mod. S15...D)
Switching frequency	500 Hz (mod. S15...A/B/C/T/M) 250 Hz (mod. S15...F) 1 kHz (mod. S15...D)
Connection	M12 4-pole connector, 2 m cable Ø 4 mm, 150 mm length Ø 4 mm cable with M12 4-pole connector (pig-tail vers.)
Dielectric strength	500 Vac 1 min., between electronics and housing
Insulation resistance	>20 MΩ 500 Vdc, between electronics and housing
Mechanical protection	IP65, IP67, IP69K
Ambient light rejection	according to EN 60947-5-2
Vibrations	0.5 mm amplitude, 10 ... 55 Hz frequency, for each axis (EN60068-2-6)
Housing material	ABS TERLURAN, INOX AISI 316L (mod. S15-PA) - (mod. S15-NA)
Lens material	plastic PMMA
Operating temperature	-25 ... 55°C
Storage temperature	-25 ... 70°C
Weight	40 g max. conn. vers., 55 g max. cable vers., 35 g max. pig-tail vers.

CONNECTIONS

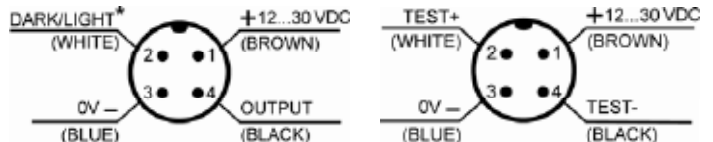
CABLE AND PIG-TAIL

Through beam emitter



M12 CONNECTOR

Through beam emitter

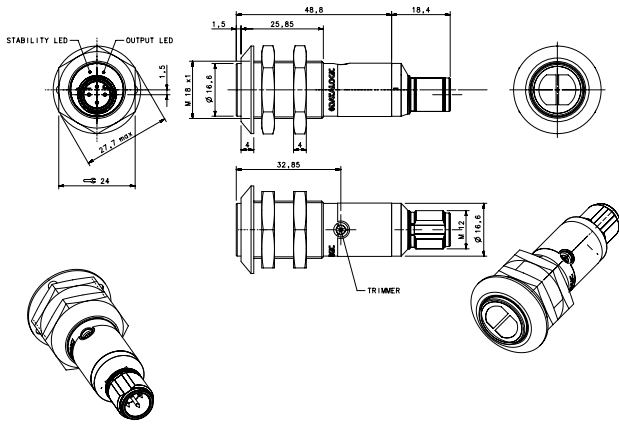


TUBULAR SENSORS

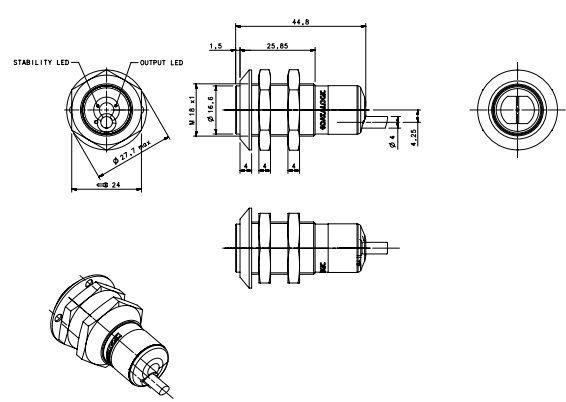
DIMENSIONS

PLASTIC

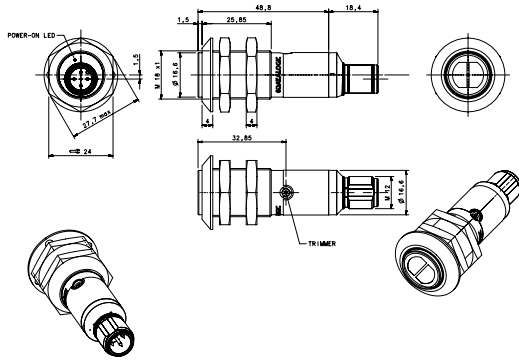
M12 connector version



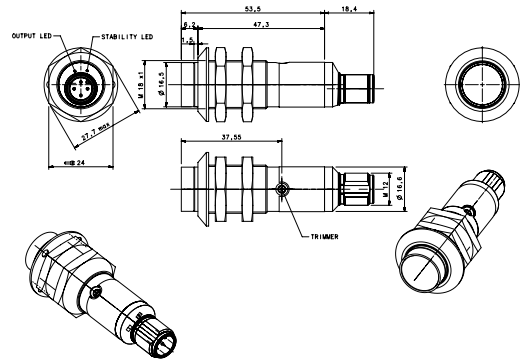
Cable version



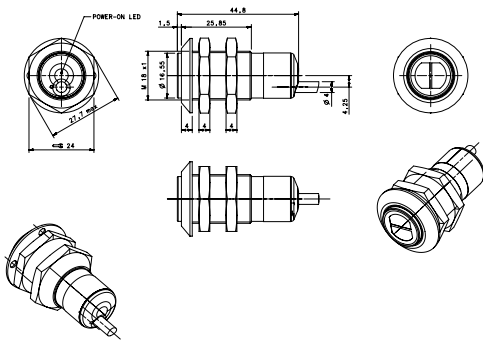
Through beam emitter - M12 connector version



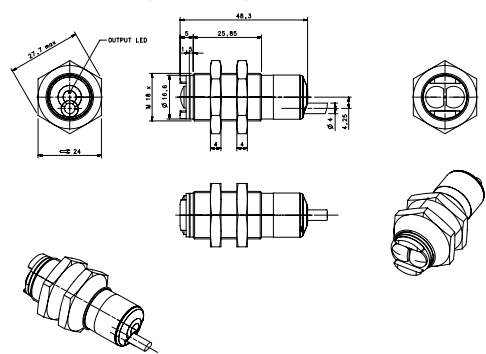
Background suppression - M12 connector version



Through beam emitter - cable version

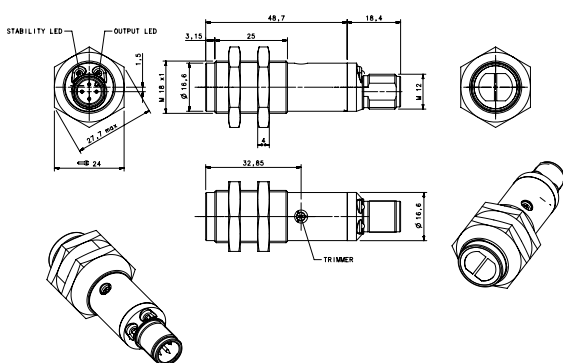


Diffuse proximity - cable version

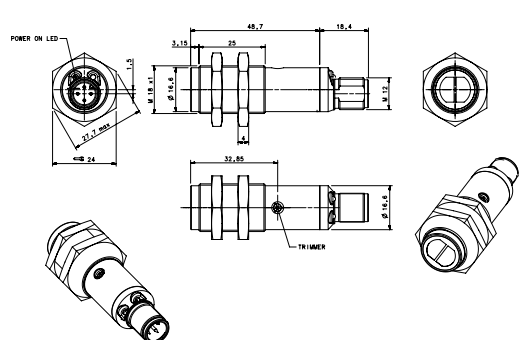


STAINLESS STEEL

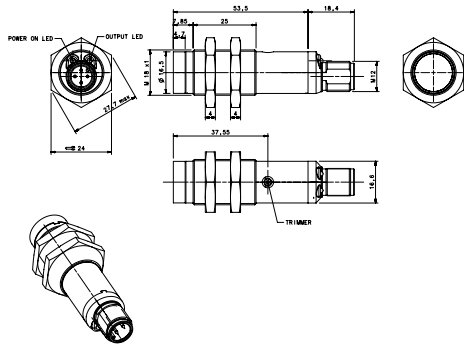
M12 connector version



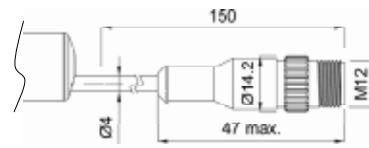
Through beam emitter - M12 connector version



Background suppression - M12 connector version



Pig-tail version



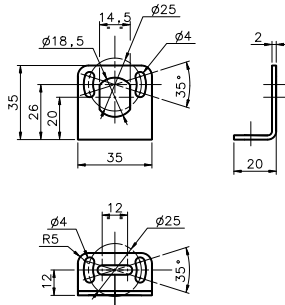
MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER No.	
Retroreflective	Plastic	2 m cable	NPN	S15-PA-2-A00-NK	952301051	
			PNP	S15-PA-2-A00-PK	952301001	
		M12 connector	NPN	S15-PA-5-A01-NK	952301300	
	PNP		S15-PA-5-A01-PK	952301220		
	Stainless Steel	pig-tail	NPN	S15-PA-3-A00-NK	952301161	
			PNP	S15-PA-3-A00-PK	952301111	
M12 connector		NPN	S15-NA-5-A01-NK	952301450		
Polarized Retroreflective	Plastic	2 m cable	NPN	S15-PA-2-B00-NK	952301061	
			PNP	S15-PA-2-B00-PK	952301011	
		M12 connector	NPN	S15-PA-5-B01-NK	952301310	
	PNP		S15-PA-5-B01-PK	952301230		
	Stainless Steel	pig-tail	NPN	S15-PA-3-B00-NK	952301171	
			PNP	S15-PA-3-B00-PK	952301121	
M12 connector		NPN	S15-NA-5-B01-NK	952301460		
Diffuse proximity (short distance)	Plastic	2 m cable	NPN	S15-PA-2-C00-NK	952301071	
			PNP	S15-PA-2-C00-PK	952301021	
		pig-tail	NPN	S15-PA-3-C00-NK	952301181	
	PNP		S15-PA-3-C00-PK	952301131		
	Diffuse proximity (medium distance)	Plastic	2 m cable	NPN	S15-PA-2-C10-NK	952301081
				PNP	S15-PA-2-C10-PK	952301031
M12 connector			NPN	S15-PA-5-C11-NK	952301330	
		PNP	S15-PA-5-C11-PK	952301250		
Stainless Steel		pig-tail	NPN	S15-PA-3-C10-NK	952301191	
			PNP	S15-PA-3-C10-PK	952301141	
	M12 connector	NPN	S15-NA-5-C11-NK	952301480		
Diffuse proximity (long distance)	Plastic	M12 connector	PNP	S15-NA-5-C11-PK	952301400	
			NPN	S15-PA-5-C31-NK	952301340	
		Stainless Steel	M12 connector	PNP	S15-PA-5-C31-PK	952301260
	NPN			S15-NA-5-C31-NK	952301490	
	Fixed focus	Plastic	2 m cable	NPN	S15-PA-2-D50-NK	952301530
				PNP	S15-PA-2-D50-PK	952301520
pig-tail			NPN	S15-PA-3-D50-NK	952301550	
		PNP	S15-PA-3-D50-PK	952301540		
Through beam receiver		Plastic	2 m cable	NPN	S15-PA-2-F00-NK	952301091
				PNP	S15-PA-2-F00-PK	952301041
	M12 connector		NPN	S15-PA-5-F01-NK	952301360	
		PNP	S15-PA-5-F01-PK	952301280		
	Stainless Steel	pig-tail	NPN	S15-PA-3-F00-NK	952301201	
			PNP	S15-PA-3-F00-PK	952301151	
M12 connector		NPN	S15-NA-5-F01-NK	952301510		
Through beam emitter	Plastic	2 m cable	-	S15-PA-2-G00-XG	952301101	
			-	S15-PA-5-G01-XG	952301290	
		M12 connector	-	S15-PA-3-G00-XG	952301211	
	-		S15-NA-5-G01-XG	952301440		
	Stainless Steel	M12 connector	NPN	S15-PA-5-M01-NK	952301350	
			PNP	S15-PA-5-M01-PK	952301270	
Plastic		M12 connector	NPN	S15-NA-5-M01-NK	952301500	
	PNP		S15-NA-5-M01-PK	952301420		
	Background suppression	Plastic	M12 connector	NPN	S15-PA-5-T01-NK	952301320
PNP				S15-PA-5-T01-PK	952301240	
Stainless Steel			M12 connector	NPN	S15-NA-5-T01-NK	952301470
		PNP		S15-NA-5-T01-PK	952301390	
		Transparent	Plastic	M12 connector	NPN	S15-PA-5-T01-NK
PNP					S15-PA-5-T01-PK	952301240
Stainless Steel	M12 connector		NPN	S15-NA-5-T01-NK	952301470	
		PNP	S15-NA-5-T01-PK	952301390		

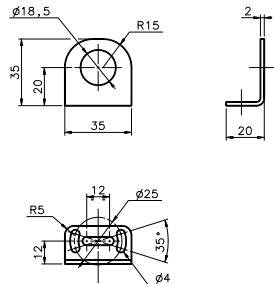
TUBULAR SENSORS

ACCESSORIES

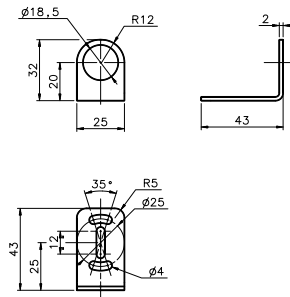
ST-5010



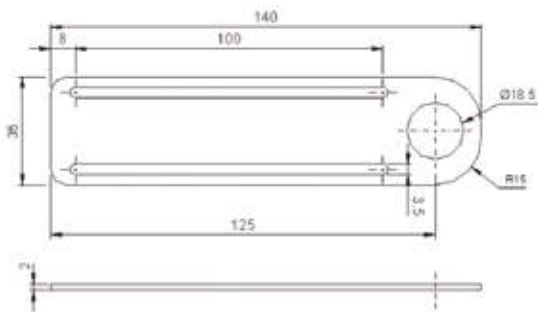
ST-5011



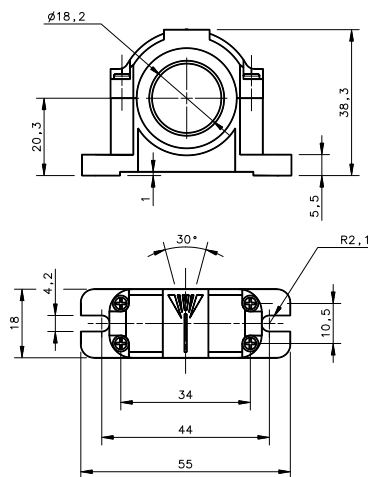
ST-5012



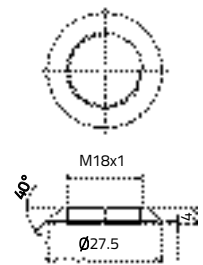
ST-5017



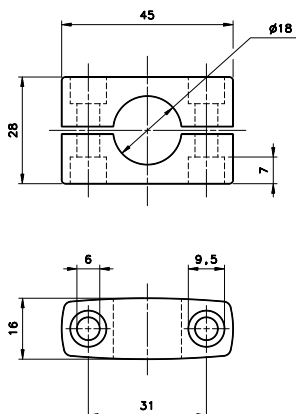
SWING-18



PLASTIC NUT



SP-40



mm

MODEL	DESCRIPTION	ORDER No.
ST-5010	M18/14 mounting bracket	95ACC5230
ST-5011	M18 mounting bracket short	95ACC5240
ST-5012	M18 mounting bracket long	95ACC5250
ST-5017	M18 mounting bracket	95ACC5270
ST1218	M12/M18 mounting brackets	95ACC3340
ST1830	M18/M30 mounting brackets	95ACC3350
SP-40	mounting bracket tubular	95ACC1370
SWING-18	Adjustable support for M18 tubular sensors	895000006
PLASTIC NUT	flared mounting nut	95ACC2630

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector		3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector		4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03
	5 m		CS-A1-02-U-05	95ASE1130
	10 m		CS-A1-02-U-10	95ASE1140
	15 m		CS-A1-02-U-15	95ASE1150
	25 m		CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

TUBULAR SENSORS

S50/S51

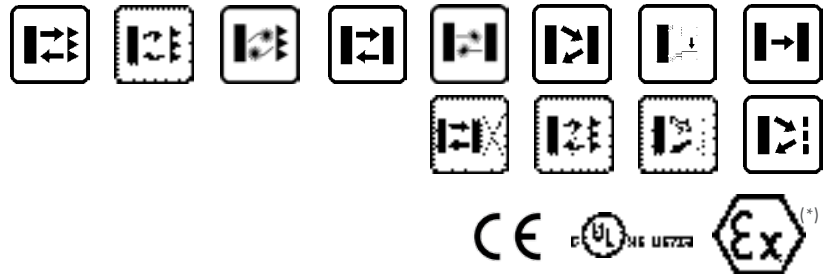
Extended range of standard "One for All" photoelectric tubular M18 sensors

- All optic functions and LASER models
- M18 flat plastic with universal mounting
- Available in M18 metal housing
- Axial or radial optics, cable or connector
- Standard 4-wire NO-NC NPN or PNP output



APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling
- Ceramics intralogistics
- Automated warehousing



(*) Axial models.
ATEX II 3DG

S50/S51		
Through beam		0...20 m 0...60 m (class 1 LASER) (S50)
Retroreflective (on R2 reflector)		0,1...4 m
Polarized retroreflective		0,1...4 m (S50) 0,1...3 m (S51)
Retroreflective for transparent (on R2 reflector)		0,1...16 m (class 1 LASER) (S50) 0,1...1,3 m (S50)
Diffuse proximity		short distance 0...100 mm medium distance 0...400 mm (S50) 0...450 mm (S51) long distance 0...700 mm long distance LASER 0...350 mm
Fixed focus		100 mm (S50)
Background suppression		50...100 mm (S50)
Through beam with fiber optic		0...100 mm (S50)
Diffuse proximity with fiber optic		0...30 mm (S50)
Contrast sensor		10 ±2 mm
Luminescence sensor		0...20 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		M18x 55/68
Housing material		PBT, nickel plated brass
Mechanical protection		IP67

TECHNICAL DATA

Power supply	10 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	35 mA max. (mod. S50...A00/B01/C01/C10/C21/D00/E01/T01) 30 mA max. (mod. S50...F01/M03, S51...A00/B01/C01/C10/C20/F00) 25 mA max. (mod. S50...W03/U03)
Light emission	red LED 630 nm (mod. S50...D00/E01, S50-PA/MA...M03) red LED 660 nm (mod. S50...B01/T01, S51...B01) red LED 670 nm (mod. S50-PS/MS...M03) IR LED 880 nm (mod. S50/51...A00/C01/C10/C20/C21/G00) white LED 400-700 nm (mod. S50...W03) UV LED 370 nm (mod. S50...U03) red Laser 650 nm (mod. S50...G00/F01/B01/C01)
Setting	sensitivity trimmer (mod. B01/C01/C21/E01/F01/T01) teach-in push-button (mod. M03/W03/U03)
Operating mode	LIGHT mode on N.O. output / DARK mode on N.C. output (mod.S50...C01/C10/C21/D00/M03/U03) DARK mode on N.O. output / LIGHT mode on N.C. output (mod.S50...A00/B01/E01/F01/T01/W03) white wire or pin 2 connected to +10...30V LIGHT mode/ to 0V DARK mode (mod. S51) white wire or pin 2 not connected LIGHT mode (mod. S51...C01/C10/C20)/ DARK mode (mod. S51...A00/B01/F00)
Indicators	yellow OUTPUT LED (S50, S51, excl. mod. G00) green STABILITY LED (mod. S50...B01/C01/C21/E01/F01), POWER LED (mod. S50...G00, S51) green/red READY/ERROR LED (mod. S50...M03/W03/U03)
Output	PNP or NPN; NO; NC (mod. S50)
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	0,5 ms (mod. S50...A00/B01/T01/C10/C21/C01/D00/E01/U03) 2 ms (mod. S50...F01/G00) 1 ms (mod. S50...M03, S51...A00/B01/C01/C10/G00) 4 ms (mod. S51...F00) 100 µs (mod. S50...W03) 333 µs (Laser mod. S50)
Switching frequency	1 kHz (mod. S50...A00/B01/T01/C10/C21/C01/D00/E01/U03) 250 Hz (mod. S50...F01/G00) 500 Hz (mod. S50...M03, S51...A00/B01/C01/C10/G00) 120 Hz (mod. S51...F00) 5 kHz (mod. S50...W03) 1,5 kHz (Laser mod. S50)
Connection	2 m cable Ø 4 mm, M12 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	Plastic version PBT Metal version nickel plated brass
Lens material	PMMA
Operating temperature	-25 ... 55 °C (Laser mod.) -10 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	Plastic version 75 g max. cable vers. (90 g max. mod. M03), 25 g max. conn. vers. (40 g max. mod. M03) Metal version 110 g max. cable vers. (125 g max. mod. M03), 60 g max. conn. vers. (75 g max. mod. M03)

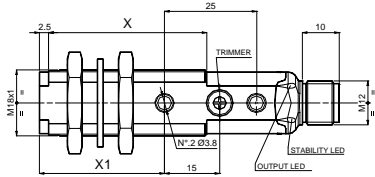
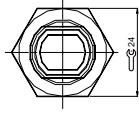
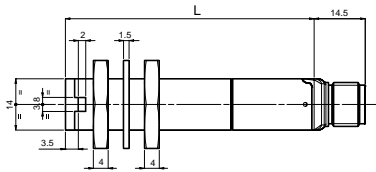
TUBULAR SENSORS

S50

DIMENSIONS

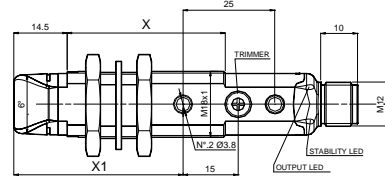
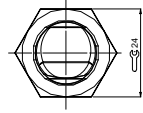
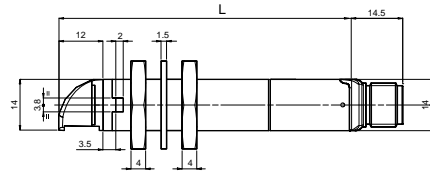
PLASTIC

AXIAL VERSION



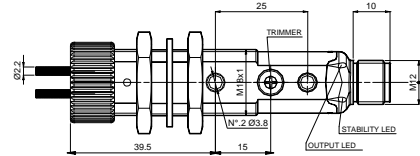
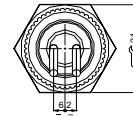
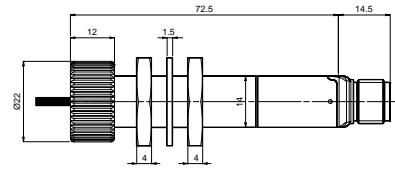
	MODELS	
	with trimmer	without trimmer
L	67	57
X	43	42
X1	34	24

RADIAL VERSION



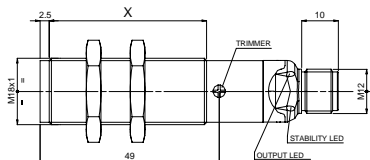
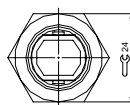
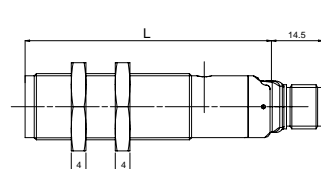
	MODELS	
	with trimmer	without trimmer
L	79	69
X	43	42
X1	46	36

FIBRE OPTIC VERSION



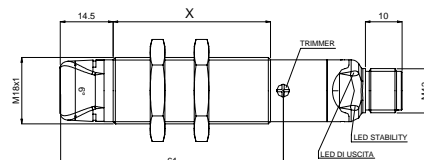
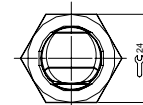
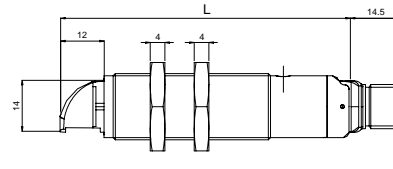
METAL

AXIAL VERSION



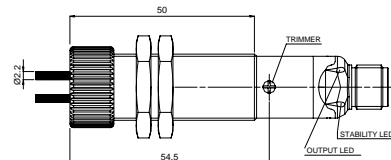
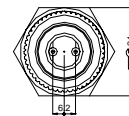
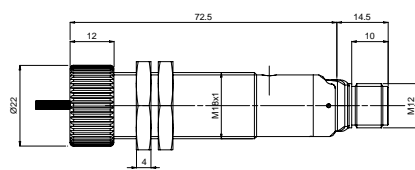
	MODELS	
	with trimmer	without trimmer
L	67	57
X	43	38

RADIAL VERSION



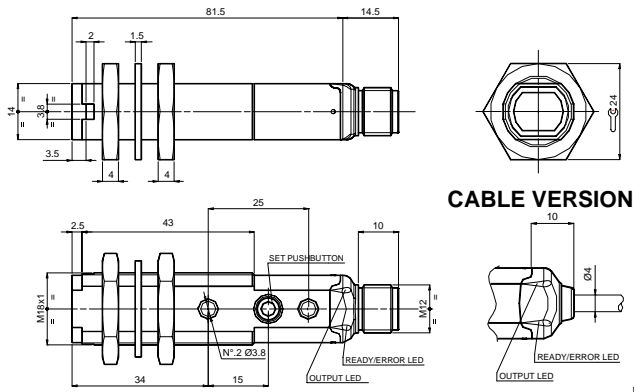
	MODELS	
	with trimmer	without trimmer
L	79	69
X	43	38

FIBRE OPTIC VERSION

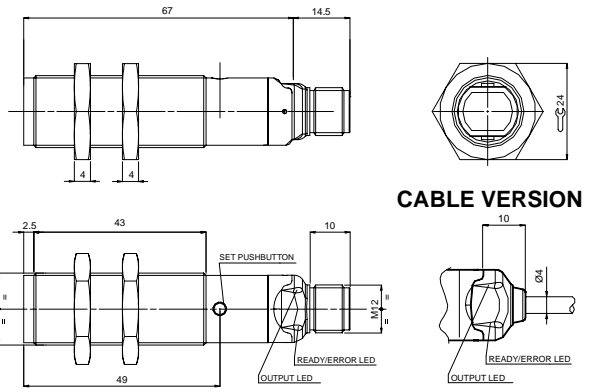


BACKGROUND SUPPRESSION AXIAL VERSION

PLASTIC

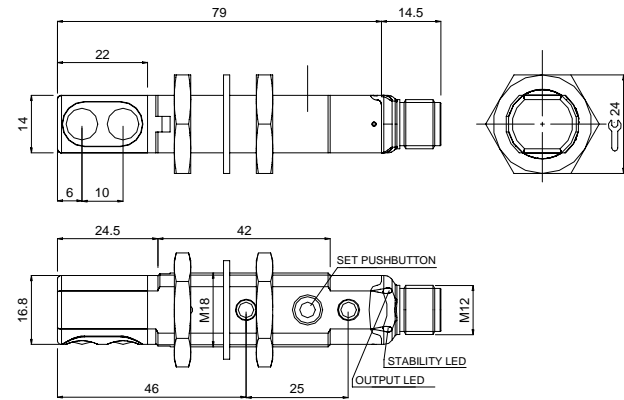


METAL

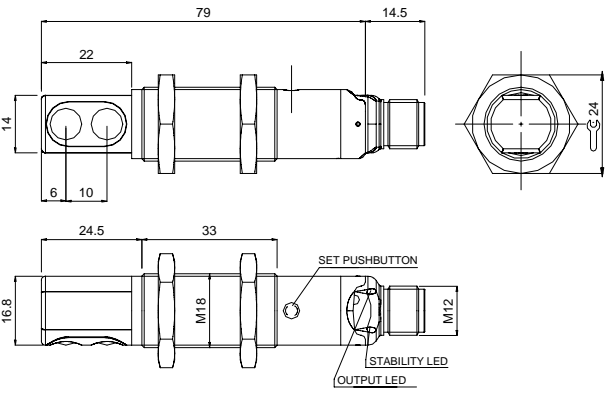


BACKGROUND SUPPRESSION RADIAL VERSION

PLASTIC

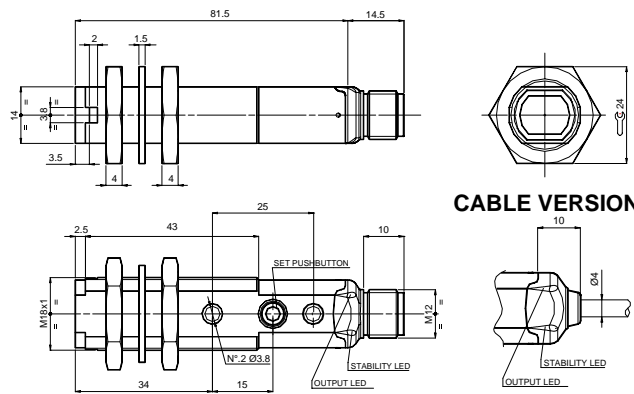


METAL

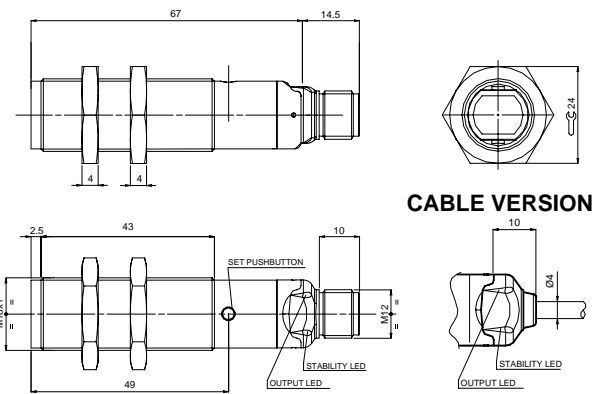


LUMINESCENCE AND CONTRAST

PLASTIC



METAL



CONNECTIONS

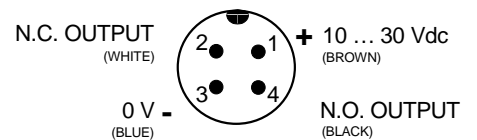
CABLE

BROWN	1	+	10 ... 30 Vdc
WHITE	2		N.C. OUTPUT
BLACK	4		N.O. OUTPUT
BLUE	3	-	0 V

Through beam emitter

BROWN	1	+	10 ... 30 Vdc
WHITE	2		TEST +
BLACK	4		TEST / NOT USED (Laser version)
BLUE	3	-	0 V

M12 CONNECTOR



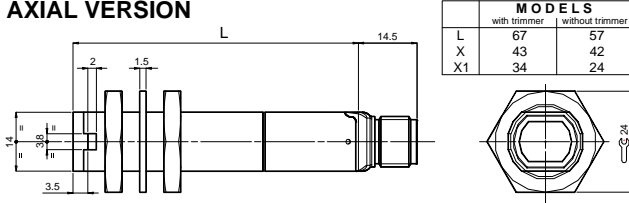
TUBULAR SENSORS

S51

DIMENSIONS

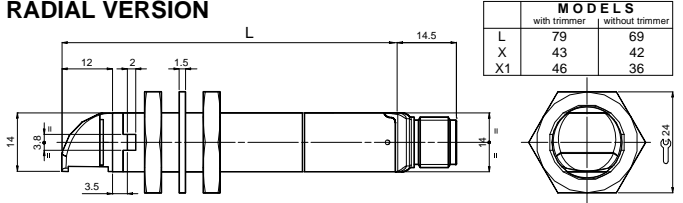
PLASTIC

AXIAL VERSION

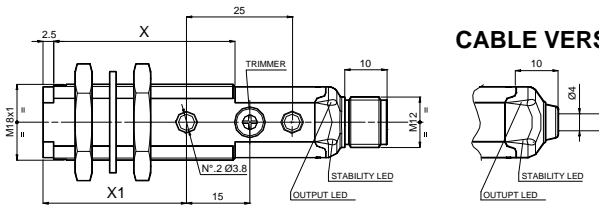


MODELS		
	with trimmer	without trimmer
L	67	57
X	43	42
X1	34	24

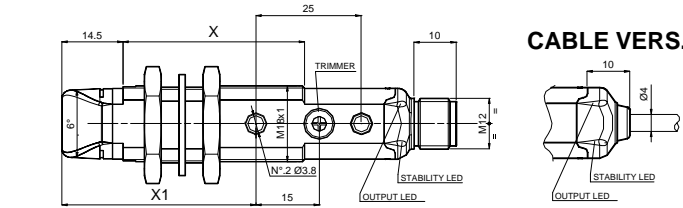
RADIAL VERSION



MODELS		
	with trimmer	without trimmer
L	79	69
X	43	42
X1	46	36

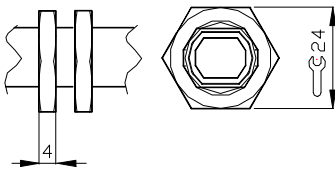


CABLE VERS.

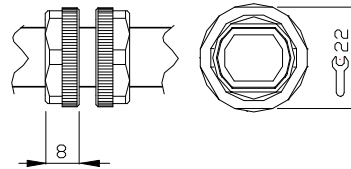


CABLE VERS.

CH.24 PLASTIC NUTS

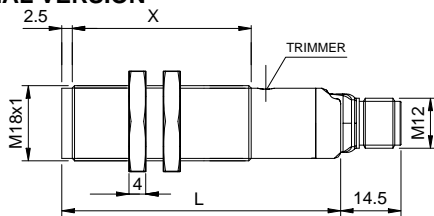


CH.22 PLASTIC NUTS



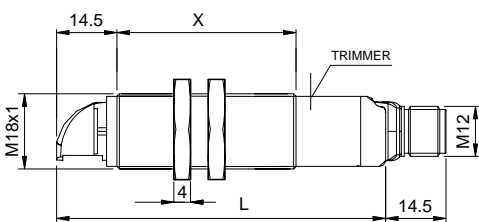
METAL

AXIAL VERSION



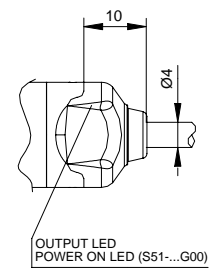
MODELS		
	B01/C01/F00	A00/C10/G00
L	67	57
X	43	38

RADIAL VERSION



MODELS		
	B01/C01/F00	A00/C10/G00
L	79	69
X	43	38

CABLE VERSION



CONNECTIONS

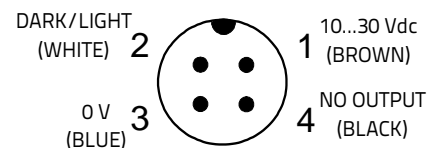
CABLE

BROWN	1	+	10 ... 30 Vdc
WHITE	2	-	DARK- / LIGHT+
BLACK	4	-	N.O. OUTPUT
BLUE	3	-	0 V

Through beam emitter

BROWN	1	+	10 ... 30 Vdc
WHITE	2	-	TEST +
BLACK	4	-	TEST -
BLUE	3	-	0 V

M12 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

S50 PLASTIC MODELS					
OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Retroreflective	LED, Axial optic	2m Cable	NPN	S50-PA-2-A00-NN	952002090
			PNP	S50-PA-2-A00-PP	952002080
		M12 Connector	NPN	S50-PA-5-A00-NN	952002110
			PNP	S50-PA-5-A00-PP	952002100
Polarized retroreflective	LED, Axial optic	2m Cable	NPN	S50-PA-2-B01-NN	952001610
			PNP	S50-PA-2-B01-PP	952001010
		M12 Connector	NPN	S50-PA-5-B01-NN	952001500
			PNP	S50-PA-5-B01-PP	952001020
	LED, Radial optic	2m Cable	NPN	S50-PR-2-B01-NN	952001780
			PNP	S50-PR-2-B01-PP	952001030
		M12 Connector	NPN	S50-PR-5-B01-NN	952001720
			PNP	S50-PR-5-B01-PP	952001040
	LASER, Axial optic	2m Cable	NPN	S50-PL-2-B01-NN	952001870
			PNP	S50-PL-2-B01-PP	952001360
		M12 Connector	NPN	S50-PL-5-B01-NN	952001840
			PNP	S50-PL-5-B01-PP	952001370
LASER, Radial optic	2m Cable	NPN	S50-PH-2-B01-NN	952001950	
		PNP	S50-PH-2-B01-PP	952001940	
	M12 Connector	NPN	S50-PH-5-B01-NN	952001970	
		PNP	S50-PH-5-B01-PP	952001960	
Long Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-PA-2-C01-NN	952001620
			PNP	S50-PA-2-C01-PP	952001050
		M12 Connector	NPN	S50-PA-5-C01-NN	952001510
			PNP	S50-PA-5-C01-PP	952001060
	LED, Radial optic	2m Cable	NPN	S50-PR-2-C01-NN	952001790
			PNP	S50-PR-2-C01-PP	952001070
		M12 Connector	NPN	S50-PR-5-C01-NN	952001730
			PNP	S50-PR-5-C01-PP	952001080
	LASER, Axial optic	2m Cable	NPN	S50-PL-2-C01-NN	952001880
			PNP	S50-PL-2-C01-PP	952001380
		M12 Connector	NPN	S50-PL-5-C01-NN	952001850
			PNP	S50-PL-5-C01-PP	952001390
	LASER, Radial optic	2m Cable	NPN	S50-PH-2-C01-NN	952001990
			PNP	S50-PH-2-C01-PP	952001980
		M12 Connector	NPN	S50-PH-5-C01-NN	952002010
			PNP	S50-PH-5-C01-PP	952002000
Short Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-PA-2-C10-NN	952001630
			PNP	S50-PA-2-C10-PP	952001240
		M12 Connector	NPN	S50-PA-5-C10-NN	952001520
	PNP		S50-PA-5-C10-PP	952001250	
	LED, Radial optic	2m Cable	NPN	S50-PR-2-C10-NN	952001800
			PNP	S50-PR-2-C10-PP	952001490
M12 Connector		NPN	S50-PR-5-C10-NN	952001740	
	PNP	S50-PR-5-C10-PP	952001480		
Medium Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-PA-2-C21-NN	952002170
			PNP	S50-PA-2-C21-PP	952002160
		M12 Connector	NPN	S50-PA-5-C21-NN	952002190
			PNP	S50-PA-5-C21-PP	952002180
Fixed focus	LED, Axial optic	2m Cable	NPN	S50-PA-2-D00-NN	952001640
			PNP	S50-PA-2-D00-PP	952001090
		M12 Connector	NPN	S50-PA-5-D00-NN	952001530
	PNP		S50-PA-5-D00-PP	952001100	
	LED, Radial optic	2m Cable	NPN	S50-PR-2-D00-NN	952001810
			PNP	S50-PR-2-D00-PP	952001110
M12 Connector		NPN	S50-PR-5-D00-NN	952001750	
	PNP	S50-PR-5-D00-PP	952001120		
Fiber optic	LED, Axial optic	2m Cable	NPN	S50-PA-2-E01-NN	952001650
			PNP	S50-PA-2-E01-PP	952001130
		M12 Connector	NPN	S50-PA-5-E01-NN	952001540
			PNP	S50-PA-5-E01-PP	952001140

TUBULAR SENSORS

Through beam receiver	LED, Axial optic	2m Cable	NPN	S50-PA-2-F01-NN	952001660
		M12 Connector	PNP	S50-PA-2-F01-PP	952001150
			NPN	S50-PA-5-F01-NN	952001550
		M12 Connector	PNP	S50-PA-5-F01-PP	952001160
	LED, Radial optic		2m Cable	NPN	S50-PR-2-F01-NN
		M12 Connector	PNP	S50-PR-2-F01-PP	952001170
			NPN	S50-PR-5-F01-NN	952001760
		PNP	S50-PR-5-F01-PP	952001180	
	LASER, Axial optic	2m Cable	NPN	S50-PL-2-F01-NN	952001890
		M12 Connector	PNP	S50-PL-2-F01-PP	952001400
			NPN	S50-PL-5-F01-NN	952001860
		PNP	S50-PL-5-F01-PP	952001410	
LASER, Radial optic	2m Cable	NPN	S50-PH-2-F01-NN	952002030	
	M12 Connector	PNP	S50-PH-2-F01-PP	952002020	
		NPN	S50-PH-5-F01-NN	952002050	
	PNP	S50-PH-5-F01-PP	952002040		
Through beam emitter	LED, Axial optic	2m Cable	-	S50-PA-2-G00-XG	952001190
		M12 Connector	-	S50-PA-5-G00-XG	952001200
	LED, Radial optic	2m Cable	-	S50-PR-2-G00-XG	952001210
		M12 Connector	-	S50-PR-5-G00-XG	952001220
	LASER, Axial optic	2m Cable	-	S50-PL-2-G00-XG	952001420
		M12 Connector	-	S50-PL-5-G00-XG	952001430
	LASER, Radial optic	2m Cable	-	S50-PH-2-G00-XG	952002060
		M12 Connector	-	S50-PH-5-G00-XG	952002070
Background suppression	LED, Axial optic	2m Cable	NPN	S50-PA-2-M03-NN	952001670
		M12 Connector	PNP	S50-PA-2-M03-PP	952001230
			NPN	S50-PA-5-M03-NN	952001560
		PNP	S50-PA-5-M03-PP	952001000	
	LED, Radial optic	2m Cable	NPN	S50-PS-2-M03-NN	952001900
		M12 Connector	PNP	S50-PS-2-M03-PP	952001910
Retroreflective for transparent	LED, Axial optic	2m Cable	NPN	S50-PA-2-T01-NN	952001690
			PNP	S50-PA-2-T01-PP	952001260
		M12 Connector	NPN	S50-PA-5-T01-NN	952001580
			PNP	S50-PA-5-T01-PP	952001270
Luminescence	LED, Axial optic	2m Cable	NPN	S50-PR-2-T01-NN	952001830
			PNP	S50-PR-2-T01-PP	952001280
		M12 Connector	NPN	S50-PR-5-T01-NN	952001770
			PNP	S50-PR-5-T01-PP	952001290
		2m Cable	NPN	S50-PA-2-U03-NN	952001700
			PNP	S50-PA-2-U03-PP	952001300
Contrast	LED, Axial optic	2m Cable	NPN	S50-PA-5-U03-NN	952001590
			PNP	S50-PA-5-U03-PP	952001310
		M12 Connector	NPN	S50-PA-2-W03-NN	952001710
			PNP	S50-PA-2-W03-PP	952001320
M12 Connector	NPN	S50-PA-5-W03-NN	952001600		
	PNP	S50-PA-5-W03-PP	952001330		

S50 METAL MODELS

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Retroreflective	LED, Axial optic	2m Cable	NPN	S50-MA-2-A00-NN	952022090
			PNP	S50-MA-2-A00-PP	952022080
		M12 Connector	NPN	S50-MA-5-A00-NN	952022110
			PNP	S50-MA-5-A00-PP	952022100
Polarized retroreflective	LED, Axial optic	2m Cable	NPN	S50-MA-2-B01-NN	952021500
			PNP	S50-MA-2-B01-PP	952021000
		M12 Connector	NPN	S50-MA-5-B01-NN	952021660
			PNP	S50-MA-5-B01-PP	952021200
	LED, Radial optic	2m Cable	NPN	S50-MR-2-B01-NN	952021600
			PNP	S50-MR-2-B01-PP	952021140
		M12 Connector	NPN	S50-MR-5-B01-NN	952021760
			PNP	S50-MR-5-B01-PP	952021340
	LASER, Axial optic	2m Cable	NPN	S50-ML-2-B01-NN	952021820
			PNP	S50-ML-2-B01-PP	952021400
		M12 Connector	NPN	S50-ML-5-B01-NN	952021850
			PNP	S50-ML-5-B01-PP	952021440
	LASER, Radial optic	2m Cable	NPN	S50-MH-2-B01-NN	952021950
			PNP	S50-MH-2-B01-PP	952021940
		M12 Connector	NPN	S50-MH-5-B01-NN	952021970
			PNP	S50-MH-5-B01-PP	952021960
Long Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-MA-2-C01-NN	952021510
			PNP	S50-MA-2-C01-PP	952021010
		M12 Connector	NPN	S50-MA-5-C01-NN	952021670
			PNP	S50-MA-5-C01-PP	952021210
	LED, Radial optic	2m Cable	NPN	S50-MR-2-C01-NN	952021610
			PNP	S50-MR-2-C01-PP	952021150
		M12 Connector	NPN	S50-MR-5-C01-NN	952021770
			PNP	S50-MR-5-C01-PP	952021350
	LASER, Axial optic	2m Cable	NPN	S50-ML-2-C01-NN	952021830
			PNP	S50-ML-2-C01-PP	952021410
		M12 Connector	NPN	S50-ML-5-C01-NN	952021860
			PNP	S50-ML-5-C01-PP	952021450
	LASER, Radial optic	2m Cable	NPN	S50-MH-2-C01-NN	952021990
			PNP	S50-MH-2-C01-PP	952021980
		M12 Connector	NPN	S50-MH-5-C01-NN	952022010
			PNP	S50-MH-5-C01-PP	952022000
Short Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-MA-2-C10-NN	952021520
			PNP	S50-MA-2-C10-PP	952021020
		M12 Connector	NPN	S50-MA-5-C10-NN	952021680
			PNP	S50-MA-5-C10-PP	952021220
	LED, Radial optic	2m Cable	NPN	S50-MR-2-C10-NN	952021620
			PNP	S50-MR-2-C10-PP	952021490
		M12 Connector	NPN	S50-MR-5-C10-NN	952021780
			PNP	S50-MR-5-C10-PP	952021480
Medium Diffuse proximity	LED, Axial optic	2m Cable	NPN	S50-MA-2-C21-NN	952022130
			PNP	S50-MA-2-C21-PP	952022120
		M12 Connector	NPN	S50-MA-5-C21-NN	952022150
			PNP	S50-MA-5-C21-PP	952022140
Fixed focus	LED, Axial optic	2m Cable	NPN	S50-MA-2-D00-NN	952021530
			PNP	S50-MA-2-D00-PP	952021030
		M12 Connector	NPN	S50-MA-5-D00-NN	952021690
			PNP	S50-MA-5-D00-PP	952021230
	LED, Radial optic	2m Cable	NPN	S50-MR-2-D00-NN	952021630
			PNP	S50-MR-2-D00-PP	952021160
		M12 Connector	NPN	S50-MR-5-D00-NN	952021790
			PNP	S50-MR-5-D00-PP	952021360
Fiber optic	LED, Axial optic	2m Cable	NPN	S50-MA-2-E01-NN	952021880
			PNP	S50-MA-2-E01-PP	952021040
		M12 Connector	NPN	S50-MA-5-E01-NN	952021890
			PNP	S50-MA-5-E01-PP	952021240

TUBULAR SENSORS

Through beam receiver	LED, Axial optic	2m Cable	NPN	S50-MA-2-F01-NN	952021540
		M12 Connector	PNP	S50-MA-2-F01-PP	952021050
			NPN	S50-MA-5-F01-NN	952021700
		PNP	S50-MA-5-F01-PP	952021250	
	LED, Radial optic	2m Cable	NPN	S50-MR-2-F01-NN	952021640
		M12 Connector	PNP	S50-MR-2-F01-PP	952021170
			NPN	S50-MR-5-F01-NN	952021800
		PNP	S50-MR-5-F01-PP	952021370	
	LASER, Axial optic	2m Cable	NPN	S50-ML-2-F01-NN	952021840
		M12 Connector	PNP	S50-ML-2-F01-PP	952021420
			NPN	S50-ML-5-F01-NN	952021870
		PNP	S50-ML-5-F01-PP	952021460	
LASER, Radial optic	2m Cable	NPN	S50-MH-2-F01-NN	952022030	
	M12 Connector	PNP	S50-MH-2-F01-PP	952022020	
		NPN	S50-MH-5-F01-NN	952022050	
	PNP	S50-MH-5-F01-PP	952022040		
Through beam emitter	LED, Axial optic	2m Cable	-	S50-MA-2-G00-XG	952021060
		M12 Connector	-	S50-MA-5-G00-XG	952021260
	LED, Radial optic	2m Cable	-	S50-MR-2-G00-XG	952021180
		M12 Connector	-	S50-MR-5-G00-XG	952021380
	LASER, Axial optic	2m Cable	-	S50-ML-2-G00-XG	952021430
		M12 Connector	-	S50-ML-5-G00-XG	952021470
LASER, Radial optic	2m Cable	-	S50-MH-2-G00-XG	952022060	
	M12 Connector	-	S50-MH-5-G00-XG	952022070	
Background suppression	LED, Axial optic	2m Cable	NPN	S50-MA-2-M03-NN	952021550
		M12 Connector	PNP	S50-MA-2-M03-PP	952021070
	LED, Radial optic	2m Cable	PNP	S50-MA-5-M03-PP	952021270
		M12 Connector	PNP	S50-M5-2-M03-PP	952021910
Retroreflective for transparent	LED, Axial optic	2m Cable	NPN	S50-MA-2-T01-NN	952021570
		M12 Connector	PNP	S50-MA-2-T01-PP	952021090
			NPN	S50-MA-5-T01-NN	952021730
		PNP	S50-MA-5-T01-PP	952021290	
	LED, Radial optic	2m Cable	NPN	S50-MR-2-T01-NN	952021650
		M12 Connector	PNP	S50-MR-2-T01-PP	952021190
			NPN	S50-MR-5-T01-NN	952021810
		PNP	S50-MR-5-T01-PP	952021390	
Luminescence	LED, Axial optic	M12 Connector	PNP	S50-MA-5-U03-PP	952021300
Contrast	LED, Axial optic	2m Cable	PNP	S50-MA-2-W03-PP	952021110
		M12 Connector	NPN	S50-MA-5-W03-NN	952021750
			PNP	S50-MA-5-W03-PP	952021310

