### DATASHEET - E75-PPA050P-M12



Proximity Sensor, HxWxD=50x18x50mm, Sn=10-50cm, 10-30VDC, PNP, M12



Part no. E75-PPA050P-M12 Catalog No. 166924

Alternate Catalog E75-PPA050P-M12

No

# **Delivery program**

Basic function			Optical sensors
Product range			E75 IntelliView Series
For connection of:			Plug-in connection M12 x 1
Design (outer dimensions)		mm	Rectangular (50 x 50 x 18)
Rated operational voltage	U <sub>e</sub>		10 - 30 V DC
Rated switching distance	$S_n$	mm	500
Description			Background suppression (Perfect Prox)
Connection			4-wire
Function			Reflected-light beam
Type of light			Infra-red
Switching type			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. E166051

UL Category Control No. NRKH, NRKH7

 $\ensuremath{\mathsf{CSA}}$  File No. UL report applies to both Canada and US

North America Certification UL listed, certified by UL for use in Canada

Max. Voltage Rating 30 V DC

Degree of Protection IEC: IP65; UL/CSA Type: -

# **Technical data**

### General

Standards			IEC/EN 60947-5-2
Ambient temperature			-25 - +55
Operation	9	°C	-25 - +55
Storage	9	°C	-25 - +70
Mechanical shock resistance		g	30 Shock duration 11 ms
Degree of Protection			IP65
Vibration			Amplitude 0.5 mm: 10 - 55 Hz. IEC/EN 60068-2-6

#### **Characteristics**

Rated switching distance  Sn mm 500  Rated operational voltage  Ue 10 - 30 V DC  Maximum load current  Le mA < 100  Switching Frequency Switching state display LED Red  Dereating voltage display LED Green  Protective functions Connection Style Design (outer dimensions)  mm Rectangular (50 x 50 x 18)				
Rated operational voltage  Waximum load current  Ie  Max Maximum l	Rated switching distance			
Maximum load current  Ie mA < 100 Switching Frequency Switching state display LED Red Departing voltage display LED Green Protective functions Connection Style Design (outer dimensions)  Ie mA < 100  Automatical Style  Max Suppose	Rated switching distance	$S_n$	mm	500
Switching Frequency Switching state display LED Red Degrating voltage display LED Green Protective functions Short-circuit protective device 4-wire Design (outer dimensions) mm Rectangular (50 x 50 x 18)	Rated operational voltage	U <sub>e</sub>		10 - 30 V DC
Switching state display  LED Red  Operating voltage display  LED Green  Protective functions  Short-circuit protective device  4-wire  Design (outer dimensions)  mm Rectangular (50 x 50 x 18)	Maximum load current	I <sub>e</sub>	mA	< 100
Deparating voltage display  LED Green  Short-circuit protective device  4-wire  Design (outer dimensions)  LED Green  Short-circuit protective device  4-wire	Switching Frequency		Hz	500
Protective functions  Short-circuit protective device 4-wire  Style  Design (outer dimensions)  mm Rectangular (50 x 50 x 18)	Switching state display		LED	Red
Connection 4-wire  Style Design (outer dimensions) mm Rectangular (50 x 50 x 18)	Operating voltage display		LED	Green
Design (outer dimensions) mm Rectangular (50 x 50 x 18)	Protective functions			Short-circuit protective device
Design (outer dimensions) mm Rectangular (50 x 50 x 18)	Connection			4-wire
	Style			
For connection of:  Plug-in connection M12 x 1	Design (outer dimensions)		mm	Rectangular (50 x 50 x 18)
	For connection of:			Plug-in connection M12 x 1

# Design verification as per IEC/EN 61439

Technical data for design verification		
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	55

