

Photoelectric Proximity Switch PSS-10, PSN/PSD-5/10-GD

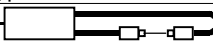
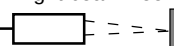
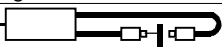
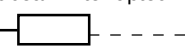
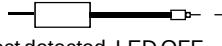
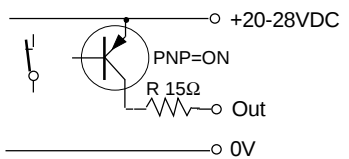
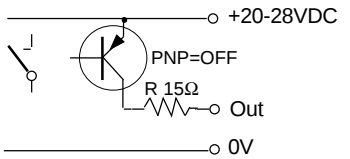
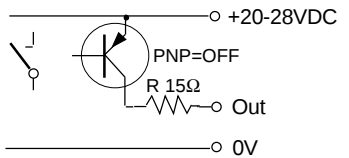
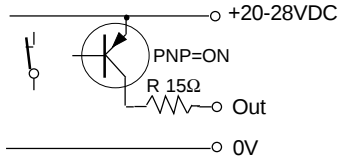
PSN-5/10-GD
Housing M18
PSD-5/10-GD

II 3G Ex nA IIB T4
II 3D Ex tD A22 IP67 T135°C

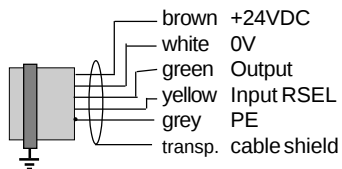
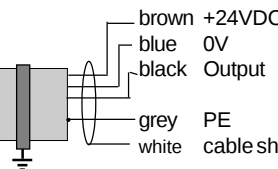
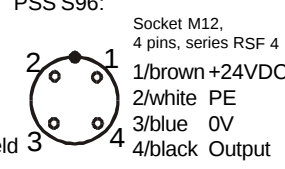
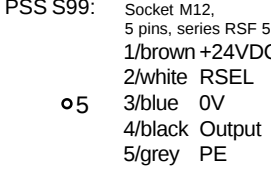
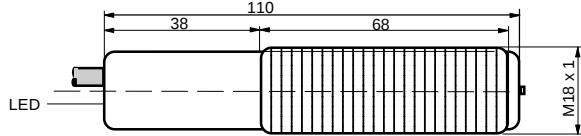
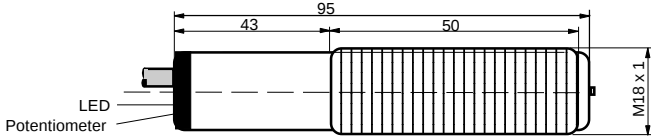
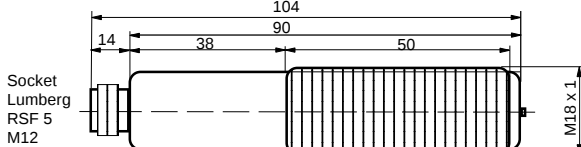
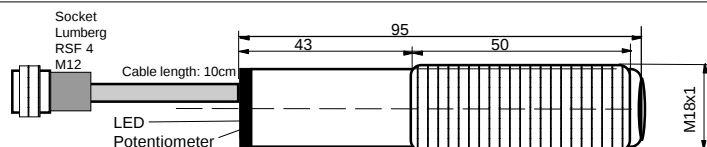
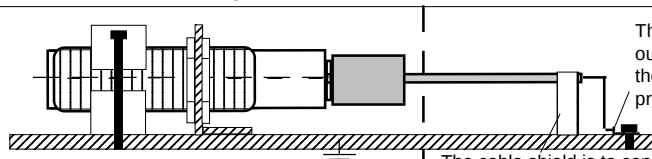
- Types PSN/PSD-5/10: Range selectable 0.5m / 1m
- Types PSS-10: With potentiometer
- PSD: Applicable for Ex Zones 1, 2, 20/21, 22
- PSN: Applicable for Ex Zones 2, 22
- Applicable with different types of fibre optics
- Output function selectable by the polarity of the supply voltage