S51 MODELS					
OPTIC FUNCTION	HOUSING/OPTIC	CONNECTION	OUTPUT	MODEL	ORDER No.
Retroreflective	Nickel Plated Brass, Axial	2m Cable	NPN	S51-MA-2-A00-NK	952701601
		M12 Connector	PNP	S51-MA-2-A00-PK	952701541
			NPN	S51-MA-5-A00-NK	952701801
		PNP	S51-MA-5-A00-PK	952701531	
	Nickel Plated Brass, Radial	2m Cable	NPN	S51-MR-2-A00-NK	952701711
		M12 Connector	PNP	S51-MR-2-A00-PK	952701651
			NPN	S51-MR-5-A00-NK	952701911
		PNP	S51-MR-5-A00-PK	952701851	
	Plastic, Axial	2m Cable	NPN	S51-PA-2-A00-NK	952701071
		M12 Connector	PNP	S51-PA-2-A00-PK	952701001
			NPN	S51-PA-5-A00-NK	952701331
		PNP	S51-PA-5-A00-PK	952701261	
	Plastic, Radial	2m Cable	NPN	S51-PR-2-A00-NK	952701201
		M12 Connector	PNP	S51-PR-2-A00-PK	952701131
			NPN	S51-PR-5-A00-NK	952701461
		PNP	S51-PR-5-A00-PK	952701391	

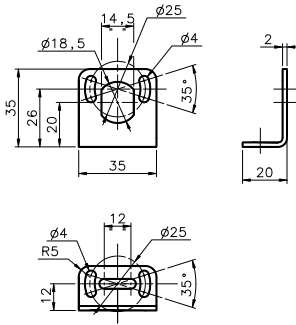
Polarized retroreflective	Nickel Plated Brass, Axial	2m Cable	NPN	S51-MA-2-B01-NK	952701611
			PNP	S51-MA-2-B01-PK	952701551
		M12 Connector	NPN	S51-MA-5-B01-NK	952701811
			PNP	S51-MA-5-B01-PK	952701761
	Nickel Plated Brass, Radial	2m Cable	NPN	S51-MR-2-B01-NK	952701721
			PNP	S51-MR-2-B01-PK	952701661
		M12 Connector	NPN	S51-MR-5-B01-NK	952701921
			PNP	S51-MR-5-B01-PK	952701861
	Plastic, Axial	2m Cable	NPN	S51-PA-2-B01-NK	952701081
			PNP	S51-PA-2-B01-PK	952701011
		M12 Connector	NPN	S51-PA-5-B01-NK	952701341
			PNP	S51-PA-5-B01-PK	952701271
Plastic, Radial	2m Cable	NPN	S51-PR-2-B01-NK	952701211	
		PNP	S51-PR-2-B01-PK	952701141	
	M12 Connector	NPN	S51-PR-5-B01-NK	952701471	
		PNP	S51-PR-5-B01-PK	952701401	
Medium diffuse proximity	Nickel Plated Brass, Axial	2m Cable	NPN	S51-MA-2-C01-NK	952701621
			PNP	S51-MA-2-C01-PK	952701561
		M12 Connector	NPN	S51-MA-5-C01-NK	952701821
			PNP	S51-MA-5-C01-PK	952701771
	Nickel Plated Brass, Radial	2m Cable	NPN	S51-MR-2-C01-NK	952701731
			PNP	S51-MR-2-C01-PK	952701671
		M12 Connector	NPN	S51-MR-5-C01-NK	952701931
			PNP	S51-MR-5-C01-PK	952701871
	Plastic, Axial	2m Cable	NPN	S51-PA-2-C01-NK	952701091
			PNP	S51-PA-2-C01-PK	952701021
		M12 Connector	NPN	S51-PA-5-C01-NK	952701351
			PNP	S51-PA-5-C01-PK	952701281
Plastic, Radial	2m Cable	NPN	S51-PR-2-C01-NK	952701221	
		PNP	S51-PR-2-C01-PK	952701151	
	M12 Connector	NPN	S51-PR-5-C01-NK	952701481	
		PNP	S51-PR-5-C01-PK	952701411	
Short diffuse proximity	Nickel Plated Brass, Axial	2m Cable	NPN	S51-MA-2-C10-NK	952701631
			PNP	S51-MA-2-C10-PK	952701571
		M12 Connector	NPN	S51-MA-5-C10-NK	952701831
			PNP	S51-MA-5-C10-PK	952701521
	Nickel Plated Brass, Radial	2m Cable	NPN	S51-MR-2-C10-NK	952701741
			PNP	S51-MR-2-C10-PK	952701681
		M12 Connector	NPN	S51-MR-5-C10-NK	952701941
			PNP	S51-MR-5-C10-PK	952701881
	Plastic, Axial	2m Cable	NPN	S51-PA-2-C10-NK	952701101
			PNP	S51-PA-2-C10-PK	952701031
		M12 Connector	NPN	S51-PA-5-C10-NK	952701361
			PNP	S51-PA-5-C10-PK	952701291
Plastic, Radial	2m Cable	NPN	S51-PR-2-C10-NK	952701231	
		PNP	S51-PR-2-C10-PK	952701161	
	M12 Connector	NPN	S51-PR-5-C10-NK	952701491	
		PNP	S51-PR-5-C10-PK	952701421	
Narrow beam proximity	Nickel Plated Brass, Axial	M12 Connector	PNP	S51-MA-5-C20-PK	952701961
Through beam receiver	Nickel Plated Brass, Axial	2m Cable	NPN	S51-MA-2-F00-NK	952701641
			PNP	S51-MA-2-F00-PK	952701581
		M12 Connector	NPN	S51-MA-5-F00-NK	952701841
			PNP	S51-MA-5-F00-PK	952701781
	Nickel Plated Brass, Radial	2m Cable	NPN	S51-MR-2-F00-NK	952701751
			PNP	S51-MR-2-F00-PK	952701691
		M12 Connector	NPN	S51-MR-5-F00-NK	952701951
			PNP	S51-MR-5-F00-PK	952701891
	Plastic, Axial	2m Cable	NPN	S51-PA-2-F00-NK	952701121
			PNP	S51-PA-2-F00-PK	952701051
		M12 Connector	NPN	S51-PA-5-F00-NK	952701381
			PNP	S51-PA-5-F00-PK	952701311
Plastic, Radial	2m Cable	NPN	S51-PR-2-F00-NK	952701251	
		PNP	S51-PR-2-F00-PK	952701181	
	M12 Connector	NPN	S51-PR-5-F00-NK	952701511	
		PNP	S51-PR-5-F00-PK	952701441	
Through beam emitter	Nickel Plated Brass, Axial	2m Cable	-	S51-MA-2-G00-XG	952701591
		M12 Connector	-	S51-MA-5-G00-XG	952701791
	Nickel Plated Brass, Radial	2m Cable	-	S51-MR-2-G00-XG	952701701
		M12 Connector	-	S51-MR-5-G00-XG	952701901
	Plastic, Axial	2m Cable	-	S51-PA-2-G00-XG	952701061
		M12 Connector	-	S51-PA-5-G00-XG	952701321
Plastic, Radial	2m Cable	-	S51-PR-2-G00-XG	952701191	
	M12 Connector	-	S51-PR-5-G00-XG	952701451	

TUBULAR SENSORS

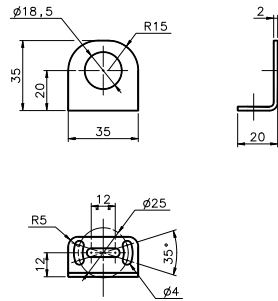
S50/S51

ACCESSORIES

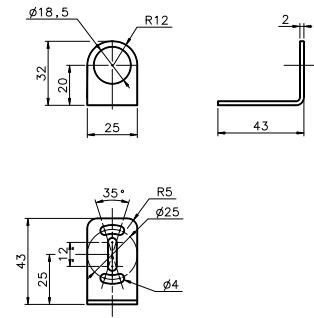
ST-5010



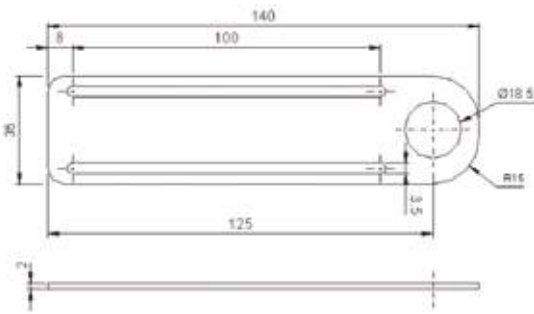
ST-5011



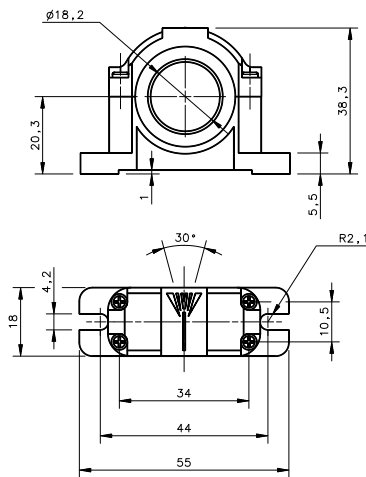
ST-5012



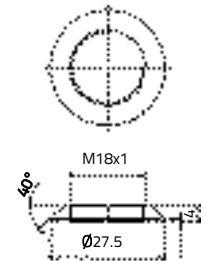
ST-5017



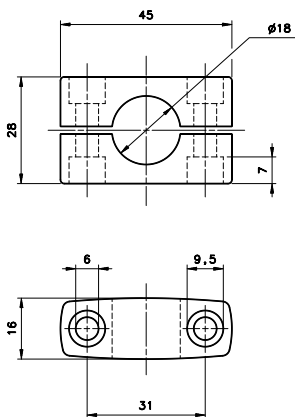
SWING-18



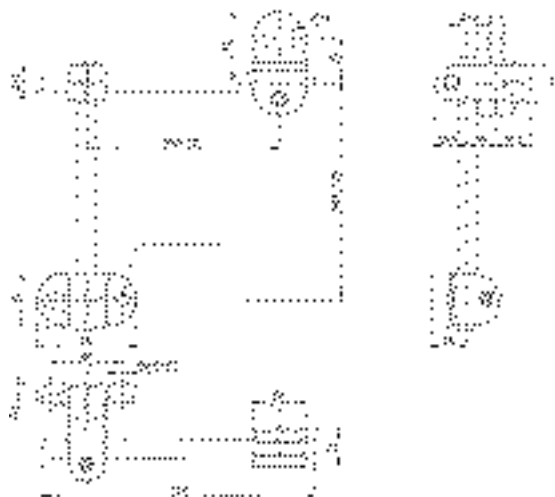
PLASTIC NUT



SP-40



JOINT 18



MICRO 18



mm

MODEL	DESCRIPTION	ORDER No.
ST-5010	M18/14 mounting bracket	95ACC5230
ST-5011	M18 mounting bracket short	95ACC5240
ST-5012	M18 mounting bracket long	95ACC5250
ST-5017	M18 mounting bracket	95ACC5270
S50 EASY -IN	M18/14 EASY in™ adjustable mounting support	95ACC 5300
JOINT -18	M18 jointed support	95ACC 5220
MICRO -18	support with micrometric regulation for tubular M18 sensors	95ACC 1380
ST1218	M12/M18 mounting brackets	95ACC3340
ST1830	M18/M30 mounting brackets	95ACC3350
SP-40	mounting bracket tubular	95ACC1370
SWING-18	adjustable support for M18 tubular sensors	895000006
PLASTIC NUT	flared mounting nut	95ACC2630
MEK -PROOF	front protection (only for metal models)	G5000001

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
Radial M12 Connector	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
		10 m	CS-A1-02-R-10	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, black	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

MINIATURE SENSORS

S100

The universal miniature photoelectric sensor

- Two threaded front mounting holes
- Two slotted rear mounting holes
- Anti-tampering sensor (no adjustment)
- Standard optic functions
- M8 connector and cable models
- PNP or NPN models with LIGHT/DARK selection by wire
- Plastic housing, IP67 mechanical protection



APPLICATIONS

- Processing and packaging machines
- Conveyors
- Automatic warehousing
- Intralogistic lines

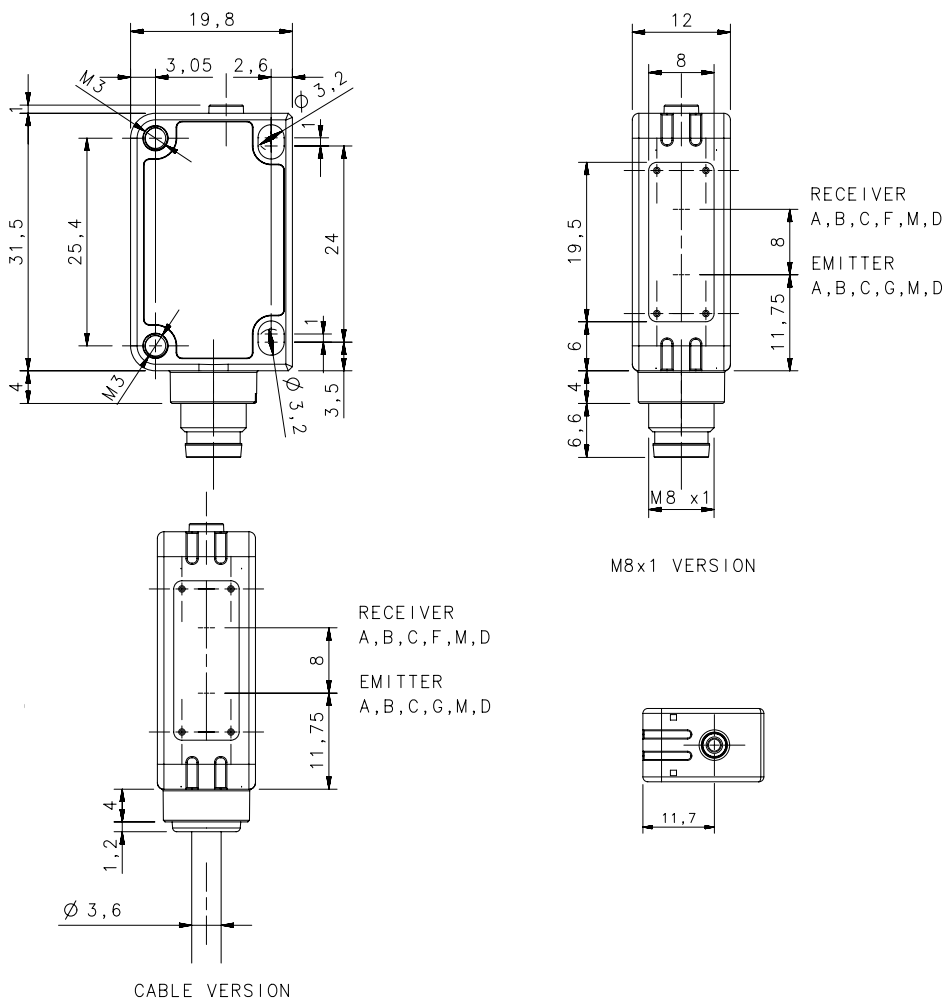


S100		
Through beam		12 m
Retroreflective		7 m
Polarized Retroreflective (long range)		5 m
Polarized Retroreflective (short range)		2 m
Diffused proximity (short range)		300 mm
Diffused proximity (long range)		500 mm
Fixed focus		70 mm
Background suppression		30...100 mm
Power supply	Vdc	10...30 Vdc
Output	PNP	▪
	NPN	▪
Connection	cable	2 m cable, 4 wires
	connector	M8 conn., 4-pole
Approximate dimensions (mm)		32x20x12
Housing material		Plastic
Mechanical protection		IP67

TECHNICAL DATA

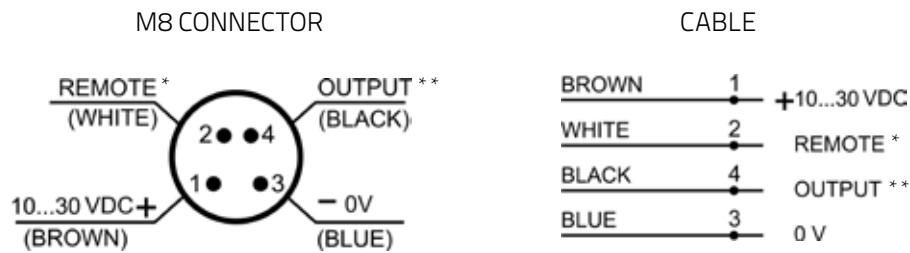
Power supply	10 ... 30 Vdc
Ripple	10% max.
Consumption (output current excluded)	20 mA max.
Light emission	red LED 632 nm (mod. S100...B/C/D/M) IR LED 860 nm (mod. S100...A/G)
Setting	remote teach-in (mod. S100...M)
Operating mode	LIGHT/DARK selectable by wire (mod. S100...A/B/C/D/F)
Indicators	yellow OUTPUT LED (excl. mod. G) green POWER LED (mod. S100...G)
Output	PNP or NPN
Output current	100 mA
Saturation voltage	2 V max.
Response time	2 ms (mod. S100...FG) 1 ms (mod. S100...A/B/C/D/M) 250 Hz (mod. S100...FG)
Switching frequency	500 Hz (mod. S100...A/B/C/D/M)
Connection	2 m cable 3,5 mm, M8 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS body, PMMA indicators cover
Lens material	PC lens, PMMA window
Operating temperature	-25 ... 55 °C
Storage temperature	-25 ... 70 °C
Weight	50 g max. cable vers., 10 g max. connector vers.

DIMENSIONS



MINIATURE SENSORS

CONNECTIONS



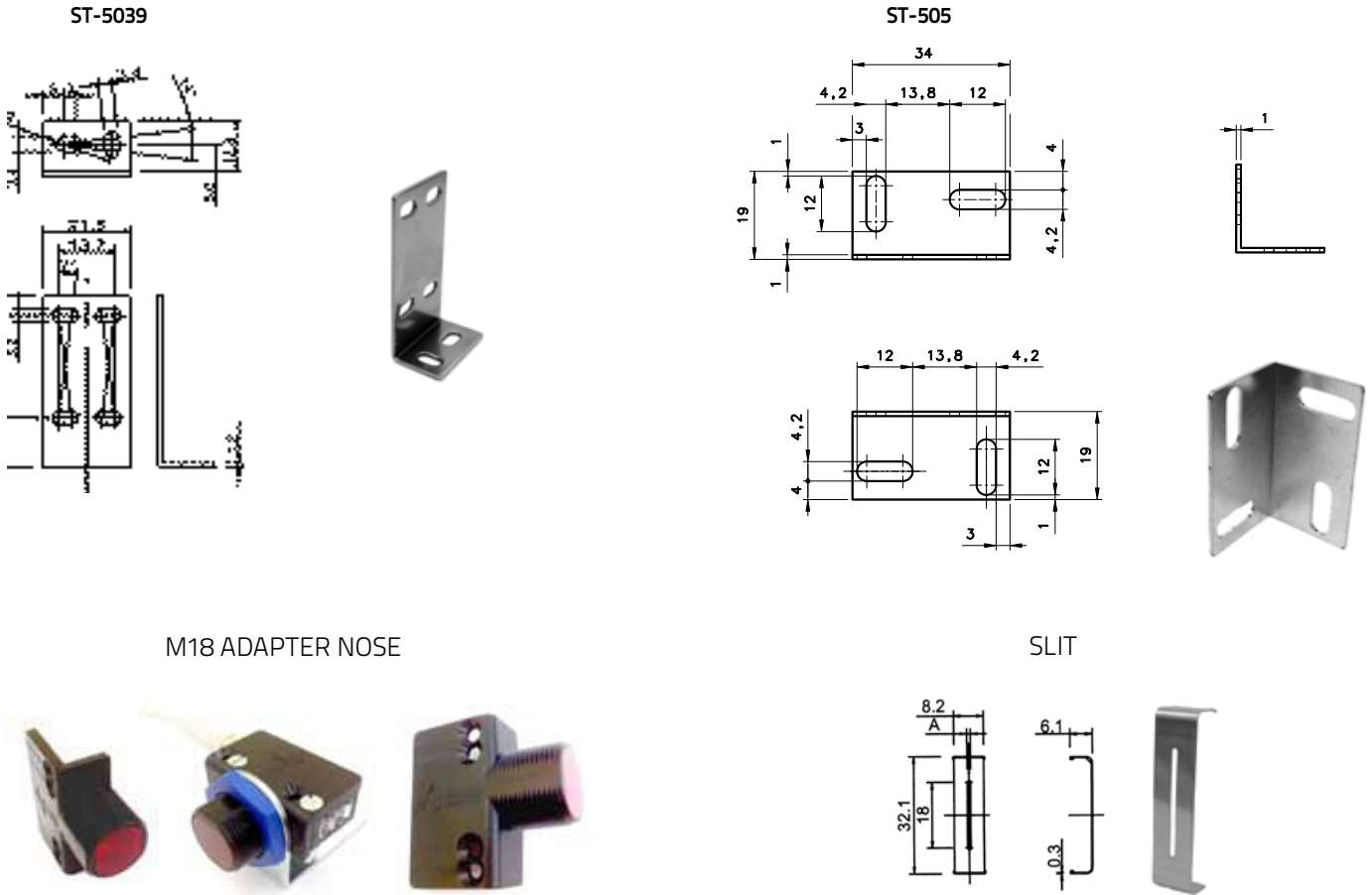
*REMOTE: Light/Dark selection (S100-...-A-B-C-D-F), External Teach-in (S100-...-M)

**OUTPUT: PNP or NPN depends on the model

MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	OPERATING DISTANCE	CONNECTION	OUTPUT	MODEL	ORDER No.
Through beam	IR	12 m	2 m cable	NPN	S100-PR-2-FG00-NK	950811100
				PNP	S100-PR-2-FG00-PK	950811110
			M8 connector	NPN	S100-PR-5-FG00-NK	950811240
				PNP	S100-PR-5-FG00-PK	950811250
Retroreflective	IR	7 m	2 m cable	NPN	S100-PR-2-A00-NK	950811000
				PNP	S100-PR-2-A00-PK	950811010
			M8 connector	NPN	S100-PR-5-A00-NK	950811140
				PNP	S100-PR-5-A00-PK	950811150
Polarized Retroreflective (short)	RED	2 m	2 m cable	NPN	S100-PR-2-B00-NK	950811020
				PNP	S100-PR-2-B00-PK	950811030
			M8 connector	NPN	S100-PR-5-B00-NK	950811160
				PNP	S100-PR-5-B00-PK	950811170
Polarized Retroreflective (long)	RED	5 m	2 m cable	NPN	S100-PR-2-B10-NK	950811280
				PNP	S100-PR-2-B10-PK	950811290
			M8 connector	NPN	S100-PR-5-B10-NK	950811300
				PNP	S100-PR-5-B10-PK	950811310
Diffuse proximity (short)	RED	300 mm	2 m cable	NPN	S100-PR-2-C00-NK	950811040
				PNP	S100-PR-2-C00-PK	950811050
			M8 connector	NPN	S100-PR-5-C00-NK	950811180
				PNP	S100-PR-5-C00-PK	950811190
Diffuse proximity (long)	RED	500 mm	2 m cable	NPN	S100-PR-2-C10-NK	950811060
				PNP	S100-PR-2-C10-PK	950811070
			M8 connector	NPN	S100-PR-5-C10-NK	950811200
				PNP	S100-PR-5-C10-PK	950811210
Fixed focus	RED	70 mm	2 m cable	NPN	S100-PR-2-D00-NK	950811080
				PNP	S100-PR-2-D00-PK	950811090
			M8 connector	NPN	S100-PR-5-D00-NK	950811220
				PNP	S100-PR-5-D00-PK	950811230
Background suppression	RED	30...100 mm	2 m cable	NPN	S100-PR-2-M00-NH	950811120
				PNP	S100-PR-2-M00-PH	950811130
			M8 connector	NPN	S100-PR-5-M00-NH	950811260
				PNP	S100-PR-5-M00-PH	950811270

ACCESSORIES



TYPE	MODEL	DESCRIPTION	Order No.
Mounting bracket	ST-505	lateral mounting	95ACC2800
	ST-5039	L-shaped bracket	95ACC2270
Slit	S100-SLIT-05	0,5x19 mm SLIT	95ACC3450
	S100-SLIT-1	1x19 mm SLIT	95ACC3460
	S100-SLIT-2	2x19 mm SLIT	95ACC3470
M18 adapter	ST-S3Z-M18	M18 THREADED ADAPTER NOSE	95ACC7850

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
Radial M8 Connector	4-pole, grey, P.V.C.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
		3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
Radial M8 Connector	4-pole, P.U.R.	7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
		2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

MINIATURE SENSORS

S3Z

Advanced line of miniature Asian style of photoelectric sensors

- 50-250 mm background suppression
- 0.7 m proximity, 150 mm with narrow beam
- 4 m polarized retroreflective
- 15 m through beam
- Standard 3-wire output configuration



APPLICATIONS

- Processing and Packaging machinery
- Electronics assembling



S3Z		
Through beam		0...15 m 0...30 m (class 1 LASER)
Polarized retroreflective		0.05...4 m 0,3...10 m (class 1 LASER)
Retroreflective for transparent (on R2 reflector)		0...2 m
Diffuse proximity		0...700 mm 50...150 mm (narrow beam)
Background suppression		50...250 mm 40...300 mm (class 1 LASER)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		11x31x19
Housing material		PC/PBT
Mechanical protection		IP67

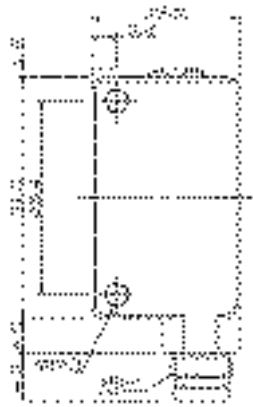
TECHNICAL DATA

Consumption (output current excluded)	30 mA max. (LED mod.) 35 mA max. (Laser mod.)
Light emission	red LED 650 nm (mod. S3Z...T51) red LED 665 nm (mod. S3Z...B01/C01) red LED 670 nm (mod. S3Z...M01) IR LED 850 nm (mod. S3Z...C11) IR LED 870 nm (mod. S3Z...F01/G00) red Laser 650 nm (mod. S3Z...B01/F01/G00/M01)
Setting	sensitivity trimmer, 6 turns screw (mod. S3Z...M01)
Operating mode	LIGHT/DARK trimmer (Laser mod.), LIGHT (mod. S3Z...-PL, -NL), DARK (mod. S3Z...-PD, -ND)
Indicators	yellow OUTPUT LED, green STABILITY LED (mod. S3Z...B01/C01/C11/F01), POWER ON LED (mod. S3Z...G00)
Output	PNP or NPN (short circuit protection)
Output current	100 mA max.
Saturation voltage	2 V max. (LED mod.) 1,5 V max. (Laser mod.)
Response time	1 ms max. (LED mod.) 250 µs max. (Laser mod.)
Switching frequency	500 Hz max. (LED mod.) 2 kHz max. (Laser mod.)
Connection	2 m cable Ø 3,5 mm, M8 4-pole connector
Dielectric strength	500 Vac 1 min., between electronics and housing
Insulating resistance	>20 MΩ 500 Vdc, between electronics and housing
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibration	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	body PBT, indicators cover PC
Lens material	PMMA, PC (mod. S3Z...B01)
Operating temperature	-25 ... 55 °C (LED mod.), -10 ... 55 °C (Laser mod.)
Storage temperature	-40 ... 70 °C (LED mod.), -25 ... 70 °C (Laser mod.)
Weight	50 g max. cable vers. , 10 g max. conn. vers.

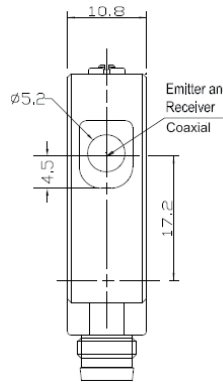
DIMENSIONS



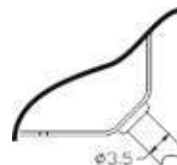
Through beam



Polarized retroreflective for transparent

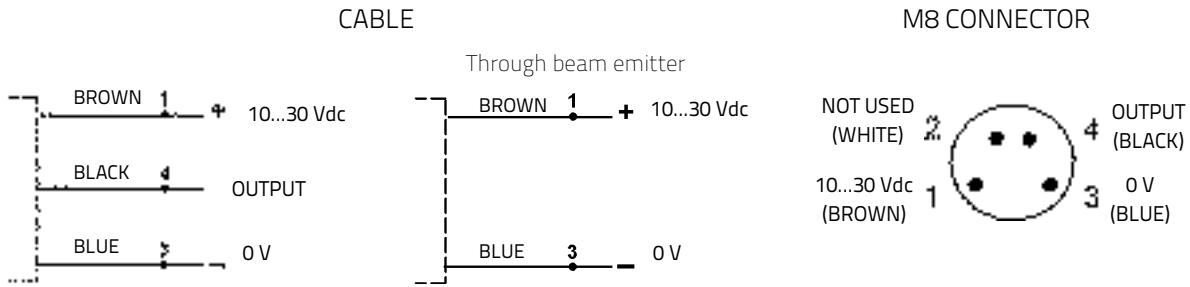


Cable version



MINIATURE SENSORS

CONNECTIONS

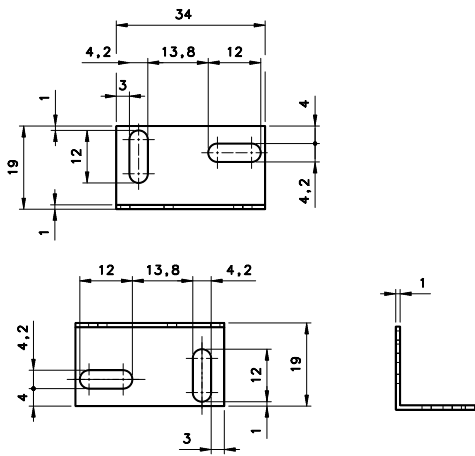


MODEL SELECTION AND ORDER INFORMATION

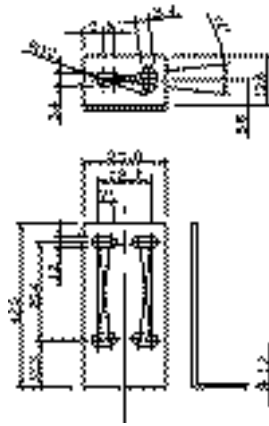
OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.		
Narrow beam diffuse proximity	LED	2 m Cable	PNP - LIGHT	S3Z-PR-2-C01-PL	95B010040		
		M8 Connector	PNP - LIGHT	S3Z-PR-5-C01-PL	95B010050		
		2 m Cable	PNP - DARK	S3Z-PR-2-C01-PD	95B010060		
		M8 Connector	PNP - DARK	S3Z-PR-5-C01-PD	95B010070		
		2 m Cable	NPN - LIGHT	S3Z-PR-2-C01-NL	95B010200		
		M8 Connector	NPN - LIGHT	S3Z-PR-5-C01-NL	95B010210		
		2 m Cable	NPN - DARK	S3Z-PR-2-C01-ND	95B010220		
		M8 Connector	NPN - DARK	S3Z-PR-5-C01-ND	95B010230		
Long diffuse proximity	LED	2 m Cable	PNP - LIGHT	S3Z-PR-2-C11-PL	95B010001		
		M8 Connector	PNP - LIGHT	S3Z-PR-5-C11-PL	95B010011		
		2 m Cable	PNP - DARK	S3Z-PR-2-C11-PD	95B010021		
		M8 Connector	PNP - DARK	S3Z-PR-5-C11-PD	95B010031		
		2 m Cable	NPN - LIGHT	S3Z-PR-2-C11-NL	95B010161		
		M8 Connector	NPN - LIGHT	S3Z-PR-5-C11-NL	95B010171		
		2 m Cable	NPN - DARK	S3Z-PR-2-C11-ND	95B010181		
		M8 Connector	NPN - DARK	S3Z-PR-5-C11-ND	95B010191		
Polarized retroreflective	LED	2 m Cable	PNP - LIGHT	S3Z-PR-2-B01-PL	95B010081		
		M8 Connector	PNP - LIGHT	S3Z-PR-5-B01-PL	95B010091		
		2 m Cable	PNP - DARK	S3Z-PR-2-B01-PD	95B010101		
		M8 Connector	PNP - DARK	S3Z-PR-5-B01-PD	95B010111		
		2 m Cable	NPN - LIGHT	S3Z-PR-2-B01-NL	95B010241		
		M8 Connector	NPN - LIGHT	S3Z-PR-5-B01-NL	95B010251		
		2 m Cable	NPN - DARK	S3Z-PR-2-B01-ND	95B010261		
		M8 Connector	NPN - DARK	S3Z-PR-5-B01-ND	95B010271		
	LASER	2 m Cable	PNP - DARK/LIGHT	S3Z-PH-2-B01-PP	95B010440		
		M8 Connector	PNP - DARK/LIGHT	S3Z-PH-5-B01-PP	95B010460		
		2 m Cable	NPN - DARK/LIGHT	S3Z-PH-2-B01-NN	95B010450		
		M8 Connector	NPN - DARK/LIGHT	S3Z-PH-5-B01-NN	95B010470		
		Through beam	LED	2 m Cable	PNP - LIGHT	S3Z-PR-2-FG01-PL	95B010121
				M8 Connector	PNP - LIGHT	S3Z-PR-5-FG01-PL	95B010131
2 m Cable	PNP - DARK			S3Z-PR-2-FG01-PD	95B010141		
M8 Connector	PNP - DARK			S3Z-PR-5-FG01-PD	95B010151		
2 m Cable	NPN - LIGHT			S3Z-PR-2-FG01-NL	95B010281		
M8 Connector	NPN - LIGHT			S3Z-PR-5-FG01-NL	95B010291		
2 m Cable	NPN - DARK			S3Z-PR-2-FG01-ND	95B010301		
M8 Connector	NPN - DARK			S3Z-PR-5-FG01-ND	95B010311		
LASER	2 m Cable		PNP - DARK/LIGHT	S3Z-PH-2-FG01-PP	95B010520		
	M8 Connector		PNP - DARK/LIGHT	S3Z-PH-5-FG01-PP	95B010540		
	2 m Cable		NPN - DARK/LIGHT	S3Z-PH-2-FG01-NN	95B010530		
	M8 Connector		NPN - DARK/LIGHT	S3Z-PH-5-FG01-NN	95B010550		
	Background suppression		LED	2 m Cable	PNP - LIGHT	S3Z-PR-2-M01-PL	95B010331
				M8 Connector	PNP - LIGHT	S3Z-PR-5-M01-PL	95B010351
2 m Cable		NPN - LIGHT		S3Z-PR-2-M01-NL	95B010321		
M8 Connector		NPN - LIGHT		S3Z-PR-5-M01-NL	95B010341		
LASER		2 m Cable	PNP - DARK/LIGHT	S3Z-PH-5-M01-PP	95B010480		
		M8 Connector	PNP - DARK/LIGHT	S3Z-PH-5-M01-PP	95B010500		
		2 m Cable	NPN - DARK/LIGHT	S3Z-PH-2-M01-NN	95B010490		
		M8 Connector	NPN - DARK/LIGHT	S3Z-PH-5-M01-NN	95B010510		
Polarized retroreflective for transparent	LED	2 m Cable	NPN - DARK	S3Z-PR-2-T51-ND	95B010390		
		2 m Cable	PNP - DARK	S3Z-PR-2-T51-PD	95B010380		
		M8 Connector	NPN - DARK	S3Z-PR-5-T51-ND	95B010370		
		M8 Connector	PNP - DARK	S3Z-PR-5-T51-PD	95B010360		

ACCESSORIES

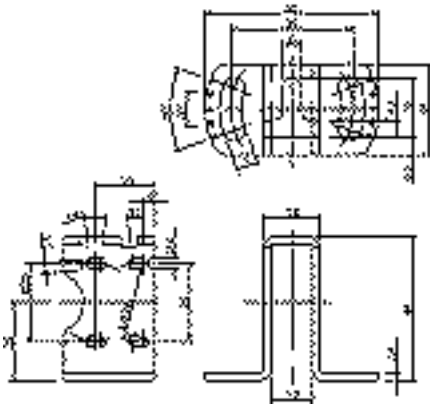
ST-505



ST-5039



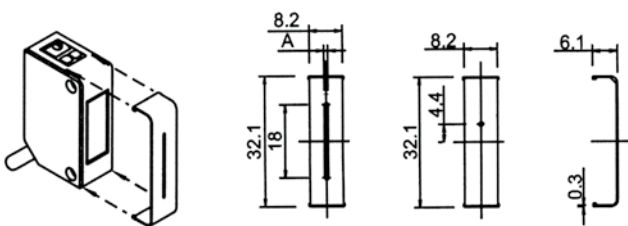
ST-5046



ST-5040



SLIT



M18 ADAPTER NOSE



MINIATURE SENSORS

MODEL	DESCRIPTION	ORDER NO.
ST-505	lateral mounting	95ACC2800
ST-5039	L-shaped fixing bracket	95ACC2270
ST-5040	protection bracket with vertical fixing (only for cable versions)	95ACC2280
ST-5046	protection bracket with horizontal fixing	95ACC2370
S3Z-SLIT1	∅ 0,5 mm slit for through beam	95ACC2470
S3Z-SLIT2	∅ 1 mm slit for through beam	95ACC2480
S3Z-SLIT3	∅ 2 mm slit for through beam	95ACC2490
S3Z-SLIT4	0,5x18 mm slit for through beam	95ACC2500
S3Z-SLIT5	1x18 mm slit for through beam	95ACC2510
S3Z-SLIT6	2x18 mm slit for through beam	95ACC2520
ST-S3Z-M18	S3Z FIX BRK M18 THREADED NOSE	95ACC7850

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650



MINIATURE SENSORS

S45

High Performance european style miniature sensor all-in-one family

- Red LED and Laser emissions
- Precise risk free laser class 1 emission
- Diffused LED proximity 800mm
- Background Suppression 400mm
- Retroreflective Class 1 Laser 15m/Red LED 7m
- Through beam Class 1 Laser 20m/Red LED 15m
- IP69K housing
- 2m Cable or metal M8 4 pole version
- PNP or NPN output with remote teach in input
- High speed RGB and white emission contrast sensor
- High precision distance sensor up to 200 mm



APPLICATIONS

- Processing and Packaging machinery
- Cosmetic and Pharmaceutical industry
- Electronics assembling
- Conveyor lines, material handling
- Automotive industry
- Print and paper industry
- Small part detection with maximum accuracy

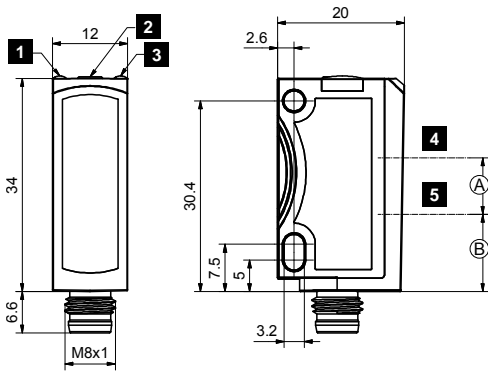


S45		
Through beam		20m. (Laser Class1) 15m. (Red Led)
Polarized Retroreflex		15m. (Laser Class1) 7m. (Red Led)
Autocollimated Retroreflexive for Transparent objects		2m. (Red Led)
Autocollimated Retroreflexive		2m. (Red Led)
Diffused proximty		250mm. (Laser Class1) 800mm. (Red Led)
Background suppressor		120mm. (Laser Class 1) 200mm. (Red Led) 400mm. (Red Led)
Distance sensor		80mm. (Red Led) 200mm. (Red Led)
Contrast Sensor		12mm. (White) 12mm. (RGB)
Pwer Supply	Vdc	10...30 V
	Vac	
	Vac/Vdc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	Push Pull (Wxx, Yxx), Analog 0...10 V (Yxx)
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		34mm. x 20mm. X 12mm.
Housing material		ABS(Housing), PMMA (Optics)
Mechanical protection		IP67 & IP69K

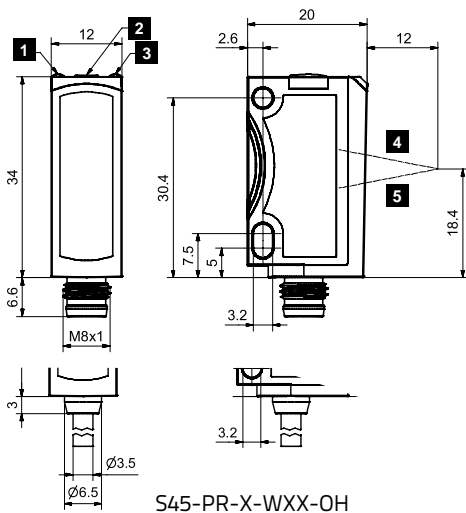
TECHNICAL DATA

Power supply	10...30 Vdc
Ripple	10% max.
Consumption (Load current excluded)	≤ 30 mA
Light emission	Red LED 632 nm, Red Laser 650 nm
Setting	Push Button TEACH-IN
Indicators	LED Green, Operating Voltage LED Yellow Output Status
Output	NPN, PNP, Push Pull
Output current	100 mA
Saturation voltage	2 V max
Response time	500 μs 333 μs (CO3 Laser) 250 μs (F/G Laser) 50 μs (W03, W33) 20 μs (W13, W43)
Switching frequency	≤ 1000Hz ≤ 1500Hz (CO3 Laser) ≤ 2000 Hz (F/G Laser) ≤ 10 kHz (W03, W33) ≤ 25 kHz (W13, W43)
Connection	Plastic M8 4-pole connector, Metal M8 4-pole connector 2 m cable
Dielectric strength	500 Vac, 1min between electronic and housing
Insulating resistance	>20M OHM, 500 Vdc between electronic and housing
Electrical protection	class 2
Mechanical protection	IP67 & IP69K
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5mm amplitude, 10...55Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS
Lens material	PMMA
Operating temperature	-20...+60 °C
Storage temperature	-20...+80 °C
Weight	10g. with connector, 40g. with cable

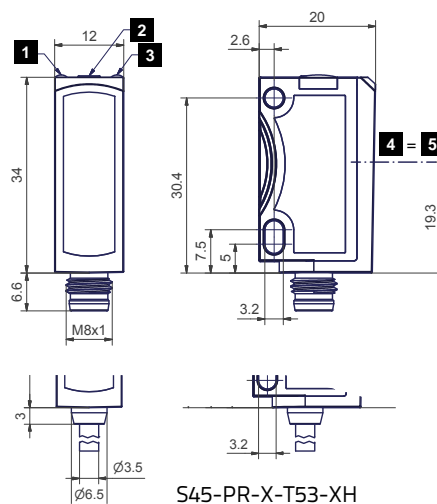
DIMENSIONS



	S45-PR-2(5)-M03 S45-PR-5-Y03	S45-PR-2(5)-M13 S45-PR-5-Y13	S45-PR-2(5)-C03 S45-PR-B03	S45-PH-5-M03	S45-PH-5-C03 S45-PH-B03	S45-PR-G00	S45-PH-G00	S45-PR(PH)-F03
A	9	11.75	10.8	8.8	8.8	11.5	13.5	
B	12.3	11	11.5	12.5	13.5			22.3



S45-PR-X-WXX-OH



S45-PR-X-T53-XH
S45-PR-X-B53-XH

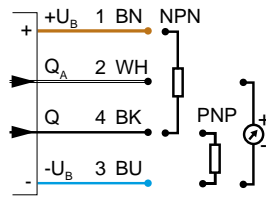
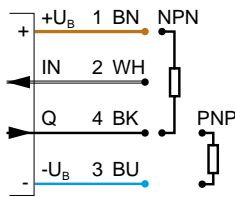
1	Yellow LED 1)
2	Button
3	Green LED 2)
4	Receiver axis
5	Emitter axis

- 1) switching output indicator
- 2) operating voltage indicator

MINIATURE SENSORS

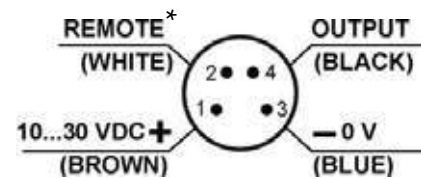
CONNECTIONS

CABLE



WXX, YXX

M8 CONNECTOR

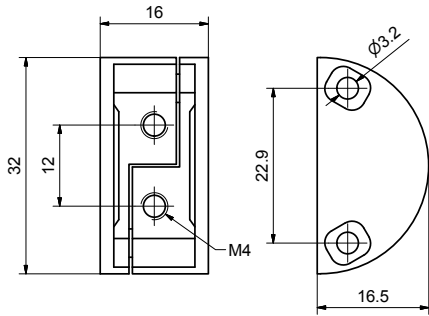


* Analog out YXX

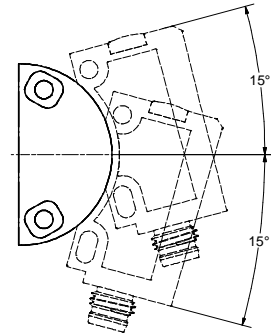
MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
Diffused proximity	LED	2m Cable	PNP	S45-PR-2-C03-PH	950411220
			NPN	S45-PR-2-C03-NH	950411210
	LASER	M8	PNP	S45-PR-5-C03-PH	950411240
			NPN	S45-PR-5-C03-NH	950411230
Polarized Retroreflex	LED	2m Cable	PNP	S45-PR-2-B03-PH	950411100
			NPN	S45-PR-2-B03-NH	950411090
	LASER	M8	PNP	S45-PR-5-B03-PH	950411120
			NPN	S45-PR-5-B03-NH	950411110
	LASER	M8	PNP	S45-PH-5-B03-PH	950411140
			NPN	S45-PH-5-B03-NH	950411130
Polarized retroreflective autocollimated for transparent	LED	2m Cable	PNP	S45-PR-2-T53-PH	950411160
			NPN	S45-PR-2-T53-NH	950411150
	LASER	M8	PNP	S45-PR-5-T53-PH	950411180
			NPN	S45-PR-5-T53-NH	950411170
Polarized retroreflective autocollimated	LED	M8	PNP	S45-PR-5-B53-PH	950411200
			NPN	S45-PR-5-B53-NH	950411190
Through beam	LED	2m Cable	-	S45-PR-2-G00-XE	950411000
			PNP	S45-PR-2-F03-PH	950411020
		M8	NPN	S45-PR-2-F03-NH	950411010
			-	S45-PR-5-G00-XE	950411030
	LASER	M8	PNP	S45-PR-5-F03-PH	950411050
			NPN	S45-PR-5-F03-NH	950411040
		M8	-	S45-PH-5-G00-XE	950411060
			PNP	S45-PH-5-F03-PH	950411080
M8	NPN	S45-PH-5-F03-NH	950411070		
	Background suppressor 200mm	LED	2m Cable	PNP	S45-PR-2-M03-PH
NPN				S45-PR-2-M03-NH	950411270
M8		PNP	S45-PR-5-M03-PH	950411300	
		NPN	S45-PR-5-M03-NH	950411290	
Background suppressor 400mm	LED	2m Cable	PNP	S45-PR-2-M13-PH	950411320
			NPN	S45-PR-2-M13-NH	950411310
	M8	PNP	S45-PR-5-M13-PH	950411340	
		NPN	S45-PR-5-M13-NH	950411330	
Background suppressor laser	LASER	M8	PNP	S45-PH-5-M03-PH	950411360
			NPN	S45-PH-5-M03-NH	950411350
Distance sensor	LED	M8	PNP	S45-PR-5-Y03-PV	950411380
			NPN	S45-PR-5-Y03-NV	950411370
Distance sensor	LED	M8	PNP	S45-PR-5-Y13-PV	950411400
			NPN	S45-PR-5-Y13-NV	950411390
Contrast Sensor 10kHz	WHITE	M8	PUSH-PULL	S45-PR-5-W03-OH	950411420
	RGB		PUSH-PULL	S45-PR-5-W33-OH	950411410
Contrast Sensor 25kHz	WHITE	M8	PUSH-PULL	S45-PR-5-W13-OH	950411440
	RGB		PUSH-PULL	S45-PR-5-W43-OH	950411430

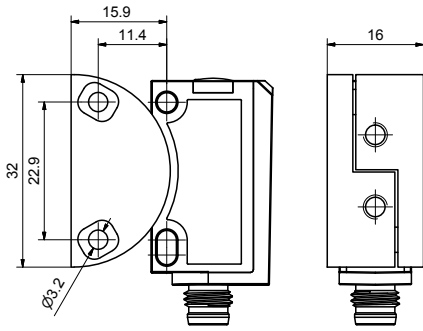
ACCESSORIES



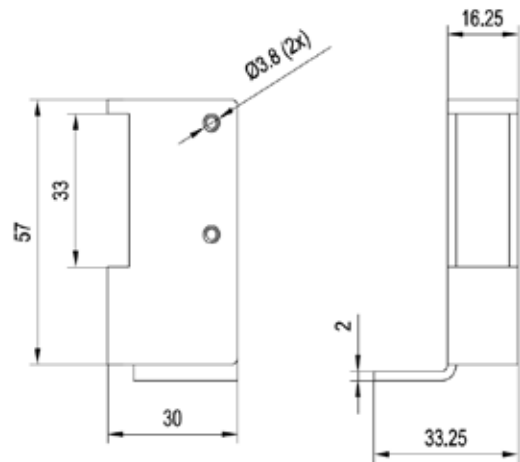
ST-S45-DVT



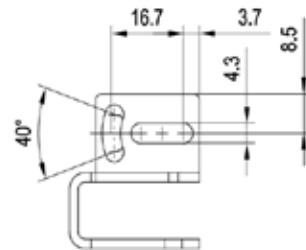
ST-S45-DVT



ST-S45-DVT



ST-MINI-PRO



MODEL	DESCRIPTION	ORDER NO.
ST-S45-DVT	S45 DOVE TAIL BRACKET	95ACC7970
ST-MINI-PRO	MINI PROTECTIVE BRACKET	95ACC7980

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
		2 m	CS-B1-02-R-02	95A251620
Radial M8 Connector	4-pole, grey, P.V.C.	5 m	CS-B1-02-R-05	95A251640
		3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
	4-pole, P.U.R.	10 m	CS-B2-02-G-10	95A251530
		2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

MINIATURE SENSORS

S40

High performance miniature European style photoelectric sensors

- High-performance models with Teach-in function
- Background suppression and LASER retroreflective models
- Polarized retroreflective for transparent objects
- 4-wire NO/NC output or Remote teach input



APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling
- Automated warehousing



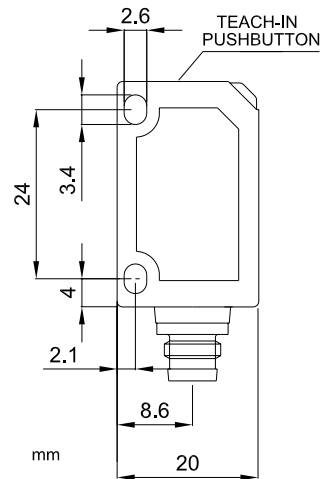
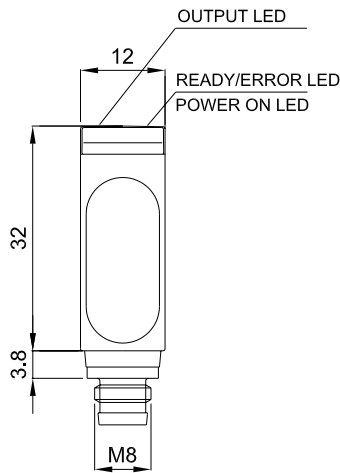
S40		
Polarized retroreflective		0,1...2,5 m
Retroreflective for transparent (on R2 reflector)		0,1...6 m (class 2 LASER)
Diffuse proximity		100...700 mm
Background suppression		5...300 mm
		40...150 mm (class 2 LASER)
		15...100 mm
		20...60 mm (class 2 LASER)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		12x32x20
Housing material		ABS
Mechanical protection		IP67

TECHNICAL DATA

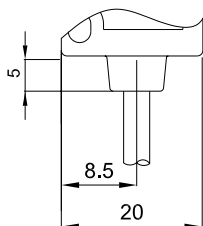
Power supply	10 ... 30 Vdc (reverse polarity protection)
Ripple	10% max.
Consumption (output current excluded)	35 mA max.
Light emission	red LED 660 nm, 640 nm (mod. S40...M03) red Laser 650 nm
Setting	teach-in push-button and remote by cable
Indicators	yellow OUTPUT LED green READY/ERROR LED
Output	NPN or PNP, 22 kΩ pull down/up resistance (short-circuit protection)
Output current	100 mA max.
Saturation voltage	2,4 V max.
Response time	0,5 ms 125 μs (Laser mod. S40...B03/C03)
Switching frequency	1 kHz 4 kHz (Laser mod. S40...B03/C03)
Connection	M8 4-pole connector, 2 m cable 3,5 mm
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS UL 94V-0
Lens material	Methacrylic PMMA
Operating temperature	-20 ... +60 °C
Storage temperature	-20 ... +80 °C
Weight	40 g max. cable vers., 10 g max. conn. vers.