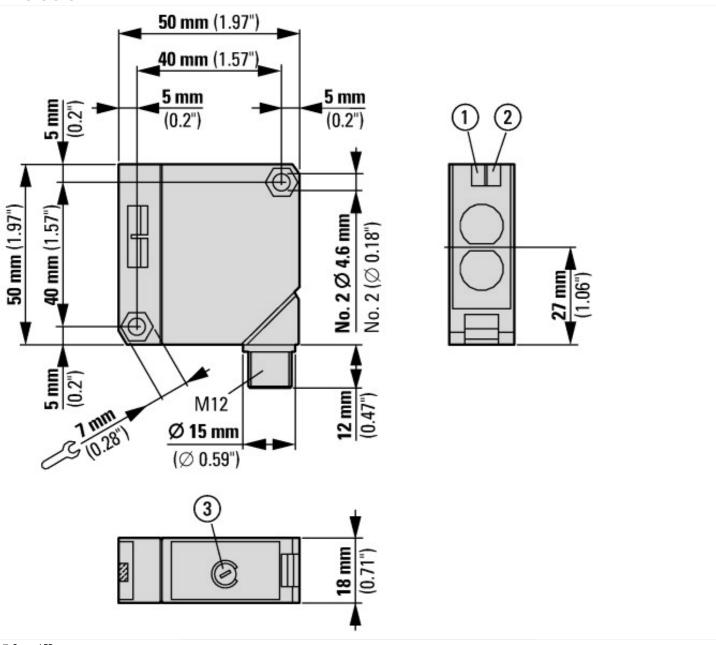
Seneral GROUNDE   1 per senore comparis ( CROUNDE)   1 per senore comparis ( CROUNDE)	Technical data ETIM 7.0		
Part	Sensors (EG000026) / Light scanner, energetic (EC001821)		
Pre failure notice         No		ology, safety-related	d sensor technology / Optoelectronic sensor / Light scanner, energetic
White solution         mile         90           Max. solphat contred         mile         500           Billection included         mile         100           Analogoe soughout On L. 20 VA         No           Visit of the manalogoe         No           Visit of communication interface AS-friend face         No           Visit ocommunication interface AS-friend face         No           Visit ocommunication interface DeviceNet         No           Visit ocommunication interface BAS-friend face         No           Visit ocommunication inter	Operating distance	mm	100 - 500
Name, color, current         nA         10A	Pre failure notice		No
Name output current         MA         100           Reflection belieded         1         No           Analogue output 0 mA         20 MA         No           With other analogue output         20 MA         No           With communication interface analogue         20 MA         No           With communication interface AS-literface         20 MA         No           With communication interface Staterface         20 MA         No           With communication interface PRURIBUS         20 MA         No           With communication interface Staterface         20 MA         No           With communication interface Staterface         20 MA         No           With com	With time function		No
Reflector included         Na	Max. switching distance	mm	500
Analogue output 0 M 20 M A         No         No           Analogue output 0 M 20 M A         No         No           Analogue output 1 M 20 M A         No         No           Analogue output 1 M V 10 V         No         No           With order analogue output         No         No           With communication interface analogue         Other         No           With communication interface Analogue         No         No           With communication interface DeviceMed         No         No           With communication interface Bevere         No         No           With communication interface Bevere         No         No           With communication interface RS-222         No         No           With communication interface RS-485         No         No           With communication interface RS-486         No         No           With communication interface RS-486         No         No           With communication interface RS-486         No         No           With communicatio	Max. output current	mA	100
Analogue output of Ma 20 mA         1 Mo           Analogue output of Ma 20 mA         1 Mo           With other analogue output         1 Mo           With other analogue output         1 Mo           With other analogue output         1 Mo           With communication interface analogue         1 Mo           With communication interface AS-Interface         1 Mo           With communication interface PROFIGE	Reflector included		No
Analogue output 4 Am 20 mA         No           Analogue output 4 NV 410 V         No           Wich chair analogue output 1 NV 410 V         No           Wich chair analogue output 1 NV 410 V         No           Wich communication interface Asalogue         No           With communication interface ASAlogue         No           With communication interface DeviceNet         No           With communication interface ERADigue         No           With communication interface ERADigue         No           With communication interface READIgue         No           With communication interface READIgue <td< td=""><td>Analogue output 0 V 10 V</td><td></td><td>No</td></td<>	Analogue output 0 V 10 V		No
Analogue output -10 V +10 V         No	Analogue output 0 mA 20 mA		No
With other analogue output         Hother           Setting procedure         Other           With communication interface Ashterface         Hother           With communication interface Ashterface         Hother           With communication interface Develoked         Hother           With communication interface Develoked         Hother           With communication interface Develoked         Hother           With communication interface Robertell         Hother           With communication interface Robertell         Hother           With communication interface Robertell         Hother           With communication interface RS-422         No           With communication interface RS-438         Hother           With communication interface RS-448         Hother           With communication interface RS-448         Hother           With communic	Analogue output 4 mA 20 mA		No
Setting procedure         Image:	Analogue output -10 V +10 V		No
With communication interface analogue         I	With other analogue output		No
