DATASHEET - 13103R6517



Diffuse reflective sensor, Sn=225mm, 4L, 10-30VDC, NPN, PNP, M18, insulated material, line 2m



Part no. 13103R6517 Catalog No. 135599 Alternate Catalog 13103R6517

Delivery program

Basic function			Optical sensors
Product range			Comet Series
For connection of:			2 m connection cable
Design (outer dimensions)		mm	M18 x 1
Rated operational voltage	U _e		10 - 30 V DC
Rated switching distance	S_n	mm	225
Description			Beam: right-angled with background suppression (Perfect Prox)
Connection			4-wire
Function			Reflected-light beam
Type of light			Infra-red
Material			Insulated material
Switching type			NPN PNP
Switching principle			Adjustable bright/dark switching

Information relevant for export to North America

Product Standards UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking

UL File No. E117028

UL Category Control No. NRKH, NRKH7

CSA File No. 50513

CSA Class No. 3211-07

North America Certification UL listed, CSA certified

Max. Voltage Rating 30 V DC

Degree of Protection IEC: IP68, IP69K; UL/CSA Type: 1, 4, 6

Technical data

General
Standards

Ambient temperature			-40 - +70
Mechanical shock resistance		g	100 Shock duration 3 ms
Degree of Protection			IP67
Characteristics			
Rated switching distance			
Rated switching distance	S_n	mm	225
Range		mm	0.23
Rated operational voltage	U _e		10 - 30 V DC
Operating current in the switched state at 24 V DC	I _b	mA	30
Maximum load current	l _e	mA	< PNP: 100 NPN: 250 (120 > 55 °C)
Response time		ms	1
Switching state display		LED	Red
Protective functions			Short-circuit protective device Protection against polarity reversal
Connection			4-wire
Style			
Design (outer dimensions)		mm	M18 x 1

IEC/EN 60947-5-2

For connection of:	2 m connection cable
Material	Insulated material

Design verification as per IEC/EN 61439

Technical data for design verification		
Operating ambient temperature min.	°C	-40
Operating ambient temperature max.	°C	70

Technical data ETIM 7.0

Sensors (EG000026) /	Light coanner w	with background	macking	(FC002710)	
Sellsors (Edududzo) /	Liuni Scanner w	villi background	masking	(EUUUZ/19)	