DIMENSIONS

M8 CONNECTOR VERSION



CABLE VERSION

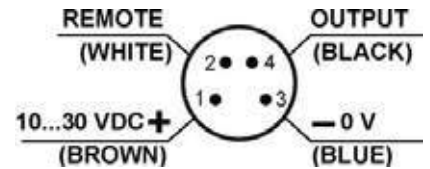
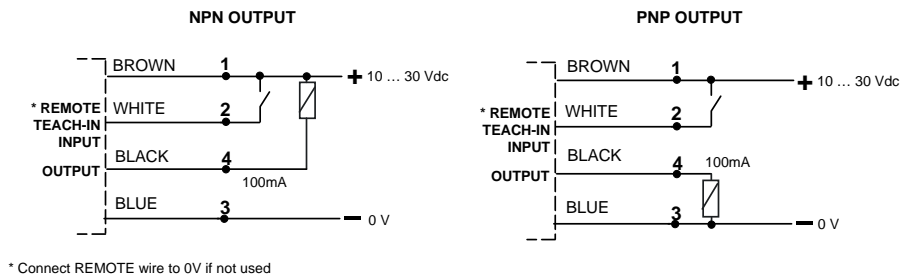


MINIATURE SENSORS

CONNECTIONS

CABLE

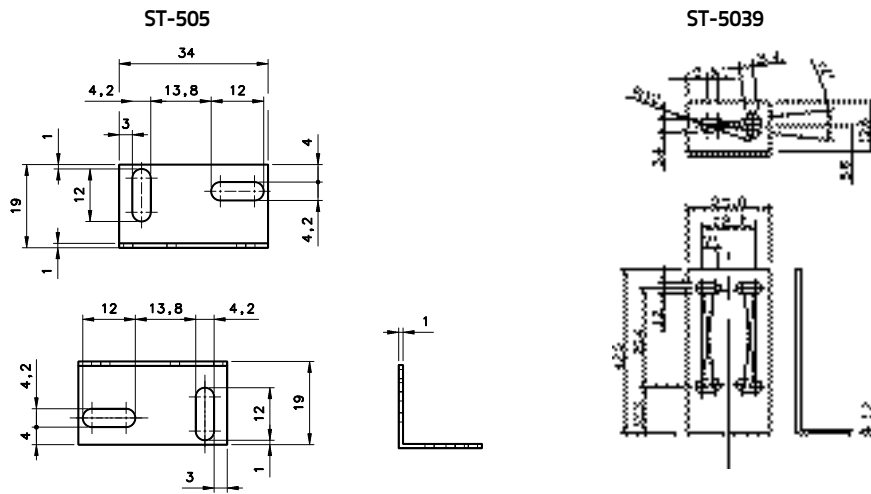
M8 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Polarized retroreflective	LASER	M8 connector	NPN	S40-PH-5-B03-NH	950401240
			PNP	S40-PH-5-B03-PH	950401250
	LED	2m Cable	NPN	S40-PR-2-B03-NH	950401360
			PNP	S40-PR-2-B03-PH	950401300
		M8 connector	NPN	S40-PR-5-B03-NH	950401480
			PNP	S40-PR-5-B03-PH	950401420
Diffuse proximity	LASER	M8 connector	NPN	S40-PH-5-C03-NH	950401260
			PNP	S40-PH-5-C03-PH	950401270
	LED	2m Cable	NPN	S40-PR-2-C03-NH	950401370
			PNP	S40-PR-2-C03-PH	950401310
		M8 connector	NPN	S40-PR-5-C03-NH	950401490
			PNP	S40-PR-5-C03-PH	950401430
Background suppression	LASER	2m Cable	PNP	S40-PH-2-M03-PH	950401540
		M8 connector	NPN	S40-PH-5-M03-NH	950401280
			PNP	S40-PH-5-M03-PH	950401290
	LED	2m Cable	NPN	S40-PR-2-M03-NH	950401380
		M8 connector	PNP	S40-PR-2-M03-PH	950401320
			NPN	S40-PR-5-M03-NH	950401500
Retroreflective for transparent	LED	2m Cable	NPN	S40-PR-2-T03-NH	950401410
			PNP	S40-PR-2-T03-PH	950401350
		M8 connector	NPN	S40-PR-5-T03-NH	950401530
			PNP	S40-PR-5-T03-PH	950401470

ACCESSORIES



MODEL	DESCRIPTION	ORDER NO.
ST-505	lateral mounting	95ACC2800
ST-5039	L-shaped fixing bracket	95ACC2270

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

MINIATURE SENSORS

S41

Basic line of miniature European style photoelectric sensors

- Cost-effective universal models with adjustment trimmer
- Polarized retroreflective for transparent objects
- 4-wire connection NO/NC output or Remote teach



APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling
- Automated warehousing



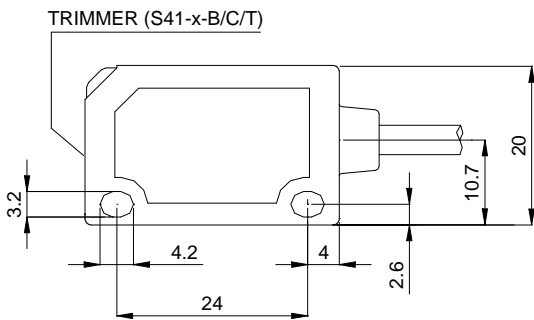
S41		
Through beam		0,1...6 m
Polarized retroreflective (on R2 reflector)		0,1...2,5 m
Retroreflective for transparent (on R2 reflector)		100...700 mm
Diffuse proximity		2...350 mm
Fixed focus		110 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		12x32x20
Housing material		ABS
Mechanical protection		IP67

TECHNICAL DATA

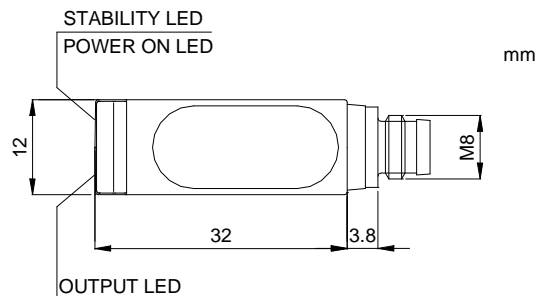
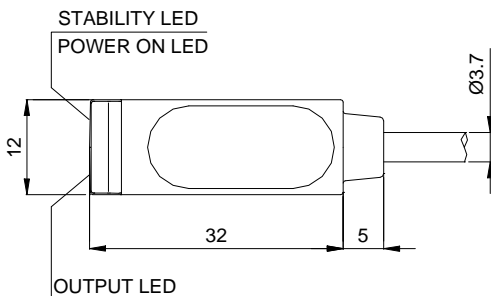
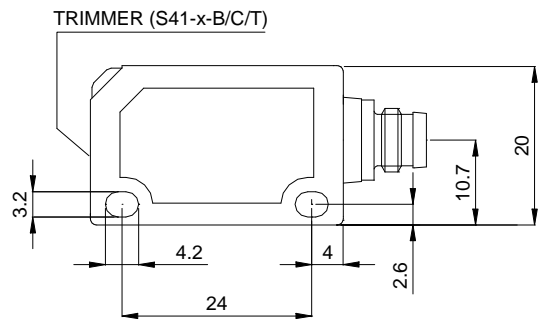
Power supply	10 ... 30 Vdc (reverse polarity protection)
Ripple	10% max.
Consumption (output current excluded)	35 mA max.
Light emission	red LED 660 nm (mod. S41...B/D/P/T) IR LED 880 nm (mod. S41...C/G/H)
Setting	sensitivity trimmer (mod. S41...B/C/T)
Operating mode	LIGHT mode (mod. S41...C/D); DARK mode (mod. S41...B/F/P/T)
Indicators	yellow OUTPUT LED green STABILITY LED (mod. S41...B/D/C/F/P), POWER LED (mod. S41...G/H)
Output	NPN or PNP, NO; NC
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	1 ms
Switching frequency	500 Hz max.
Connection	M8 4-pole connector, 2 m cable Ø 3,5 mm
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP66 (mod. S41...B/C/T), IP67 (mod. S41...D/F/G/P/H)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS UL 94V-0
Lens material	PMMA plastic
Operating temperature	-25 ... +55 °C
Storage temperature	-25 ... +70 °C
Weight	40 g max. cable vers., 10 g max. conn. vers.

DIMENSIONS

CABLE VERSION



M8 CONNECTOR VERSION



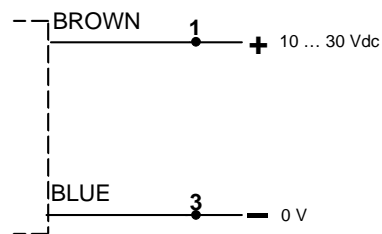
MINIATURE SENSORS

CONNECTIONS

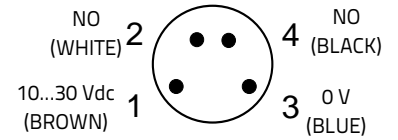
CABLE



Through beam emitter



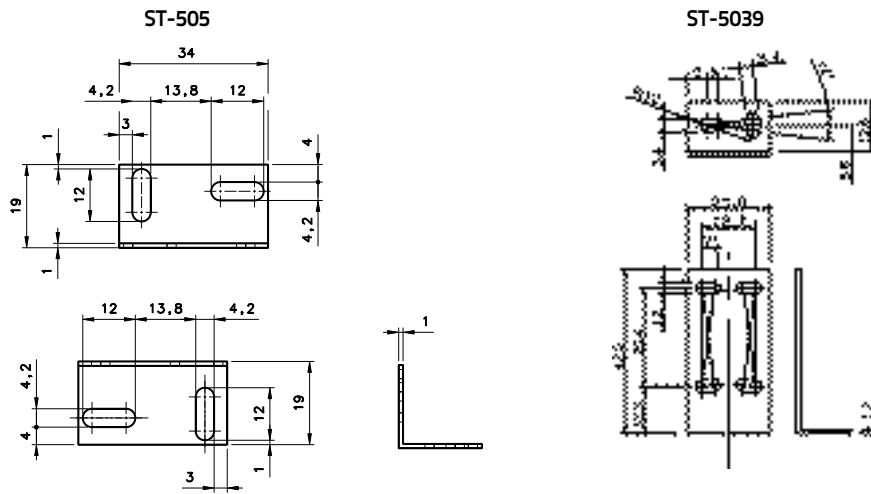
M8 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	ADJUSTMENT TRIMMER	CONNECTION	OUTPUT	MODEL	ORDER No.
Polarized retroreflective	Present	2m Cable	NPN	S41-2-B-N	950701150
			PNP	S41-2-B-P	950701000
		M8 Connector	NPN	S41-5-B-N	950701210
			PNP	S41-5-B-P	950701050
Polarized retroreflective	Absent	2m Cable	NPN	S41-2-P-N	950701190
			PNP	S41-2-P-P	950701100
		Connector	NPN	S41-5-P-N	950701250
			PNP	S41-5-P-P	950701110
Diffuse proximity	Present	2m Cable	NPN	S41-2-C-N	950701160
			PNP	S41-2-C-P	950701010
		M8 Connector	NPN	S41-5-C-N	950701120
			PNP	S41-5-C-P	950701060
Fixed focus	Absent	2m Cable	NPN	S41-2-D-N	950701170
			PNP	S41-2-D-P	950701020
		M8 Connector	NPN	S41-5-D-N	950701230
			PNP	S41-5-D-P	950701070
Through beam receiver	Absent	2m Cable	NPN	S41-2-F-N	950701180
			PNP	S41-2-F-P	950701030
		M8 Connector	NPN	S41-5-F-N	950701240
			PNP	S41-5-F-P	950701080
Through beam emitter	Absent	2m Cable	-	S41-2-G	950701040
		M8 Connector	-	S41-5-G	950701090
Through beam emitter with narrow beam	Absent	M8 Connector	-	S41-2-H	950701045
		M8 Connector	-	S41-5-H	950701095
Retroreflective for transparent	Present	2m Cable	NPN	S41-2-T-N	950701200
			PNP	S41-2-T-P	950701130
		M8 Connector	NPN	S41-5-T-N	950701260
			PNP	S41-5-T-P	950701140

ACCESSORIES



MODEL	DESCRIPTION	ORDER NO.
ST-505	lateral mounting	95ACC2800
ST-5039	L-shaped fixing bracket	95ACC2270

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

MINIATURE SENSORS

SMall

Complete line of amplified subminiature photoelectric sensors

- 15mm, 20mm, 30mm and 50mm fixed focus proximity
- 1,5m retroflective and 1m polarized retroflective
- 2m through beam models
- Amplified NPN or PNP output with NO-NC output



APPLICATIONS

- Processing and Packaging machinery
- Automotive
- Beverage & Bottling
- Vending machines

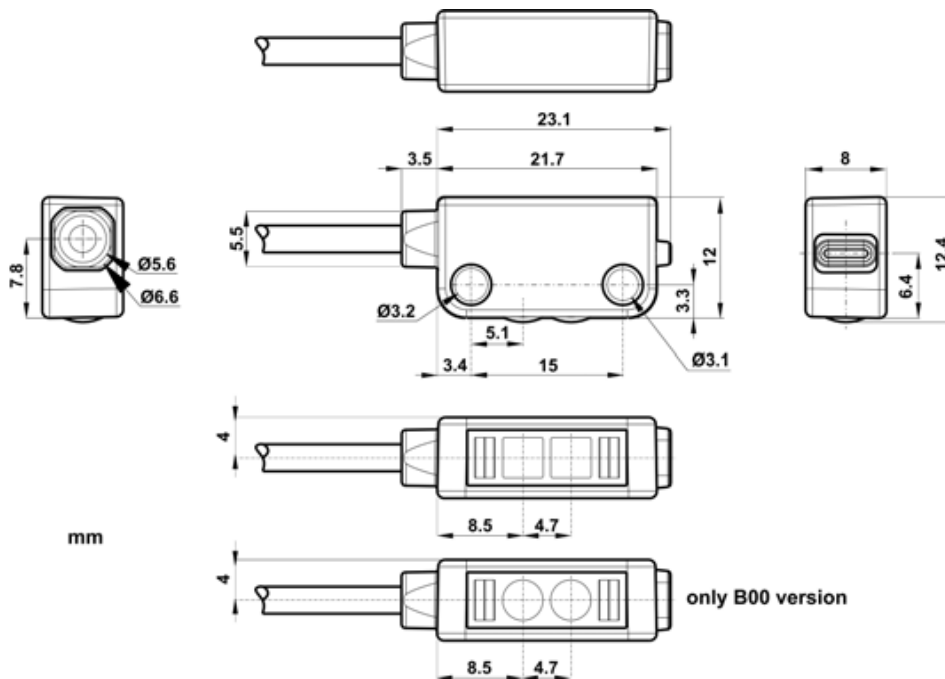


SM-all		
Through beam		0...2 m
Retroreflective (on R2 reflector)		0,05...1,5 m
Polarized retroreflective		0,1...1 m
Fixed focus		3...15 mm
		3...20 mm
		3...30 mm
		3...50 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	
	pig-tail	
Approximate dimensions (mm)		8x23x12
Housing material		Polycarbonate
Mechanical protection		IP67

TECHNICAL DATA

Power supply	10 ... 30 Vdc (limit values)
Ripple	10% max.
Consumption (output current excluded)	20 mA max.
Light emission	red LED 640 nm
Operating mode	LIGHT mode on N.O. output/DARK mode on N.C. output
Indicators	yellow OUTPUT LED excl. mod. G00 green POWER LED
Output	PNP or NPN; NO; NC
Output current	50 mA max.
Saturation voltage	1,25 V max. (NPN), 1,45 V max. (PNP)
Response time	700 µs 1,3 ms (mod. SM...F00/G00)
Switching frequency	700 Hz 385 Hz (mod. SM...F00/G00)
Connection	2 m cable Ø2,5 mm
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	Polycarbonate
Lens material	PMMA, glass (mod. B00)
Operating temperature	-20 ... 55 °C
Storage temperature	-30 ... 75 °C
Weight	22 g

DIMENSIONS

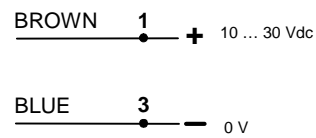
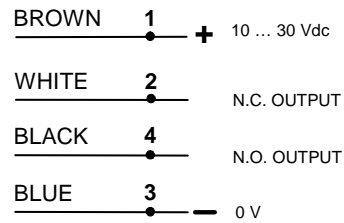


MINIATURE SENSORS

CONNECTIONS

CABLE

Through beam emitter

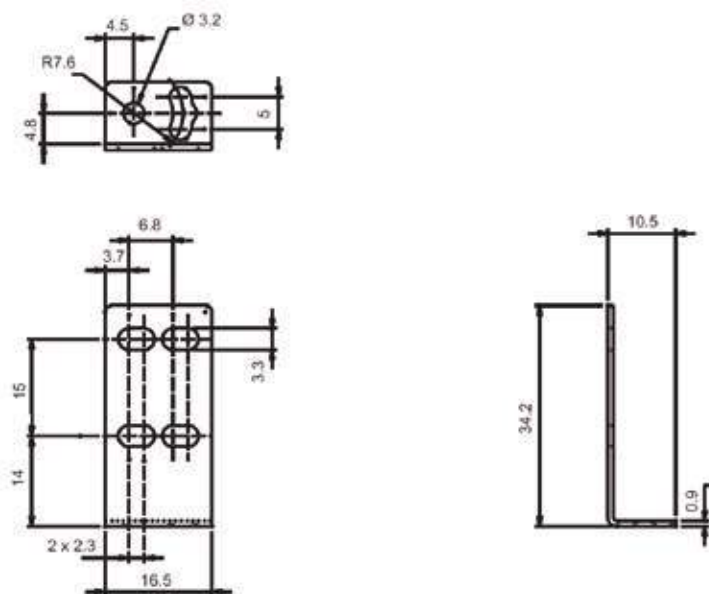


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OPERATING DISTANCE	CONNECTION	OUTPUT	MODEL	ORDER No.	
Retroreflective	0,05...1,5 m	2m Cable	PNP	SM-PR-2-A00-PP	95B000060	
			NPN	SM-PR-2-A00-NN	95B000070	
Polarized retroreflective	0,1...1 m	2m Cable	PNP	SM-PR-2-B00-PP	95B000080	
			NPN	SM-PR-2-B00-NN	95B000090	
Fixed focus (short distance)	15 mm	2m Cable	PNP	SM-PR-2-D00-PP	95B000020	
			NPN	SM-PR-2-D00-NN	95B000030	
Fixed focus (normal distance)	20 mm		PNP	SM-PR-2-D10-PP	95B000140	
			NPN	SM-PR-2-D10-NN	95B000150	
Fixed focus (medium distance)	30 mm		PNP	SM-PR-2-D20-PP	95B000040	
			NPN	SM-PR-2-D20-NN	95B000050	
Fixed focus (long distance)	50 mm		PNP	SM-PR-2-D30-PP	95B000000	
			NPN	SM-PR-2-D30-NN	95B000010	
Through beam receiver	0...2 m		2m Cable	PNP	SM-PR-2-F00-PP	95B000120
				NPN	SM-PR-2-F00-NN	95B000130
		-		SM-PR-2-G00-XG	95B000160	

ACCESSORIES

ST-5049



mm

MODEL	DESCRIPTION	ORDER NO.
ST-5049	right angle bracket	95ACC6650



COMPACT SENSORS

S8

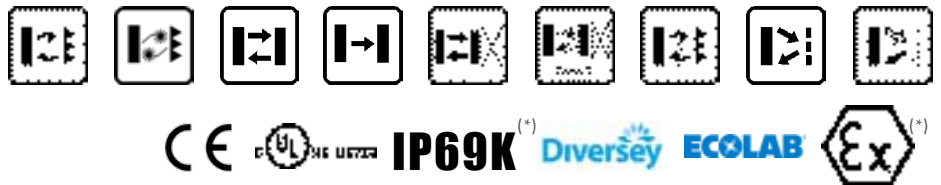
Compact size and high performance for the most challenging detection applications

- Compact dimensions (14x42x25 mm)
- Background suppression for transparent and shiny objects
- Contrast sensors up to 10 kHz switching frequency
- Extremely focused spot, under 1 mm (LASER model)
- Very high resolution LASER models
- INOX AISI 316L model



APPLICATIONS

- Processing and Packaging machinery
- Beverage/Food/ Cosmetics/ Pharmaceutical industries
- Electronics assembling



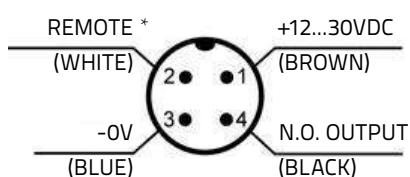
(*) Stainless steel models.
ATEX II 3DG

S8		
Through beam		0...25 m
Polarized retroreflective		0,1...5 m
Retroreflective for transparent (coaxial)		0...10 m (class 2 LASER)
Diffuse proximity		0...0,8 m (T51), 0...2 m (T53, T50)
Background suppression		0...500 mm
Background suppression for clear detection		50...300 mm
Contrast sensor		20...200 mm (class 2 LASER)
Luminescence sensor		100...300 mm (LED)
		50...150 mm (class 2 LASER)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	▪
Approximate dimensions (mm)		14x42x25
Housing material		ABS, Stainless Steel AISI 316L
Mechanical protection		IP69K (Stainless Steel vers.), IP67

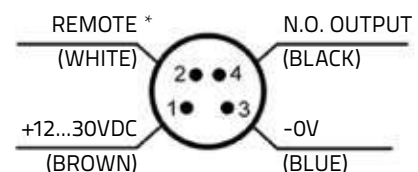
TECHNICAL DATA	
Power supply	12 ... 30 Vdc (short-circuit protection)
Ripple	2 Vpp max.
Consumption (output current excluded)	30 mA; 35 mA (mod. S8...M01); 20 mA (mod. S8...F), 15 mA (mod. S8...G) max.
Light emission	red LED 660 nm (mod. S8...B/C/M/G/T) RGB LEDs: blue 465 nm, green 520 nm, red 630nm with automatic selection (mod. S8...W) UV LED 375 nm (mod. S8...U) red Laser 645..665 nm (mod. S8...B/M)
Setting	8-turn distance adjustment trimmer (mod. S8...M53/M) LIGHT / DARK mono-turn trimmer (mod. S8...B/C/F/T51) teach-in push button (mod. S8...M53/W03/W13/T53/U) remote input (mod. S8...W/U/T50/T53)
Operating mode	mono-turn trimmer (mod. S8...B/C/F/M/T/U/W13) automatic (mod. S8...W/T50) remote input (mod. S8...M53)
Indicators	yellow OUTPUT LED (excl. mod. S8...G), OUTPUT/ALARM LED (mod. S8...M53/M/C) green POWER LED
Output	PNP or NPN N.O.
Output current	100 mA (overload protection)
Saturation voltage	2 V max.
Response time	1 ms (mod. S8...M53/M) 500 µs (mod. S8...B/F/C) 250 µs (mod. S8...T) 100 µs (Laser vers. mod. S8...M) 50 µs (mod. S8...W00/W03 e Laser mod. S8...B) 20 µs (mod. S8...W13) 250 µs...1 ms (mod. S8...U)
Switching frequency	500 Hz (mod. S8...M53/M) 1 kHz (mod. S8...B/F/C) 2 kHz (mod. S8...T) 5 kHz (Laser vers. mod. S8...M) 10 kHz (mod. S8...W00/W03 e Laser mod. S8...B) 25 kHz (mod. S8...W13) 500 Hz...2 kHz (mod. S8...U)
Connection	M8 4-pole connector, 150 mm length Ø 4 mm cable with M12 4-pole connector (pig-tail vers.)
Dielectric strength	1500 VAC 1 min between electronic parts and housing
Insulating resistance	>20 MΩ 500 VDC between electronic parts and housing
Mechanical protection	IP67, IP69K (mod. S8-M)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shocks per every axis (EN60068-2-27)
Housing material	ABS, Stainless Steel AISI316L
Lens material	window in PMMA; lens in PC
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	12 g max. conn. vers., 50 g pig-tail vers., 70 g max. (mod. S8-M)

CONNECTIONS

M12 PIGTAIL



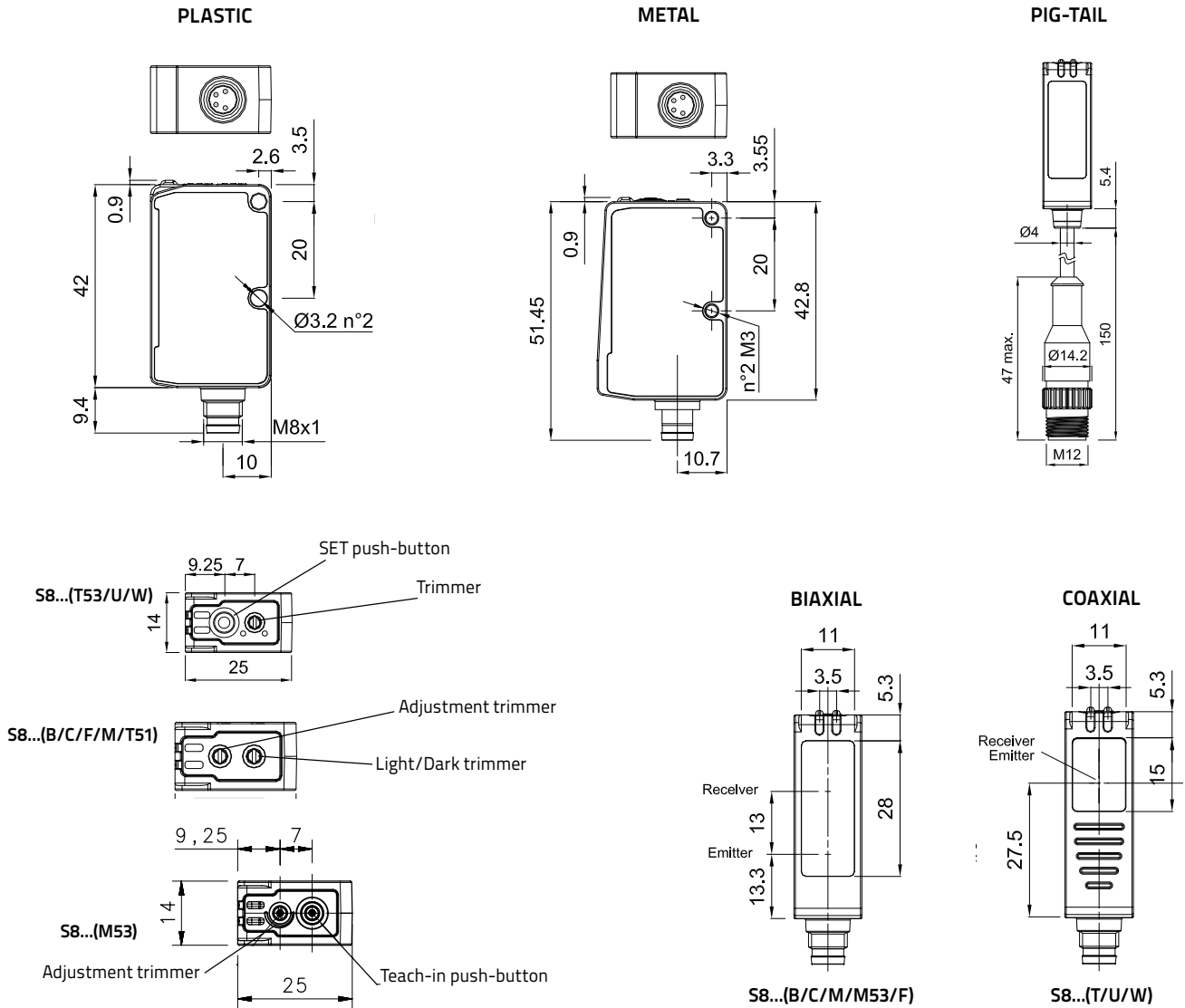
M8 CONNECTOR



* REMOTE INPUT (mod. S8...W, U, T50, T53), LIGHT / DARK INPUT (mod. S8...M53), DELAY (mod. S8...M Laser), TEST INPUT (mod. S8...G), ALARM OUTPUT (mod. S8...B, T51), NOT USED (mod. S8...C, M, F)

COMPACT SENSORS

DIMENSIONS



MODEL SELECTION AND ORDER INFORMATION

CLEAR DETECTION					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LASER	M8 connector	PNP	S8-MH-5-M53-PP	950801450
	LED			S8-MR-5-M53-PP	950801600
PLASTIC ABS	LASER			S8-PH-5-M53-PP	950801380
	LED			S8-PR-5-M53-PP	950801590

RETROREFLECTIVE FOR TRASPARENT					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LED	M8 connector	NPN	S8-MR-5-T50-NH	950801330
			PNP	S8-MR-5-T50-PH	950801320
		M8 connector with auto-adjustment function	NPN	S8-MR-5-T53-NN	950801310
			PNP	S8-MR-5-T53-PP	950801300
		pig-tail	NPN	S8-PR-3-T51-NN	950801130
			PNP	S8-PR-3-T51-PP	950801120
PLASTIC ABS	LED	M8 connector	NPN	S8-PR-5-T51-NN	950801050
			PNP	S8-PR-5-T51-PP	950801040
		M8 connector with auto-adjustment function	NPN	S8-PR-5-T53-NN	950801290
			PNP	S8-PR-5-T53-PP	950801280

POLARIZED RETROREFLECTIVE					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LASER	M8 connector	NPN	S8-MH-5-B51-NN	950801490
			PNP	S8-MH-5-B51-PP	950801480
	LED		NPN	S8-MR-5-B01-NN	950801420
			PNP	S8-MR-5-B01-PP	950801410
PLASTIC ABS	LASER	pig-tail	NPN	S8-PH-3-B51-NN	950801090
			PNP	S8-PH-3-B51-PP	950801080
		M8 connector	NPN	S8-PH-5-B51-NN	950801010
			PNP	S8-PH-5-B51-PP	950801000
	LED	pig-tail	NPN	S8-PR-3-B01-NN	950801190
			PNP	S8-PR-3-B01-PP	950801180
		M8 connector	NPN	S8-PR-5-B01-NN	950801170
			PNP	S8-PR-5-B01-PP	950801160

BACKGROUND SUPPRESSION					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LASER	M8 connector	NPN	S8-MH-5-M01-NN	950801470
			PNP	S8-MH-5-M01-PP	950801460
	LED		NPN	S8-MR-5-M01-NN	950801400
			PNP	S8-MR-5-M01-PP	950801390
PLASTIC ABS	LASER	pig-tail	NPN	S8-PH-3-M01-NN	950801110
			PNP	S8-PH-3-M01-PP	950801100
		M8 connector	NPN	S8-PH-5-M01-NN	950801030
			PNP	S8-PH-5-M01-PP	950801020
	LED	pig-tail	NPN	S8-PR-3-M01-NN	950801230
			PNP	S8-PR-3-M01-PP	950801220
		M8 connector	NPN	S8-PR-5-M01-NN	950801210
			PNP	S8-PR-5-M01-PP	950801200

THROUGH BEAM					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LED	M8 connector	NPN	S8-MR-5-F01-NN	950801570
			PNP	S8-MR-5-F01-PP	950801560
			emitter	S8-MR-5-G00-XG	950801580
			PLASTIC ABS	pig-tail	NPN
PNP		S8-PR-3-F01-PP			950801520
M8 connector		emitter		S8-PR-3-G00-XG	950801550
		NPN		S8-PR-5-F01-NN	950801510
PNP		S8-PR-5-F01-PP	950801500		
emitter	S8-PR-5-G00-XG	950801540			

DIFFUSE					
HOUSING	LIGHT EMISSION	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel (INOX AISI346L)	LED	M8 connector	NPN	S8-MR-5-C01-NN	950801440
			PNP	S8-MR-5-C01-PP	950801430
PLASTIC ABS		pig-tail	NPN	S8-PR-3-C01-NN	950801270
			PNP	S8-PR-3-C01-PP	950801250
M8 connector		NPN	S8-PR-5-C01-NN	950801260	
		PNP	S8-PR-5-C01-PP	950801240	

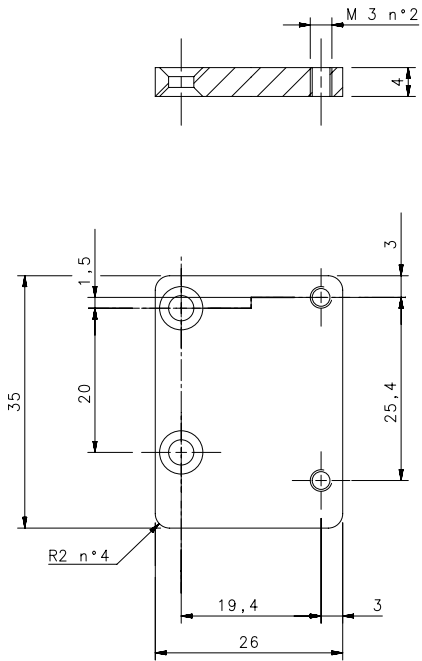
CONTRAST					
SWITCHING FREQUENCY	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER NO.
10 kHz	METAL Stainless Steel	M8 connector without trimmer	PNP	S8-MR-5-W00-PH	950801360
			NPN	S8-MR-5-W00-NH	950801370
		M8 connector	PNP	S8-MR-5-W03-PP	950801340
			NPN	S8-MR-5-W03-NN	950801350
	PLASTIC ABS	M12 pig-tail (150 mm)	PNP	S8-PR-3-W03-PP	950801140
			NPN	S8-PR-3-W03-NN	950801150
		M8 connector	PNP	S8-PR-5-W03-PP	950801060
			NPN	S8-PR-5-W03-NN	950801070
25 kHz	METAL Stainless Steel	M8 connector	PNP	S8-MR-5-W13-PP	950801670
			NPN	S8-MR-5-W13-NN	950801680
			PNP	S8-PR-5-W13-PP	950801650
	PLASTIC ABS		NPN	S8-PR-5-W13-NN	950801660
			PNP	S8-PR-3-W13-PP	950801690
			NPN	S8-PR-3-W13-NN	950801700

LUMINESCENCE					
HOUSING	SETTINGS	CONNECTION	OUTPUT	MODEL	ORDER NO.
METAL Stainless Steel	Teach-in push-button; L/D trimmer selector; Remote input	M8 connector	PNP	S8-MR-5-U03-PP	950801630
			NPN	S8-MR-5-U03-NN	950801640
PNP			S8-PR-5-U03-PP	950801610	
NPN			S8-PR-5-U03-NN	950801620	
PLASTIC ABS		pig-tail	PNP	S8-PR-3-U03-PP	950801710
			NPN	S8-PR-3-U03-NN	950801720

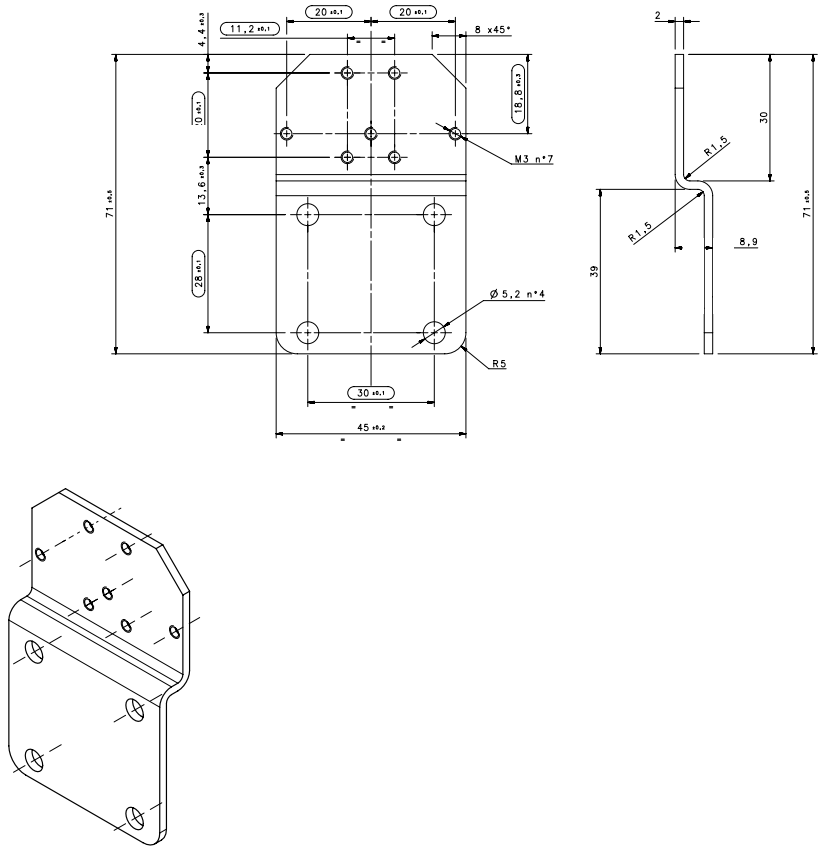
COMPACT SENSORS

ACCESSORIES

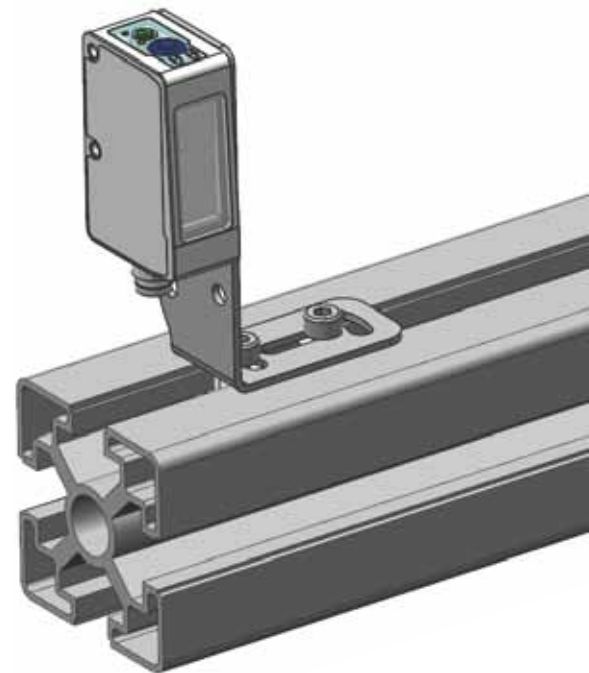
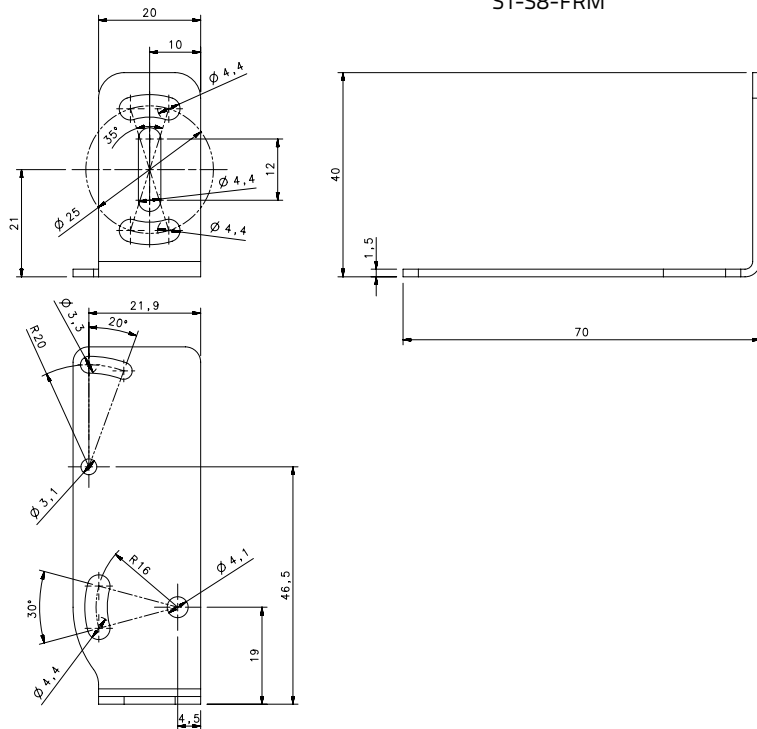
ST-S8-S3Z



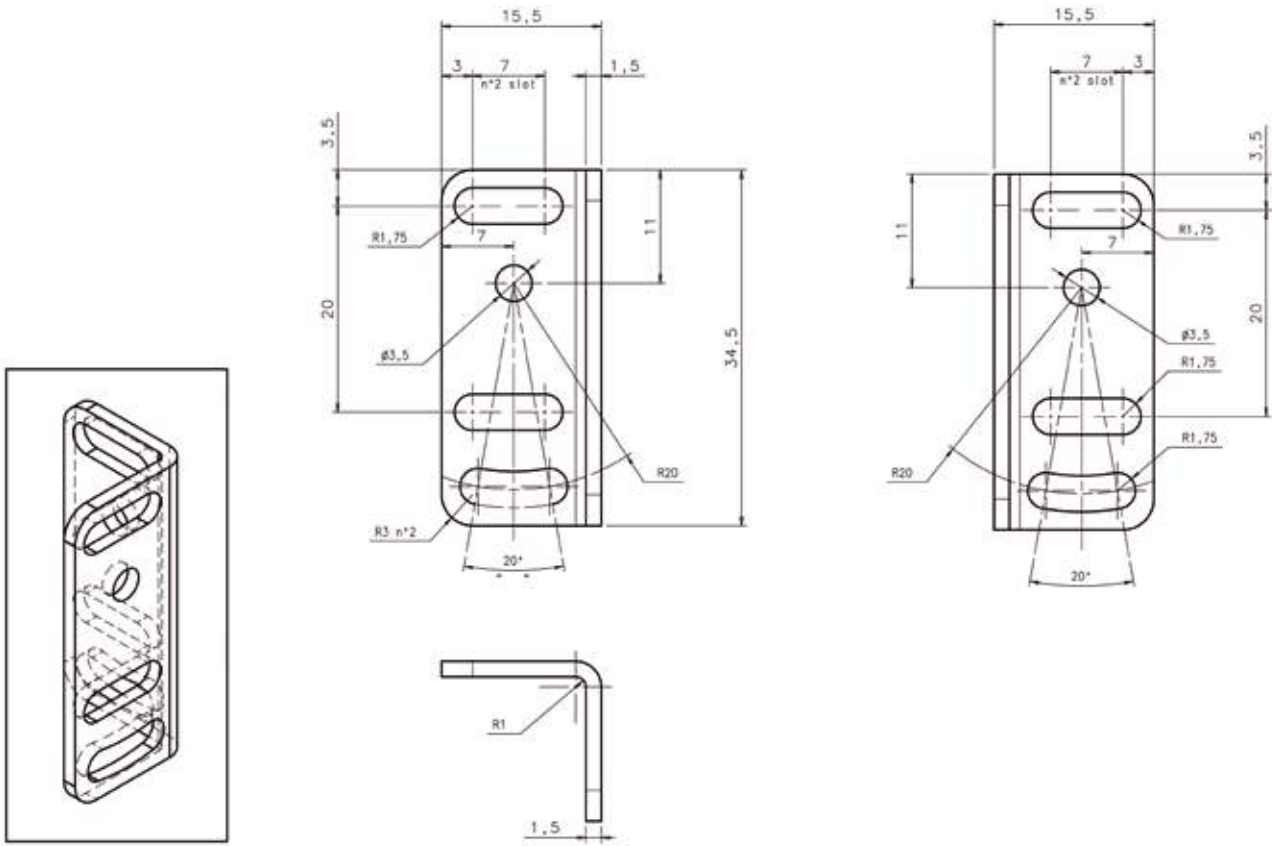
ST-S8-TL-LD46



ST-S8-FRM



ST-5072



MODEL	FUNCTION	ORDER No.
ST-S8-FRM	mounting bracket for standard frame	95ACC7860
ST-5072	mounting bracket	95ACC1470
R4K	IP69K plastic reflector 51 x 61 mm	95A151220
ST-S8-TL-LD46	TL-LD46 adapting bracket	95ACC3430
ST-S8-S3Z	S8-miniature sensors adapting bracket	95ACC3440

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

COMPACT SENSORS

S62

The most complete universal sensor in a compact 50x50 mm housing

- Sensors with red, infrared LED or LASER emission
- Background suppression from 3 cm to 2 m
- Polarized retroreflective up to 20 m
- Multivoltage 24-240Vac/24-60Vdc with Relay output
- NPN/PNP output NO-NC configuration



APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling



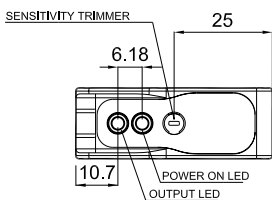
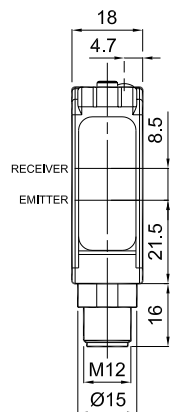
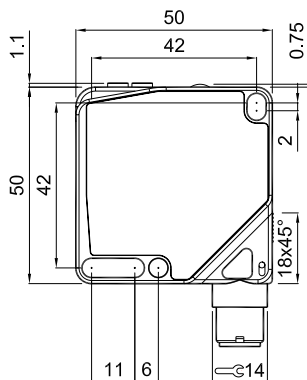
S62		
Through beam		0...25 m
Retroreflective (on R2 reflector)		0,1...13 m
Polarized retroreflective		0,1...8 m
		0,3...20 m (class 2 LASER)
Diffuse proximity		short 0...900 mm, long 0...2000 mm
		0...900 mm (class 2 LASER)
Background suppression		short 30...300 mm
		medium 60...600 mm
		long 60...1200 mm
		very long 200...2000 mm
		short LASER 30...150 mm (class 2 LASER)
		long LASER 50...350 mm (class 2 LASER)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	24/240 Vac/24...60 Vdc
	PNP	▪
Output	NPN	▪
	NPN/PNP	▪
	relay	▪
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		18x50x50
Housing material		ABS
Mechanical protection		IP67

TECHNICAL DATA

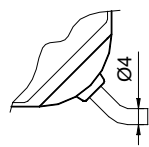
Power supply	10 ... 30 Vdc (mod. S62...2/5) 24...240 Vac/ 24...60 Vdc (mod. S62...1)
Ripple	2 Vpp max. (mod. S62...2/5), 10% max. (mod. S62...1)
Consumption (output current excluded)	30 mA max. (mod. S62...2/5) 3 VA max. (mod. S62...1)
Light emission	red LED 640 nm (mod. S62-PA...A/B/C/G/M01/M05/M11/M15) IR LED 880 nm (mod. S62-PA...M21/M25/M31/M35) red Laser 645...665 nm (mod. S62-PL)
Setting	sensitivity adjustment trimmer
Operating mode	mono-turn LIGHT/DARK trimmer (mod. S62...RX/PN) yellow OUTPUT LED
Indicators	green STABILITY LED, POWER LED (S62...G)
Output	PNP or NPN N.O./N.C. (mod. S62...PP/NN); NPN/PNP (mod. S62...PN); electromechanical SPDT 250 Vac/30 Vdc (mod. S62...RX)
Output current	100 mA max. (mod. S62...2/5), 2 A max. (mod. S62...1)
Saturation voltage	2 V max. (mod. S62...2/5)
Response time	25 ms (mod. S62...1) 1,5 ms (mod. S62...M3x) 1 ms (mod. S62...2/5-F/G/M2x) 500 µs (mod. S62-PA...2/5-A/B/C/M0x/M1x) 200 µs (mod. S62-PL...B/C/M11) 140 µs (mod. S62-PL...M01)
Switching frequency	20 Hz (mod. S62...1) 330 Hz (mod. S62...M3x) 500 Hz (mod. S62...2/5-F/G/M2x) 1 kHz (mod. S62-PA...2/5-A/B/C/M0x/M1x) 2,5 kHz (mod. S62-PL...B/C/M11) 3,5 kHz (mod. S62-PL...M01)
Connection	M12 4-pole connector, 2 m Ø 4 mm cable vers., 2 m Ø 5 mm cable vers.
Dielectric strength	500 Vac 1 min., between electronics and housing
Insulation resistance	>20 MΩ 500 Vdc, between electronics and housing
Mechanical protection	IP67
Ambient light rejection	According to EN 60947-5-2
Vibrations	0.5 mm amplitude, 10 ... 55 Hz frequency, for each axis (EN60068-2-6)
Shock resistance	11ms (30G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS
Lens material	PMMA window, polycarbonate lens
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	40 g max. conn. vers., 90 max. cable vers.