With communication interface CANDpen         In One On Minimization interface Devicables         In One On Minimization interface Devicables           With communication interface Devicables         In One On Minimization interface Devicables         In One On Minimization interface Devicables           With communication interface PROFIBUS         In One On Minimization interface PROFIBUS         In One On Minimization interface PROFIBUS           With communication interface PROFIBUS         In One On Minimization interface PROFIBUS         In One On Minimization Interface PROFIBUS           With communication interface PR-822         In One On Minimization Interface PR-822         In One On Minimization Interface PR-822           With communication interface PR-845         In One On Minimization Interface PR-842         In One On Minimization Interface PR-842           With communication interface PR-845         In One On Minimization Interface PR-842         In One On Minimization Interface PR-842           With communication interface PR-845         In One On Minimization Interface PR-842         In One On Minimization Interface PR-842           With communication interface PR-845         In One On Minimization Interface PR-842         In One One On Minimization Interface PR-842           With communication interface PR-845         In One On Minimization Interface PR-842         In One One On Minimization Interface PR-842           With communication interface PR-845         In One On Minimization Interface PR-842         In One One O	Setting procedure		Other
With communication interface CANDpen         No           With communication interface Enternet         No           With communication interface Enternet         No           With communication interface Enternet         No           With communication interface ENTERBUS         No           With communication interface RS-232         No           With communication interface RS-232         No           With communication interface RS-425         No           With communication interface RS-485         No	With communication interface analogue		No
With communication interface DeviceNet         No           With communication interface Ethermet         No           With communication interface ENTERBUS         No           With communication interface RSPGIBUS         No           With communication interface RS-322         No           With communication interface RS-422         No           With communication interface RS-428         No	With communication interface AS-Interface		No
With communication interface BHTERBUS         No           With communication interface RPGPIBUS         No           With communication interface RPGPIBUS         No           With communication interface RPGPIBUS         No           With communication interface RPGPBUS         No           Wipper I with represented computs with signaling function         No           Type of letterface Proxibility communication<	With communication interface CANOpen		No
With communication interface INTERBUS         Incommunication interface RPOFIBUS         No           With communication interface RS-322         No         No           With communication interface RS-432         No         No           With communication interface RS-445         No         No	With communication interface DeviceNet		No
With communication interface RS-232         No           With communication interface RS-232         No           With communication interface RS-422         No           With communication interface RS-428         No           With communication interface RS-438         No           Number of protected contact energized outputs with signalling function         1         0           Number of protected seniconductor outputs with signalling function         No         0           Vipe of switching output         Connector M12         No           Type of switch function         No         No           Sept of switch function         No         No           Constant Protected output with signalling function         No         No           Replace y	With communication interface Ethernet		No
With communication interface RS-222         No           With communication interface RS-425         No           With communication interface RS-435         No           With communication interface SSD         No           With communication interface SSD         No           With communication interface SSI         1           Number of seniconductor outputs with signalling function         2           Number of protected semiconductor outputs         3           Number of protected semiconductor outputs         4           Number of protected contact energized outputs         5           Number of protected contact energized outputs         6           Type of literface for safety communication         4           Type of service function         4           Type of service function         4           Type of service function         4           Poperation agent-safety class         7           Explosion safety category for gas         4           Explosion safety category for dust         5           Construction type housing         7           Width sensor         8           Diameter sensor         8           Height of sensor         8           Sensing mode         4           Material fl	With communication interface INTERBUS		No
With communication interface RS-422         No           With communication interface RS-485         No           With communication interface SSI         No           With communication interface SSI         No           With communication interface SSI         No           Number of semiconductor outputs with signalling function         1           Number of protected semiconductor outputs         0           Number of protected contact energized outputs         1           Type of interface for safety communication         1           Type of electric connection         1           Type of electric connection         1           Type of switching output         PNP           Type of switching output         Porgrammable/configurable           Type of switching output         PNP           Explosion safety category for gas         No           Explosion safety category for dust         No           Construction type housing         Uboid           Width sensor         Mn           Diameter sensor         Mm           Height of sensor         Mm           Langth of sensor         Mm           Sonsing and         L           Height of sensor         L           Haterial loptical surface	With communication interface PROFIBUS		No