Adjustment range 6 7 9 10	Electric engineering, automation, process control engineering / Binary sensor technology, safety-related sensor technology / Optoelectronic sensor / Light scanner w. background masking (ecl@ss10.0.1-27-27-09-04 [AKP253013])				
Transplation 6 Background fade-out Pre failure oratice No With them function No No Max. section of statuce mn 25 Max. suchord controlled mn 25 Reflector included mn 20 Availague control of m.A. 20 mA No No With charmaciatin interface a Dispute No No With charmaciatin interface A Stateface No No With communication interface E CAMpre No No With communication interface E Districte No No With communication interface P Stateface No No With communication interface RS-45 No No With co	Adjustment range		mm	0 - 0	
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With time function M.M. 255 Blade switching distance mm 255 Max coultying cristance mm 250 Max coultying cristance mm 250 Max coultying cristance mm 200 Reflector included mm 30 Analogue output 0M - 20 mA Mm Mm Analogue output 1 MA - 20 mA Mm Mm Analogue output - 10V - 110V Mm Mm Analogue output - 10V - 110V Mm Mm Analogue output - 10V - 110V Mm Mm With cheer amolipue output Mm Mm With cheer amolipue output Mm Mm With communication interface san longue Mm Mm With communication interface Exhiterface Mm Mm With communication interface EXHITERGUS Mm Mm With communication interface EXHITERGUS Mm Mm With communication interface EXHITERGUS Mm Mm With communication interface EX-30 Mm Mm With	Triangulation			Background fade-out	
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Analogue output 10 V + 10 V No With oranaelogue output Orber Setting procedure Orber With communication interface analogue No With communication interface AS-Interface No With communication interface Beviewhet No With communication interface BritERBUS No With communication interface RS-222 No With communication interface RS-222 No With communication interface RS-228 No With communication interface RS-228 No With communication interface RS-348 No With communication interface RS-428 No With communication interface RS-48 No With communication interface RS-49 No With commu	Analogue output 0 mA 20 mA			No	
With other analogue output Cherr Satting procedure Cherr With communication interface analogue No With communication interface AS-Interface No With communication interface AS-Interface No With communication interface Edwine No With communication interface Ethernet No With communication interface BTREAD No With communication interface RPS-EDRIBUS No With communication interface RS-EDRIBUS No With communication interface RS-EDRIBUS <td>Analogue output 4 mA 20 mA</td> <td></td> <td></td> <td>No</td>	Analogue output 4 mA 20 mA			No	
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With communication interface RS-232 No With communication interface RS-422 No With communication interface RS-485 No With communication interface SSD No With communication interface SSI No Number of semiconductor outputs with signalling function 2 Number of contact energized outputs with signalling function 0 Number of protected semiconductor outputs 0 Number of protected contact energized outputs 0 Type of interface for safety communication 0 Type of switching output 0 Type of switching output PNP/NPN Operation agent-safety class Safety class 2 Explosion safety category for gas Safety class 2 Explosion safety category for dust None Construction type housing None Width sensor Mm 0 Diameter sensor mm 0 Height of sensor <td< td=""><td>With communication interface INTERBUS</td><td></td><td></td><td>No</td></td<>	With communication interface INTERBUS			No	
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With communication interface SSD No With communication interface SSI No Number of semiconductor outputs with signalling function 2 Number of contact energized outputs with signalling function 0 Number of protected semiconductor outputs 0 Number of protected contact energized outputs 0 Type of interface for safety communication Other Type of electric connection Cable Type of switching output PNP/NPN Type of switch function Programmable/configurable Operation agent-safety class Safety class 2 Explosion safety category for gas None Explosion safety category for dust None Construction type housing Cylinder, screw-thread Width sensor mm 0 Diameter sensor mm 0 Height of sensor mm 0 Length of sensor mm 6	With communication interface RS-422			No	
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Number of contact energized outputs with signalling function Number of protected semiconductor outputs Number of protected semiconductor outputs Number of protected contact energized outputs Type of interface for safety communication Type of electric connection Type of switching output Type of switch function Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor mm O Diameter sensor mm O Length of sensor mm O Ength of sensor	With communication interface SSI			No	
Number of protected semiconductor outputs Number of protected contact energized outputs Type of interface for safety communication Type of electric connection Type of switching output Type of switch function Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor mm O Length of sensor mm O O Other Cable PNP/NPN Programmable/configurable Programmable/configurable None Cylinder, screw-thread Midth sensor mm O Length of sensor mm O O O O O O O O O O O O	Number of semiconductor outputs with signalling function			2	
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Type of interface for safety communication Type of electric connection Type of switching output Type of switching output Type of switch function Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor mm O Diameter sensor mm Diameter sensor mm Diameter sensor mm O Length of sensor mm O Cable Cable Cable PNP/NPN Programmable/configurable Safety class 2 None None Cylinder, screw-thread Midth sensor mm O Length of sensor mm O 66	Number of protected semiconductor outputs			0	
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Type of switching output Type of switch function Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor Diameter sensor Height of sensor Length of sensor PNP/NPN Programmable/configurable Safety class 2 None Cylinder, screw-thread Cylinder, screw-thread Midth sensor mm 0 Length of sensor mm 0 66	Type of interface for safety communication			Other	
Type of switch function Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor Diameter sensor Height of sensor Menore Programmable/configurable Safety class 2 None None Cylinder, screw-thread mm 0 18 Height of sensor mm 0 Length of sensor mm 66	Type of electric connection			Cable	
Operation agent-safety class Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor Diameter sensor Height of sensor Mm O Length of sensor Safety class 2 None None Cylinder, screw-thread Mm O Mm O Length of sensor Mm O Mm 66	Type of switching output			PNP/NPN	
Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor Diameter sensor Height of sensor Length of sensor None Cylinder, screw-thread O Cylinder, screw-thread Mm O Mm 0 Mm 66	Type of switch function			Programmable/configurable	
Explosion safety category for dust Construction type housing Width sensor Diameter sensor Height of sensor Length of sensor None Cylinder, screw-thread mm 0 0 0 66	Operation agent-safety class			Safety class 2	
Construction type housing Cylinder, screw-thread Width sensor mm 0 Diameter sensor mm 18 Height of sensor mm 0 Length of sensor mm 66	Explosion safety category for gas			None	
Width sensor mm 0 Diameter sensor mm 18 Height of sensor mm 0 Length of sensor mm 66	Explosion safety category for dust			None	
Diameter sensormm18Height of sensormm0Length of sensormm66	Construction type housing			Cylinder, screw-thread	
Height of sensor mm 0 Length of sensor mm 66	Width sensor		mm	0	
Length of sensor mm 66	Diameter sensor		mm	18	
	Height of sensor		mm	0	
Sensing mode Light-/dark switching	Length of sensor		mm	66	
	Sensing mode			Light-/dark switching	

Material of optical surface		Plastic
Material housing		Plastic
Max. output current at protected output	mA	0
Min. reflector distance	mm	0
Ambient temperature	°C	-40 - 70
Time of reaction	ms	1
Transmission range of the safety field	m	0
Switching frequency	Hz	500
Type of safety acc. IEC 61496-1		
"Switching voltage of OSSD at state ""high"""	V	30
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	10 - 30
Voltage type		DC
With monitoring function downstream switching devices		No
Laser protection class		None
Wavelength of the sensor	nm	0
Type of light		Infrared light
Light dot	mm²	0
AWG-number		22
Material of cable sheath		Polyvinyl chloride (PVC)
With restart blockage		No
Suitable for safety functions		No
Degree of protection (IP)		IP67

Approvals

UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
E117028
NRKH, NRKH7
50513
3211-07
UL listed, CSA certified
30 V DC
IEC: IP68, IP69K; UL/CSA Type: 1, 4, 6

Assets (links)

Declaration of CE Conformity

00002430

Instruction Leaflets

IL05305002Z2018_05

Additional product information (links)

IL05305002Z Comet Series Optical Sensors

IL05305002Z Comet Series Optical Sensors ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05305002Z2018_05.pdf