DIMENSIONS

Background suppression

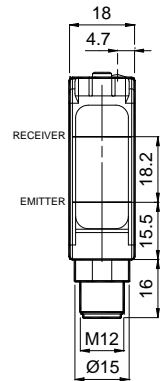
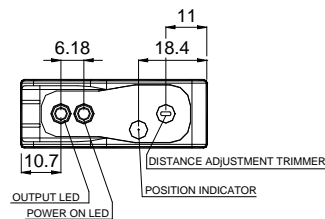


Cable version

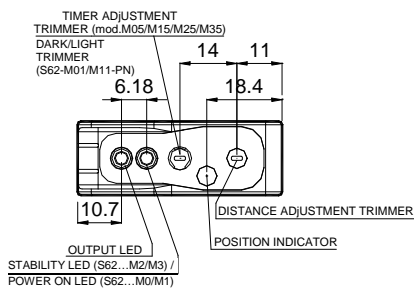


mm

Laser version



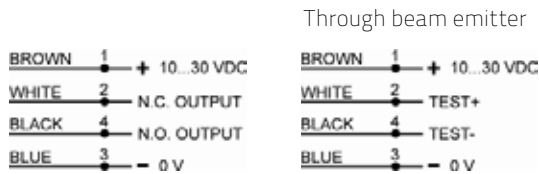
Led version



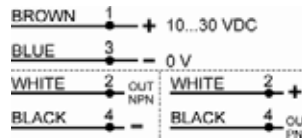
COMPACT SENSORS

CONNECTIONS

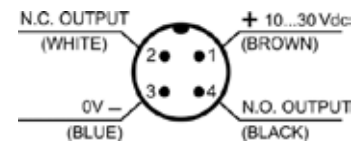
VDC MODELS



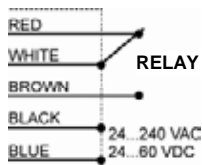
NPN/PNP version



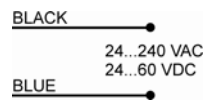
M12 CONNECTOR



VAC MODELS



Through beam emitter

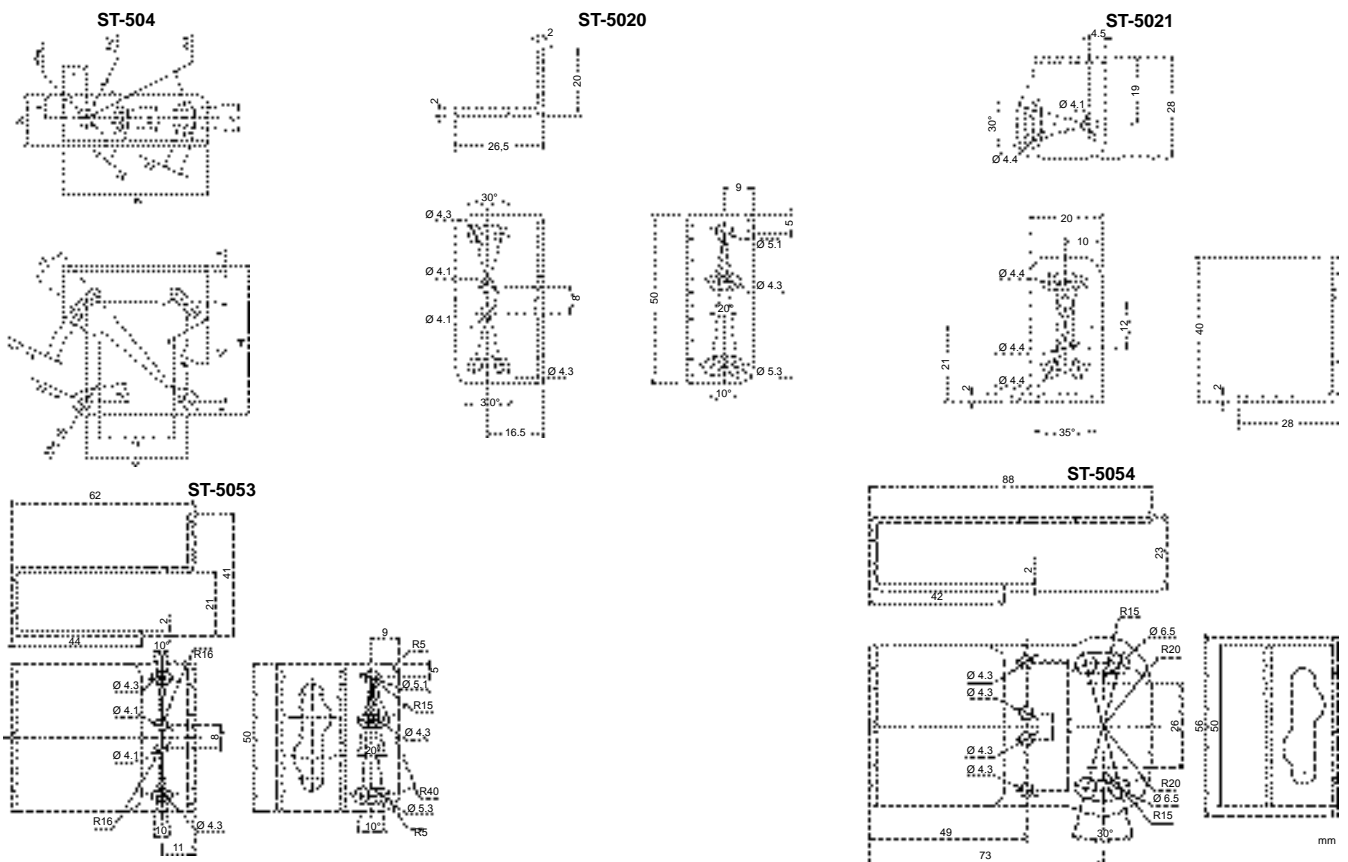


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.	
Retroreflective	LED (red 640nm)	2m Cable	PNP/NPN	S62-PA-2-A01-PN	956211240	
		M12 Connector	PNP/NPN	S62-PA-5-A01-PN	956211310	
		Vac relay	Relay	S62-PA-1-A01-RX	956211180	
Polarized retroreflective	LED (red 640nm)	2m Cable	PNP/NPN	S62-PA-2-B01-PN	956211250	
		M12 Connector	PNP	S62-PA-2-B01-PP	956211010	
			NPN	S62-PA-5-B01-NN	956211020	
	LASER	M12 Connector	PNP/NPN	S62-PA-5-B01-PN	956211320	
			PNP	S62-PA-5-B01-PP	956211000	
		Vac relay	Relay	S62-PA-1-B01-RX	956211190	
Short diffused proximity	LED (red 640nm)	M12 Connector	NPN	S62-PL-5-B01-NN	956211100	
			PNP	S62-PL-5-B01-PP	956211110	
		2m Cable	NPN	S62-PA-2-C01-NN	956211420	
			PNP/NPN	S62-PA-2-C01-PN	956211260	
			PNP	S62-PA-2-C01-PP	956211380	
	LASER	M12 Connector	NPN	S62-PA-5-C01-NN	956211500	
			PNP/NPN	S62-PA-5-C01-PN	956211330	
		2m Cable	PNP	S62-PA-5-C01-PP	956211460	
			Relay	Relay	S62-PA-1-C01-RX	956211200
			M12 Connector	NPN	S62-PL-2-C01-NN	956211440
PNP	S62-PL-2-C01-PP	956211400				
Long diffused proximity	LED (red 640nm)	2m Cable	NPN	S62-PA-2-C11-NN	956211430	
			PNP/NPN	S62-PA-2-C11-PN	956211270	
		M12 Connector	PNP	S62-PA-2-C11-PP	956211390	
			NPN	S62-PA-5-C11-NN	956211510	
			PNP/NPN	S62-PA-5-C11-PN	956211340	
		Vac relay	PNP	S62-PA-5-C11-PP	956211470	
			Relay	Relay	S62-PA-1-C11-RX	956211210
Through beam receiver	-	2m Cable	NPN	S62-PA-2-F01-NN	956211450	
			PNP/NPN	S62-PA-2-F01-PN	956211290	
			PNP	S62-PA-2-F01-PP	956211410	
		M12 Connector	NPN	S62-PA-5-F01-NN	956211530	
			PNP/NPN	S62-PA-5-F01-PN	956211360	
			PNP	S62-PA-5-F01-PP	956211490	
Vac relay	Relay	S62-PA-1-F01-RX	956211220			
Through beam emitter	LED (red 640nm)	2m Cable	-	S62-PA-2-G00-XG	956211300	
		M12 Connector	-	S62-PA-5-G00-XG	956211370	
		Vac relay	-	S62-PA-1-G00-XX	956211230	

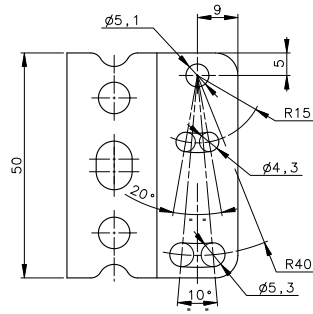
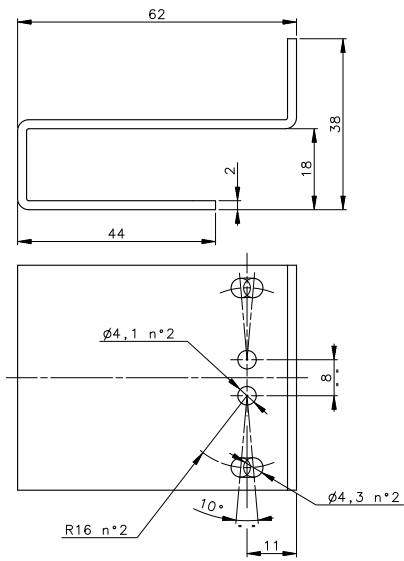
Background suppression (short distance)	LED (red 640nm)	2m Cable	PNP/NPN	S62-PA-2-M01-PN	956211280
			PNP	S62-PA-2-M01-PP	956201841
			NPN	S62-PA-5-M01-NN	956201811
		M12 Connector	PNP/NPN	S62-PA-5-M01-PN	956211350
			PNP	S62-PA-5-M01-PP	956201831
			NPN	S62-PA-5-M05-NN	956201801
Background suppression (medium distance)	LED (red 640nm)	2m Cable	PNP	S62-PA-2-M11-PP	956201891
			NPN	S62-PA-5-M11-NN	956201861
			PNP	S62-PA-5-M11-PP	956201881
		M12 Connector	NPN	S62-PA-5-M15-NN	956201851
			PNP	S62-PA-5-M15-PP	956201871
			NPN	S62-PL-5-M01-NN	956211120
Background suppression (long distance)	LASER	2m Cable	PNP	S62-PL-5-M01-PP	956211130
			NPN	S62-PL-5-M11-NN	956211140
			PNP	S62-PL-5-M11-PP	956211150
		M12 Connector	PNP	S62-PA-2-M21-PP	956201940
			NPN	S62-PA-5-M21-NN	956201910
			PNP	S62-PA-5-M21-PP	956201900
Background suppression (very long distance)	LED (infrared 880nm)	2m Cable	NPN	S62-PA-5-M25-NN	956201930
			PNP	S62-PA-5-M25-PP	956201920
			PNP	S62-PA-2-M31-PP	956211050
		M12 Connector	NPN	S62-PA-5-M31-NN	956211060
			PNP	S62-PA-5-M31-PP	956211070
			NPN	S62-PA-5-M35-NN	956211080
PNP	S62-PA-5-M35-PP	956211090			

ACCESSORIES

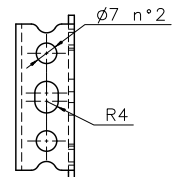
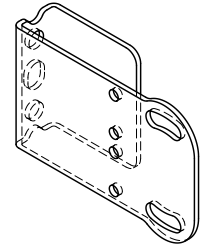
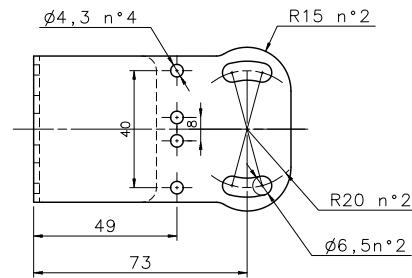
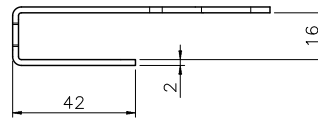


COMPACT SENSORS

ST-5018



ST-5019



MODEL	DESCRIPTION	ORDER No.
ST-5018	protective bracket	95ACC5310
ST-5019	protective bracket	95ACC5320
ST-5020	mounting bracket	95ACC5330
ST-5021	mounting bracket	95ACC5340
ST-504	mounting bracket	95ACC2820
ST-5053	protective bracket	95ACC2410
ST-5054	protective bracket	95ACC2420
JOINT-S62	protective bracket with jointed support	95ACC2430

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

COMPACT SENSORS

S6

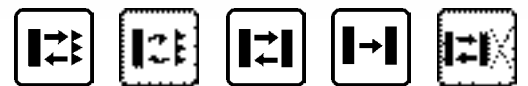
Multivoltage 50x50 mm compact sensors series

- 50x50 mm compact dimensions
- Free voltage Vac/Vdc models with relay output
- 10-30 Vdc model with transistor output
- Standard cable or M12 4-pole connection



APPLICATIONS

- Automatic machines
- Packaging lines
- Transportation lines
- Automatic warehouses

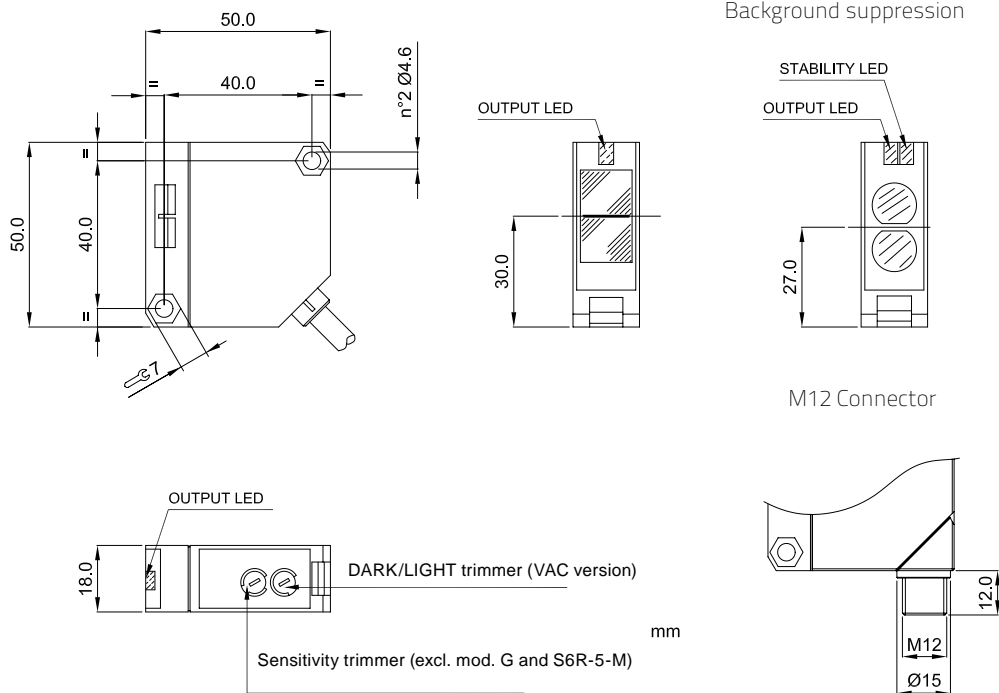


S6		
Through beam		0...20 m
Retroreflective (on R2 reflector)		0,1...6 m
Polarized retroreflective (on R2 reflector)		0,1...5 m
Diffuse proximity		10...900 mm
		10...2000 mm
Background suppression		30...100 mm
		30...250 mm
		100...500 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	15...264 Vac/Vdc
Output	PNP	▪
	NPN	▪
	NPN/PNP	▪
	relay	▪
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		18x50x50
Housing material		ABS
Mechanical protection		IP65

TECHNICAL DATA

Power supply	10 ... 30 Vdc limit values (mod. S6/S6T/S6R-5) 15 ... 264 Vac/Vdc (48 ... 60 Hz) limit values (mod. S6-1)
Ripple	2 Vpp max.
Consumption (output current excluded)	30 mA max. (mod. S6/S6T/S6R-5) 40 mA max. (mod. S6-1)
Light emission	IR LED 880 nm red LED 660 nm (mod. S6/S6R/S6T...B/M10)
Setting	sensitivity trimmer (excl. mod. S6...G, S6R-5-M) adjustment screw (mod. S6/S6T/S6R-5-M)
Operating mode	LIGHT/DARK selection by cable or connector (mod. S6/S6T/S6R-5) LIGHT/DARK selection by N.O./N.C. output (mod. S6R-5-M) LIGHT/DARK selection by trimmer (mod. S6-1)
Indicators	red OUTPUT LED (excl. mod. S6...G), POWER LED (mod. S6...G) green STABILITY LED (mod. S6-5-M25)
Output	NPN/PNP (mod. S6) PNP (mod. S6T) NPN or PNP; NC; NO (mod. S6R) Relay 1 NO and NC contact 250 Vac, 30 Vdc min. applicable load 5 Vdc, 10 mA (mod. S6-1)
Output current	100 mA max., 3 A max. (mod. S6-1)
Saturation voltage	1,5 V max. (NPN/PNP output)
Response time	1 ms max. 2 ms max. (mod. S6/S6R/S6T...F/G) 30 ms max. (mod. S6-1)
Switching frequency	500 Hz 250 Hz max. (mod. S6/S6R/S6T...F/G) 16 Hz (mod. S6-1)
Connection	2 m cable Ø 6 mm (mod. S6-1), 2 m cable Ø 5 mm (mod. S6-5), M12 4-pole connector (mod. S6T-S6R)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2, class 1 (mod. S6-1)
Mechanical protection	IP65
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS UL 94V-0
Lens material	PMMA plastic
Operating temperature	-25 ... 55 °C
Storage temperature	-25 ... 70 °C
Weight	160 g max. cable vers., 40 g max. conn. vers.

DIMENSIONS

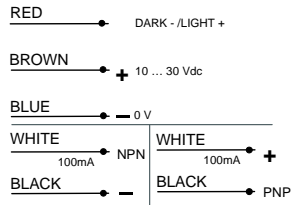


COMPACT SENSORS

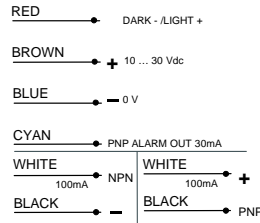
CONNECTIONS

VDC MODELS

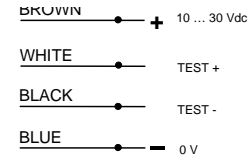
NPN/PNP version



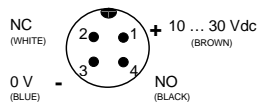
Through beam receiver - NPN/PNP version



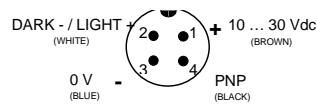
Through beam emitter - NPN/PNP version



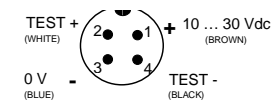
NPN or PNP and NC/NO version



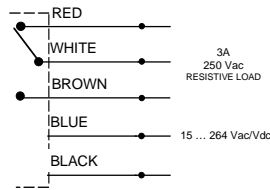
PNP version



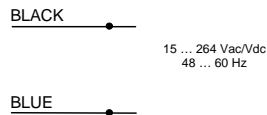
Through beam emitter - PNP version



VAC MODELS



Through beam emitter

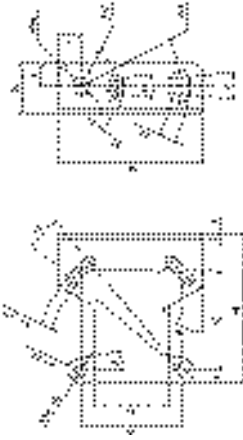


MODEL SELECTION AND ORDER INFORMATION

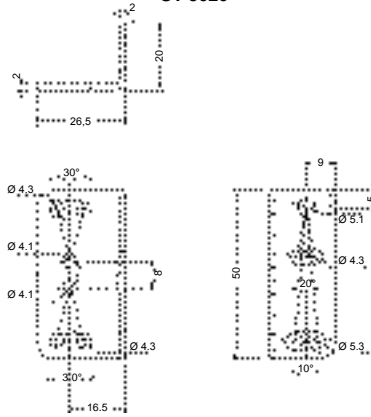
OPTIC FUNCTION	OPERATING	POWER SUPPLY	OUTPUT	MODEL	ORDER No.
Short diffuse proximity	10...900 mm	15...264 V A.C.	relay SPDT 250V/3A	S6-1-C90	5937530090
		10...30 V D.C.	NPN/PNP	S6-5-C90	5937530000
			PNP N.O./N.C.	S6R-5-C90-P	950201190
Long diffuse proximity	10...2000 mm	15...264 V A.C.	relay SPDT 250V/3A	S6-1-C200	950151140
		10...30 V D.C.	NPN/PNP	S6-5-C200	950201150
			PNP N.O./N.C.	S6R-5-C200-P	950201200
			NPN N.O./N.C.	S6R-5-C200-N	956101050
Retroreflective	0,1...6 m (on R2 reflector)	15...264 V A.C.	relay SPDT 250V/3A	S6-1-A6	5937330090
		10...30 V D.C.	NPN/PNP	S6-5-A6	5937330000
			PNP N.O./N.C.	S6R-5-A6-P	950201170
Polarized retroreflective	0,1...5 m (on R2 reflector)	15...264 V A.C.	relay SPDT 250V/3A	S6-1-B5	5937420090
		10...30 V D.C.	NPN/PNP	S6-5-B5	5937420000
			PNP N.O./N.C.	S6R-5-B5-P	950201180
Background suppression	30...100 mm	10...30 V D.C.	PNP	S6T-5-B5-P	961031010
	30...250 mm		PNP N.O./N.C.	S6R-5-M10-P	950201230
			NPN/PNP	S6-5-M25	5937830000
			PNP N.O./N.C.	S6R-5-M25-P	950201220
	100...500 mm		NPN N.O./N.C.	S6R-5-M25-N	956101080
PNP	S6T-5-M25-P	961041000			
Through beam (Receiver)	0...20 m	15...264 V A.C.	relay SPDT 250V/3A	S6-1-F20	5937200090
		10...30 V D.C.	NPN/PNP	S6-5-F20	5937200010
			PNP N.O./N.C.	S6R-5-F20-P	950201160
Through beam (Emitter)	-	15...264 V A.C.	-	S6-1-G20	5937130090
		10...30 V D.C.	-	S6-5-G20	5937130000
			-	S6T-5-G20	961211000

ACCESSORIES

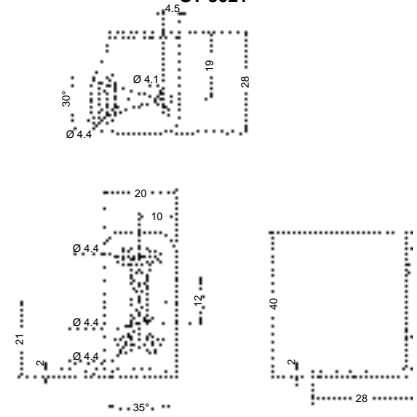
ST-504



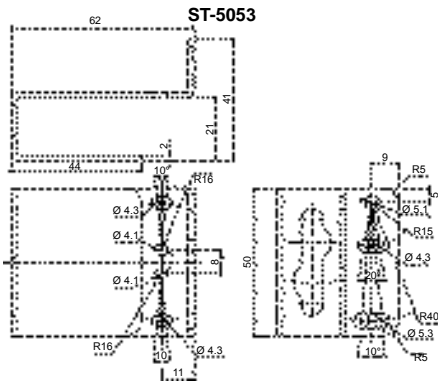
ST-5020



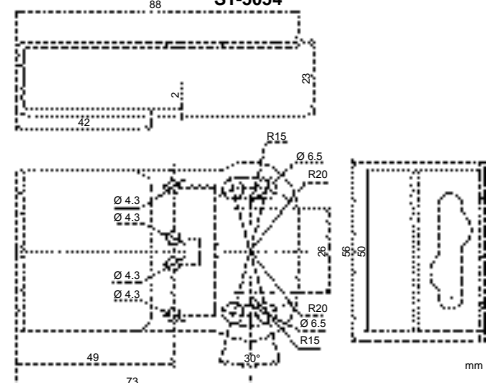
ST-5021



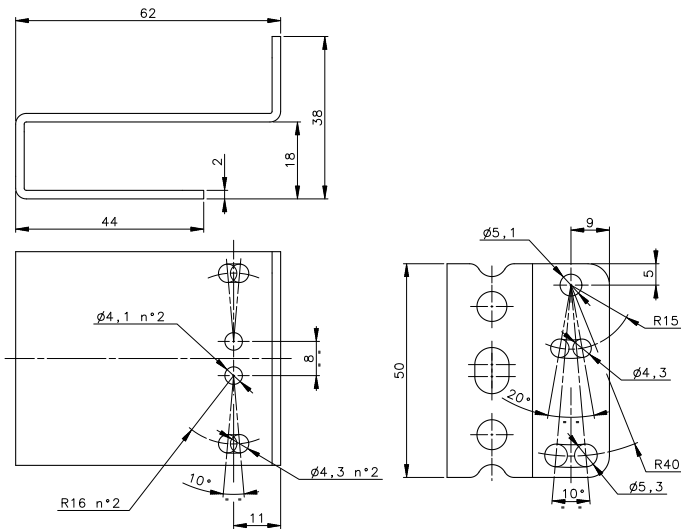
ST-5053



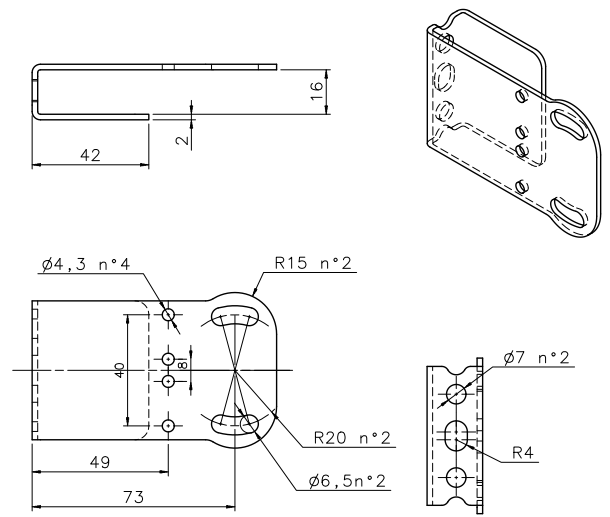
ST-5054



ST-5018



ST-5019



COMPACT SENSORS

MODEL	DESCRIPTION	ORDER No.
ST-5018	protective bracket	95ACC5310
ST-5019	protective bracket	95ACC5320
ST-5020	mounting bracket	95ACC5330
ST-5021	mounting bracket	95ACC5340
ST-504	mounting bracket	95ACC2820
ST-5053	protective bracket	95ACC2410
ST-5054	protective bracket	95ACC2420
JOINT-S62	protective bracket with jointed support	95ACC2430

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
		Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m
5 m	CV-A2-22-B-05			95ACC1550
10 m	CV-A2-22-B-10			95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
	Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC
Connector- not cabled			CS-A2-02-B-NC	G5085003



COMPACT SENSORS

S90

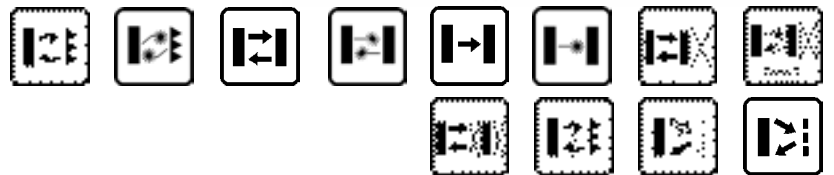
Extended range of compact photoelectric sensors in a metal housing

- Background suppression and polarized retroreflective
- Class 1 LASER models for long distance detection
- Contrast and UV Luminescence sensors
- Industrial IP67 metal housing
- Standard 4-wire NO-NC NPN or PNP output



APPLICATIONS

- Processing and Packaging machinery
- Conveyor lines, material handling
- Automotive assembling lines
- Automated warehousing



S90		
Through beam		0...20 m 0...60 m (class 1 LASER)
Polarized retroreflective		0...3,2 m (coaxial) 0,1...6,5 m 0,1...20 m (class 1 LASER)
Retroreflective for transparent (on R2 reflector)		0...1,7 m (coaxial)
Diffuse proximity		short 0,01...1 m long 0,05...2 m 0...600 mm (class 1 LASER)
Background suppression		70...200 mm 50...100 mm (class 1 LASER)
Foreground suppression		70...200 mm
Luminescence		0...40 mm
Contrast		19 ± 2 mm
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		15x50x41
Housing material		Zama
Mechanical protection		IP67

TECHNICAL DATA

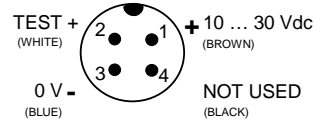
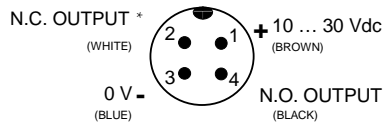
Power supply	10 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	35 mA max. 35 mA max. (mod. S90...B01/B51/C01/C11/F01/T51) 30 mA max. (mod. S90...W08/U08) 50 mA max. (mod. S90...M08/N03) 60 mA max. (Laser mod. S90...M08)
Light emission	red LED 660 nm (mod. S90...B01/B51/C01/T51) red LED 670 nm (mod. S90...M08) IR LED 880 nm (mod. S90...C11/G00) white LED 400-700 nm (mod. S90...W08) UV LED 370 nm (mod. S90...U08) red Laser 650 nm
Setting	sensitivity trimmer (mod. S90...B01/B51/C01/C11/F01/T51) SET push-button (mod. S90...M08/N03/W08/U08)
Operating mode	LIGHT mode on N.O. output/DARK mode on N.C. output (mod. S90...C01) DARK mode on N.O. output/LIGHT mode on N.C. output (mod. S90...B01/F01) LIGHT mode with EASY TOUCH™/automatic with fine detection (mod. S90...M08/N03/U08) DARK mode with EASY TOUCH/automatic with fine detection (mod. S90...W08)
Indicators	yellow OUTPUT LED (excl. mod. S90...G00) green STABILITY LED (mod. S90...B01/B51/C01/C11/F01), POWER LED (mod. S90...G00, Laser mod. S90...B01/C01/F01/G00) green/red READY/ERROR LED (mod. S90...M08/N03/W08/U08) yellow/orange OUTPUT LED, green/red LASER ON/ERROR LED (Laser mod. S90...M08)
Output	PNP or NPN; NO and NC (mod. S90...B01/C01/F01/T51)
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	0,5 ms (mod. S90...B01/B51/T51) 1 ms (mod. S90...C01/C11/F01) 100 µs (mod. S90...W08) 500 µs max. (mod. S90...M08/N03) 250 µs (mod. S90...U08, Laser mod. S90...B01/C01) 333 µs (Laser mod. S90...F01)
Switching frequency	1 kHz (mod. S90...B01/B51/T51) 500 Hz (mod. S90...C01/C11/F01) 5 kHz (mod. S90...W08) 1 kHz (mod. S90...M08/N03) 2 kHz (mod. S90...U08, Laser mod. S90...B01/C01) 1,5 kHz (Laser mod. S90...F01)
Connection	M12 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67 (type 1 enclosure)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ZAMA
Lens material	PMMA window and polycarbonate lens (mod. S90...B01/C01/C11/F01/G00/M08/N03) glass window and lens (mod. S90...B51/T51) glass window skewed anti-reflection and glass lens (mod. S90...W08/U08) PMMA window, polycarbonate and glass lens (Laser mod. S90...M08)
Operating temperature	-25 ... 55 °C (mod. S90...B01/B51/C01/C11/F01/G00) -10 ... 55 °C (mod. S90...M08/N03/W08/U08) -10 ... 50 °C (Laser mod.)
Storage temperature	-25 ... 70 °C (mod. S90...B01/B51/C01/C11/F01/G00, Laser mod. S90...B01/C01/F01/G00) -20 ... 70 °C (mod. S90...M08/N03/W08/U08, Laser mod. S90...M08)
Weight	77 g

COMPACT SENSORS

CONNECTIONS

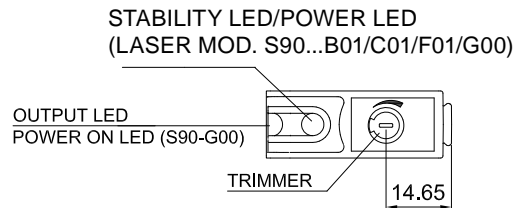
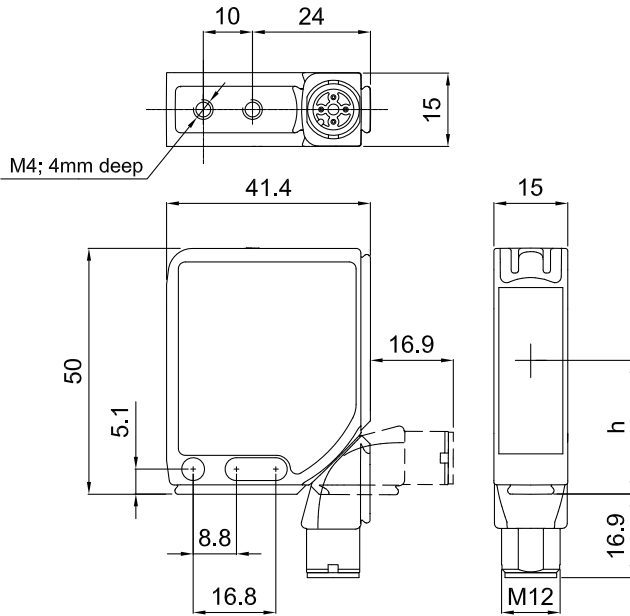
M12 CONNECTOR

Through beam emitter



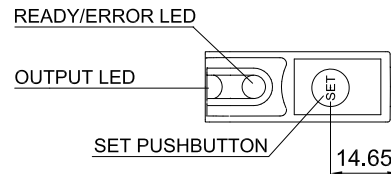
* N.C. OUTPUT (mod. S90...B, C, F, T), REMOTE (mod. S90...M, N, U, W)

DIMENSIONS



VERSION	h
B01 C01 C11 F01 G00	26.7
M08 N03	27.2
B51 T51 W08 U08	29.7

S90...M08/N03/W08/U08



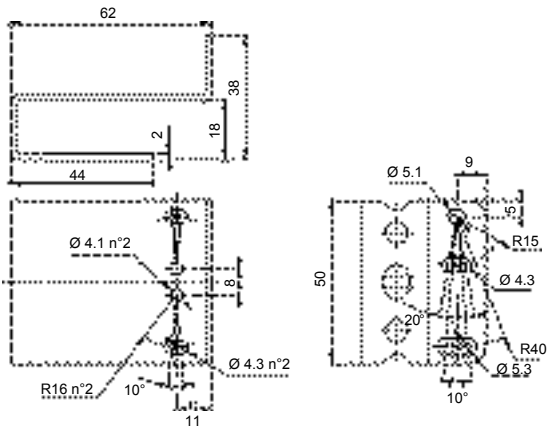
mm

MODEL SELECTION AND ORDER INFORMATION

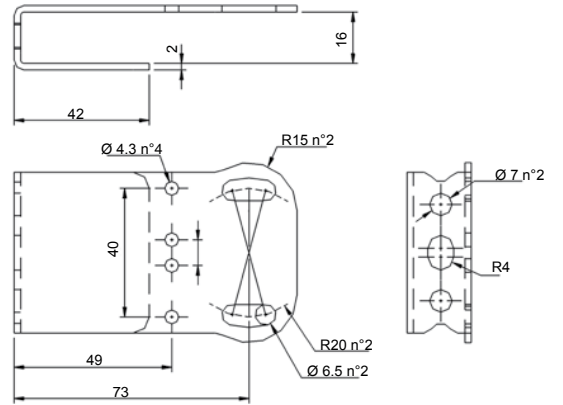
OPTIC FUNCTION	EMISSION	SETTING	OUTPUT	MODEL	ORDER No.
Polarized retroreflective	LASER	Trimmer	NPN	S90-ML-5-B01-NN	956301260
			PNP	S90-ML-5-B01-PP	956301090
Coaxial polarized retroreflective	LED	Trimmer	NPN	S90-MA-5-B01-NN	956301160
			PNP	S90-MA-5-B01-PP	956301000
Short diffuse proximity	LASER	Trimmer	NPN	S90-MA-5-B51-NN	956301170
			PNP	S90-MA-5-B51-PP	956301030
Long diffuse proximity	LED	Trimmer	NPN	S90-ML-5-C01-NN	956301270
			PNP	S90-ML-5-C01-PP	956301100
			NPN	S90-MA-5-C01-NN	956301190
Through beam receiver	LED	Trimmer	PNP	S90-MA-5-C01-PP	956301010
			NPN	S90-MA-5-C11-NN	956301200
			PNP	S90-MA-5-C11-PP	956301020
Through beam emitter	LASER	-	NPN	S90-ML-5-F01-NN	956301280
			PNP	S90-ML-5-F01-PP	956301110
			NPN	S90-MA-5-F01-NN	956301210
Background suppression	LED	Teach-in, delay-off, remote	PNP	S90-MA-5-F01-PP	956301050
			-	S90-ML-5-G00-XG	956301120
			-	S90-MA-5-G00-XG	956301060
Background and foreground suppression	LASER	Teach-in, delay-off, remote	NPN	S90-ML-5-M08-NH	956301290
			PNP	S90-ML-5-M08-PH	956301130
			NPN	S90-MA-5-M08-NH	956301220
Retroreflective for transparent	LED	Teach-in, delay-off, remote	PNP	S90-MA-5-M08-PH	956301070
			NPN	S90-MA-5-N03-NH	956301230
			PNP	S90-MA-5-N03-PH	956301080
Luminescence	LED	Teach-in, remote	NPN	S90-MA-5-T51-NN	956301180
			PNP	S90-MA-5-T51-PP	956301040
Contrast	LED	Teach-in, delay-off, remote	NPN	S90-MA-5-U08-NH	956301240
			PNP	S90-MA-5-U08-PH	956301140
	LED	Teach-in, delay-off, remote	NPN	S90-MA-5-W08-NH	956301250
			PNP	S90-MA-5-W08-PH	956301150

ACCESSORIES

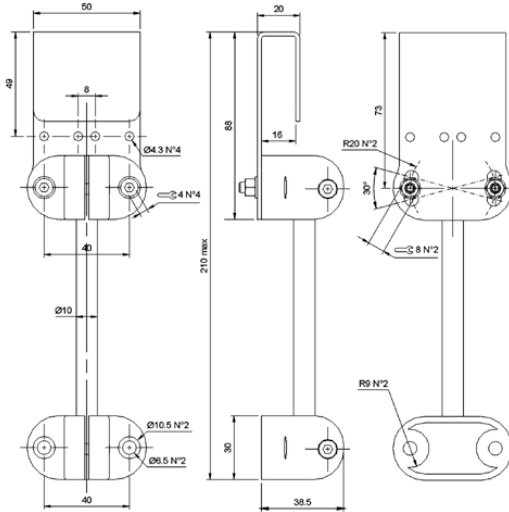
ST-5018



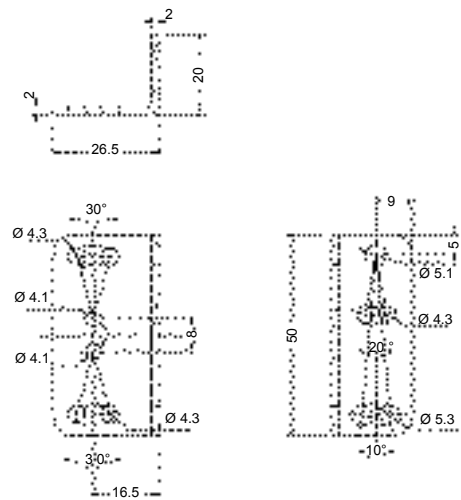
ST-5019



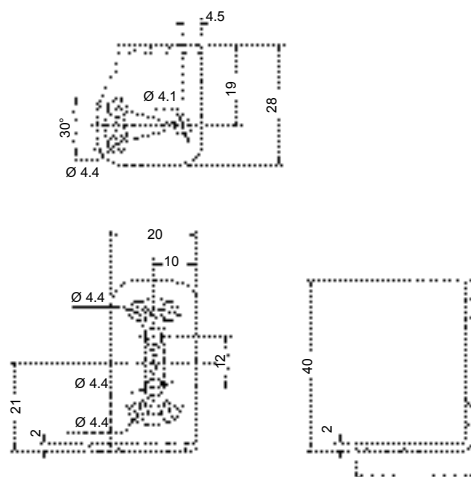
JOINT-60



ST-5020



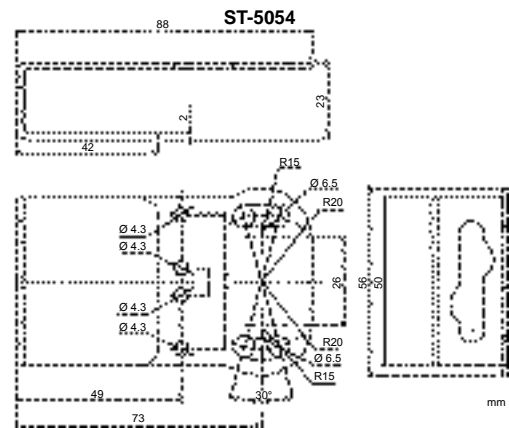
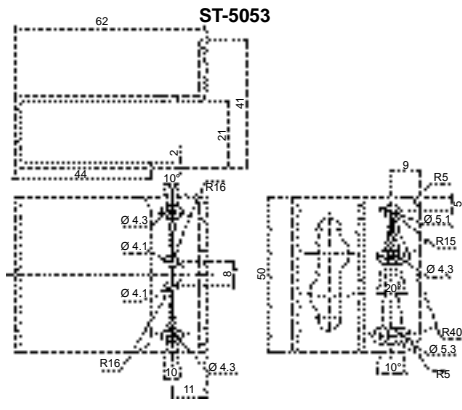
ST-5021



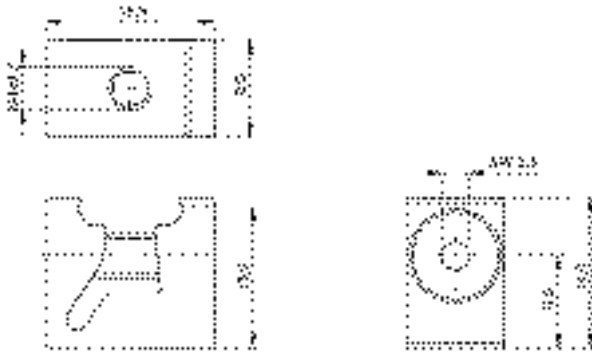
ST-504



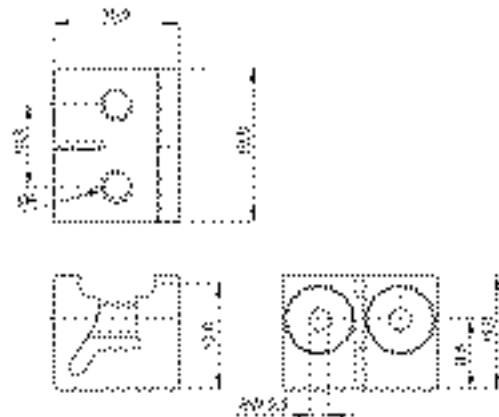
COMPACT SENSORS



ST-5041



ST-5042



MODEL	DESCRIPTION	ORDER No.
ST-5018	protective bracket	95ACC5310
ST-5019	protective bracket	95ACC5320
ST-5020	mounting bracket	95ACC5330
ST-5021	mounting bracket	95ACC5340
ST-504	mounting bracket	95ACC2820
ST-5053	protective bracket	95ACC2410
ST-5054	protective bracket	95ACC2420
ST-5041	short dove-tail bracket	95ACC2300
ST-5042	long dove-tail bracket	95ACC2310
JOINT -60	protective bracket with jointed support	95ACC 5350

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector		3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