With communication interface RS-485         No           With communication interface SSD         No           With communication interface SSI         No           Number of semiconductor outputs with signalling function         Commence of semiconductor outputs with signalling function         Commence of semiconductor outputs with signalling function         Commence of semiconductor outputs         Poperamenable/configurable         Commence of semiconductor outputs         None           Construction agent-safety clase or professor         Semicon outputs         None         Countries outputs         None           Construction by en busing         Image: semiconductor outputs <td>With communication interface RS-232</td> <td></td> <td>No</td>	With communication interface RS-232		No
With communication interface SSI         No           Number of semiconductor outputs with signalling function         1           Number of contact energized outputs with signalling function         0           Number of protected semiconductor outputs         0           Type of interface for safety communication         0           Type of electric connection         0           Type of switching output         PNP           Type of switch function         Porgrammable/configurable           Operation agent-safety class         None           Explosion safety category for gas         None           Explosion safety category for dust         Cuboid           Construction type housing         Image: March of the properties of	With communication interface RS-422		No
With communication interface SSI       No         Number of semiconductor outputs with signalling function       1         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       Connector M12         Type of selectric connection       PNP       POP         Type of switching output       Programmable/configurable       Programmable/configurable         Operation agent-safety class       Programmable/configurable       Programmable/configurable         Explosion safety category for gas       None       Programmable/configurable         Explosion safety category for dust       None       Programmable/configurable         Width sensor       mm       8       8         Use of sensor       mm       9       9         Height of sensor       mm       50       9         Length of sensor       mm       50       9         Length of sensor       plant/dark switching       9       9         Length of sensor       plant/dark switching       9       9         Material housing       Plastic       9       9       9 </td <td>With communication interface RS-485</td> <td></td> <td>No</td>	With communication interface RS-485		No
Number of semiconductor outputs with signalling function Number of contact energized outputs with signalling function Number of protected semiconductor outputs Number of protected contact energized outputs Number of protected semiconductor ou	With communication interface SSD		No
Number of contact energized outputs with signalling function 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  Type housing  Type of switching output  Type of switching output  Type of switching output  Type of switch function  Type of switching output  Type of switch function  Type of switching  Type of switch function  Type of switching  Type of switch function  Type of switching  Type of switch function  Type of switch function  Type of s	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 electric connection Type of switching output Type of switch function	Number of semiconductor outputs with signalling function		1
Number of protected contact energized outputs Type of interface for safety communication Type of electric connection 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 Obstruction type housing Width sensor Height of sensor Length of sensor Length of sensor Sensing mode Material for optical surface Material housing Max. output current at protected output Min. reflector distance Time of reaction Type of sensor Type o	Number of contact energized outputs with signalling function		0
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 Midth sensor Beight of sensor	Number of protected semiconductor outputs		0
Type of lectric 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 Midth sensor Length of sensor Length of sensor Length of sensor Sensing mode Material housing Material housing Material housing Material housing Material housing Min. of leaction Min. of leaction Min. of leaction Min. of leaction Min. reflector distance Min. reflector distance Time of reaction Min. reflector distance Time of reaction Min. of leaction M	Number of protected contact energized outputs		0
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  Manuelle Sensor  Length of sensor  Length of sensor  Length of sensor  Length of sensor  Material of optical surface  Material housing  Material housing  Material housing  Material housing  Material housing  Material of optical surface  Material housing  Material for feaction  Material of eaction  Ma	Type of interface for safety communication		