S300 PA

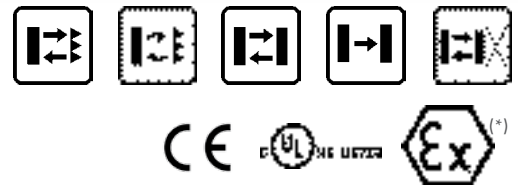
Advanced MAXI photoelectric multivoltage sensors

- Industrial plastic housing with IP67 mechanical protection
- Timing function from 0.6-16 s ON delay, OFF delay and ONE SHOT
- Terminal block for both Vdc and Vac/ Vdc free voltage
- Distance trimmer for mechanical background suppression models



APPLICATIONS

- Packaging end of line, palletizers
- Outdoor or indoor gates control
- Manufacturing plants



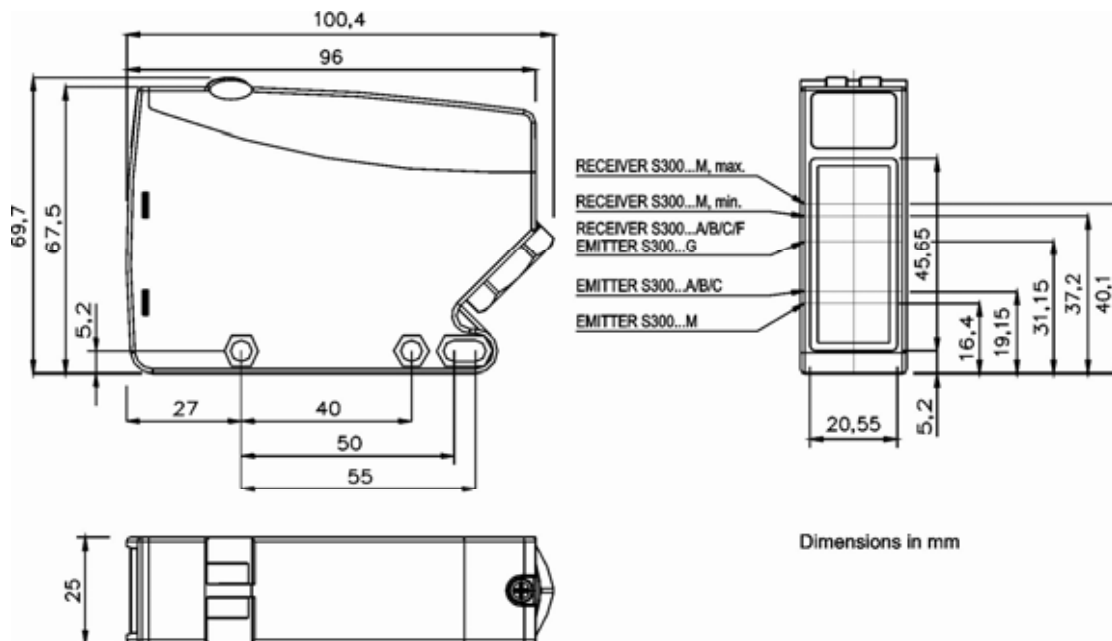
(*)DC models:
ATEX II 3DG

S300 PA		
Through beam		0...50 m
Retroreflective (on R2 reflector)		0,1...15 m
Polarized retroreflective		0,1...10 m
Diffuse proximity		0,05...2 m
Background suppression		0,2...2 m
Power supply	Vdc	12...30 V
	Vac	
	Vac/dc	24...240 Vac / 24...60 Vdc
	PNP	
Output	NPN	
	NPN/PNP	▪
	relay	▪
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		25x100x70
Housing material		PBT
Mechanical protection		IP67

TECHNICAL DATA

Power supply	12 ... 30 Vdc (mod. S300...2) 24...240 Vac/24...60 Vdc (mod. S300...1)
Ripple	10% max.
Consumption (output current excluded)	35 mA max. (mod. S300...2) 3 VA max. (mod. S300...1)
Light emission	red LED 660 nm (mod. S300...B) IR LED 940 nm (mod. S300...C) IR LED 880 nm (mod. S300...A/G/M)
Setting	sensitivity trimmer (mod. S300...A/B/C/F), DARK/LIGHT dip-switch (mod. S300...A/B/C/F/M) 7-turns distance adjustment trimmer (mod. S300...M) dip-switch mode ON delay/OFF delay/ON-OFF delay/single pulse (ONE-SHOT) (mod. S300...x06) timing trimmer (mod. S300...x06)
Indicators	yellow OUTPUT LED (excl. mod. S300...G) green STABILITY LED, POWER LED (mod. S300...G)
Output	PNP or NPN open collector (mod. S300...2); electromechanical SPDT 250 Vac/30 Vdc (mod. S300...1)
Output current	100 mA (mod. S300...2) 3 A max. (mod. S300...1)
Saturation voltage	2,4 V max.
Response time	1 ms (mod. S300...2-A/B/C/M) 2 ms (mod. S300...2-F/G) 25 ms (mod. S300...1)
Switching frequency	500 Hz (mod. S300...2-A/B/C/M) 250 Hz (mod. S300...2-F/G) 20 Hz max. (mod. S300...1)
Connection	terminal block
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2 (mod. S300...2)
Mechanical protection	IP67 (IEC/EN60529)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	PBT 30% glass fiber-reinforced
Lens material	frontal window and lens in PC
Operating temperature	-25 ... 55 °C
Storage temperature	-25 ... 70 °C
Weight	120 g (mod. S300...2), 130 g (mod. S300...1)

DIMENSIONS

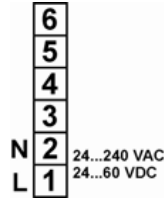
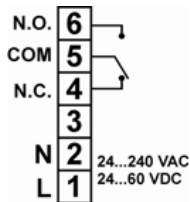


MAXI SENSORS

CONNECTIONS

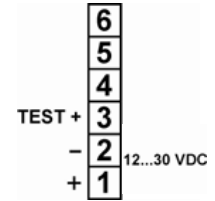
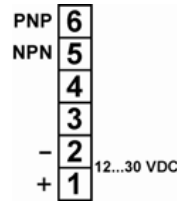
VAC MODELS

Through beam emitter



VDC MODELS

Through beam emitter

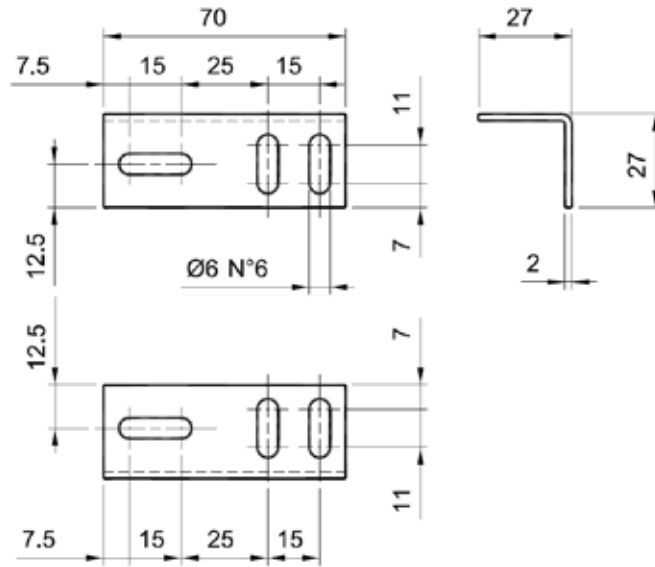


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	POWER SUPPLY	OUTPUT	SETTING	MODEL	ORDER No.
Retroreflective (IR LED 880 nm)	12...30 Vdc	NPN/PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-A01-OC	951451500
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-A06-OC	951451510
	24...240 Vac / 24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-A01-RX	951451480
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-A06-RX	951451490
Polarized retroreflective (red LED 660 nm)	12...30 Vdc	NPN/PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-B01-OC	951451540
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-B06-OC	951451550
	24...240 Vac / 24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-B01-RX	951451520
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-B06-RX	951451530
Diffused proximity (IR LED 940 nm)	12...30 Vdc	NPN/PNP	Sensitivity trimmer D/L dip-switch	S300-PA-2-C01-OC	951451420
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-C06-OC	951451430
	24...240 Vac / 24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-C01-RX	951451400
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-C06-RX	951451410
Through beam receiver	12...30 Vdc	NPN/PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-F01-OC	951451600
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-F06-OC	951451610
	24...240 Vac / 24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-F01-RX	951451580
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-F06-RX	951451590
Through beam emitter (IR LED 880 nm)	12...30 Vdc	-	-	S300-PA-2-G00-EX	951451570
	24...240 Vac / 24...60 Vdc	-	-	S300-PA-1-G00-EX	951451560
Background suppression (IR LED 880 nm)	12...30 Vdc	NPN/PNP	7-turns distance adjustment trimmer and D/L dip-switch	S300-PA-2-M01-OC	951451460
			Timing and 7-turns distance adj. trimmers, D/L dip-switch	S300-PA-2-M06-OC	951451470
	24...240 Vac / 24...60 Vdc	Relay	7-turns distance adjustment trimmer and D/L dip-switch	S300-PA-1-M01-RX	951451440
			Timing and 7-turns distance adj. trimmers, D/L dip-switch	S300-PA-1-M06-RX	951451450

ACCESSORIES

ST-511



MODEL	DESCRIPTION	ORDER No.
ST-511	mounting bracket	95ACC2810



S300 PR

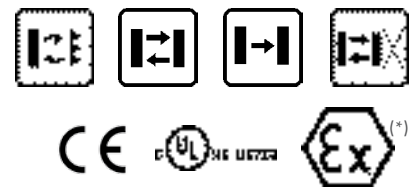
Heavy duty sensor for outdoor applications and harsh environments

- Industrial plastic housing with IP67 mechanical protection
- Defogging system function
- Double independent timing functions with double time scale from 0-2s or 0-10s, One-Delay, Off Delay, ONE SHOT



APPLICATIONS

- Packaging end of line, palletizers
- Outdoor or indoor gates control
- Automotive plants
- Automated warehousing



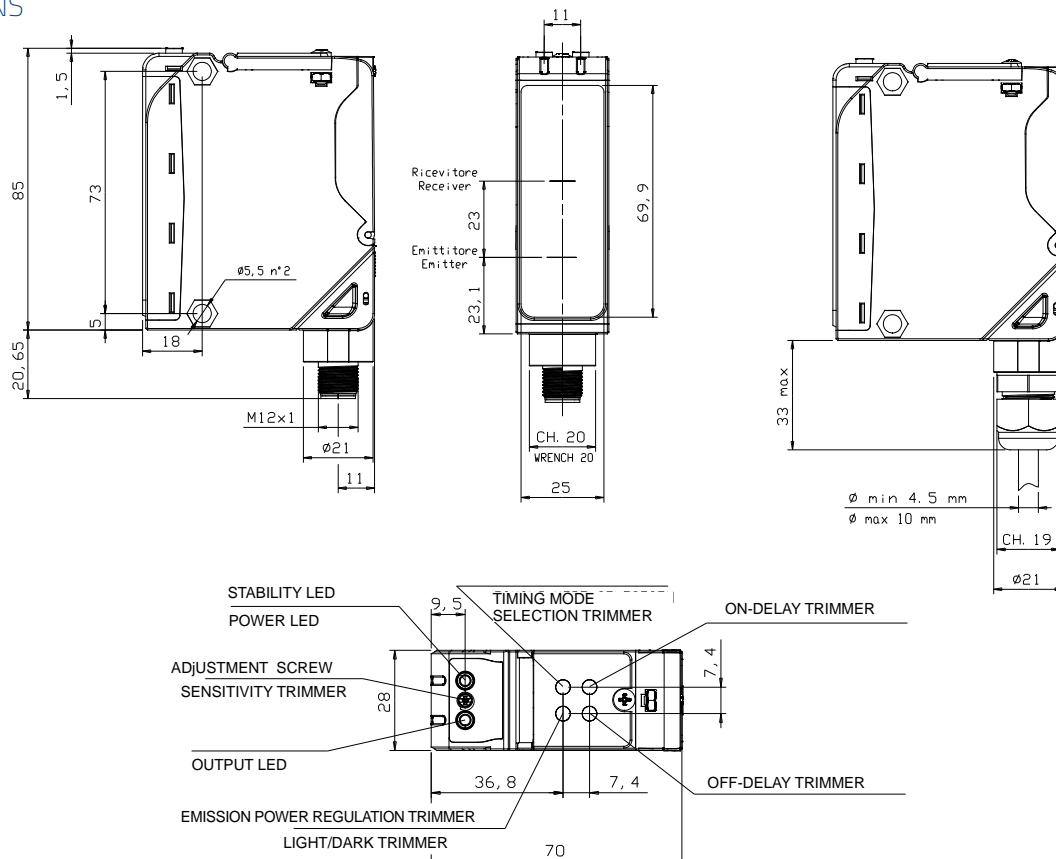
(*)DC models:
ATEX II 3DG

S300 PA		
Through beam		0...60 m
Polarized retroreflective		0,1...22 m
Diffuse proximity		0,05...5 m
Background suppression		0,4...2,5 m
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	24...240 Vac / 24...60 Vdc
Output	PNP	
	NPN	
	NPN/PNP	▪
	relay	▪
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		25x100x70
Housing material		PBT
Mechanical protection		IP67

TECHNICAL DATA

Power supply	10 ... 30 Vdc (mod. S300...2/5)
Ripple	24...240 Vac/24...60 Vdc (mod. S300...1) 10% max.
Consumption (output current excluded)	30 mA max. (mod. S300...2/5-B/C) 35 mA max. (mod. S300...2/5-M) 25 mA max. (mod. S300...2/5-F) 20 mA max. (mod. S300...2/5-G) 3 VA max. (mod. S300...1)
Light emission	red LED 660 nm (mod. S300...B) IR LED 880 nm (mod. S300...C/G/M) sensitivity trimmer, DARK/LIGHT trimmer (mod. S300...F/C/B)
Setting	15 turns adjustment screw/DARK/LIGHT trimmer (mod. S300...M) emission power regulation trimmer (mod. S300...G) versions with timing functions: time base selection and one shot trimmer/ON DELAY trimmer/OFF DELAY trimmer (mod. S300...x06) yellow OUTPUT LED (excl. mod. S300...G)
Indicators	green STABILITY LED, POWER LED (mod. S300...G)
Output	PNP or NPN open collector (mod. S300...2/5); Electromechanical SPDT 250 Vac/30 Vdc (mod. S300...1)
Output current	100 mA (mod. S300...2/5)
Saturation voltage	3 A max. (mod. S300...1) 2,4 V max.
Response time	1 ms (mod. S300...2/5-B/C/F/G) 2 ms (mod. S300...2/5-M) 20 ms (mod. S300...1)
Switching frequency	500 Hz (mod. S300...2/5-B/C/F/G) 250 Hz (mod. S300...2/5-M) 25 Hz (mod. S300...1)
Connection	terminal block, M12 4-pole connector (only DC mod.)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2 (mod. S300...2/5)
Mechanical protection	IP67 (IEC/EN60529)/cable gland EN50262
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	PBT 30% glass fiber-reinforced
Lens material	frontal window and lens in PC
Operating temperature	-40 ... 55 °C
Storage temperature	-40 ... 70 °C
Weight	140 g (mod. S300...2/5), 150 g (mod. S300...1)

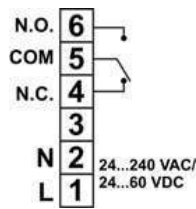
DIMENSIONS



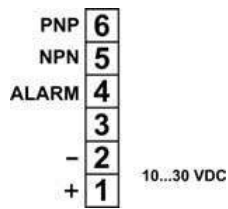
MAXI SENSORS

CONNECTIONS

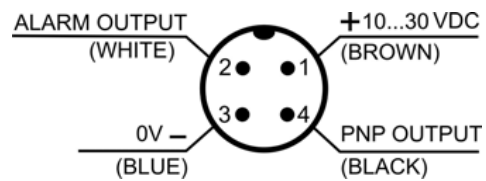
AC MODELS



DC MODELS

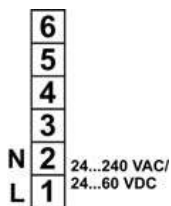


M12 CONNECTOR (only DC models)

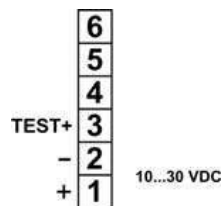


Through beam emitter

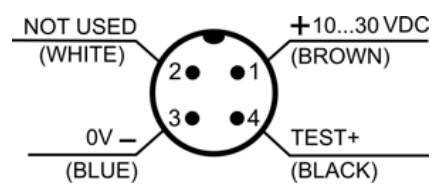
AC MODELS



DC MODELS



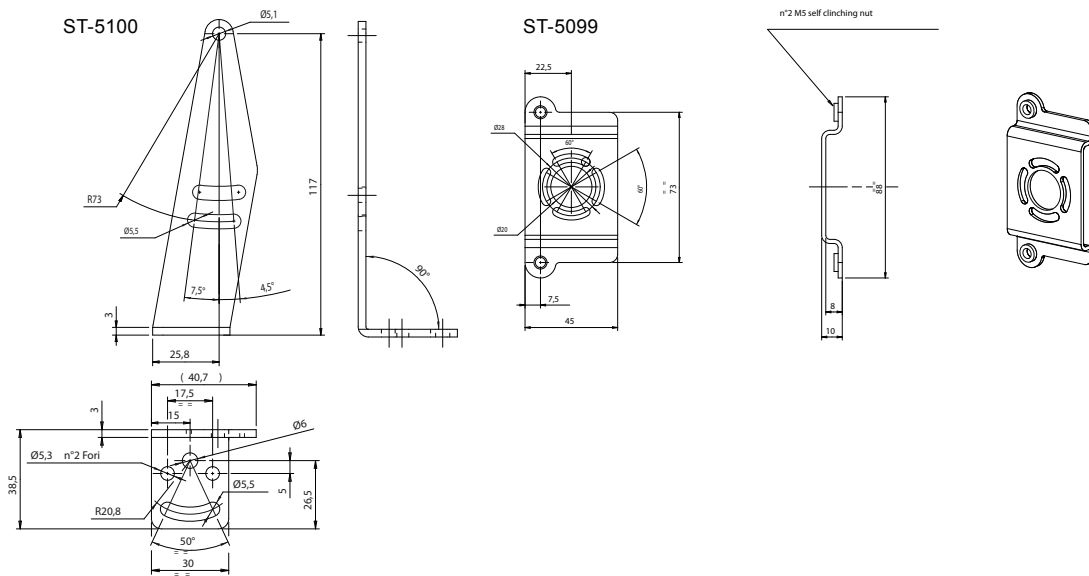
M12 CONNECTOR (only DC models)



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OUTPUT	CONNECTION	SETTING	MODEL	ORDER No.		
Polarized retroreflective	NPN/PNP	Vdc - Terminal block	Sensitivity and D/L trimmers	S300-PR-2-B01-OC	951451000		
			Timing, sensitivity and D/L trimmers	S300-PR-2-B06-OC	951451010		
		Vdc - M12 Connector	Sensitivity and D/L trimmers	S300-PR-5-B01-OC	951451020		
			Timing, sensitivity and D/L trimmers	S300-PR-5-B06-OC	951451030		
	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-1-B01-RX	951451040		
			Timing, sensitivity and D/L trimmers	S300-PR-1-B06-RX	951451050		
Diffused proximity	NPN/PNP	Vdc - Terminal block	Sensitivity and D/L trimmers	S300-PR-2-C01-OC	951451070		
			Timing, sensitivity and D/L trimmers	S300-PR-2-C06-OC	951451080		
		Vdc - M12 Connector	Sensitivity and D/L trimmers	S300-PR-5-C01-OC	951451090		
			Timing, sensitivity and D/L trimmers	S300-PR-5-C06-OC	951451100		
	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-1-C01-RX	951451110		
			Timing, sensitivity and D/L trimmers	S300-PR-1-C06-RX	951451120		
Through beam receiver	NPN/PNP	Vdc - Terminal block	Sensitivity and D/L trimmers	S300-PR-2-F01-OC	951451210		
			Timing, sensitivity and D/L trimmers	S300-PR-2-F06-OC	951451220		
		Vdc - M12 Connector	Sensitivity and D/L trimmers	S300-PR-5-F01-OC	951451230		
			Timing, sensitivity and D/L trimmers	S300-PR-5-F06-OC	951451240		
	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-1-F01-RX	951451250		
			Timing, sensitivity and D/L trimmers	S300-PR-1-F06-RX	951451260		
Through beam emitter	-	Vdc - Terminal block	Emission power regulation trimmer	S300-PR-2-G00-EX	951451280		
		Vdc - M12 Connector		S300-PR-5-G00-EX	951451290		
		Vac - Terminal block		S300-PR-1-G00-EX	951451300		
		Background suppression	NPN/PNP	Vdc - Terminal block	Defogging function	S300-PR-1-G00-EX-M	951451310
						Sensitivity and D/L trimmers	S300-PR-2-M01-OC
				Vdc - M12 Connector	Timing, sensitivity and D/L trimmers	S300-PR-2-M06-OC	951451150
Background suppression	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-5-M01-OC	951451160		
			Timing, sensitivity and D/L trimmers	S300-PR-5-M06-OC	951451170		
			Sensitivity and D/L trimmers	S300-PR-1-M01-RX	951451180		
			Timing, sensitivity and D/L trimmers	S300-PR-1-M06-RX	951451190		
			Timing, sensitivity and D/L trimmers; defogging function	S300-PR-1-M06-RX-M	951451200		

ACCESSORIES



MODEL	DESCRIPTION	ORDER No.
ST-5099	mounting BRACKET	95ACC2830
ST-5100	mounting BRACKET	95ACC2840

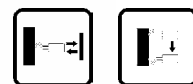
CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
	10 m	CS-A2-02-G-10	95A251260	
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

S7

Fiber optic amplifiers in a DIN rail compatible format for small object detection in limited spaces

- High-resolution models with integrated display
- 12 bit resolution and 50 μ s response time
- Trimmer or teach-in models
- Wide range of accessory fiber optics
- 4 wire NO/NC output or Remote teach input



APPLICATIONS

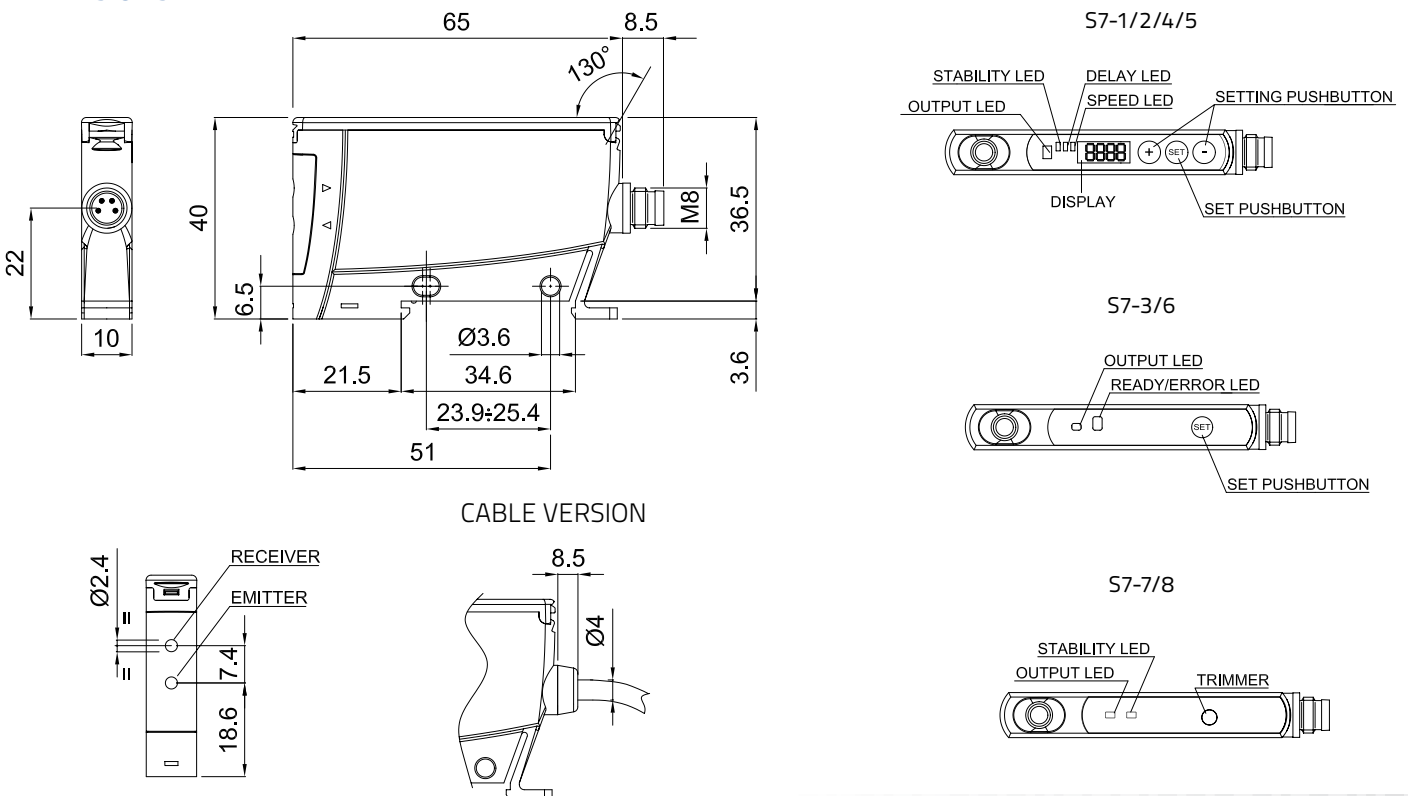
- Processing and Packaging machinery
- Electronics assembling
- Pharmaceutical industry

S7		
Through beam with fiber optic		0...300 mm
		0...150 mm
		0...75 mm
Diffuse proximity with fiber optic		0...100 mm
		0...50 mm
		0...25 mm
Power supply	Vdc	12...24 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		10x65x40
Housing material		ABS
Mechanical protection		IP65, IP60 (trimmer vers.)

TECHNICAL DATA

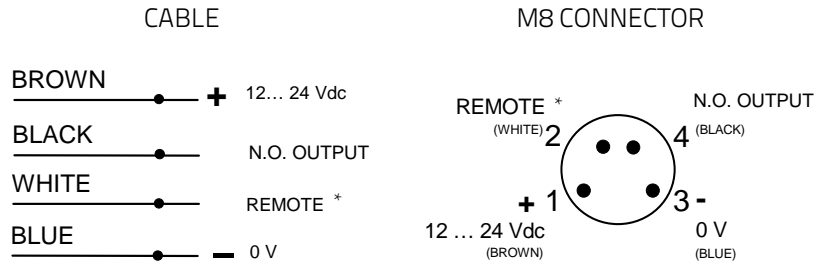
Power supply	12 ... 24 Vdc ± 10% (reverse polarity protection)
Ripple	2 Vpp max.
Consumption (output current excluded)	50 mA max. (mod. S7-1/2/4/5) 40 mA (mod. S7-3/6) 30 mA max. (mod. S7-7/8)
Light emission	red 670 nm (mod. S7-2/3/5/6/7/8) white 400-700 nm (mod. S7-1/4)
Setting	SET pushbutton, + pushbutton, - pushbutton (mod. S7-1/2/4/5) 1 SET pushbutton (mod. S7-3/6) 12 multiturn trimmer (mod. S7-7/8)
Indicators	yellow OUTPUT LED green STABILITY LED, DELAY LED and SPEED LED (mod. S7-1/2/4/5) green/red READY/ERROR LED (mod. S7-3/6/7/8)
Output	PNP or NPN
Output current	100 mA max.
Saturation voltage	1,2 V max. (mod. S7-3/6/7/8) 2 V max. (mod. S7-1/2/4/5)
Response time	500 µs max. (at low speed for mod. S7-1/2/7/8) 100 µs max. (at fast speed for mod. S7-2/5) 50 µs max. (at fast speed for mod. S7-1/4)
Switching frequency	1 kHz (at low speed for mod. S7-1/2/7/8) 5 kHz (at fast speed for mod. S7-2/5) 10 kHz (at fast speed for mod. S7-1/4)
Connection	2 m Ø 4 mm cable (S7-1/2/3/7), M8 4-pole connector (S7-4/5/6/8)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP65 IP60 (mod. S7-7/8)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS
Operating temperature	-10 ... 55 °C
Storage temperature	-25 ... 70 °C
Weight	115 g max. cable vers., 30 g max. conn. vers.

DIMENSIONS



FIBER OPTIC SENSORS

CONNECTIONS



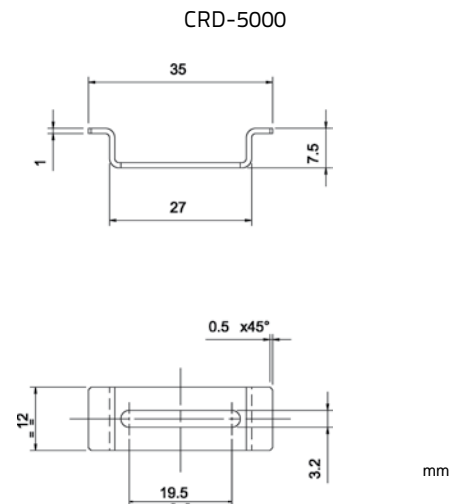
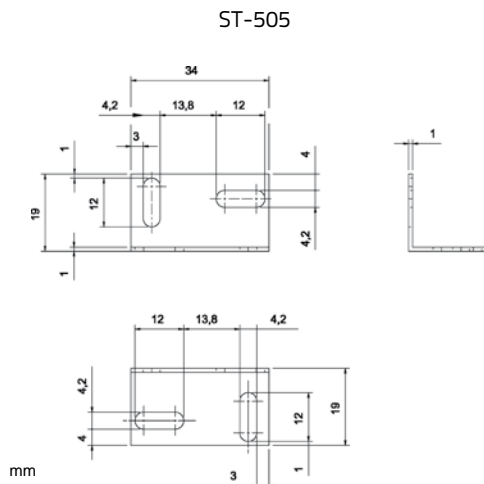
* N.C. OUTPUT on S7-7/8 models

MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	SETTING	CONNECTION	OUTPUT	MODEL	ORDER No.
OPTIC FIBER (white LED)	display, push-button	2m Cable	PNP	S7-1-E-P	950551090
			NPN	S7-1-E-N	950551080
		M8 Connector	PNP	S7-4-E-P	950551110
			NPN	S7-4-E-N	950551100
OPTIC FIBER (red LED)	display, push-button	2m Cable	PNP	S7-2-E-P	950551010
			NPN	S7-2-E-N	950551000
	push-buttons	2m Cable	PNP	S7-3-E-P	950551050
			NPN	S7-3-E-N	950551040
	display, push-buttons	M8 Connector	PNP	S7-5-E-P	950551030
			NPN	S7-5-E-N	950551020
	push-buttons	M8 Connector	PNP	S7-6-E-P	950551070
			NPN	S7-6-E-N	950551060
	trimmer	2m Cable	PNP	S7-7-E-P	950551120
			NPN	S7-7-E-N	950551130
M8 Connector		PNP	S7-8-E-P	950551140	
		NPN	S7-8-E-N	950551150	

Datalogic Automation offers a wide range of fiber optic cables available in two different lines: OF series for standard applications and OFA series for specialistic applications, such as 90° optics as well as fixed focus optics. These accessories allow to carry out the diffuse proximity and through beam detection of small object in difficult point of the machine. Refer to the next page for the complete list.

ACCESSORIES



MODEL	DESCRIPTION	ORDER No.
ST -505	L-shaped mounting bracket	95ACC 2800
CRD -5000	DIN rail mounting bracket	95ACC 2790

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650

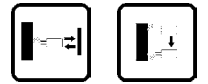
S70

Advanced fiber optic amplifiers for high speed and low contrast applications

- DIN rail mountable models with dual digital displays
- High speed models: 200 μ s...5 ms
- Super high speed models: 10 μ s...1ms
- Teach-in setting via +/SET/- push-button/switch, remote input or IO-Link
- Standard 2 m cable or M8 4-pole connection

APPLICATIONS

- Processing and Packaging machinery
- Electronics assembling
- Pharmaceutical industry

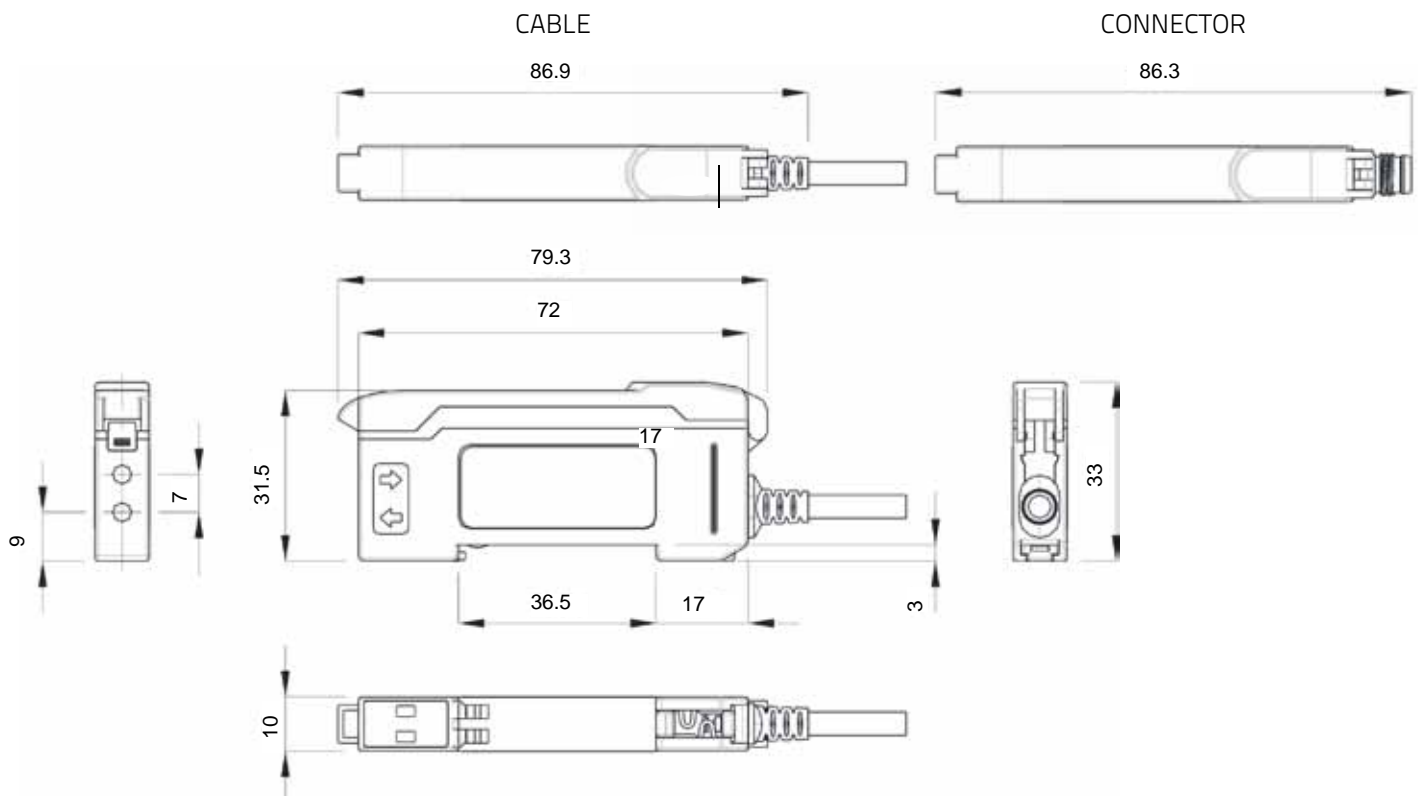


S70		
Response time		Super high speed: 10 μ s (S70...E2) High speed: 200 μ s (S70...E1), 15 μ s (S70...E2) Fast: 50 μ s (S70...E2) Standard: 500 μ s (S70...E1), 250 μ s (S70...E2) Medium range: 500 μ s (S70...E2) Long range: 2 ms (S70...E1), 1 ms (S70...E2) Extra long range: 5 ms (S70...E1)
Repeatability		Super high speed: 5 μ s (S70...E2) High speed: 66 μ s (S70...E1), 5 μ s (S70...E2) Fast: 12 μ s (S70...E2) Standard: 100 μ s (S70...E1), 50 μ s (S70...E2) Medium range: 80 μ s (S70...E2) Long range: 100 μ s (S70...E1), 165 μ s (S70...E2) Extra long range: 100 μ s (S70...E1)
Power supply	Vdc	10...30 V, 18...30 V (IO-Link mod.)
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	IO-Link
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		10x79x31.5
Housing material		ABS and polycarbonate
Mechanical protection		IP50, NEMA 1

TECHNICAL DATA

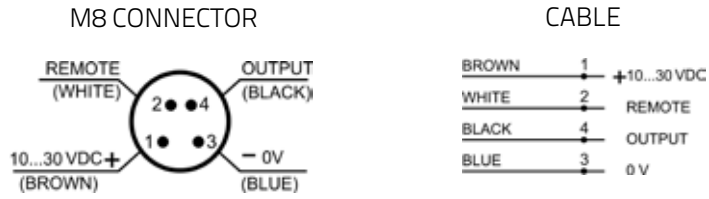
Power supply	10...30 Vdc (reverse polarity protection) 18...30 Vdc (IO-Link mod. S70...PZ)
Ripple	10% max.
Consumption (output current excluded)	40 mA max. (standard display mode), 30 mA max. (ECO display mode)
Light emission	red 660 nm (mod. S70...E1) red 635 nm (mod. S70...E2)
Setting	+ / SET / - push-button, LIGHT / DARK switch, RUN / PRG / ADJ mode switch
Indicators	yellow OUTPUT LED red SIGNAL LEVEL 4-digit display green THRESHOLD 4-digit display
Output	PNP or NPN PNP and push-pull (IO-Link mod. S70...PZ)
Output current	100 mA max.
Saturation voltage	1,5 V max. (mod. S70...N) 2 V max. (mod. S70...P/PZ)
Response time	S70...E1: 200 µs (High Speed), 500 µs (Standard), 2 ms (Long Range), 5 ms (Extra Long Range) S70...E2: 10 µs (Super High Speed), 15 µs (High Speed), 50 µs (Fast), 250 µs (Standard), 500 µs (Medium Range), 1 ms (Long Range)
Switching frequency	S70...E1: 2,5 kHz (High Speed), 1 kHz (Standard), 250 Hz (Long Range), 100 Hz (Extra Long Range) S70...E2: 50 kHz (Super High Speed), 33 kHz (High Speed), 10 kHz (Fast), 2 kHz (Standard), 1 kHz (Medium Range), 500 Hz (Long Range)
IO-Link interface	baud rate: 38400 bps (COM2) process data width: 16 bits IODD files: provide all programming options of top panel interface, plus additional functionality
Connection	2 m cable, M8 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP50, NEMA 1
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS and polycarbonate
Operating temperature	-10 ... 55 °C
Storage temperature	-25 ... 85 °C
Weight	69 g max. cable vers., 21 g max. conn. vers.

DIMENSIONS



FIBER OPTIC SENSORS

CONNECTIONS

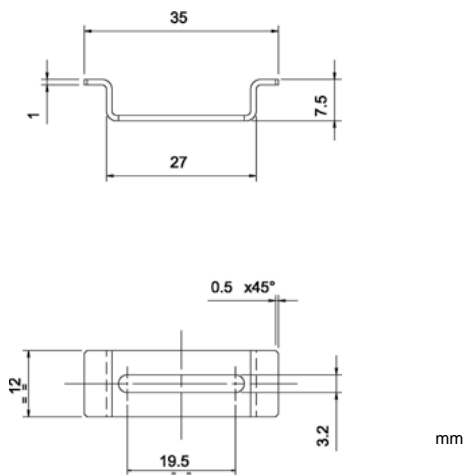


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	RESPONSE TIME	CONNECTION	OUTPUT	MODEL	ORDER No.
Optic fiber	200 μ s ... 5 ms	2 m Cable	NPN	S70-2-E1-N	950561000
			PNP	S70-2-E1-P	950561010
		M8 Connector	NPN	S70-5-E1-N	950561060
	PNP		S70-5-E1-P	950561020	
	PNP, push-pull IO-Link		S70-5-E1-PZ	950561030	
	10 μ s ... 1 ms		NPN	S70-5-E2-N	950561040
PNP			S70-5-E2-P	950561050	

ACCESSORIES

CRD-5000



MODEL	DESCRIPTION	ORDER No.
CRD-5000	DIN rail mounting bracket	95ACC2790

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650



OF/OFA series

Complete range of optic fibers: universal or advanced models

- Flexible models
- High temperature models (up to 125 °C)
- Fiber array with parallel beams for proximity or through beam detection
- Fixed focus proximity with axial, radial or lateral optics
- Proximity with 90° optics self-contained
- Focusing, collimating and deviating lenses



OF/OFA	
Through beam	Mechanical characteristics, length, diameter of the optic fiber, as well as the switching frequencies, light emitted and resolution of the optic fiber amplifier, affect the operating distances. Refer to the manuals to find the proper operating distance.
Diffuse proximity	
Fixed focus	
OF diameter	M3, M4, M6
OFA number of emitted beams	1, 16, 32
Cable lengths	1, 2 m
Operating temperature	-40...+60 °C (OF)
	-40...125 °C (OF-...-HT)
	-30...+70 °C (OFA)
Core material	PMMA plastic
Sheath material	PE plastic
Terminal material	Nickel-plated brass (OF), Stainless steel, Aluminium, ABS (OFA)
Mechanical protection	IP67

OF series					
OPTIC FUNCTION	FIBER TYPE	LENGTH	TERMINAL	MODEL	ORDER No.
Through beam	standard	1 m	M4x0.7 mm	OF-19-ST-10	576021901
	standard	2 m	M4x0.7 mm *	OF-23-ST-20	576022300
	thin (Ø 1 mm)	1 m	M2x0.4 mm	OF-25-TN-10	576022500
	standard	2 m	M4x0.7 mm	OF-43-ST-20	95A201350
	high-temperature	2 m	M4x0.7 mm	OF-43-HT-20	95A201280
	ultra-flexible	2 m	M4x0.7 mm	OF-43-UF-20	95A201290
	high-efficiency	2 m	M4x0.7 mm	OF-43-HP-20	95A201300
Proximity	standard	1 m	M6x1 mm	OF-18-ST-10	576021801
	standard	2 m	M6x1 mm *	OF-22-ST-20	576022200
	standard	2 m	M4x0.7 mm	OF-24-ST-20	576022400
	thin (Ø 1 mm)	1 m	M3x0.5 mm	OF-26-TN-10	576022600
	thin (Ø 1 mm)	1 m	M3x0.5 mm *	OF-28-TN-10	576022800
	standard	2 m	Ø 3x15 mm	OF-38-ST-20	95A201070
	standard	2 m	M6x0.75 mm	OF-42-ST-20	95A201340
	high-temperature	2 m	M6x0.75 mm	OF-42-HT-20	95A201250
	ultra-flexible	2 m	M6x0.75 mm	OF-42-UF-20	95A201260
	high-efficiency	2 m	M6x0.75 mm	OF-42-HP-20	95A201270
Coaxial proximity	standard	2 m	M6x1 mm	OF-36-ST-20	95A201000
	extra-flexible	2 m	M6x1 mm	OF-36-XF-20	95A201330
	standard	2 m	M4x0.7 mm	OF-44-ST-20	95A201310
	extra-flexible	2 m	M4x0.7 mm	OF-44-XF-20	95A201320

* a bendable stainless steel extension 90mm long protrudes from the threaded optic head



OFA series					
OPTIC FUNCTION	FIBER TYPE	LENGTH	TERMINAL	MODEL	ORDER No.
Through beam	axial, 16 beam array	2 m	15x15 mm	OFA-1-AE-20	95A201170
	radial, 16 beam array	2 m	15x15 mm	OFA-1-AS-20	95A201180
Proximity	axial, 32 beam array	2 m	20x20 mm	OFA-2-AE-20	95A201150
	radial, 32 beam array	2 m	20x20 mm	OFA-2-AS-20	95A201160
	radial	2 m	5x65 mm	OFA-6-RA-20	95A201140
Fixed focus proximity	axial	2 m	15x20 mm	OFA-4-FE-20	95A201200
	lateral	2 m	15x20 mm	OFA-4-FF-20	95A201210
	radial	2 m	15x20 mm	OFA-4-FS-20	95A201190



OF Accessories			
DESCRIPTION	SUITABLE FIBRES	MODEL	CODE N°
2 pcs 90° deviating lenses	OF-43-XX	AF-1	95ACC2690
2 pcs long distance collimating lenses (x 4)	OF-43-XX	AF-2	95ACC2700
1 pc focusing lens with 4 mm resolution	OF-44-XX	AF-3	95ACC2710
1 pc focusing lens with 0.4 mm resolution	OF-44-XX	AF-4	95ACC2720
2 pcs adapters Ø 2.2 mm for thin fibres	OF-XX-TN	AF-5	95ACC2730
1 pc metal sheath for m6 x 0.75 fibres	OF-42-XX	AF-7	95ACC2750
1 pc metal sheath for m4 x 07 fibres	OF-43-XX (*)	AF-9	95ACC2770
fibre-cutting tool with Ø 2.2 mm and Ø 1.1 mm holes	ALL	AF-11	95ACC2780

* 2 sheaths have to be ordered for both the emitter-receiver sections

FORK SENSORS

SR23

High efficiency fork sensor for booklet and multilayer labels detection

- Multilayer labels detection
- Up to 0,5 mm of minimum size labels/gap
- 5 mm slot width
- 50 mm slot depth
- Dynamic or static setting through single push-button
- 12 kHz switching frequency
- Compact and robust housing, IP65
- M8 connector or 2 m cable models
- PNP or NPN models



APPLICATIONS

- Processing and Packaging machinery
- Automatic labelers

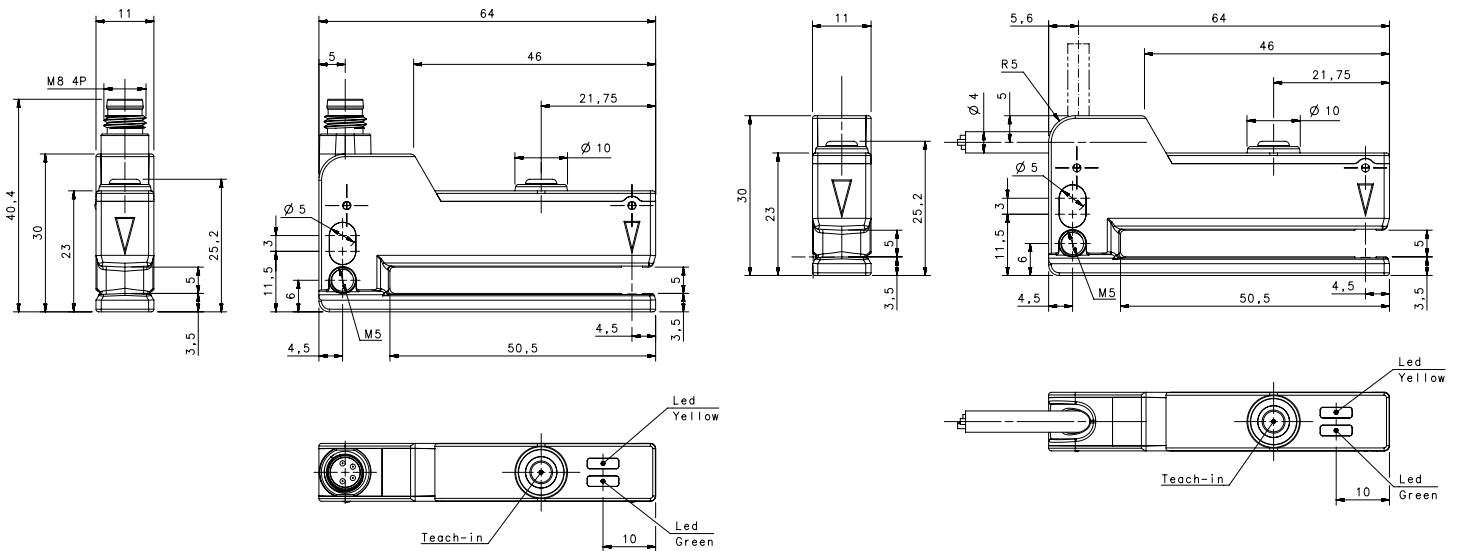
SR23

Slot width		5 mm
Slot depth		50 mm
Switching frequency		12 kHz
Light emission		IR LED
Setting		push button
Power supply	Vdc	10...30 Vdc
	Vac	
	Vac/dc	
	PNP	▪
Output	NPN	▪
	NPN/PNP	
	relay	
	other	
	Connection	cable
connector		▪
pig-tail		
Approximate dimensions (mm)		30x63x10
Housing material		Alluminum (Zama), Plastic (PBT)
Mechanical protection		IP65

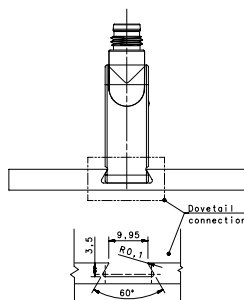
TECHNICAL DATA

Power supply	10 ... 30 Vdc (reverse polarity protection)
Ripple	2 Vpp max.
Consumption (output current excluded)	30 mA max.
Light emission	IR LED 850 nm
Setting	SET push-button
Indicators	yellow OUTPUT LED green READY LED
Output	PNP or NPN
Output current	100 mA max.
Saturation voltage	2 V max.
Slot width	5 mm
Slot depth	50 mm
Minimum label width	0,5...2 mm
Minimum space between labels	0,5...2 mm
Speed of the conveyor during setting procedure	20 m/min (30 cm/s) max.
Response time	40 µs max.
Switching frequency	12 kHz max.
Connection	M8 4-pole connector, 2 m cable
Dielectric strenght	500 Vac, 1 min between electronics and housing
Insulating resistance	> 20 MΩ, 500 Vdc between electronics and housing
Mechanical protection	IP65
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	Aluminum (Zama)
Cover material	PBT
Lens material	PC
Operating temperature	-20 ... 55°C
Storage temperature	-20 ... 70°C
Weight	85 g cable vers., 46 g M8 conn. vers.

DIMENSIONS



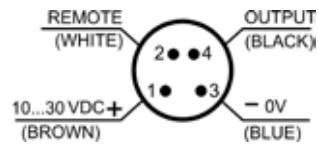
DOVETAIL GUIDE MOUNTING



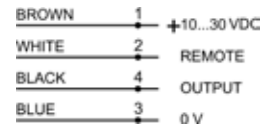
FORK SENSORS

CONNECTIONS

M8 CONNECTOR



CABLE

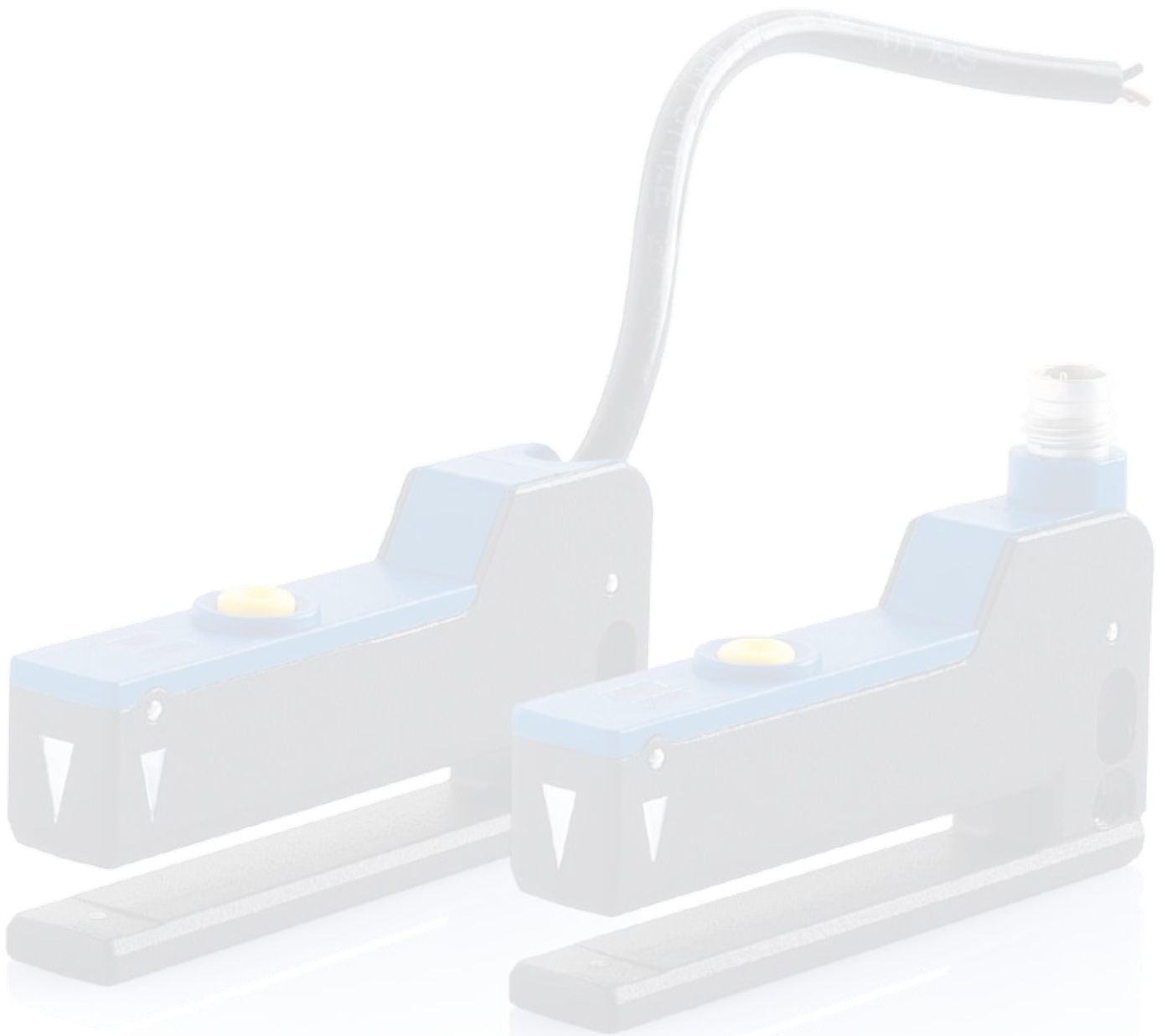


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	CONNECTION	OUTPUT	MODEL	ORDER No.
Fork Sensor	2m Cable	PNP	SR23-2-IR-PH	953161000
		NPN	SR23-2-IR-NH	953161020
	M8 Connector	PNP	SR23-5-IR-PH	953161010
		NPN	SR23-5-IR-NH	953161030

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650



SR21

2mm high-resolution fork sensors for labeling and packaging

- 25 kHz high switching frequency
- IR or red/green light models
- Detection of labels (SR21-IR) or print register mark on transparent films (SR21-RG)
- 4 wire NPN and PNP output

APPLICATIONS

- Packaging and labeling machinery
- Print and apply systems

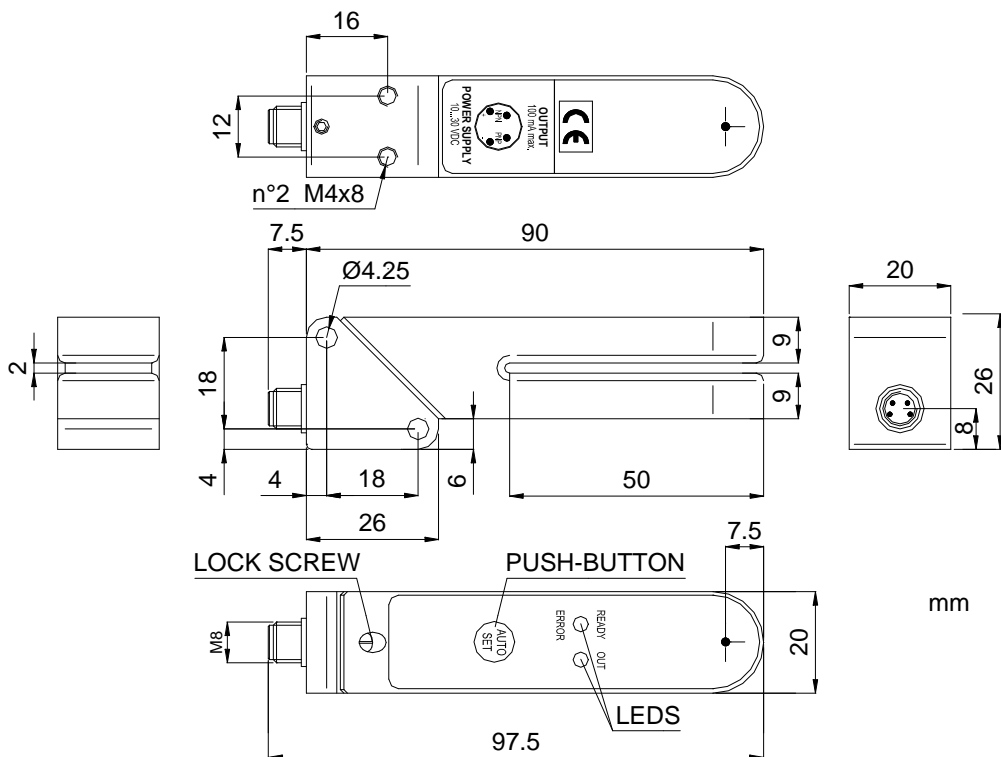


SR21		
Slot width		2 mm
Slot depth		50 mm
Switching frequency		25 kHz
Light emission		IR LED red/green LED
Setting		push button
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		20x90x26
Housing material		Zama
Mechanical protection		IP65

TECHNICAL DATA

Power supply	10 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	55 mA max.
Light emission	red LED 633 nm/green LED 570 nm IR LED 880 nm
Setting	AUTO-SET push-button
Operating mode	LIGHT/DARK configurable
Indicators	yellow OUTPUT LED green/red READY/ERROR LED
Output	PNP and NPN
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	20 µs max.
Switching frequency	25 kHz max.
Connection	M8 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 1
Mechanical protection	IP65
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Slot width	2 mm
Resolution	0,5 mm
Housing material	ZAMA
Lens material	glass
Operating temperature	-20 ... 60 °C
Storage temperature	-20 ... 70 °C
Weight	115 g

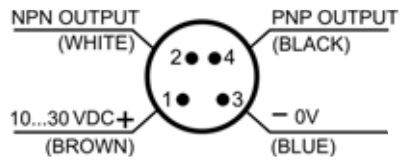
DIMENSIONS



FORK SENSORS

CONNECTIONS

M8 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Fork sensor	Infrared LED	M8 Connector	PNP/NPN	SR21-IR	953151070
	Red/Green LED			SR21-RG	953151080

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B1-02-G-03	95A251420
		5 m	CS-B1-02-G-05	95A251430
		7 m	CS-B1-02-G-07	95A251440
		10 m	CS-B1-02-G-10	95A251480
	4-pole, P.U.R.	2 m	CS-B1-02-R-02	95A251620
		5 m	CS-B1-02-R-05	95A251640
Radial M8 Connector	4-pole, grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
		5 m	CS-B2-02-G-05	95A251460
		7 m	CS-B2-02-G-07	95A251470
		10 m	CS-B2-02-G-10	95A251530
	4-pole, P.U.R.	2 m	CS-B2-02-R-02	95A251630
		5 m	CS-B2-02-R-05	95A251650



SRX3

High performance ultrasonic fork sensors for transparent label detection

- Dynamic or static teach models
- Slot size 3mm
- High resolution up to 2 mm label gap
- M8 connector with PNP or NPN output
- M12 connector with PNP/NPN output and external teach-in
- Rugged and sturdy aluminium housing



APPLICATIONS

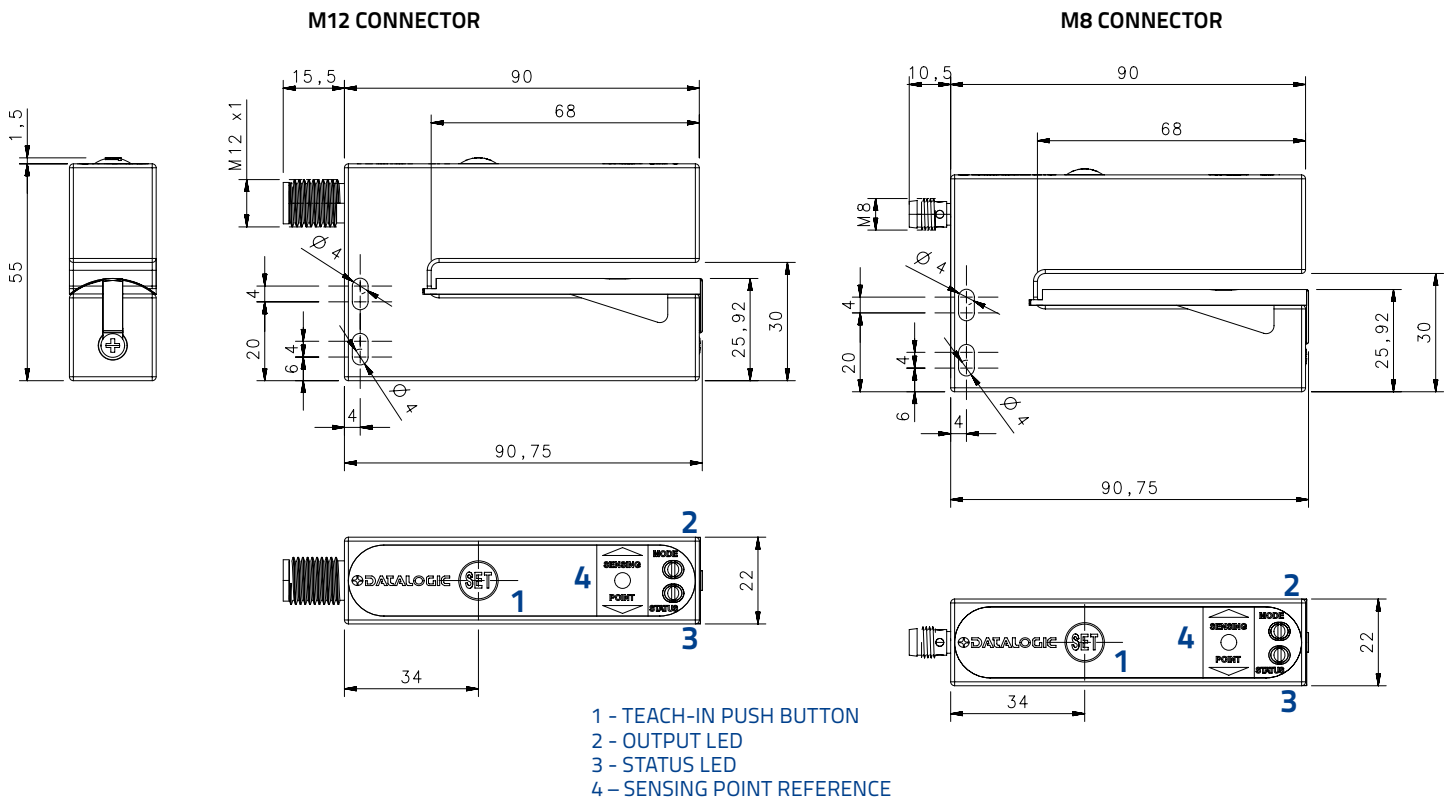
- Detection of transparent, opaque, or metallic ink labels
- Double sheet detection
- Adhesive surface detection



SRX3		
Slot width		3 mm
Slot depth		68 mm
Switching frequency		500 hz
Emission type		Ultrasonic 300 Khz
Setting		300 mm
Power supply	Vdc	10...30 Vdc
	Output	
Output	PNP	•
	NPN	•
Connection	Connector	M12 5-pin
	Connector	M8 4-pin
Approximate dimensions (mm)		90 x 55 x 22
Housing material		Aluminium
Mechanical protection		IP54

TECHNICAL DATA	
SPECIFICATION	
Minimum pulse time	1ms
Detectable size	> 2mm
Max. tape speed	60m/min
Tape size	> 16mm
Ultrasonic frequency	300 KHz
ELECTRICAL DATA	
Power supply	12...30 Vdc
Current consumption	< 55mA
Ripple	10%
Output current	250 mA max.
Output saturation voltage	< 1,5V @ 100mA
Rising time	0,8 us max
Falling time	1,6 us max
Power On delay	325 ms
Response time	1ms
Switching frequency	500 hz
Output	PNP / NPN
MECHANICAL DATA	
Connection	M12 5 pin
Operating temperature	0 °C ... +50 °C
Storage temperature	-25 °C ... +75 °C
Humidity	35...85% rH non condensing
Vibration	0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	Aluminium
Protection class	IP54
Weight	300g

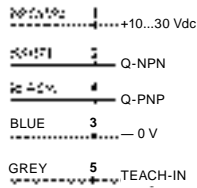
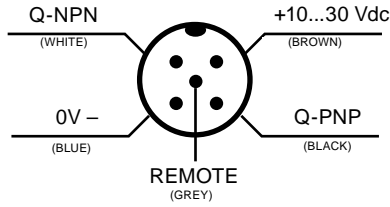
DIMENSIONS



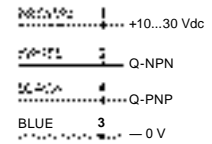
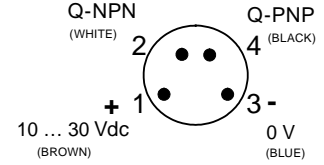
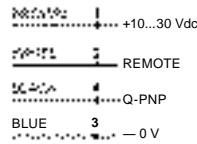
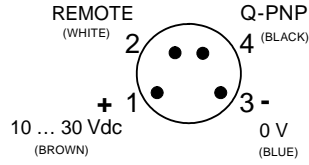
FORK SENSORS

CONNECTIONS

M12 CONNECTOR – 5 PIN



M8 CONNECTOR – 8 PIN



MODEL SELECTION AND ORDER INFORMATION

ADJUSTMENT	OUTPUT	CONNECTION	MODEL	ORDER No.
Dynamic Teach-in	PNP/NPN +EXT	M12 5 pin	SRX3-5-US-M12-PNH	953171000
Static Teach-in	PNP/NPN +EXT	M12 5 pin	SRX3-5-US-3-M12-PNH	953171010
Dynamic Teach-in	PNP+EXT	M8 4 pin	SRX3-6-US-M8-PH	953171020
Static Teach-in	PNP+EXT	M8 4 pin	SRX3-6-US-3-M8-PH	953171030
Dynamic Teach-in	PNP/NPN	M8 4 pin	SRX3-6-US-M8-PN	953171040
Static Teach-in	PNP/NPN	M8 4 pin	SRX3-6-US-3-M8-PN	953171050

CABLES

TYPE	No. Of POLES	SHEAT	LENGTH	DESCRIPTION	ORDER No.
Female M12 Connector (Axial)	5-poles	Grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
			5 m	CS-A1-03-G-05	95ACC2120
			10 m	CS-A1-03-G-10	95ACC2140
		Black, P.V.C. UL	3	CS-A1-03-U-03	95ASE1170
			5	CS-A1-03-U-05	95ASE1180
			10	CS-A1-03-U-10	95ASE1190
M8 Connector (Axial)	4-poles	Grey, P.V.C.	3 m	CS-B-1-02-G-03	95A251420
			5 m	CS-B-1-02-G-05	95A251430
			7 m	CS-B-1-02-G-07	95A251440
			10 m	CS-B-1-02-G-10	95A251480
		P.U.R.	2 m	CS-B-1-02-R-02	95A251500
			5 m	CS-B-1-02-R-05	95A251520
M8 Connector (radial 90°)	4-poles	Grey, P.V.C.	3 m	CS-B2-02-G-03	95A251450
			5 m	CS-B2-02-G-05	95A251480
			7 m	CS-B2-02-G-07	95A251470
		P.U.R.	5 m	CS-B2-02-R-05	95ACC2110



SRF

Ultimate precision using LED or LASER emissions for high resolution

- Visible red emission models
- High resolution LASER models
- Sensitivity adjustment trimmer and DARK/LIGHT selectors
- Industrial metal housing with glass lenses



APPLICATIONS

- Packaging and labeling machinery
- Automotive
- Packaging lines

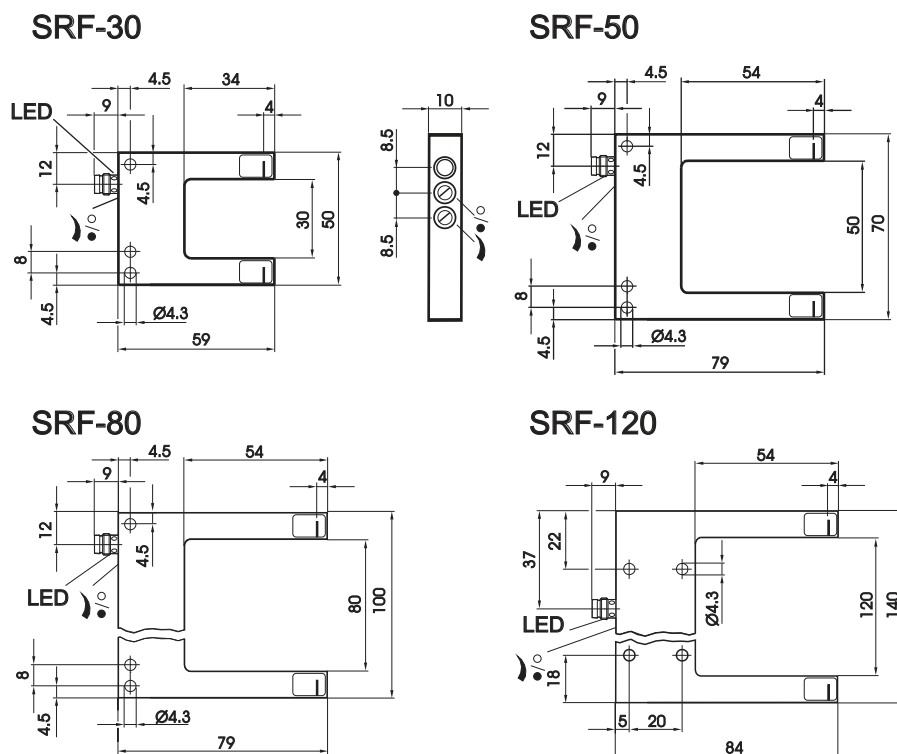


SRF-30/50/80/120		
Slot width		30 mm (SRF-30)
		50 mm (SRF-50)
		80 mm (SRF-80)
		120 mm (SRF-120)
Slot depth		34 mm (SRF-30)
		54 mm (SRF-50/80/120)
Switching frequency		1,5 kHz
		5 kHz (class 2 LASER)
Light emission		red LED
		red LASER (class 2)
Setting		trimmer
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		10x50x59 (SRF-30)
		10x70x79 (SRF-50)
		10x100x79 (SRF-80)
		10x140x84 (SRF-120)
Housing material		Aluminium
Mechanical protection		IP65

TECHNICAL DATA

Power supply	10 ... 30 Vdc (reverse polarity protection)
Ripple	2 Vpp max.
Consumption (output current excluded)	35 mA max. 20 mA max. (Laser mod.)
Light emission	red LED 640 nm red Laser 650 nm
Setting	sensitivity trimmer and N.O./N.C. trimmer
Operating mode	LIGHT/DARK configurable
Indicators	yellow LED
Output	PNP or NPN; NO; NC
Output current	200 mA max.
Saturation voltage	3 V max. PNP, 2,5 V max. NPN
Response time	333 µs 100 µs (Laser mod.)
Switching frequency	1,5 kHz 5 kHz (Laser mod.)
Connection	M8 3-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 1
Mechanical protection	IP67
Ambient light rejection	5 kLux
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Slot width	30, 50, 80, 120 mm
Resolution	0,3 mm (mod. SRF...30), 0,5 mm (mod. SRF...50/80), 0,8 mm (mod. SRF...120) 0,05 mm (Laser mod. SRF...30), 0,08 mm (Laser mod. SRF...50), 0,1 mm (Laser mod. SRF...80), 0,15 mm (Laser mod. SRF...120)
Housing material	GDZn
Lens material	glass
Operating temperature	-10 ... 60 °C
Storage temperature	-20 ... 70 °C
Weight	36 g (mod. SRF...30), 54 g (mod. SRF...50), 77 g (mod. SRF...80), 118 g (mod. SRF...120) 66 g (Laser mod. SRF...30), 110 g (Laser mod. SRF...50), 135 g (Laser mod. SRF...80), 210 g (Laser mod. SRF...120)

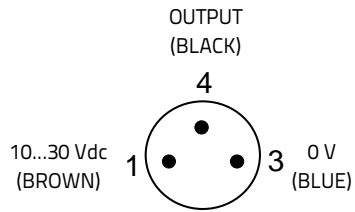
DIMENSIONS



FORK SENSORS

CONNECTIONS

M8 CONNECTOR

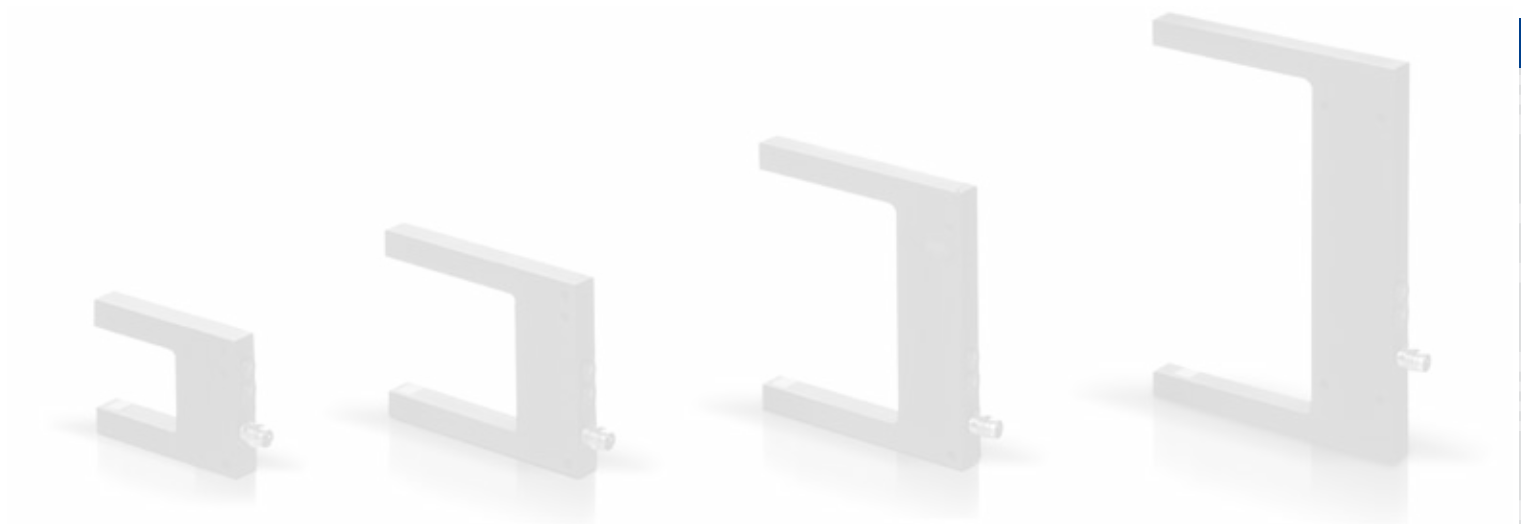


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Fork sensor (30 mm)	Red LED	M8 Connector	PNP	SRF-30-5-P	95B020050
	LASER		NPN	SRF-30-5-N	95B020090
Fork sensor (50 mm)	Red LED	M8 Connector	PNP	SRF-L-30-5-P	95B020130
	LASER		PNP	SRF-50-5-P	95B020060
Fork sensor (80 mm)	Red LED	M8 Connector	NPN	SRF-50-5-N	95B020100
	LASER		PNP	SRF-L-50-5-P	95B020140
Fork sensor (120 mm)	Red LED	M8 Connector	PNP	SRF-80-5-P	95B020070
	LASER		NPN	SRF-80-5-N	95B020110
Fork sensor (120 mm)	Red LED	M8 Connector	PNP	SRF-L-80-5-P	95B020150
	LASER		PNP	SRF-120-5-P	95B020080
Fork sensor (120 mm)	Red LED	M8 Connector	NPN	SRF-120-5-N	95B020120
	LASER		PNP	SRF-L-120-5-P	95B020160

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M8 connector	3-pole, Grey, P.V.C.	3 m	CS -B1-01-G-03	95A251490
		5 m	CS -B1-01-G-05	95A251510
Radial M8 connector		3 m	CS -B2-01-G-03	95A251500
		5 m	CS -B2-01-G-05	95A251520



CONTRAST SENSORS

TL μ

All registration mark detection applications

- Teach-in, Remote settings
- Red/green or white LED emission
- Various interchangeable lenses and fiber-optic models
- Metal housing with orientable optics and connector



APPLICATIONS

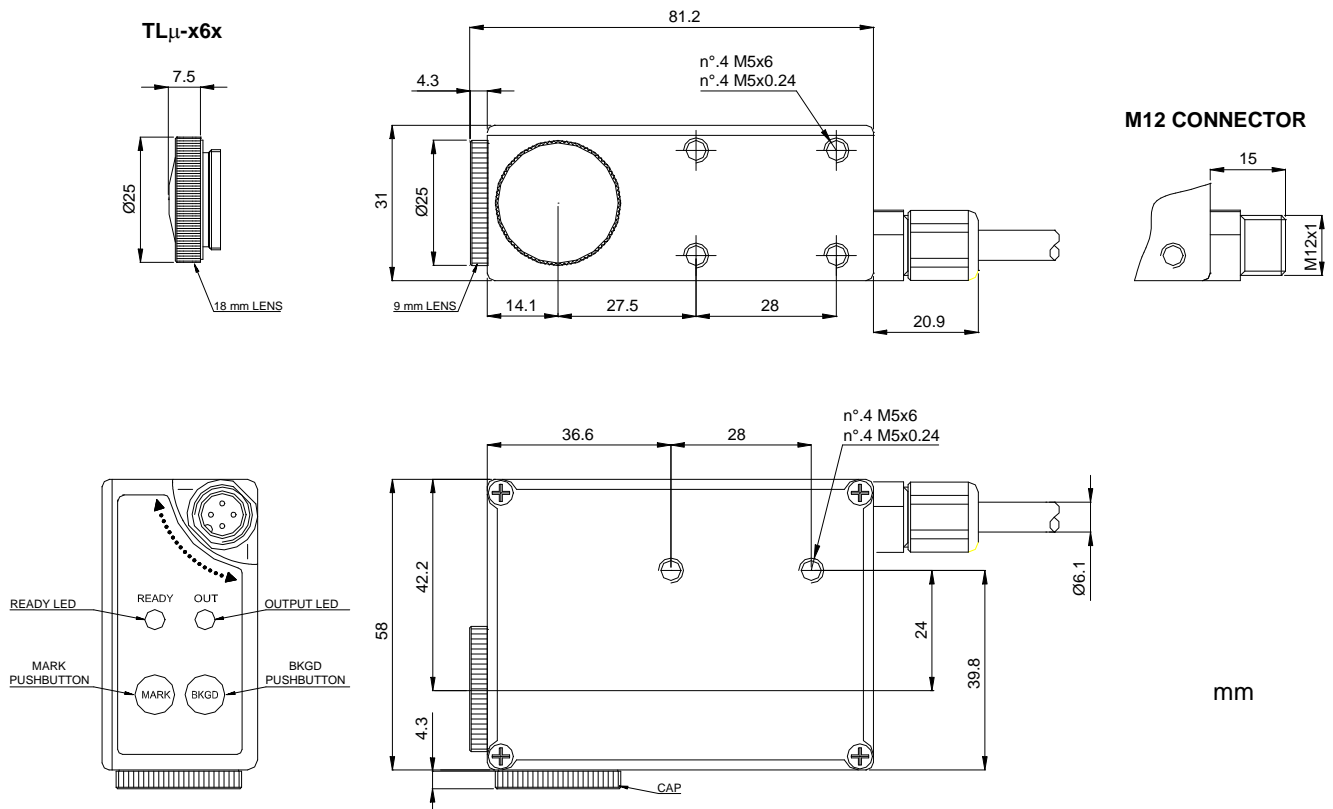
- Packaging and labeling machinery
- Beverage/Food/Cosmetic/
Pharmaceutical industries
- Printing machinery

TL μ		
Contrast sensor		6...12 mm (9 mm lens) 14...22 mm (18 mm lens) 22...34 mm (28 mm lens) 40...60 mm (50 mm lens)
Contrast sensor with fiber optic		0...3 mm (proximity) 0...10 mm (through beam)
Switching frequency		10 kHz 20 kHz
Light emission		red/green LED white LED
Setting		push buttons remote
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	0...5 V Analog Output
Connection	cable	▪
	connector	▪
	pig-tail	
Approximate dimensions (mm)		31x81x58
Housing material		Zama
Mechanical protection		IP67

TECHNICAL DATA

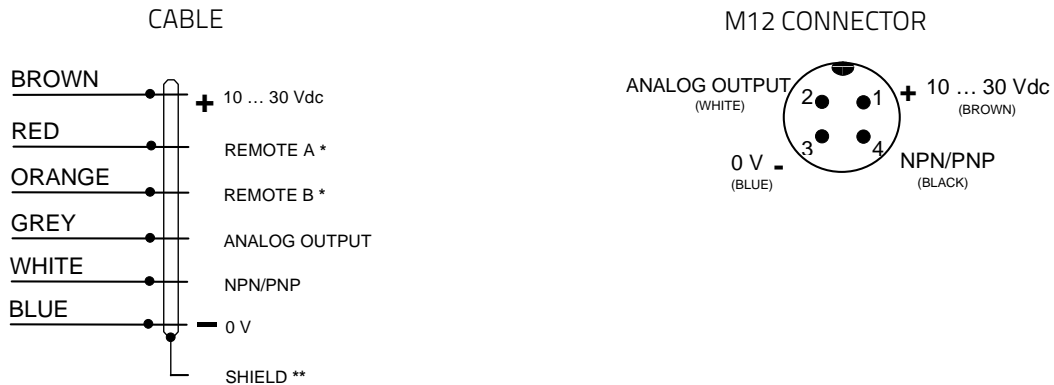
Power supply	10 ... 30 Vdc (limit values; reverse polarity protection)
Ripple	2 Vpp max.
Consumption (output current excluded)	80 mA max.
Light emission	green LED 526 nm/red LED 630 nm (mod. TLμ-0/1xx) white LED 400-700 nm (mod. TLμ-4/5xx)
Setting	teach-in push-buttons/remote by 2 wires, 4 settings storage cable version
Operating mode	Light/Dark automatic setting with teach-in procedure
Indicators	red OUTPUT LED green READY LED
Output	PNP or NPN; analog output
Output current	200 mA max.
Saturation voltage	1 V max. NPN vers., 2 V max. PNP vers.
Response time	50 μs max. (mod. TLμ-4xx) 25 μs max. (mod. TLμ-5xx)
Switching frequency	10 kHz max. (mod. TLμ-4xx) 20 kHz max. (mod. TLμ-5xx)
Connection	3 m shielded cable Ø 6.1 mm, M12 4-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 1
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Minimum spot dimension	1,5 x 5 mm (TLμ-x1x), 2 x 7 mm (TLμ-x6x), Ø 3 mm (TLμ-4xx/5xx)
Depth of field	± 3 mm (TLμ-x1x/4xx/5xx) / ± 4 mm (TLμ-x6x)
Housing material	ZAMA
Lens material	glass
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	450 g max. cable vers., 310 g max. connector vers.

DIMENSIONS



CONTRAST SENSORS

CONNECTIONS

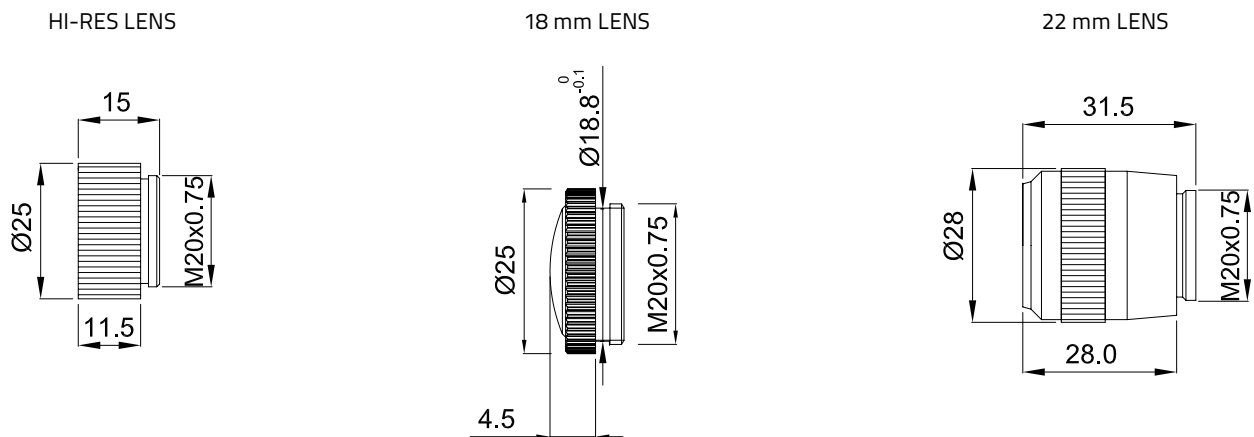


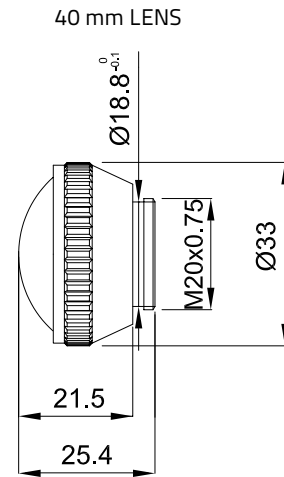
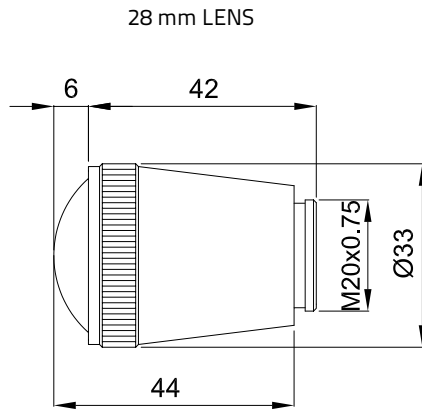
- * = Connect the unused REMOTE wires to 0 V.
- ** = The cable shield is insulated from the sensor housing; it is recommended to connect the shield to 0 V.

MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	OPTICS	CONNECTION	OUTPUT	MODEL	ORDER No.
Contrast sensor	Red/Green (Vertical spot)	9 mm	3m Cable	NPN	TLμ-011	964401000
				PNP	TLμ-111	964401080
			M12 Connector	NPN	TLμ-015	964401020
				PNP	TLμ-115	964401100
	Red/Green (Horizontal spot)	9 mm	3m Cable	NPN	TLμ-011L	964401010
				PNP	TLμ-111L	964401090
			M12 Connector	NPN	TLμ-015L	964401030
				PNP	TLμ-115L	964401110
	Red/Green (Vertical spot)	18 mm	M12 Connector	NPN	TLμ-065	964401060
				PNP	TLμ-165	964401140
M12 Connector			NPN	TLμ-415C	954151330	
			PNP	TLμ-515C	954151360	
White (Circular spot)	9 mm	M12 Connector	NPN	TLμ-411C	954151410	
			PNP	TLμ-511C	954151420	
		3m Cable	NPN	TLμ-411C	954151410	
			PNP	TLμ-511C	954151420	
Fiber optic contrast sensor	White	Fiber optics	M12 Connector	PNP	TLμ-545	954151380
				NPN	TLμ-445	954151350

ACCESSORIES





MODEL	DESCRIPTION	ORDER No.
Lens Hi-Res	additional focussing glass lens with 9 mm focus (*)	95ACC1050
Lens No.18	glass lens with 18 mm focus	95ACC2680
Lens No.22	glass lens with 22 mm focus	95ACC1100
Lens No.28	glass lens with 28 mm focus	890000194
Lens No.40	glass lens with 40 mm focus	95ACC2740
Lens No.50	glass lens with 50 mm focus	573030511
OF -30-5	plastic fibre-optic L 50 cm - point-shaped spot proximity	96B001070
OF -31-10	glass fibre-optic L 100 cm - point-shaped spot proximity	96B201000
OF -32-10	glass fibre-optic L 100 cm - rectangular spot proximity	96B211000
OF -33-10	glass fibre-optic L 100 cm - through beam	96B221000
OF -34-10	glass fibre-optic L 100 cm - horizontal spot 90° proximity	96B231000
OF -35-10	glass fibre-optic L 100 cm - vertical spot 90° proximity	96B24100

* focussing lens to screw between the sensor and the normal 9 mm lens

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
Radial M12 Connector	4-pole, grey, P.V.C.	5 m	CS-A1-02-R-05	95A251560
		3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
	4-pole, P.U.R.	7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
		2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
		Connector- not cabled	CS-A2-02-B-NC	G5085003

CONTRAST SENSORS

TL46

High performance contrast sensor for colored registration mark detection

- Wide-spectrum RGB or white LED emission
- 3 different models: basic, standard and enhanced
- Automatic, manual and dynamic settings
- 15, 20 or 30 kHz switching frequencies
- NPN/PNP and analog outputs
- Standard mounting, M12 connector rotatable to 5 positions

APPLICATIONS

- Packaging and labeling machinery
- Beverage/Food/Cosmetic/
Pharmaceutical industries
- Printing machinery



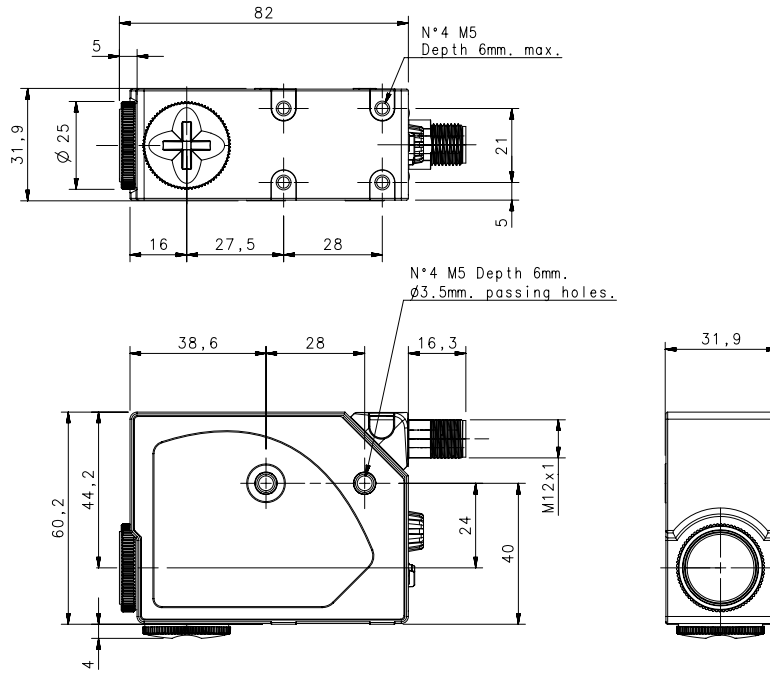
(*) ATEX II 3DG

TL46		
Contrast sensor		9 ±3 mm
		18 mm (Lens No.18 glass)
		22 mm (Lens No.22 glass)
		28 mm (Lens No.28 glass)
		40 mm (Lens No.40 glass)
Switching frequency		15 kHz
		20 kHz
		30 kHz
Light emission		RGB LED
		white LED
Setting		push buttons
		trimmer
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	▪
	relay	
	other	0...5 V Analog Output
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		31x81x58
Housing material		Aluminium
Mechanical protection		IP67

TECHNICAL DATA	
Power supply	10 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	40 mA max. at 24 Vdc (mod. TL46-A) 50 mA max. at 24 Vdc (mod. TL46-W) 85 mA max. at 24 Vdc 24 Vdc with bargraph ON in threshold adjustment mode, 55 mA max at 24 Vdc with bargraph OFF in normal functioning mode (mod. TL46-WL) 35 mA max. at 24 Vdc (mod. TL46-WLF)
Light emission	white LED 400-700 nm (mod. TL46-A-4xx) red LED 630 nm (mod. TL46-A-6xx) blu LED 465nm/green LED 520 nm/red LED 630 nm (mod. TL46-W/WL/WLF)
Setting	SET push-buttons (mod. TL46-W/WL/WLF) sensitivity trimmer (mod. TL46-A)
Operating mode	DARK/LIGHT selection by switch (mod. TL46-A) automatic DARK/LIGHT selection (mod. TL46-W/WL) automatic DARK/LIGHT selection in the target/background detection, selectable via wire in the dynamic detection (mod. TL46-WLF)
Indicators	yellow OUTPUT LED green READY LED, 4-digit display/DELAY LED/KEYLOCK LED (mod. TL46-WLF) orange ARROWS (mod. TL46-A), DELAY LED and KEYLOCK LED 5-segment bargraph (mod. TL46-WL)
Output	PNP or NPN; PNP/NPN (mod. TL46-W/WL/WLF); analog output (mod. TL46-A/W/WL)
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	33 µs (mod. TL46-W) 25 µs (mod. TL46-A/WL) 16 µs (mod. TL46-WLF)
Switching frequency	15 kHz (mod. TL46-W) 20 kHz (mod. TL46-A/WL) 30 kHz (mod. TL46-WLF)
Connection	M12 5-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2, double insulation
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Minimum spot dimension	1,5 x 5 mm
Depth of field	± 3 mm
Housing material	aluminium
Lens material	mirror (mod. TL46-A), PMMA (mod. TL46-W), glass (mod. TL46-WL/WLF)
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	170 g max.