Type of switch function  Operation agent-safety class  Explosion safety category for gas  Explosion safety category for dust  Construction type housing  Width sensor  Indicates a sensor  Height of sensor  Length of sensor  Length of sensor  Auterial fo optical surface  Material housing  Material housing  Material housing  Material housing  Mat. output current at protected output  Min. reflector distance  Time of reaction  Type of switch function  None  None  Autorial Cuboid  None  Cuboid  None  18  18  19  19  10  10  10  10  10  10  10  10	Type of electric connection		Connector M12
Operation agent-safety class       Keylosion safety category for gas       None         Explosion safety category for dust       None         Construction type housing       Cuboid         Width sensor       mm       18         Diameter sensor       mm       0         Height of sensor       mm       50         Length of sensor       mm       50         Sensing mode       Light-/dark switching         Material of optical surface       Plastic         Max output current at protected output       mA       0         Min. reflector distance       mm       0         Time of reaction       ms       1         Time of reaction       ms       1	Type of switching output		PNP
Explosion safety category for gas Explosion safety category for dust Construction type housing Width sensor mm 18 Diameter sensor Height of sensor Length of sensor Sensing mode Material of optical surface Material housing Material housing Max. output current at protected output Min. reflector distance Time of reaction Material housing Mine Sonor Mone None None None None None None None N	Type of switch function		Programmable/configurable
Explosion safety category for dust  Construction type housing  Width sensor  mm 18  Diameter sensor  mm 0  Height of sensor  Length of sensor  Sensing mode  Material of optical surface  Material housing  Max. output current at protected output  Min. reflector distance  Time of reaction  Mone  None  Cuboid  Ala  I ala  I ala  O  Cuboid  Plastic  Plastic  Plastic  Plastic  Plastic  Max. output current at protected output  Min. reflector distance  mm 0  Time of reaction  ms 1	Operation agent-safety class		
Construction type housing Width sensor mm 18  Diameter sensor mm 0  Height of sensor mm 50  Length of sensor mm 50  Sensing mode Material of optical surface Material housing Max. output current at protected output Min. reflector distance Time of reaction  Cuboid Cuboid Cuboid  Cuboid Cuboid  Cuboid  Cuboid  Cuboid  Ala  Raterial 18  Raterial 18  Plastic Plastic Plastic  Max. output current at protected output mA 0  mm 0  Time of reaction ms 1	Explosion safety category for gas		None
Width sensor mm 18 Diameter sensor mm 0 Height of sensor mm 50 Length of sensor mm 50 Sensing mode mterial of optical surface Plastic Material housing Plastic Max. output current at protected output mm 0 Min. reflector distance mm 0 Time of reaction ms 18	Explosion safety category for dust		None
Diameter sensor mm 0 Height of sensor mm 50 Length of sensor mm 50 Sensing mode Light-/dark switching Material of optical surface Plastic Material housing Plastic Max. output current at protected output mm 0 Min. reflector distance mm 0 Time of reaction ms 1	Construction type housing		Cuboid
Height of sensor mm 50  Length of sensor mm 50  Sensing mode Light-/dark switching  Material of optical surface Plastic  Material housing Plastic  Max. output current at protected output mm 0  Min. reflector distance mm 0  Time of reaction ms 1	Width sensor	mm	18
Length of sensor mm 50  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  Time of reaction ms 1	Diameter sensor	mm	0
Sensing mode  Material of optical surface  Material housing  Max. output current at protected output  Min. reflector distance  mm  0  Time of reaction  Light-/dark switching  Plastic  Plastic  Plastic  Plastic  plastic  1  1  1  1  1  1  1  1  1  1  1  1  1	Height of sensor	mm	50
Material of optical surface  Material housing  Max. output current at protected output  Min. reflector distance  mm  0  Time of reaction  ms  1	Length of sensor	mm	50
Material housing Plastic  Max. output current at protected output mA 0  Min. reflector distance mm 0  Time of reaction ms 1	Sensing mode		Light-/dark switching
Max. output current at protected output  mA 0  Min. reflector distance mm 0  Time of reaction ms 1	Material of optical surface		Plastic
Min. reflector distance mm 0 Time of reaction ms 1	Material housing		Plastic
Time of reaction ms 1	Max. output current at protected output	mA	0
	Min. reflector distance	mm	0
Transmission range of the safety field m 0	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
Voltage type		DC
With monitoring function downstream switching devices		No
Laser protection class		
Wavelength of the sensor	nm	880
Type of light		Infrared light
Light dot	mm²	0
AWG-number		0
Material of cable sheath		
With restart blockage		No
Suitable for safety functions		No
Degree of protection (IP)		IP65
Degree of protection (NEMA)		6
Ambient temperature	°C	25 - 55
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

# Approvals

Product Standards	UL 508; CSA-C22.2 No. 14; IEC60947-5-2; CE marking
UL File No.	E166051
UL Category Control No.	NRKH, NRKH7
CSA File No.	UL report applies to both Canada and US
North America Certification	UL listed, certified by UL for use in Canada
Max. Voltage Rating	30 V DC
Degree of Protection	IEC: IP65; UL/CSA Type: -

# **Dimensions**



- ① Output LED
- ② Stability LED
- 3 Adjustment Pot

# **Additional product information (links)**

IL05305007Z IntelliView Optical Sensors with adjustable Background rejection

IL05305007Z IntelliView Optical Sensors with adjustable Background rejection

https://es-assets.eaton.com/DOCUMENTATION/AWA\_INSTRUCTIONS/IL05305007Z2018\_05.pdf