CONTRAST SENSORS

DIMENSIONS

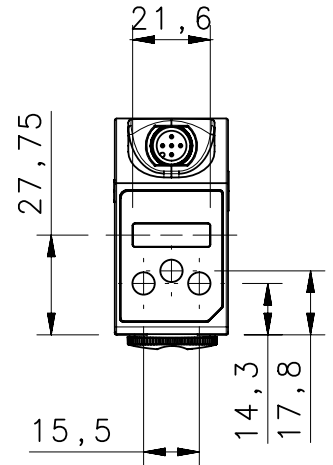
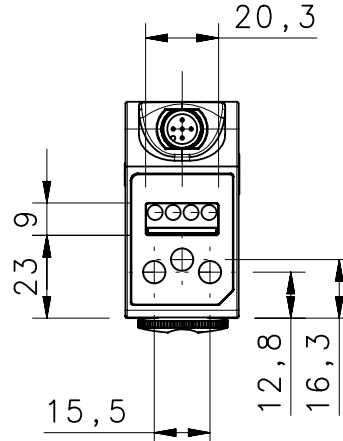
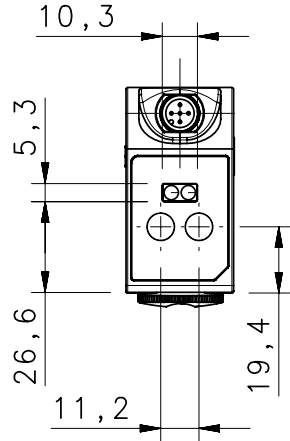
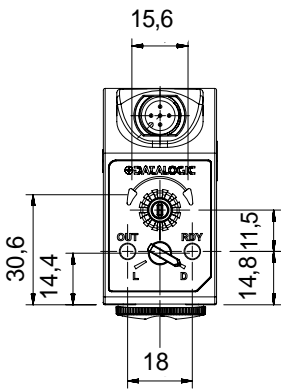


TL46-A

TL46-W

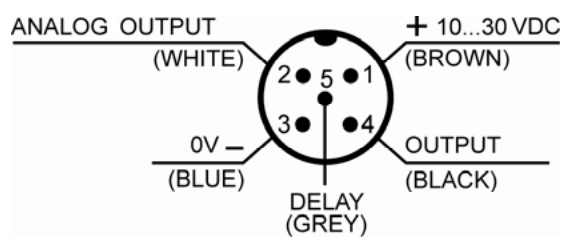
TL46-WL

TL46-WLF



CONNECTIONS

M12 CONNECTOR

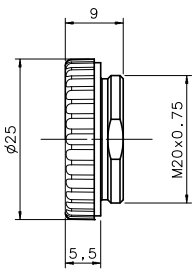


MODEL SELECTION AND ORDER INFORMATION

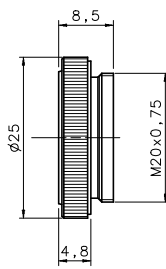
OPTIC FUNCTION	SETTING & INDICATORS	EMISSION	OUTPUT	MODEL	ORDER No.
Contrast sensor	Trimmer 2 LEDs	WHITE vertical spot	PNP	TL46-A-415	954601070
			NPN	TL46-A-425	954601080
		RED vertical spot	PNP	TL46-A-615	954601090
			NPN	TL46-A-625	954601100
	Push-buttons 2 LEDs	R.G.B. vertical spot	PNP/NPN	TL46-W-815	954601000
		R.G.B. horizontal spot		TL46-W-815L	954601010
	Push buttons 4 LEDs bargraph	R.G.B. vertical spot		TL46-WL-815	954601020
		R.G.B. horizontal spot		TL46-WL-815L	954601030
	Push buttons 4 LEDs display	R.G.B. vertical spot		TL46-WLF-815	954601040
		R.G.B. horizontal spot		TL46-WLF-815L	954601050

ACCESSORIES

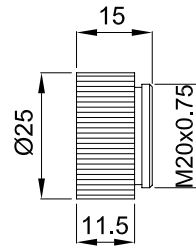
9 mm PMMA



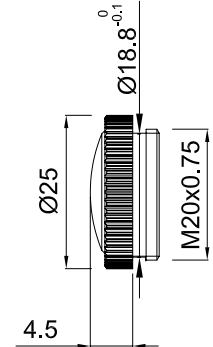
9 mm



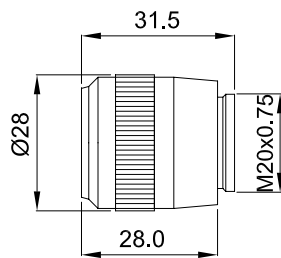
HI-RES LENS



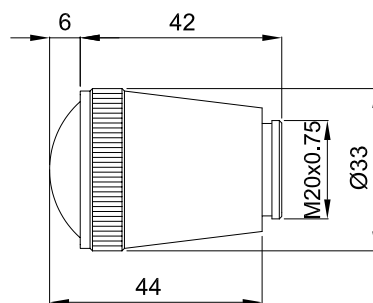
18 mm LENS



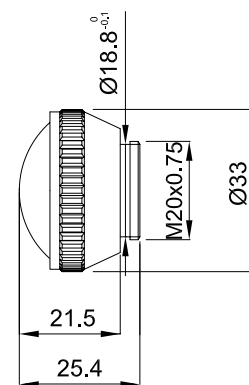
22 mm LENS



28 mm LENS



40 mm LENS



MODEL	DESCRIPTION	ORDER No.
Lens No.9	glass lens with 9 mm focus	95ACC2670
Lens No.9 PMMA	plastic lens with 9 mm focus	95ACC2540
Lens Hi-Res	additional focussing glass lens with 9 mm focus (*)	95ACC1050
Lens No.18	glass lens with 18 mm focus	95ACC2680
Lens No.22	glass lens with 22 mm focus	95ACC1100
Lens No.28	glass lens with 28 mm focus	890000194
Lens No.40	glass lens with 40 mm focus	95ACC2740

* focussing lens to screw between the sensor and the normal 9 mm lens

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
		5 m	CS-A1-03-G-05	95ACC2120
		10 m	CS-A1-03-G-10	95ACC2140
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170
		5 m	CS-A1-03-U-05	95ASE1180
		10 m	CS-A1-03-U-10	95ASE1190
		15 m	CS-A1-03-U-15	95ASE1200
		25 m	CS-A1-03-U-25	95ASE1210
		50 m	CS-A1-03-U-50	95A252700

LUMINESCENCE SENSORS

LD46

Luminescence sensor line in standard metal housing

- UV high power LED emission
- High sensitivity on fluorescent marks
- 10 - 50 mm detection distance
- 2 kHz switching frequency
- NPN/PNP and 0-5 V analog outputs



APPLICATIONS

- Packaging and labeling machinery
- Food, Cosmetic and Pharmaceutical
- Ceramic tiles selection and sorting



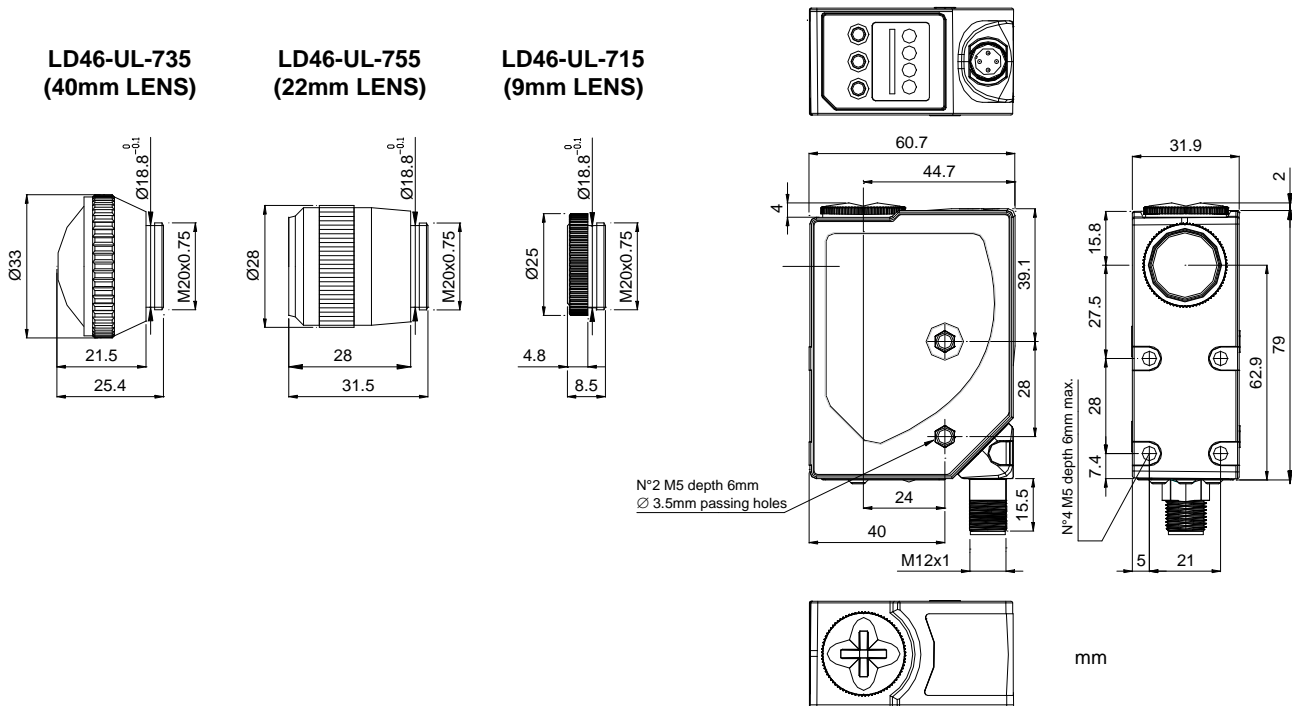
(*) ATEX II 3DG

LD46		
Luminescence sensor		10...20 mm (LD46-UL-715) 20...40 mm (LD46-UL-755) 30...50 mm (LD46-UL-735)
Spot dimension		2x8 mm at 10 mm 3x11 mm at 24 mm 4x15 mm at 50 mm
Switching frequency		2 kHz
Response Time		250 µs
Light emission		UV-HP LED
Setting		push buttons
Power supply	Vdc	15...30 V
	Vac	
	Vac/dc	
Output	PNP	
	NPN	
	NPN/PNP	▪
	relay	
	other	0...5 V Analog output
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		31x81x58
Housing material		aluminium
Mechanical protection		IP67

TECHNICAL DATA

Power supply	15 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	50 mA max. at 24 Vdc
Light emission	UV LED 375 nm
Setting	SET push-buttons
Indicators	yellow OUTPUT LED green READY LED orange DELAY LED and KEYLOCK LED 5-segment bargraph
Output	PNP/NPN; analog output
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	250 µs
Switching frequency	2 kHz
Connection	M12 5-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2, double insulation
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Minimum spot dimension	2 x 8 mm at 10 mm (mod. LD46-UL-715) 3x11 mm at 24 mm (mod. LD46-UL-755) 4x15 mm at 50 mm (mod. LD46-UL-735)
Housing material	aluminium
Lens material	glass
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	180 g max.

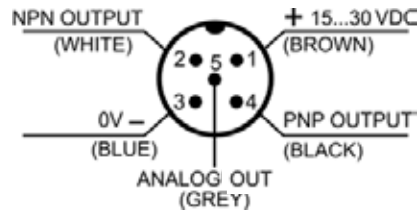
DIMENSIONS



LUMINESCENCE SENSORS

CONNECTIONS

M12 CONNECTOR

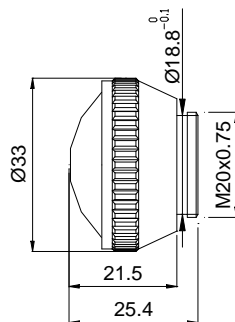


MODEL SELECTION AND ORDER INFORMATION

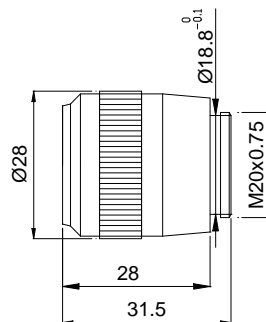
OPTIC FUNCTION	EMISSION	CONNECTION	OUTPUT	MODEL	ORDER No.
Luminescence sensor	10-20 mm Vertical spot	M12 Connector	NPN/PNP	LD46-UL-715	955201000
	20-40 mm Vertical spot			LD46-UL-755	955201010
	30-50 mm Vertical spot			LD46-UL-735	955201020

ACCESSORIES

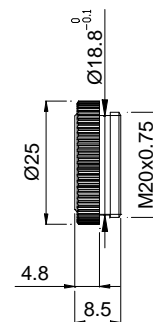
40 mm LENS
(LD46-UL-735)



22 mm LENS
(LD46-UL-755)



9 mm LENS
(LD46-UL-715)



MODEL	DESCRIPTION	ORDER No.
Lens No.9	glass lens with 9 mm focus	95ACC2670
Lens No.22	glass lens with 22 mm focus	95ACC1100
Lens No.40	glass lens with 40 mm focus	95ACC2740

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
		5 m	CS-A1-03-G-05	95ACC2120
		10 m	CS-A1-03-G-10	95ACC2140
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170
		5 m	CS-A1-03-U-05	95ASE1180
		10 m	CS-A1-03-U-10	95ASE1190
		15 m	CS-A1-03-U-15	95ASE1200
		25 m	CS-A1-03-U-25	95ASE1210
		50 m	CS-A1-03-U-50	95A252700



COLOR & CONTRAST SENSORS

S65

Advanced color and contrast sensors in compact case

Color S65-V:

- 3 independent NPN or PNP outputs and RS 485 serial interface
- 3 channel color sensor with 10 tolerance levels
- Wide spectrum white light LED emission and RGB photo-receiver
- 2 push button setting with 4 digit display indicator

Contrast S65-W:

- High 12 bit resolution and 30 kHz switching frequency
- PNP or NPN output and RS 485 serial interface



APPLICATIONS

- Packaging lines
- Contrast reading
- Automatic machine

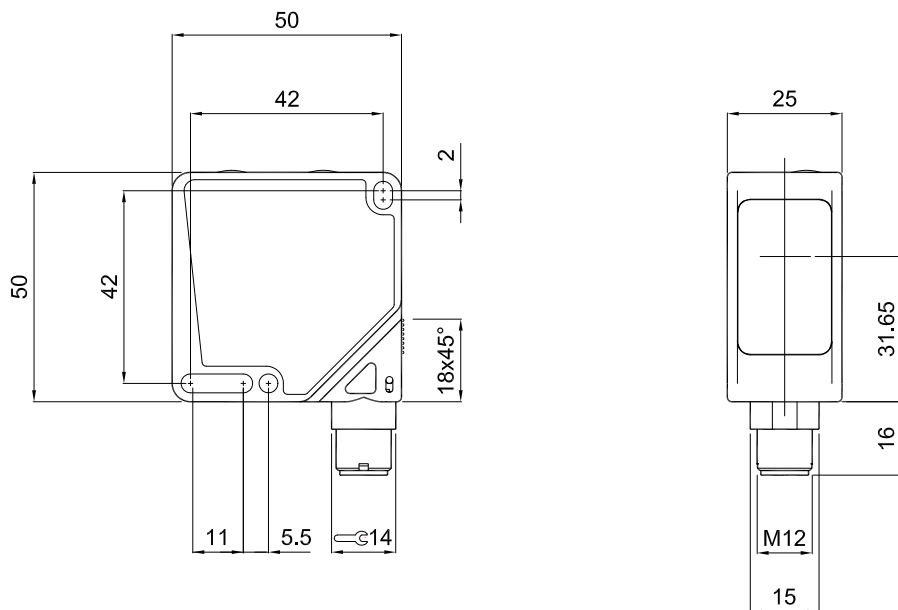


S65		
Contrast sensor		12...20 mm (S65-W)
Color sensor		5...45 mm (S65-V)
Switching frequency		30 kHz (S65-W) 500 Hz (S65-V19 vers.) 1,5 kHz (S65-V09 vers.)
Light emission		white LED
Serial interface		RS485
Setting		push-buttons
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	0...5 V Analog output (S65-W)
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		50x50x25
Housing material		ABS
Mechanical protection		IP67

TECHNICAL DATA

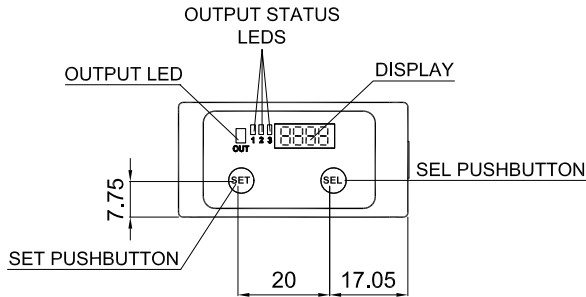
Power supply	10 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	50 mA max. at 24 Vdc (mod. S65-W) 60 mA max. at 24 Vdc (mod. S65-V)
Light emission	white LED 400-700 nm
Setting	SET push-buttons SEL push-buttons (mod. S65-V)
Indicators	yellow OUTPUT LED green 4-digit display, 3 OUTPUT STATUS LEDs (S65-V), STABILITY and 2 OUTPUT DELAY LEDs (mod. S65-W)
Output	1 PNP or NPN; analog output (mod. S65-W) 3 PNP or NPN; RS485 serial interface (mod. S65-V)
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	5 ms (norm) and 1 ms (fast) (mod. S65-V19) 335 µs (mod. S65-V09) 16 µs (mod. S65-W)
Switching frequency	100 Hz (norm) and 500 Hz (fast) (mod. S65-V19) 1,5 kHz (mod. S65-V09) 30 kHz (mod. S65-W)
Connection	M12 5-pole connector (mod. S65-W standard vers.), M12 8-pole connector (mod. S65-W vers. with RS485 serial interface) M12 8-pole connector (mod. S65-V)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Minimum spot dimension	3x1 mm at 19 mm (mod. S65-W) Ø 4 mm (mod. S65-V)
Depth of field	± 2 mm (mod. S65-W)
Housing material	ABS
Lens material	window and lenses in glass
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	100 g max.

DIMENSIONS

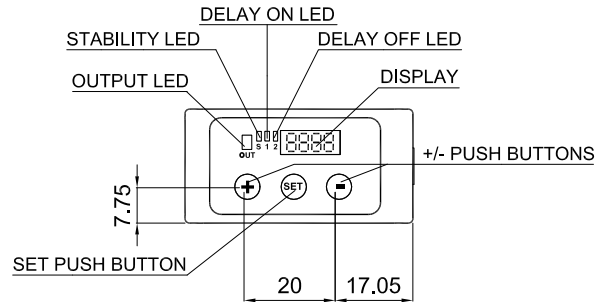


CONTRAST SENSORS

Color sensor S65-V



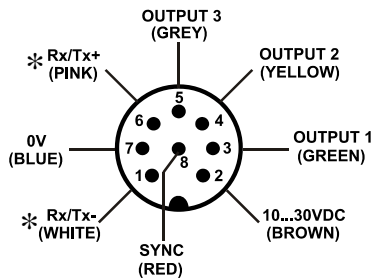
Contrast sensor S65-W



mm

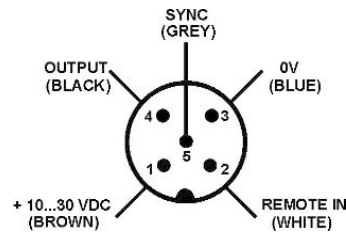
CONNECTIONS

M12 CONNECTOR - COLOR SENSOR S65-V

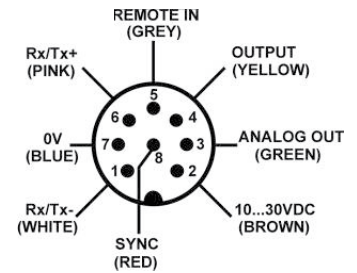


M12 CONNECTOR - CONTRAST SENSOR S65-W

standard versions



versions with RS485 serial interface



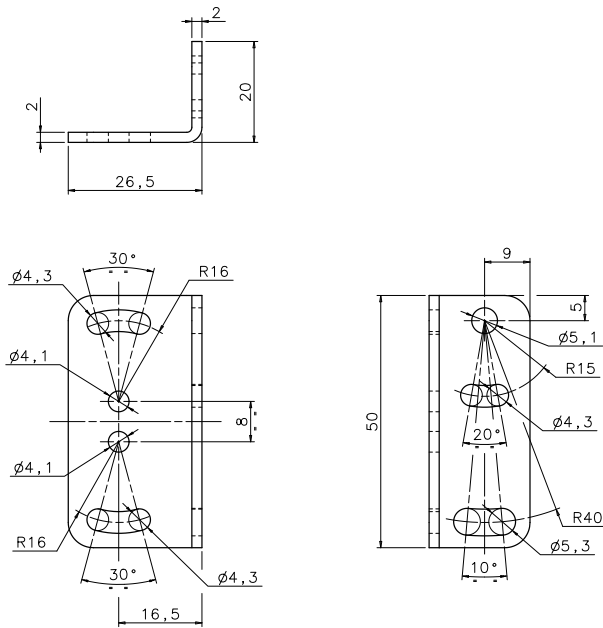
* Available only for version with RS485 serial connection (S65-PA-5-V09-xxxZ).

MODEL SELECTION AND ORDER INFORMATION

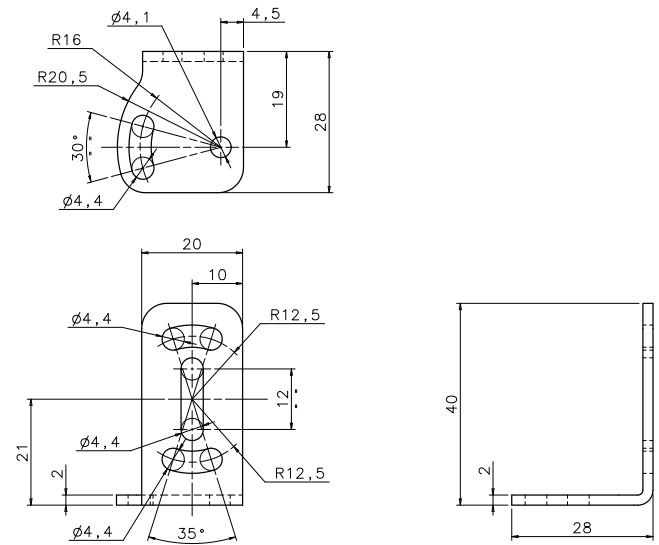
OPTIC FUNCTION	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER No.
Color sensor	335 μ s	M12 8-pole Connector	PNP, RS485	S65-PA-5-V09-PPPZ	956251000
			NPN, RS485	S65-PA-5-V09-NNNZ	956251010
			PNP	S65-PA-5-V09-PPP	956251020
			NPN	S65-PA-5-V09-NNN	956251030
	5 ms (norm) or 1 ms (fast)		PNP, RS485	S65-PA-5-V19-PPPZ	956251080
			NPN, RS485	S65-PA-5-V19-NNNZ	956251090
			PNP	S65-PA-5-V19-PPP	956251100
			NPN	S65-PA-5-V19-NNN	956251110
Contrast sensor	16 μ s	M12 5-pole Connector	NPN	S65-PA-5-W09-NH	954201000
		M12 8-pole Connector	NPN, RS485	S65-PA-5-W09-NHZ	954201010
		M12 5-pole Connector	PNP	S65-PA-5-W09-PH	954201020
		M12 8-pole Connector	PNP, RS485	S65-PA-5-W09-PHZ	954201030

ACCESSORIES

ST-5020



ST-5021



MODEL	DESCRIPTION	ORDER No.
ST-5020	mounting bracket 50 x 27 x 20 mm	95ACC5330
ST-5021	mounting bracket 20 x 40 x 28 mm	95ACC5340

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.	
Axial M12 connector	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110	
		5 m	CS-A1-03-G-05	95ACC2120	
		10 m	CS-A1-03-G-10	95ACC2140	
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170	
		5 m	CS-A1-03-U-05	95ASE1180	
		10 m	CS-A1-03-U-10	95ASE1190	
		15 m	CS-A1-03-U-15	95ASE1200	
		25 m	CS-A1-03-U-25	95ASE1210	
		50 m	CS-A1-03-U-50	95A252700	
		8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2260
5 m	CS-A1-06-B-05	95ACC2270			
10 m	CS-A1-06-B-10	95ACC2280			
Radial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1600	
		5 m	CV-A2-26-B-05	95ACC1610	
		10 m	CV-A2-26-B-10	95ACC1620	
Axial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1510	
		5 m	CV-A1-26-B-05	95ACC1520	
		10 m	CV-A1-26-B-10	95ACC1530	
		15 m	CV-A1-26-B-15	95ACC2080	
		25 m	CV-A1-26-B-25	95ACC2100	
	8-pole, U.L., black, P.V.C.	3 m	CS-A1-06-U-03	95ASE1220	
		5 m	CS-A1-06-U-05	95ASE1230	
		10 m	CS-A1-06-U-10	95ASE1240	
		15 m	CS-A1-06-U-15	95ASE1250	
		25 m	CS-A1-06-U-25	95ASE1260	
		50 m	CS-A1-06-U-50	95A252710	
		8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550

AREA SENSORS

AS1

AREAscan™ high-resolution detection photoelectric light grids

- Crossed beam area sensors
- 100mm controlled height
- Adjustment trimmer
- Optical synchronism
- Scan Mode input

APPLICATIONS

- Processing lines
- Food, Cosmetic and Pharmaceutical
- Electronics and mechanical assembling
- Conveyor lines and sorting systems

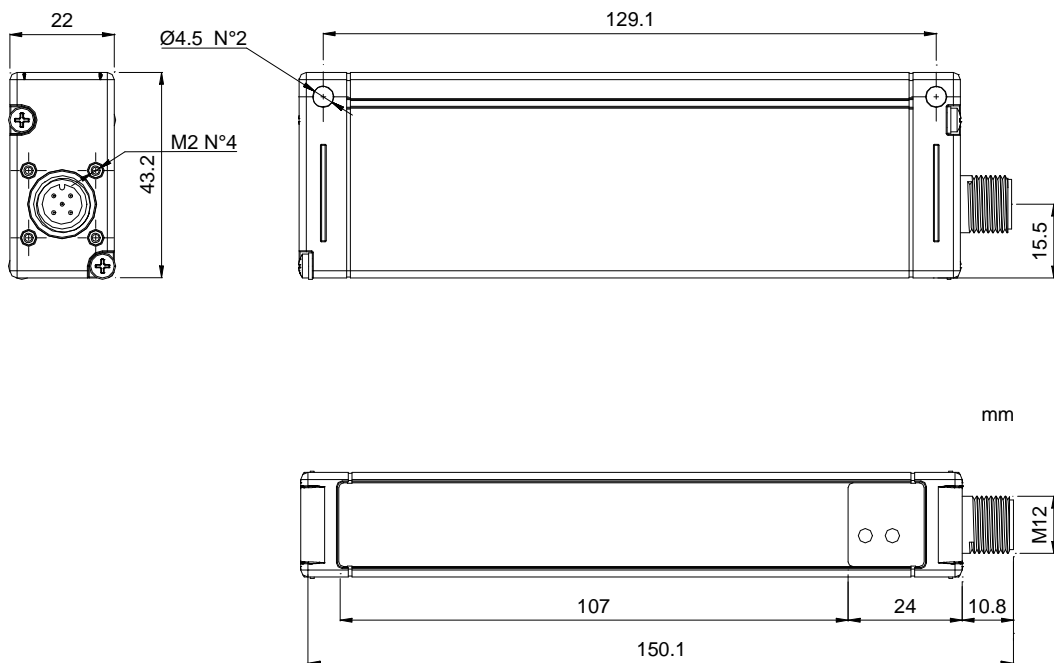


AS1		
Area sensing		100 mm
Operating Distance		0,3...2,1 m (AS1-LD) 0,8...3 m (AS1-HD)
Resolution		Flat: 0,2x75mm Cylindrical: Ø 6mm (AS1-HR) Flat: 0,2x200mm Cylindrical: Ø18mm (AS1-SR)
Response Time		1,75 ms (AS1-SR) 2,75...8 ms (AS1-HR)
Light emission		IR LED
Power supply	Vdc	24 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	
	NPN/PNP	
	relay	
	other	
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		20x41x150
Housing material		aluminium
Mechanical protection		IP67

TECHNICAL DATA

Power supply	24 Vdc ± 15%
Consumption on emitter unit (TX)	150 mA max.
Consumption on receiver unit (RX)	40 mA max. load excluded
Light emission	IR LED 880 nm
Setting	adjustment trimmer (mod. AS1...P)
Indicators	yellow OUTPUT LED green POWER ON LED
Output	PNP
Output current	100 mA max.
Saturation voltage	1,5 V max.
Response time	2,75 - 8 ms (mod. AS1-HR) 1,75 ms (mod. AS1-SR)
Connection	M12 4-pole connector (TX), M12 5-pole connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Mechanical protection	IP65 (EN 60529)
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	black electro-painted aluminium
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	300 g

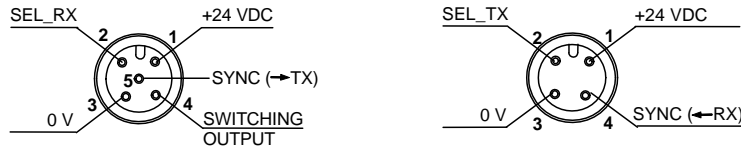
DIMENSIONS



AREA SENSORS

CONNECTIONS

M12 CONNECTOR



		AS1-HR	AS1-SR			AS1-HR	AS1-SR
RECEIVER (RX): M12 5-pole connector	1 – brown:	+24 VDC	+24 VDC	EMITTER (TX): M12 4-pole connector	1 – brown:	+24 VDC	+24 VDC
	2 – white:	SEL_RX	Not used		2 – white:	SEL_TX	Not used
	3 – blue:	0 V	0 V		3 – blue:	0 V	0 V
	4 – black:	Switching output	Switching output		4 – black:	SYNC **	SYNC *
	5 – grey:	SYNC *	SYNC *				

* not used in trimmer version
** SEL_TX2 in trimmer version

MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OPERATING DISTANCE	RESOLUTION	SETTING	MODEL	ORDER No.
Area sensor	2 m	High	n/a	AS1-LD-HR-010-J	958101000
			Adjustment Trimmer	AS1-LD-HR-010-P	958101040
		Standard	n/a	AS1-LD-SR-010-J	958101010
			Adjustment Trimmer	AS1-LD-SR-010-P	958101050
	3 m	High	n/a	AS1-HD-HR-010-J	958101020
		Standard		AS1-HD-SR-010-J	958101030

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		10 m	CS-A1-02-G-10	95A251390
	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
		5 m	CS-A1-03-G-05	95ACC2120
		10 m	CS-A1-03-G-10	95ACC2140
	5-pole, U.L., black, P.V.C.	3 m	CS-A1-03-U-03	95ASE1170
		5 m	CS-A1-03-U-05	95ASE1180
		10 m	CS-A1-03-U-10	95ASE1190
		15 m	CS-A1-03-U-15	95ASE1200
		25 m	CS-A1-03-U-25	95ASE1210
50 m		CS-A1-03-U-50	95A252700	



DIMENSION LIGHT GRIDS

DS1

AREAscan™ detection and measurement light grids with analog output

- 4 mm resolution and 1 ms response time
- 100 to 300 mm controlled height
- Operating distance up to 4 m
- PNP digital and 0-10 V analog outputs
- Adjustment trimmer

APPLICATIONS

- Processing and Packaging machinery
- Food, Cosmetic, Pharmaceutical
- Electronics and mechanical assembling
- Conveyor lines and sorting systems

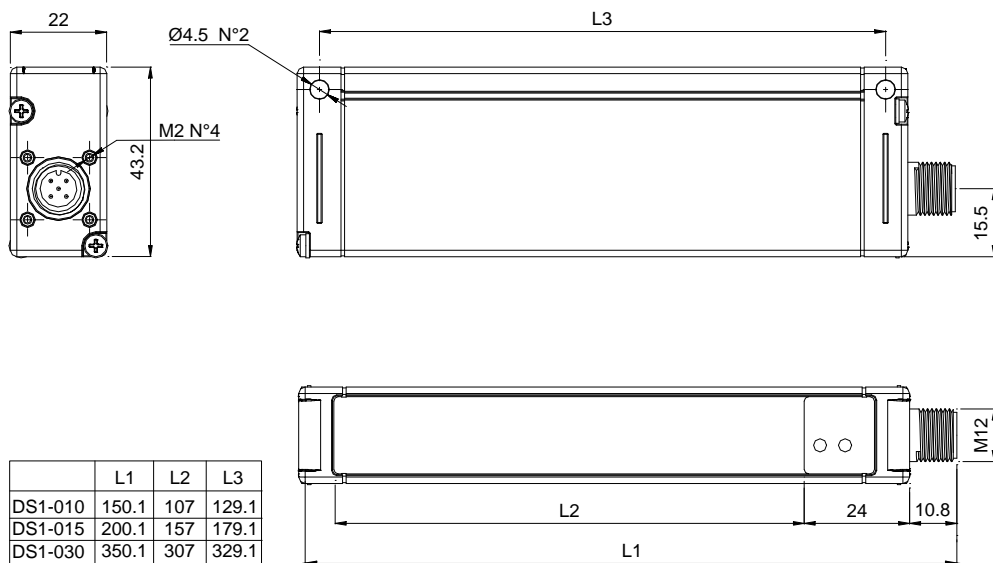


DS1		
Light array (controlled height)		100...300 mm
Resolution		4...7 mm
Number of beams		16...48
Light emission		IR LED
Response time		1...2,75 ms
Setting		Trimmer
Operating distance		0,15...0,8 m (SD)
		0,15...2,1 m (LD)
		0,2...4 m (HD)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	
	NPN/PNP	
	relay	
	other	0...10 V Analog output
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		20x41x(150/350)
Housing material		aluminium
Mechanical protection		IP65

TECHNICAL DATA

Power supply	24 Vdc ± 15%
Consumption on emitter unit (TX)	150 mA max.
Consumption on receiver unit (RX)	50 mA max. load excluded
Light emission	IR LED 880 nm
Setting	adjustment trimmer (mod. DS1...PV)
Indicators	yellow OUTPUT LED green POWER ON LED
Output	PNP; analog output
Output current	100 mA max.
Saturation voltage	1,5 V max.
Response time	1 - 2,75 ms
Connection	M12 4-pole connector (TX), M12 5-pole connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Mechanical protection	IP65 (EN 60529)
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	black electro-painted aluminium
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	300 g (mod. DS1...010)
	400 g (mod. DS1...015)
	600 g (mod. DS1...030)

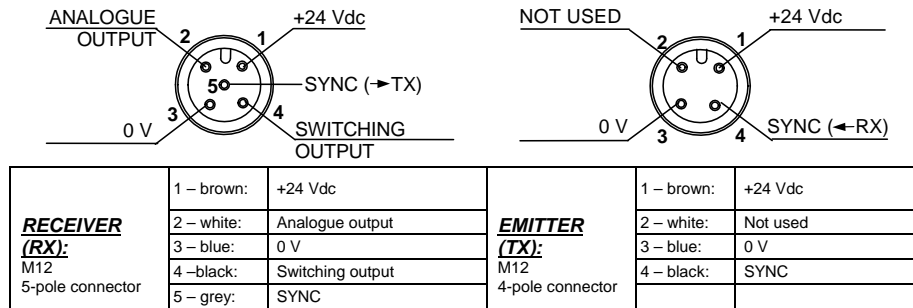
DIMENSIONS



DIMENSION LIGHT GRIDS

CONNECTIONS

M12 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OPERATING DISTANCE	SETTING	CONTROLLED HEIGHT & RESOLUTION	MODEL	ORDER NO	
Measurement light curtain	0,8 m	n/a	100 mm (res.: 7 mm)	DS1-SD-SR-010-JV	957701170	
			100 mm (res.: 4 mm)	DS1-SD-HR-010-JV	957701200	
			150 mm (res.: 7 mm)	DS1-SD-SR-015-JV	957701180	
			150 mm (res.: 4 mm)	DS1-SD-HR-015-JV	957701210	
			300 mm (res.: 7 mm)	DS1-SD-SR-030-JV	957701190	
	2 m		100 mm (res.: 7 mm)	DS1-LD-SR-010-JV	957701130	
			100 mm (res.: 4 mm)	DS1-LD-HR-010-JV	957701120	
			150 mm (res.: 7 mm)	DS1-LD-SR-015-JV	957701150	
			150 mm (res.: 4 mm)	DS1-LD-HR-015-JV	957701140	
			300 mm (res.: 7 mm)	DS1-LD-SR-030-JV	957701160	
	4 m	Adjustment trimmer	100 mm (res.: 7 mm)	DS1-LD-SR-010-PV	957701250	
			150 mm (res.: 7 mm)	DS1-LD-SR-015-PV	957701260	
			300 mm (res.: 7 mm)	DS1-LD-SR-030-PV	957701270	
			n/a	100 mm (res.: 7 mm)	DS1-HD-SR-010-JV	957701220
				150 mm (res.: 7 mm)	DS1-HD-SR-015-JV	957701230
300 mm (res.: 7 mm)	DS1-HD-SR-030-JV	957701240				

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.	
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380	
		5 m	CS-A1-02-G-05	95A251270	
		10 m	CS-A1-02-G-10	95A251390	
	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120	
		5 m	CS-A1-02-U-05	95ASE1130	
		10 m	CS-A1-02-U-10	95ASE1140	
		15 m	CS-A1-02-U-15	95ASE1150	
		25 m	CS-A1-02-U-25	95ASE1160	
	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110	
		5 m	CS-A1-03-G-05	95ACC2120	
		10 m	CS-A1-03-G-10	95ACC2140	
	5-pole, U.L., black, P.V.C.	3 m	CS-A1-03-U-03	95ASE1170	
		5 m	CS-A1-03-U-05	95ASE1180	
		10 m	CS-A1-03-U-10	95ASE1190	
		15 m	CS-A1-03-U-15	95ASE1200	
		25 m	CS-A1-03-U-25	95ASE1210	
			50 m	CS-A1-03-U-50	95A252700



DIMENSION LIGHT GRIDS

DS2

AREAscan™ detection and measurement light grids with serial or Ethernet interface

- 6 or 25 mm digital resolution
- Relative measurement precision ± 6 mm or ± 22.5 mm
- 150 - 1650 mm controlled heights
- Operating distance up to 10 m
- PNP and 0-10 V Analog output and RS485 or Ethernet interface



APPLICATIONS

- Processing and Packaging machinery
- Food, Cosmetic, Pharmaceutical
- Electronics and mechanical assembling
- Conveyor lines and sorting systems

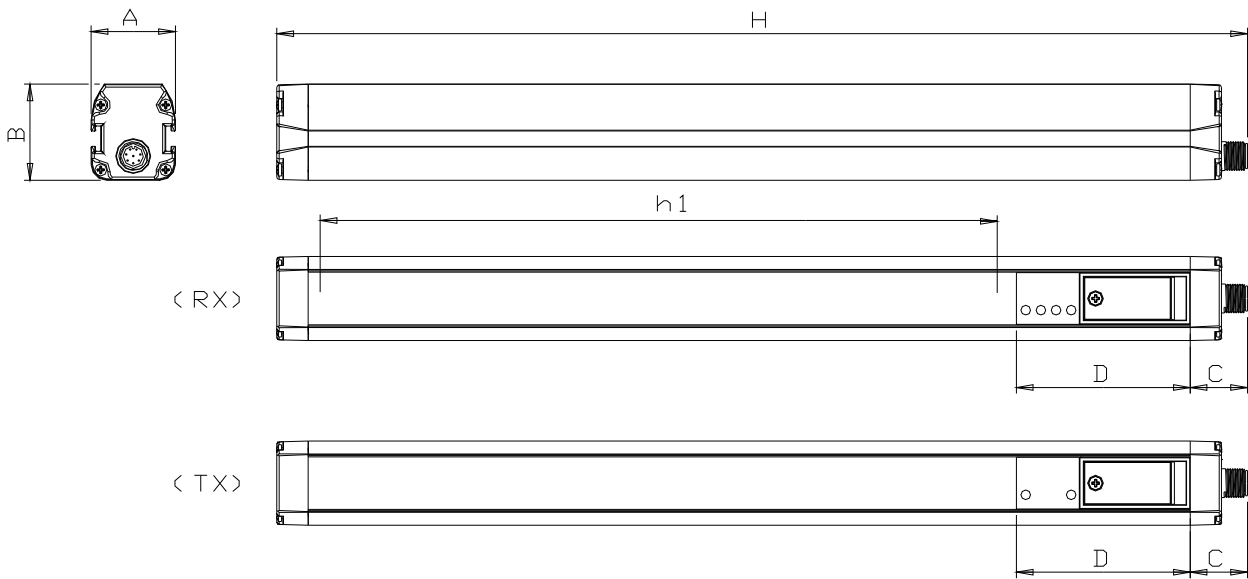


DS2		
Light array (controlled height)		150...1650 mm
Resolution		6...25 mm
Number of beams		21...231 (res= 6mm)
		6...66 (res= 25mm)
Light emission		IR LED
Response time		5...90 ms
Interface		serial RS485 or Ethernet
Setting		Dip-switches
		Graphic interface
Operating distance		0,3...5 m (res= 6mm)
		0,3...10 m (res=25mm)
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	
	NPN/PNP	
	relay	
	other	0...10 V Analog output
	cable	
Connection	connector	▪
	pig-tail	
Approximate dimensions (mm)		35x40x(256...1726)
Housing material		aluminium
Mechanical protection		IP65

TECHNICAL DATA

Power supply	24 Vdc ± 20%
Consumption on emitter unit (TX)	250 mA max. load excluded
Light emission	IR LED 880 nm
Output	PNP; analog output
Output current	100 mA
Saturation voltage	1,5 V max.
Connection	M12 4-pole connector (TX), M12 8-pole and M12 4-pole type "D" connector (RX)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class I
Mechanical protection	IP65 (EN 60529)
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	painted aluminium (Pulverit 5121/0085 Black)
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-25 ... 55 °C
Weight	1,9 - 4,6 kg

DIMENSIONS



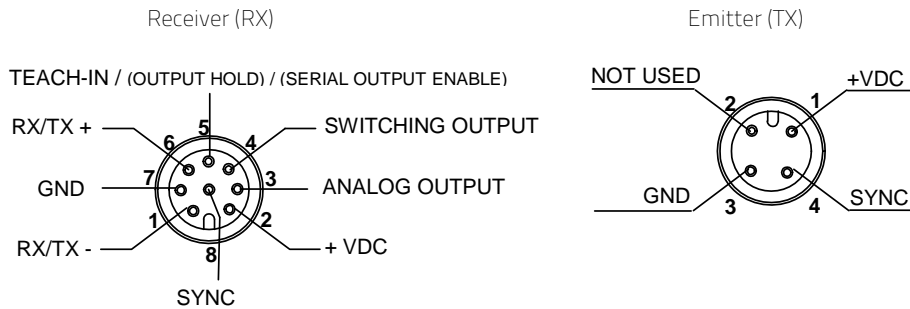
MODEL	A x B (mm)	H (mm)	C (mm)	D (mm)
DS2-05-07-015-XX	35 x 40	256	23.8	72.5
DS2-05-07-030-XX	35 x 40	403	23.8	72.5
DS2-05-07-045-XX	35 x 40	550	23.8	72.5
DS2-05-07-060-XX	35 x 40	697	23.8	72.5
DS2-05-07-075-XX	35 x 40	844	23.8	72.5
DS2-05-07-090-XX	35 x 40	991	23.8	72.5
DS2-05-07-105-XX	35 x 40	1138	23.8	72.5
DS2-05-07-120-XX	35 x 40	1285	23.8	72.5
DS2-05-07-135-XX	35 x 40	1432	23.8	72.5
DS2-05-07-150-XX	35 x 40	1579	23.8	72.5
DS2-05-07-165-XX	35 x 40	1726	23.8	72.5
DS2-05-07-045-XX	35 x 40	562	23.8	72.5
DS2-05-07-060-XX	35 x 40	713	23.8	72.5
DS2-05-07-075-XX	35 x 40	864	23.8	72.5
DS2-05-07-090-XX	35 x 40	1015	23.8	72.5

XX: JV for serial models or JE for ETHERNET models

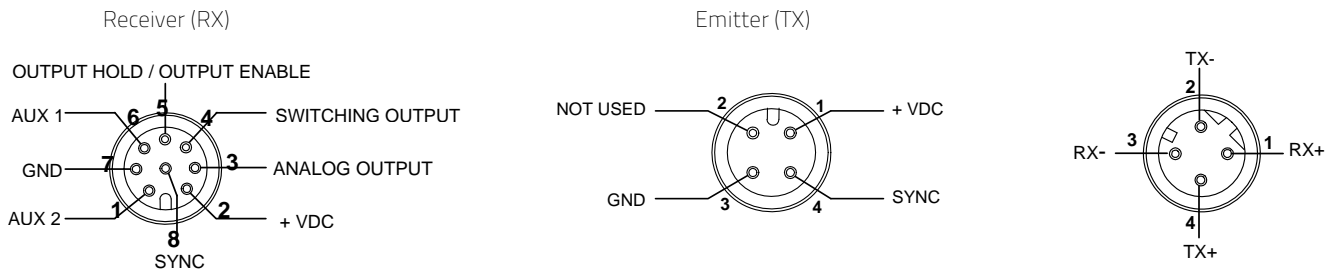
DIMENSION LIGHT GRIDS

CONNECTIONS

M12 CONNECTOR - SERIAL VERSION



M12 CONNECTOR - ETHERNET VERSION



RESPONSE TIME - SERIAL AND ETHERNET VERSION

MODEL	Tmin (msec)								Tmax (msec)
	Top beam				Complete beams status				
	Binary	Binary	ASCII	ASCII	Binary	Binary	ASCII	ASCII	
	57600 baud	9600 baud	57600 baud	9600 baud	57600 baud	9600 baud	57600 baud	9600 baud	
DS2-05-07-015-JV	5.5	12.5	5.05	13	5.5	15	6.5	10	
DS2-05-07-030-JV	7	14	7	14.5	7	18	8.5	21	
DS2-05-07-045-JV	8.5	15.5	8.5	16	8.5	21	10	24	
DS2-05-07-060-JV	10	17	10	18	10	26	12	38	
DS2-05-07-075-JV	11.5	18.5	11.5	19	11.5	31	15	44	
DS2-05-07-090-JV	13	20	13	20	13	36	17	54	
DS2-05-07-105-JV	14.5	21.5	14.5	22	14.5	40	19	62	
DS2-05-07-120-JV	17	24	17	24	17	44	21	70	
DS2-05-07-135-JV	18.5	25	19	26	19	48	23	80	
DS2-05-07-150-JV	20	26.5	21	28	21	53	25	84	
DS2-05-07-165-JV	22	28	23	30	23	56	28	91	
DS2-05-07-045-JV	5	11	5	11	5	13	6	18	
DS2-05-07-060-JV	5.5	12	5.5	12.5	5.5	14.5	6.5	19.5	
DS2-05-07-075-JV	6	13	6	13.5	6	16	7	21	
DS2-05-07-090-JV	6.5	13.5	6.5	14.5	6.5	17.5	7.5	22.5	

MODEL	CONFIGURATION			
	Top beam		Complete beams status	
	Binary	ASCII	Binary	ASCII
DS2-05-07-060-JE	10	10	10	12
DS2-05-07-075-JE	11.5	11.5	11.5	15
DS2-05-07-090-JE	13	13	13	17
DS2-05-07-120-JE	17	17	17	21
DS2-05-07-150-JE	20	21	21	25
DS2-05-07-165-JE	22	23	23	28

MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	CONTROLLED AREA (mm)	OPTICS INTERAXIS (mm)	OUTPUT	MODEL	ORDER No.		
Measurement light curtain	147	6.75	Voltage Analog and RS485	DS2-05-07-015-JV	957501040		
	294			DS2-05-07-030-JV	957501050		
	441			DS2-05-07-045-JV	957501060		
	588			DS2-05-07-060-JV	957501000		
	735			DS2-05-07-075-JV	957501070		
	882			DS2-05-07-090-JV	957501010		
	1029			DS2-05-07-105-JV	957501080		
	1176			DS2-05-07-120-JV	957501020		
	1323			DS2-05-07-135-JV	957501090		
	1470			DS2-05-07-150-JV	957501100		
	1617			DS2-05-07-165-JV	957501030		
	453			25	Voltage Analog and RS485	DS2-05-25-045-JV	957501110
	604					DS2-05-25-060-JV	957501140
	755					DS2-05-25-075-JV	957501120
	912	DS2-05-25-090-JV	957501130				
	588	6.75	Voltage Analog and Ethernet	DS2-05-07-060-JE	957501150		
	735			DS2-05-07-075-JE	957501160		
	882			DS2-05-07-090-JE	957501170		
	1176			DS2-05-07-120-JE	957501180		
	1470			DS2-05-07-150-JE	957501190		
	1617			DS2-05-07-165-JE	957501200		

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
	8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2230
		5 m	CS-A1-06-B-05	95ACC2240
		10 m	CS-A1-06-B-10	95ACC2250
	4-pole, shielded, grey, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1510
		5 m	CV-A1-26-B-05	95ACC1520
		10 m	CV-A1-26-B-10	95ACC1530
		15 m	CV-A1-26-B-15	95ACC2080
		25 m	CV-A1-26-B-25	95ACC2100
	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
	8-pole, U.L., black, P.V.C.	3 m	CS-A1-06-U-03	95ASE1220
		5 m	CS-A1-06-U-05	95ASE1230
		10 m	CS-A1-06-U-10	95ASE1240
		15 m	CS-A1-06-U-15	95ASE1250
		25 m	CS-A1-06-U-25	95ASE1260
50 m	CS-A1-06-U-50	95A252710		
4-pole, black	Connector-not cabled	CS-A1-02-B-NC	G5085002	
8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550	

DISTANCE SENSORS

S85

LASER distance sensor for precise measurement up to 20 m with a millimeter of resolution and repeatability through the Time of Flight technique

- Time of Flight technology
- Class 2 visible red LASER for an easy alignment with the target
- Measuring range up to 10m or 20m in the advanced model
- 1 mm resolution, 7 mm accuracy, 1 mm repeatability
- 4-20 mA or 0-10 V scalable analog output and 2 digital outputs
- RS485 serial interface in the advanced model
- Standard M12 connector
- IP67 Industrial metal housing



APPLICATIONS

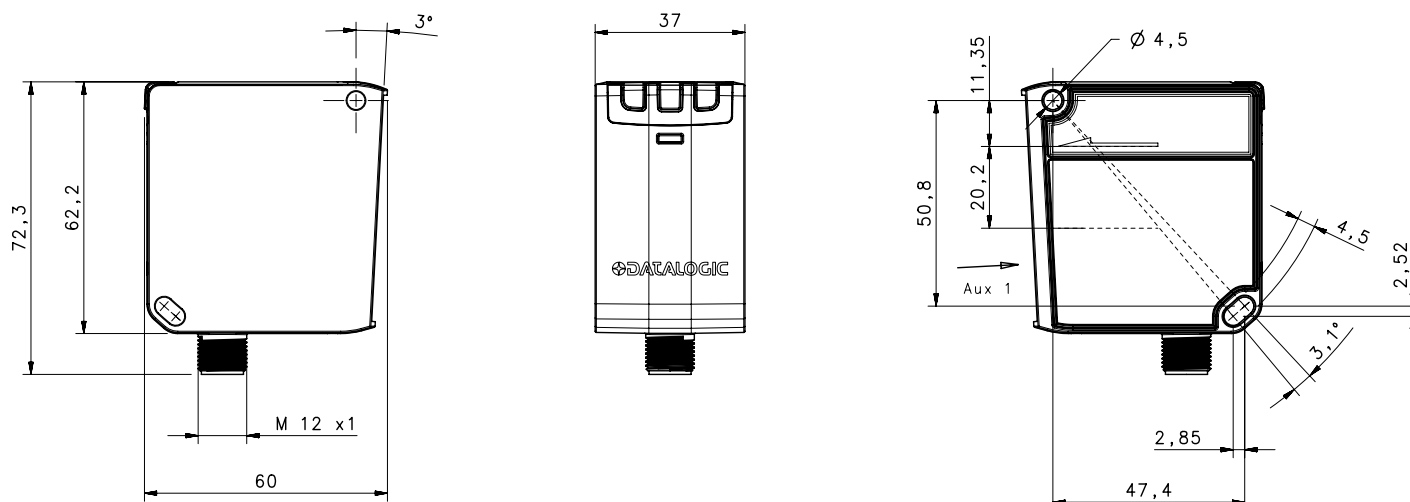
- Automated warehousing
- Processing and Packaging machinery
- Industrial vehicles
- Automotive

S85		
Distance sensor (90% White target)		0,2...20 m (S85...Y13) 0,2...10 m (S85...Y03)
Repeatability		1...2 mm
Accuracy		7...10 mm
Resolution		1 mm
Light emission		red LASER (class 2)
Response time		30 ms (S85...Y03) 15...30 ms (S85...Y13)
Serial interface		RS485 (S85...Y13)
Setting		Display (S85...Y13) push-buttons (S85...Y03)
Power supply	Vdc	24 V
	PNP	▪
Output	NPN	▪
	Push pull	▪
	other	Analog output: 4...20 mA or 0...10 V
Connection	connector	▪
Approximate dimensions (mm)		60x62x37
Housing material		Zamak
Mechanical protection		IP65, IP67

TECHNICAL DATA

Power supply	24 Vdc ± 20%
Consumption (output current excluded)	2,8 W max. (mod. S85...Y03) 3 W max. (mod. S85...Y13)
Light emission	red Laser 658 nm
Setting	push-buttons (mod. S85...Y03) push-buttons and display (mod. S85...Y13)
Operating distance	90% white target 0,2...10 m (mod. S85...Y03), 0,2...20 m (mod. S85...Y13) 18% grey target 0,2...5 m (mod. S85...Y03), 0,2...8 m (mod. S85...Y13) 6% black target 0,2...3 m (mod. S85...Y03), 0,2...5 m (mod. S85...Y13)
Indicators	yellow Q1 LED, Q2 LED green/red POWER/OUT OF RANGE LED 5-digit multi display (mod. S85...Y13)
Output	push pull/Q (mod. S85...Y03) PNP, NPN, push pull, Q, Qneg (mod. S85...Y13)
Analog output	0-10 V (mod. S85...Y03-00V) 4-20 mA (mod. S85...Y03-00I) 0-10 V/4-20 mA (mod. S85...Y13-00IVY)
Response time	slow 45 ms (mod. S85...Y13) medium 30 ms fast 15 ms (mod. S85...13)
Connection	M12 5-pole connector (mod. S85...Y03), M12 8-pole connector (mod. S85...Y13)
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2, >40 Klux DC ambient light
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ZINC ALLOY ZAMA 13 EN-1774/PC LEXAN 121R display
Lens material	PMMA
Operating temperature	-15 ... 50 °C
Storage temperature	-25 ... 70 °C
Weight	250 g max.

DIMENSIONS



DISTANCE SENSORS

CONNECTIONS

M12 CONNECTOR - BASIC

S85-Y03-00V
Voltage version



1 (BROWN): +24 V \pm 20 %
2 (WHITE): Q2 100mA max.
3 (BLUE): 0 V
4 (BLACK): Q1 100mA max.
5 (GREY): ANALOG. OUT 0-10V

S85-Y03-00I
Current version



1 (BROWN): +24 V \pm 20 %
2 (WHITE): Q2 100mA max.
3 (BLUE): 0 V
4 (BLACK): Q1 100mA max.
5 (GREY): ANALOG. OUT 4-20mA

M12 CONNECTOR - ADVANCED

S85-Y13-00IVY
Analog version



1 (WHITE): RS485-
2 (BROWN): +24 V \pm 20 %
3 (GREEN): ANALOGUE OUT
4 (YELLOW): Q1 100mA max.
5 (GREY): Q2 100mA max.
6 (PINK): RS485+
7 (BLUE): 0 V
8 (RED): MULTIFUNC.INPUT

S85-Y13-00Y



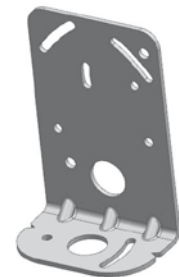
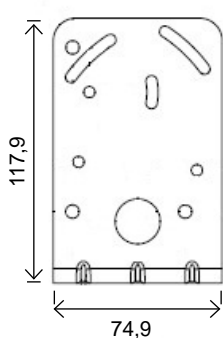
1 (WHITE): RS485-
2 (BROWN): +24 V \pm 20 %
3 (GREEN): RESERVED
4 (YELLOW): Q1 100mA max.
5 (GREY): Q2 100mA max.
6 (PINK): RS485+
7 (BLUE): 0 V
8 (RED): MULTIFUNC.INPUT

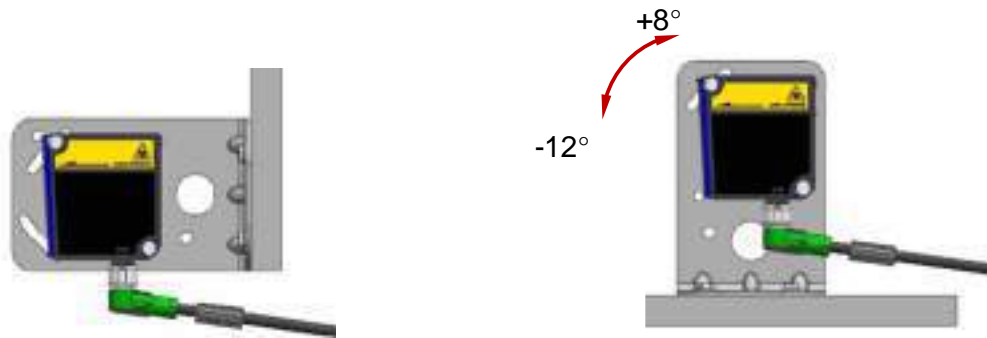
MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OPERATING DISTANCE	CONNECTION	OUTPUT & INPUT	MODELS	ORDER No.
Distance sensor (Basic)	10 m	M12 5-pole connector	2 Digital outputs; Analog output: Voltage (0...10 V)	S85-MH-5-Y03-00V	951511010
			2 Digital outputs; Analog output: Current (4... 20mA)	S85-MH-5-Y03-00I	951511030
Distance sensor (Advanced)	20 m	M12 8-pole connector	2 Digital outputs; Analog output: Current (4... 20mA) or Voltage (0...10 V); RS485; Multifunction input	S85-MH-5-Y13-00IVY	951511020
			2 Digital outputs; RS485; Multifunction input	S85-MH-5-Y13-00Y	951511040

ACCESSORIES

ST-S85-STD





MODEL	DESCRIPTION	ORDER No.
ST-S85-STD	mounting bracket	95ACC7840

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 connector	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
		5 m	CS-A1-03-G-05	95ACC2120
		10 m	CS-A1-03-G-10	95ACC2140
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170
		5 m	CS-A1-03-U-05	95ASE1180
		10 m	CS-A1-03-U-10	95ASE1190
		15 m	CS-A1-03-U-15	95ASE1200
		25 m	CS-A1-03-U-25	95ASE1210
Axial M12 Connector	8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2230
		5 m	CS-A1-06-B-05	95ACC2240
Radial M12 Connector	8-pole, black, P.V.C.	10 m	CS-A1-06-B-10	95ACC2250
		3 m	CV-A2-26-B-03	95ACC1600
		5 m	CV-A2-26-B-05	95ACC1610
Axial M12 Connector	8-pole, shielded, black, P.V.C.	10 m	CV-A2-26-B-10	95ACC1620
		3 m	CV-A1-26-B-03	95ACC1510
		5 m	CV-A1-26-B-05	95ACC1520
		10 m	CV-A1-26-B-10	95ACC1530
		15 m	CV-A1-26-B-15	95ACC2080
		25 m	CV-A1-26-B-25	95ACC2100
		Axial M12 Connector	8-pole, U.L., black, P.V.C.	3 m
5 m	CS-A1-06-U-05			95ASE1230
10 m	CS-A1-06-U-10			95ASE1240
15 m	CS-A1-06-U-15			95ASE1250
25 m	CS-A1-06-U-25			95ASE1260
50 m	CS-A1-06-U-50			95A252710
	8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550

DISTANCE SENSORS

S80

Time Of Flight measurement LASER distance sensor

- Class 2 visible red LASER emission
- Direct proximity measurement from 4 m to 7 m
- 20 m to 100 m retroflex measurement
- High precision and measurement speed
- PNP or NPN, 4-20 mA analog output and RS 485 serial interface

APPLICATIONS

- Automated warehousing
- Trans-elevator and crane positioning
- Automotive assembling lines
- Non-LFT measurement in logistics

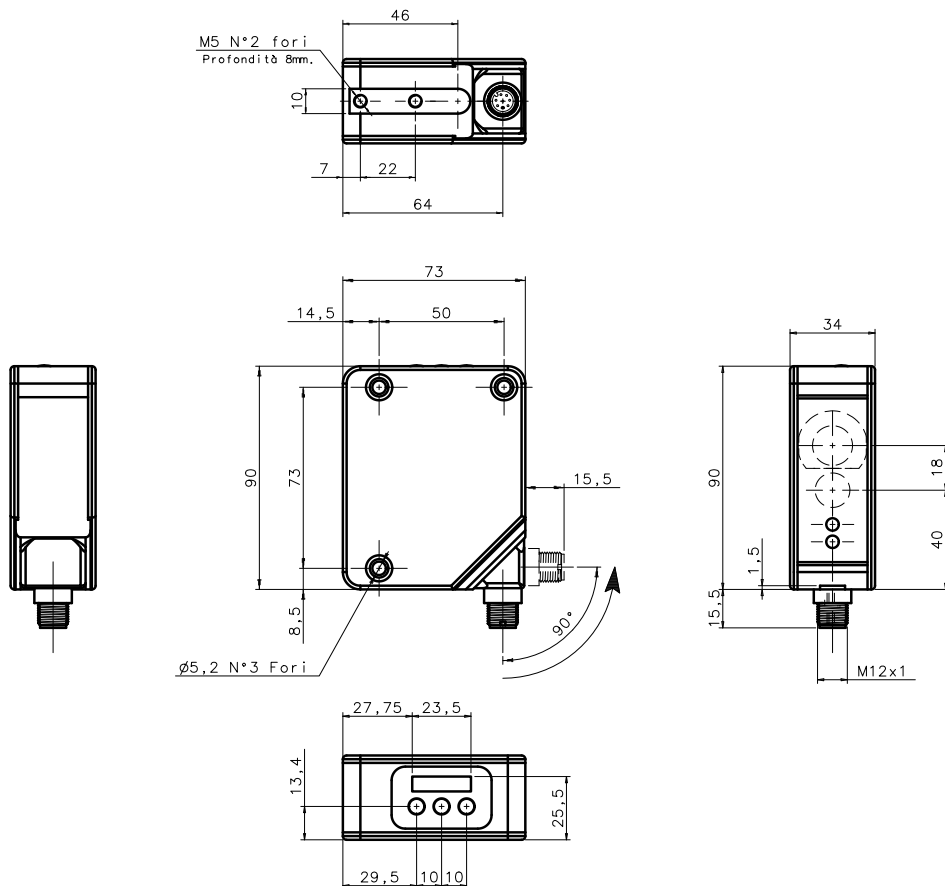


S80		
Distance sensor		0,3...4 m (S80-Y0) 0,3...7 m (S80-YL0) 0,3...20,3 m (S80-Y1) 0,3...100,3 m (S80-Y2)
Repeatability		< 5mm (S80-Y0) 7 mm @7m (S80-YL0) 10 mm @20m (S80-Y1) 10 mm @100m (S80-Y2)
Switching frequency		100 Hz (Normal), 500 Hz(Fast)
Light emission		red LASER (class 2)
Response time		5 ms (Normal), 1 ms(Fast)
Serial interface		RS485
Setting		Teach-in
Power supply	Vdc	15...30 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	4...20 mA Analog output , RS485 serial interface
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		34x90x73
Housing material		aluminium
Mechanical protection		IP67

TECHNICAL DATA

Power supply	15 ... 30 Vdc (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	130 mA max. (110 mA at 24 V) (mod. S80...Y19/Y29) 170 mA max. (110 mA at 24 V) (mod. S80...Y09/YL09)
Light emission	red Laser 658 nm
Setting	SET push-buttons +/- push-buttons
Indicators	command panel: yellow OUTPUT LED green 4-digit display, 2 OUT1, OUT2 LEDs green FAST LED (mod. S80...Y09/Y19/Y29) indicators LED: yellow OUTPUT LED red ALARM LED
Output	2 PNP or NPN; analog output with 4-20 mA; RS485 serial interface
Output current	100 mA max.
Saturation voltage	2 V max.
Response time	5 ms (norm) and 1 ms (fast) (mod. S80...Y09/Y19/Y29) 6 ms (mod. S80...YL09)
Switching frequency	100 Hz (norm) and 500 Hz (fast) (mod. S80...Y09/Y19/Y29) 85 Hz (mod. S80...YL09)
Connection	M12 8-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	aluminium
Lens material	window and lenses in glass
Operating temperature	-10 ... 50 °C
Storage temperature	-20 ... 70 °C
Weight	330 g max.

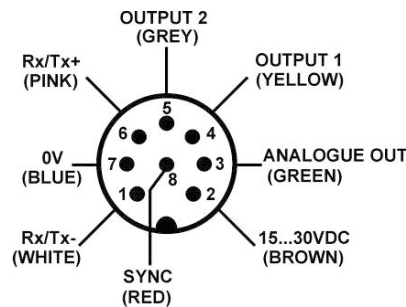
DIMENSIONS



DISTANCE SENSORS

CONNECTIONS

M12 CONNECTOR



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER No.
Distance sensor (4 m)	Aluminum	M12 Connector	PNP, Analog 4...20 mA, RS485	S80-MH-5-Y09-PPIZ	951501080
		M12 Connector	NPN, Analog 4...20 mA, RS485	S80-MH-5-Y09-NNIZ	951501010
Distance sensor (7 m)		M12 Connector	PNP, Analog 4...20 mA, RS485	S80-MH-5-YL09-PPIZ	951501060
		M12 Connector	NPN, Analog 4...20 mA, RS485	S80-MH-5-YL09-NNIZ	951501070
Distance sensor (20 m)		M12 Connector	PNP, Analog 4...20 mA, RS485	S80-MH-5-Y19-PPIZ	951501020
		M12 Connector	NPN, Analog 4...20 mA, RS485	S80-MH-5-Y19-NNIZ	951501030
Distance sensor (100 m)		M12 Connector	PNP, Analog 4...20 mA, RS485	S80-MH-5-Y29-PPIZ	951501040
		M12 Connector	NPN, Analog 4...20 mA, RS485	S80-MH-5-Y29-NNIZ	951501050

ACCESSORIES

MODEL	DESCRIPTION	ORDER No.
ST-5037	L-SHAPED mounting bracket	95ACC2260

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.	
Axial M12 Connector	8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2230	
		5 m	CS-A1-06-B-05	95ACC2240	
		10 m	CS-A1-06-B-10	95ACC2250	
Radial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A2-26-B-03	95ACC1600	
		5 m	CV-A2-26-B-05	95ACC1610	
		10 m	CV-A2-26-B-10	95ACC1620	
Axial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1510	
		5 m	CV-A1-26-B-05	95ACC1520	
		10 m	CV-A1-26-B-10	95ACC1530	
		15 m	CV-A1-26-B-15	95ACC2080	
		25 m	CV-A1-26-B-25	95ACC2100	
		8-pole, U.L., black, P.V.C.	3 m	CS-A1-06-U-03	95ASE1220
			5 m	CS-A1-06-U-05	95ASE1230
	10 m		CS-A1-06-U-10	95ASE1240	
	8-pole, black	15 m	CS-A1-06-U-15	95ASE1250	
		25 m	CS-A1-06-U-25	95ASE1260	
50 m		CS-A1-06-U-50	95A252710		
	8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550	



DISTANCE SENSORS

S81

Cost effective T.O.F. LASER distance sensor

- Class 2 visible red LASER emission
- Plastic housing and optics
- 2 PNP or NPN digital outputs
- 0-10 V analog output or alarm output



APPLICATIONS

- Packaging end of lines
- Carton stacking control
- Paper reel unwinding control
- Automotive assembling line

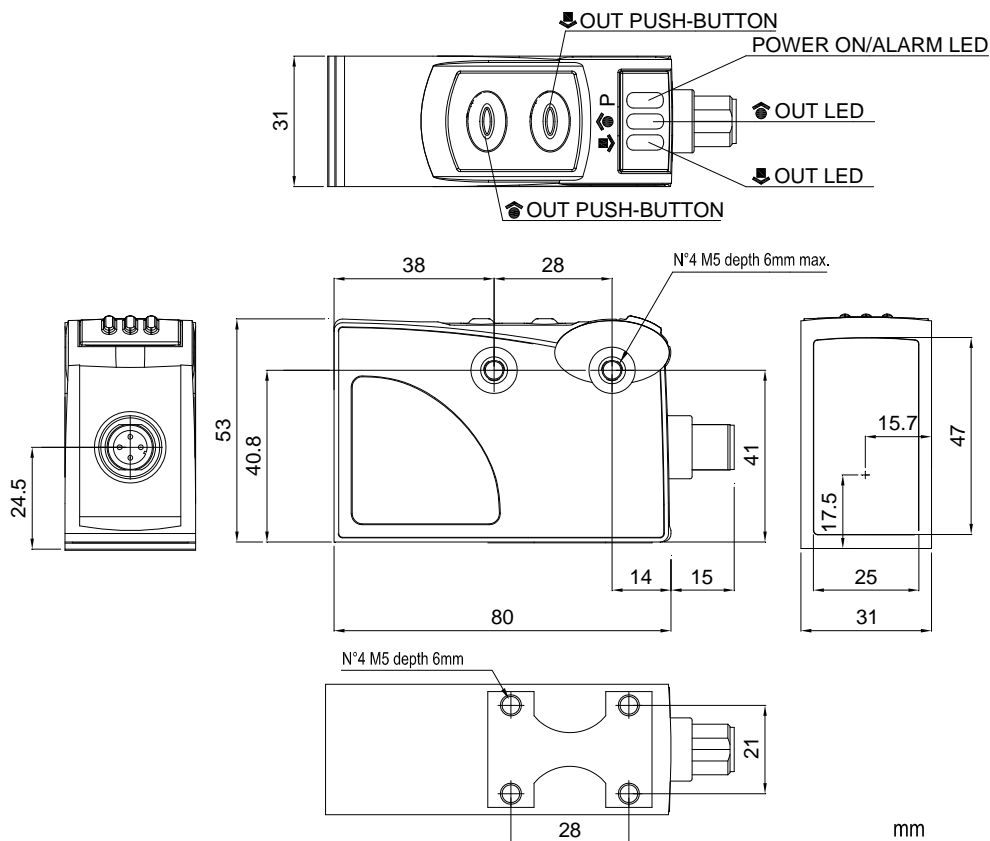


S81		
Distance sensor		0,3...4 m
Repeatability		± 4 mm
Switching frequency		80 Hz
Light emission		red LASER (class 2)
Response time		5 ms
Setting		push buttons
Power supply	Vdc	24 V
	Vac	
	Vac/dc	
Output	PNP	▪
	NPN	▪
	NPN/PNP	
	relay	
	other	0...10 V Analog output (S81-Y), Alarm output (S81-M)
Connection	cable	
	connector	▪
	pig-tail	
Approximate dimensions (mm)		31x53x80
Housing material		ABS
Mechanical protection		IP67

TECHNICAL DATA

Power supply	24 Vdc ± 20% (limit values)
Ripple	2 Vpp max.
Consumption (output current excluded)	120 mA max. (100 mA at 24 V)
Light emission	red Laser 665 nm
Setting	OUT1 and OUT2 push-buttons
Indicators	yellow OUTPUT1 and OUTPUT2 LEDs green POWER/READY LED
Output	2 PNP or NPN analog output with 0-10 V (mod. S81-Y), alarm output (S81-M)
Output current	100 mA max.
Response time	5 ms
Switching frequency	80 Hz
Connection	M12 5-pole connector
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2
Mechanical protection	IP67
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS
Lens material	PMMA
Operating temperature	0 ... 50 °C
Storage temperature	-20 ... 70 °C
Weight	92 g max.

DIMENSIONS

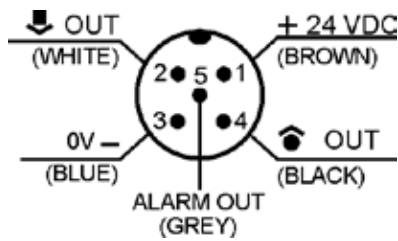


DISTANCE SENSORS

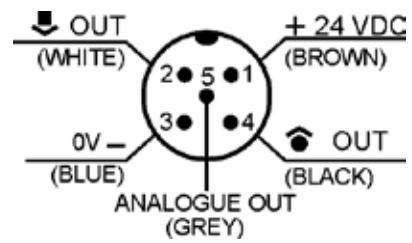
CONNECTIONS

M12 Connector

Background suppression S81-M



Distance S81-Y

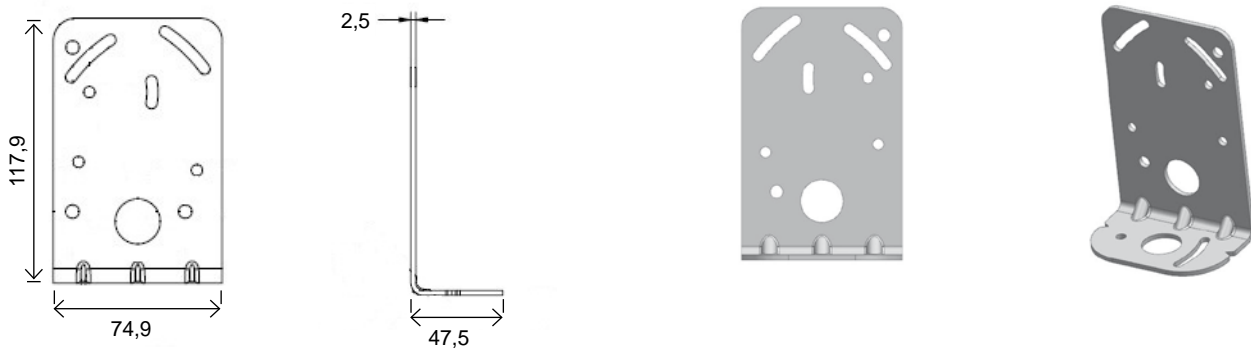


MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER No.
Background suppression	Plastic	M12 Connector	NPN, Alarm	S81-PL-5-M03-NNC	951551000
			PNP, Alarm	S81-PL-5-M03-PPC	951551110
Distance			NPN, Analog 0...10V	S81-PL-5-Y03-NNV	951551120
			PNP, Analog 0...10V	S81-PL-5-Y03-PPV	951551030
			PNP, Analog 0...10V, Scalable	S81-PL-5-Y03-PPVK	951551040

ACCESSORIES

ST-S85-STD



MODEL	DESCRIPTION	ORDER No.
ST-S85-STD	mounting bracket	95ACC7840

CABLES

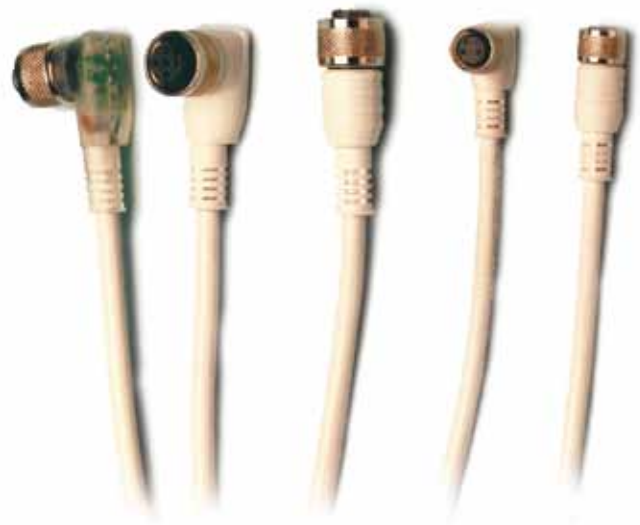
TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 connector	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110
		5 m	CS-A1-03-G-05	95ACC2120
		10 m	CS-A1-03-G-10	95ACC2140
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170
		5 m	CS-A1-03-U-05	95ASE1180
		10 m	CS-A1-03-U-10	95ASE1190
		15 m	CS-A1-03-U-15	95ASE1200
		25 m	CS-A1-03-U-25	95ASE1210
		50 m	CS-A1-03-U-50	95A252700



CS series – Cables & Connectors

The right connection for your photoelectric sensors

- M8 and M12, axial or radial female connectors
- Standard length cables: 3, 5, 7, 10, 15 or 25 m
- 3, 4, 5 or 8 poles
- Shielded or unshielded models
- P.U.R. coated models for use in harsh environments
- P.V.C. coated models for standard use
- Standard M12 4 pole non-cabled connectors



CS	
Connectors	M8 axial or radial(90°) 3 poles M12 axial or radial(90°) 3 poles M8 axial or radial(90°) 4 poles M12 axial or radial(90°) 4 poles M12 axial 5 poles M12 axial 8 poles
Cable lengths	3, 5, 7, 10, 15, 25 m
Conductor diameter	42 x 0.10 mm - 0.35 mm≈ (m12 3-pole) 32 x 0.10 mm - 0.25 mm≈ (m12 4-pole) 32 x 0.10 mm - 0.25 mm≈ (m8 4-pole)
Conductor material	annealed non-tinned electrolytic copper
Flammability class	CEI 20-22, IEC 332/3 flame-retardant and non-propagate
Housing material	P.U.R., P.V.C.
Mechanical protection	IP67, with locked ring

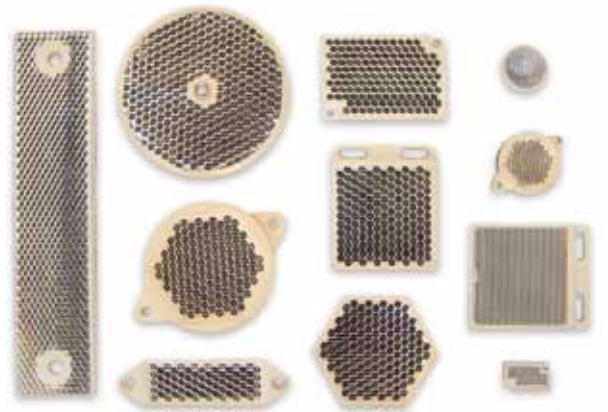
CONNECTOR & DIRECTION	POLES	STYLE	CABLE LENGTH	MODEL	ORDER No.	
M12 Connector (Axial)	3-pole	Grey, P.V.C.	3 m	CS-A1-01-G-03	95A251290	
			5 m	CS-A1-01-G-05	95A251300	
			7 m	CS-A1-01-G-07	95A251320	
			10 m	CS-A1-01-G-10	95A251340	
	4-pole	Grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380	
			5 m	CS-A1-02-G-05	95A251270	
			7 m	CS-A1-02-G-07	95A251280	
			10 m	CS-A1-02-G-10	95A251390	
			P.U.R.	2 m	CS-A1-02-R-02	95A251540
				5 m	CS-A1-02-R-05	95A251560
	5-pole	Grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110	
			5 m	CS-A1-03-G-05	95ACC2120	
			10 m	CS-A1-03-G-10	95ACC2140	
	8-pole	Black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2230	
			5 m	CS-A1-06-B-05	95ACC2240	
			10 m	CS-A1-06-B-10	95ACC2250	

M12 Connector (Radial 90°)	3-pole	Grey, P.V.C.	3 m	CS-A2-01-G-03	95A251200			
			5 m	CS-A2-01-G-05	95A251210			
			7 m	CS-A2-01-G-07	95A251220			
			10 m	CS-A2-01-G-10	95A251230			
		OIL resistant (CEI 2034-01)	3 m	CS-A2-01-O-03	95A251660			
	5 m		CS-A2-01-O-05	95A251670				
	10 m		CS-A2-01-O-10	95A251680				
	4-pole		Grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360		
				5 m	CS-A2-02-G-05	95A251240		
		7 m		CS-A2-02-G-07	95A251245			
10 m		CS-A2-02-G-10		95A251260				
P.U.R.		2 m	CS-A2-02-R-02	95A251550				
	5 m	CS-A2-02-R-05	95A251570					
	5 m	CS-A2-02-O-05	95A251690					
	10 m	CS-A2-02-O-10	95A251700					
	M12 Connector with LED (for PNP N.O. sensors) (Radial 90°)	3-pole	Grey, P.V.C.	5 m	CS-A2-11-G-05	95A251310		
10 m				CS-A2-11-G-10	95A251330			
4-pole		Grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400			
			5 m	CS-A2-12-G-05	95A251350			
			10 m	CS-A2-12-G-10	95A251370			
			3 m	CS-B1-01-G-03	95A251490			
		M8 Connector (Axial)	3-pole	Grey, P.V.C.	5 m	CS-B1-01-G-05	95A251510	
					2 m	CS-B1-01-R-02	95A251580	
				4-pole	P.U.R.	5 m	CS-B1-01-R-05	95A251600
						3 m	CS-B1-02-G-03	95A251420
5 m	CS-B1-02-G-05		95A251430					
Grey, P.V.C.	7 m		CS-B1-02-G-07		95A251440			
	10 m		CS-B1-02-G-10		95A251480			
	P.U.R.		2 m		CS-B1-02-R-02	95A251620		
5 m			CS-B1-02-R-05	95A251640				
M8 Connector (Radial 90°)	3-pole		Grey, P.V.C.	5 m	CS-B1-02-O-05	95A251730		
		10 m		CS-B1-02-O-10	95A251100			
		4 pole	Grey, PVC	3 m	CS-B2-01-G-03	95A251500		
				5 m	CS-B2-01-G-05	95A251520		
	2 m			CS-B2-01-R-02	95A251590			
	P.U.R.		5 m	CS-B2-01-R-05	95A251610			
			3 m	CS-B2-02-G-03	95A251450			
			5 m	CS-B2-02-G-05	95A251460			
	Shielded M12 Connector (Axial)	3-pole	Grey, P.V.C.	7 m	CS-B2-02-G-07	95A251470		
				10 m	CS-B2-02-G-10	95A251530		
4 pole			P.U.R.	2 m	CS-B2-02-R-02	95A251630		
				5 m	CS-B2-02-R-05	95A251650		
		5 m		CS-B2-02-O-05	95A251720			
		OIL resistant (CEI 2034-01)	10 m	CS-B2-02-O-10	95A251110			
			8-pole	Black, P.V.C.	10 m	CV-A1-21-G-10	95ACC2060	
					3 m	CV-A1-22-B-03	95ACC1480	
5 m		CV-A1-22-B-05			95ACC1490			
10 m		CV-A1-22-B-10			95ACC1500			
Black, P.V.C.	15 m	CV-A1-22-B-15		95ACC2070				
	25 m	CV-A1-22-B-25		95ACC2090				
	3 m	CV-A1-26-B-03		95ACC1510				
	5 m	CV-A1-26-B-05		95ACC1520				
Shielded M12 Connector (Radial 90°)	4-pole	Black, P.V.C.	10 m	CV-A1-26-B-10	95ACC1530			
			15 m	CV-A1-26-B-15	95ACC2080			
		8-pole	Black, P.V.C.	25 m	CV-A1-26-B-25	95ACC2100		
				3 m	CV-A2-22-B-03	95ACC1540		
	5 m			CV-A2-22-B-05	95ACC1550			
	Black, P.V.C.		10 m	CV-A2-22-B-10	95ACC1560			
			3 m	CV-A2-26-B-03	95ACC1600			
			5 m	CV-A2-26-B-05	95ACC1610			
	M12 Connector (Axial)	4-pole	U.L., Black, P.V.C.	10 m	CV-A2-26-B-10	95ACC1620		
				3 m	CS-A1-02-U-03	95ASE1120		
5 m				CS-A1-02-U-05	95ASE1130			
10 m				CS-A1-02-U-10	95ASE1140			
15 m				CS-A1-02-U-15	95ASE1150			
5-pole		U.L., Black, P.V.C.	25 m	CS-A1-02-U-25	95ASE1160			
			3 m	CS-A1-03-U-03	95ASE1170			
			5 m	CS-A1-03-U-05	95ASE1180			
			10 m	CS-A1-03-U-10	95ASE1190			
			15 m	CS-A1-03-U-15	95ASE1200			
8-pole		U.L., Black, P.V.C.	25 m	CS-A1-03-U-25	95ASE1210			
			50 m	CS-A1-03-U-50	95A252700			
			3 m	CS-A1-06-U-03	95ASE1220			
			5 m	CS-A1-06-U-05	95ASE1230			
			10 m	CS-A1-06-U-10	95ASE1240			
M12 Connector (Axial)	4-pole	Black	Connector- not cabled	CS-A1-02-B-NC	G5085002			
	8-pole	Black	Connector- not cabled	CS-A1-06-B-NC	95ACC2550			
M12 Connector (Radial 90°)	4-pole	Black	Connector- not cabled	CS-A2-02-B-NC	G5085003			

R series – REFLECTORS

Excellent performance with infrared, red light and polarized emission

- Prismatic reflectors for retroreflective sensors
- High efficiency models for long operating distances
- Microprism reflectors for sensors with LASER emission
- Self-adhesive reflectors and reflector tape

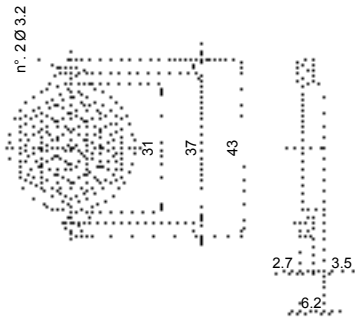


REFLECTORS	
Prismatic reflector material	Reflector in PMMA plastic
Support material	Support in ABS
Mechanical protection	IP67, IP69K (R4K)
Operating temperature	-30 ... +70°C

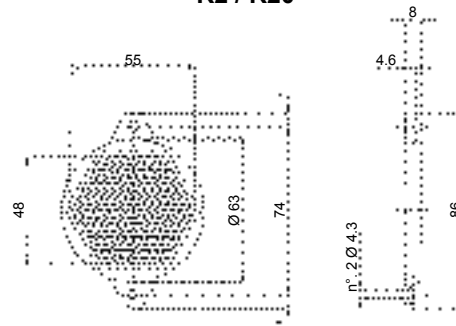
MODELS	DESCRIPTION	ORDER No.
R1	Ø 23 mm with Ø 31 mm support	S940700023
R2	Ø 48 mm with Ø 63 mm support	S940700048
R3	18 x 54 mm with 22 x 82 mm support	S940700972
R4	47x 47 mm with 51.5 x 61 mm support	95A151340
R4K	51X61 mm IP69K protection	95A151220
R5	Ø 75 mm with Ø 82 mm support	S940700075
R6	36 x 55 mm with 40.5 x 60 mm support	95A151350
R7	47x47 mm microprism reflector with 51 x 61 mm support	95A151360
R8	9.7 x 19 mm microprism reflector with 13.8 x 23 mm support	95A151370
R9	Ø 23 mm with Ø 25 mm self-adhesive support	95A151080
R10	36 x 176 mm with 41 x 181 mm support	S19120000
R11	146 x 15 mm with 150 x 18 mm support	95A155050
R14	Ø 24 mm with Ø 25 mm support	95A151310
R16	9.7 x 19 mm reflector with 14 x 23 mm support	95A151330
R20	Ø 48 mm microprism reflector with Ø 63 mm support	95A151090
R35	Ø 33 mm with Ø 35 mm support	95A151530
S12	Ø 48 mm with ch.52 mm hexagon support	S940710048
RT3870	200 x 300 mm self-adhesive reflective tape	S940000600
RT3970	200 x 300 mm self-adhesive reflective tape for polarized light	S940000900
RT3970	60 x 40 mm self-adhesive reflective tape for polarized light	S940000604

DIMENSIONS

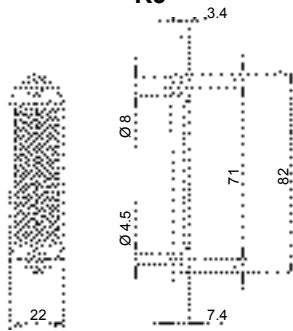
R1



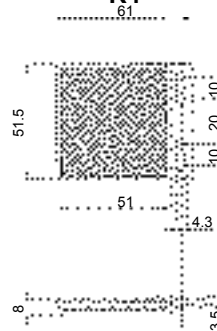
R2 / R20



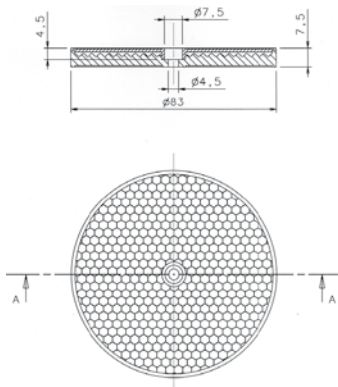
R3



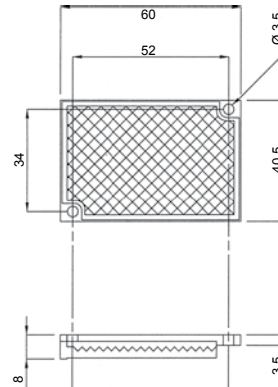
R4



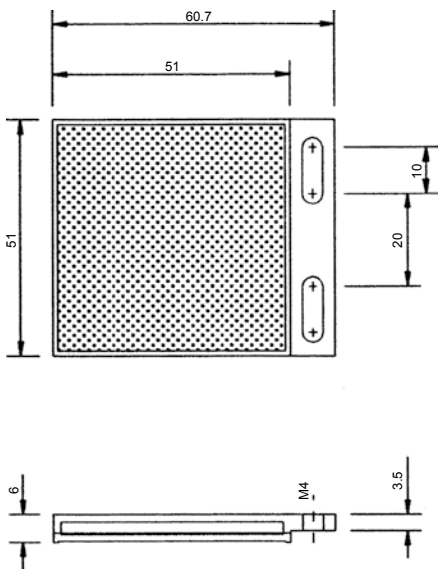
R5



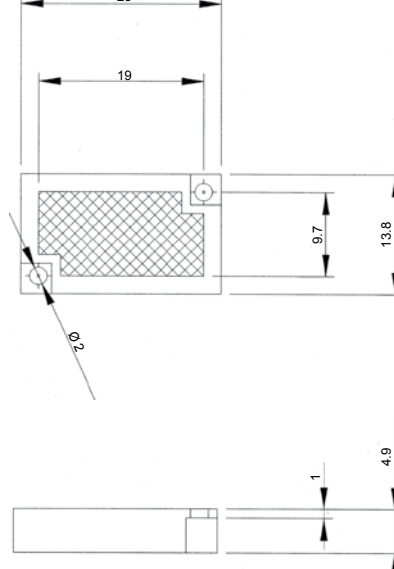
R6



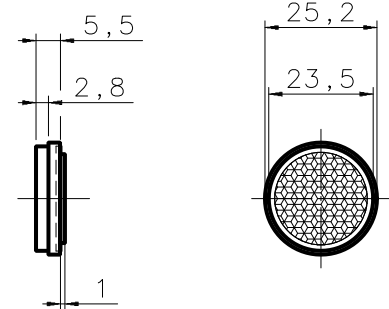
R7



R8

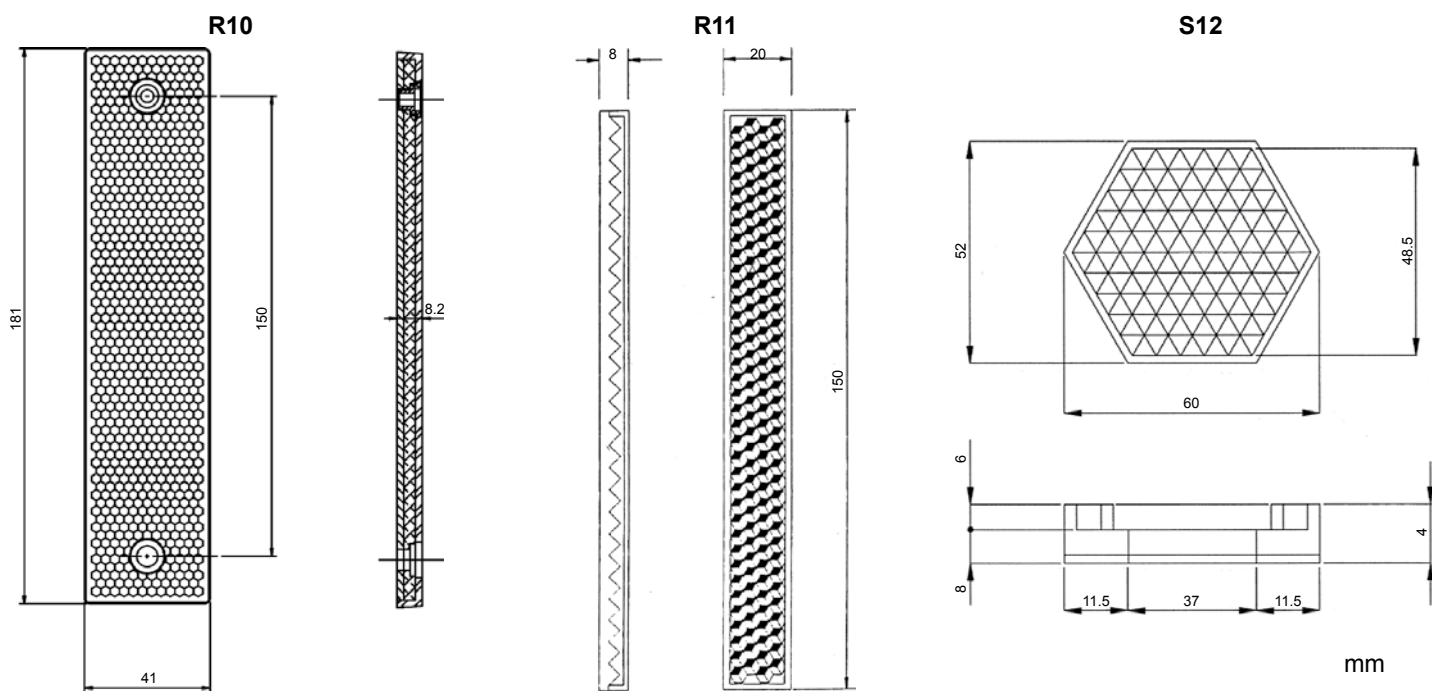


R9

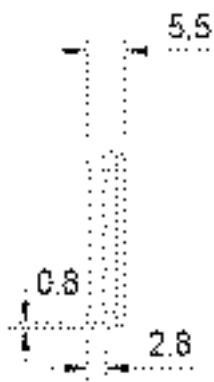


mm

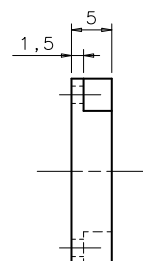
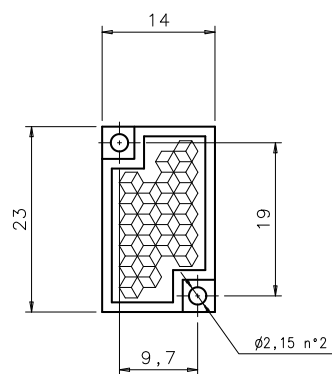
ACCESSORIES



R14

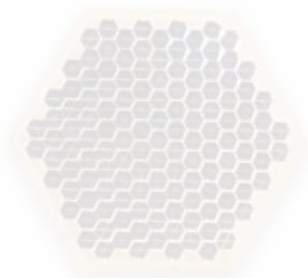
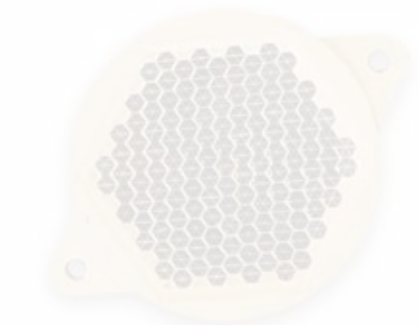
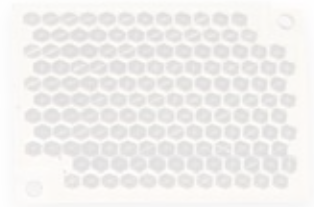


R16



R35





Lined writing area with 20 horizontal lines.



Graphing area consisting of a 15x15 grid.

2024-2025 *Journal of Business Ethics* 193(1) 1-10



HEADQUARTERS

Datalogic Automation Srl

Via Lavino, 265
40050 Monte San Pietro - Bologna - Italy
Tel: +39 051/6765611
info.automation.it@datalogic.com

BRANCHES AND SALES OFFICES

EUROPE BENELUX

Datalogic Automation Benelux

Newtonweg 3
4104 BK Culemborg - The Netherlands
Tel. +31 345/589489
info.automation.nl@datalogic.com

FRANCE

Datalogic Automation Srl

Succursale en France
Le Parc Technologique de Lyon
333 cours du 3ème Millénaire - Le Pôle
69800 Saint Priest
Tél. +33 (0)4/72476180
info.automation.fr@datalogic.com

GERMANY

Datalogic Automation Srl

Niederlassung Central Europe
Gottlieb-Stoll-Straße 1,
73271 Holzmaden
Tel. +49 7023 7453-100
info.automation.de@datalogic.com

ITALY

Datalogic Automation Italy

Via Lavino, 265
40050 Monte San Pietro - Bologna
Tel. +39 051/6765611
info.automation.it@datalogic.com

Via Taormina 1
20093 - Cologno Monzese (MI) Italy
Tel. +39 02 25151211
info.automation.it@datalogic.com

Via Le Gorrey, 10 11020, Donnas - Aosta
Tel. +39-0125-8128201
info.automation.it@datalogic.com

SPAIN

Datalogic Automation Iberia

Sucursal en España
C/ Frederic Mompou 4 esc A, 4ª puerta 3ª
08960 Sant Just Desvern - Barcelona
Tel. +34 (0)93/4772059

NORDIC

Datalogic Automation AB

Höjdrodergatan 21
21239 Malmö - Sweden
Tel. +46 (0)40/385000
info.automation.se@datalogic.com

UNITED KINGDOM

Datalogic Automation UK

Datalogic House
Dunstable Road, Redbourn - Hertfordshire
AL3 7PR
Tel. +44 (0) 1582 791750
info.automation.uk@datalogic.com

TURKEY

Datalogic ADC Turkey

Merkezi İtalya İstanbul Merkez Şubesi Süleyman
Seba Cad. No:48 BJK Plaza A. Blok Kat:4 D.44
34357 - İstanbul - Turkey
Tel. +90 212 396 1550
info.adc.tr@datalogic.com

NORTH AMERICA

Datalogic Automation Inc

511 School House Road
Telford, PA 18969-1196 - United States
Tel. +1-800-BAR-CODE or +1-215-723-0981
info.automation.us@datalogic.com

Datalogic Automation Inc

MACHINE VISION
5775 W Old Shakopee Rd
STE 160, Bloomington, MN 55437
United States
Tel. +1-952-996-9500
info.automation.us@datalogic.com

SOUTH AMERICA

Datalogic Brazil

Avenida Olivio Roncoletta, 465
Bairro Vila Hortolandia Jundiá (SP), Brazil
Tel. +55 11 29232600
info.automation.br@datalogic.com

APAC

Australia-New Zealand

Datalogic Automation Pty Ltd

Unit 130, 45 Gilby Road
Mt Waverley - Victoria, 3149 - Australia
Tel. +61 (0)3/95589299
info.automation.au@datalogic.com

CHINA

Datalogic Automation Asia

2nd Floor, 10 Building, Dayuan Industrial Zone,
No.1, Pingshan 1st Road,
Liuxuan Blvd. Xili, Nanshan District,
518054, Shenzhen, China
Tel: +86 (0)755-8629 6779
info.automation.cn@datalogic.com

Suite 1301, Hua Rong Plaza,
1289 South Pudong Road, Pudong District
Shanghai 200120
Tel: +86 (0)21-5836 6692
info.automation.cn@datalogic.com

Floor 20, Room 2019, Building 2,
16 West Nan San Huan Road
Fengtai District, Beijing
Tel: +86 (0)10-8757 6375
info.automation.cn@datalogic.com

1202, Excellence Build, 128 Yanji Road,
Shibe District, Qingdao, China
Tel: +86 (0)532 55787889

JAPAN

Idec Auto-Id Solutions Corporation

8-10, Shioe 5-chome, Amagasaki Hyogo,
Japan 661-0976
Tel. +81-6-7711-8880
www.idec.com

Rev. 05_06/2015



9C514100E

Product and Company names and logos referenced may be either trademarks or registered trademarks of their respective companies. We reserve the right to make modifications and improvements.



DATALOGIC
THE VISION IS YOURS

www.datalogic.com