0158

II 2G Ex d IIC T6
II 1/2D Ex tD A20/21 IP67 T90°C

Technical data	Type	PSS-10	PSN-5/10-GD	PSD-5/10-GD
Type of Ex protection, Gas, at 94/9/EC		None	II 3G Ex nA IIB T4	II 2G Ex d IIC T6
Type of Ex protection, Dust, at 94/9/EC		None	II 3D Ex tD A22 IP67 T135°C	II 1/2D Ex tD A20/21 IP67 T90°C
Applicable in Ex Zones		--	Zone 2, 22	Zones 1, 2, 20/21, 22
Range, on white paper, A4, 80g		1m, adjustable	0.5m/1m	0.5m/1m
Light source		Infrared 880nm		
Optical beam angle (Emitter)		appr.10°		
Response time		1ms / 500Hz		
Supply voltage		24 VDC +-10%		
Current consumption		60mA		
Maximum power dissipation		1.58W		
Output		PNP, 100mA, short circuit protected		
Potentiometer		yes	no	no
Input, Range Select RSEL		no	yes, PNP compatible	yes, PNP compatible
Housing		M18, brass Ms 58, nickel plated		
Enclosure rating, at EN 60529		IP 54	IP 67	
Operating temperature range TA		-10°C < TA < +60°C	-10°C < TA < +50°C	
Connection cable, shielded, length: 3m		4 x AWG24(0.2mm²)	5 x 0.25mm²	
Connection: PSS S96		Cable: 0.1m with socket M12, Binder 713/763	--	
			--	
Connection: PSS S99		Socket: M12, Lumberg series RSF, 5 terminals	--	
			--	
Range: PSS S99		0.5m/1m, with range selection RSEL without potentiometer and LED		
Options		- Integrated delay functions on request. - Cable length up to 100m on request - PSS S96 : With cable 10cm, and socket Binder 713/763, 4 terminals, with LED and potentiometer - PSS S99 : With socket M12, Lumberg RSF5, 5 terminals without LED and potentiometer and with range selection function - PSS/PSN/PSD S116 : Cable: UNITRONIC-FD CP, PUR coated, oil resistant, high flexible cable for trailing, length on request		
Accessories included, all types		2 x nuts M18		
Accessories not included		- Single ended cordset M12 for S96: Lumberg RKT5 4-298/xx (straight type), RKTW/RKWTH 4-298/xx (right angle type) or Binder series 713/763 - Single ended cordset, straight type: RKT5 5-298/xx or right angle type: RKTW/RKWTH 5-298/xx , Lumberg M12/5P		
Function and LED indication (No LED indication for the types S99)		LB with fibre  Light beam free Proximity switch  with fibre optic  Object detected, LED ON	LB with fibre  Light beam interrupted Proximity switch  with fibre optic  No object detected, LED OFF	
Wiring:				
PSN/D PSS S96 S99				
brown brown 1/brown 1/brown		+24VDC		
white blue 2/blue 3/blue		0V		
green black 3/black 4/black		Output		
yellow -- -- 2/white		RSEL		
grey grey 2/white 5/grey		PE		
blank white		Cable shield		
Wiring, for inverted output function:				
PSN/D PSS S96 S99				
brown brown 1/brown 1/brown		0V		
white blue 2/blue 3/blue		+24VDC		
green black 3/black 4/black		Output		
yellow -- -- 2/white		RSEL		
grey grey 2/white 5/grey		PE		
blank white		Cable shield		
Input RSEL: Range selection: Not or at 0V connected = Range 1.0m / Connected at 24VDC = Range 0.5m				

Input RSEL: Range selection: Not or at 0V connected = Range 1.0m / Connected at 24VDC = Range 0.5m

Wiring layout PSD/PSN, cable: 	Wiring layout PSS, cable: 	Wiring layout PSS S96: 	Wiring layout PSS S99: 																
Dimensions PSD/PSN-5/10-GD:																			
Dimensions PSS-10																			
Dimensions PSS-10 S99																			
Dimensions PSS-10 S96																			
ATEX related designations: <table><tr><td>CE 0158</td><td>Manufacturer with address</td><td> Date of construction: Numeral 4 to 7 of the serial number</td><td></td></tr><tr><td>Type PSD-...-GD:</td><td>II 2G Ex d IIC T6, II 1/2D Ex tD A20/21 IP67 T90°C</td><td>EC certification number: : DMT 99 ATEX E 056</td><td></td></tr><tr><td>Type PSN-...-GD:</td><td>II 3G Ex nA IIB T4, II 1/2D Ex tD A22 IP67 T135°C</td><td>Declaration by manufacturer at 94/9/EC:</td><td></td></tr><tr><td>TA: -10°C < TA < +50°C</td><td>Electrical data according to the chart</td><td>Tech File No: AN-MAT-08-EX-E056</td><td></td></tr></table>				CE 0158	Manufacturer with address	 Date of construction: Numeral 4 to 7 of the serial number		Type PSD-...-GD:	II 2G Ex d IIC T6, II 1/2D Ex tD A20/21 IP67 T90°C	EC certification number: : DMT 99 ATEX E 056		Type PSN-...-GD:	II 3G Ex nA IIB T4, II 1/2D Ex tD A22 IP67 T135°C	Declaration by manufacturer at 94/9/EC:		TA: -10°C < TA < +50°C	Electrical data according to the chart	Tech File No: AN-MAT-08-EX-E056	
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Equipotential bonding grounding prescription: PSN and PSD:	 The end of the cable must be connected outside the hazardous location. Check the reliable, noncorrosive holding of the protection earth connection. The cable shield is to connect to PE in a wide area.																		
Operating Manual / EC - Declaration of Conformity: <table><tr><td> Mounting prescriptions It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The local equipotential bonding have to be done. The protective earth (PE) is solid connected with the housing. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. To connect cables inside hazardous locations only use certificated Ex e housings. All cable terminals must be connected outside hazardous locations. Other then original manufacturer, additional optical components are not allowed in hazardous locations. <i>Type PSD-5/10-GD:</i> Only applicable in Ex Zones 1, 2 and 20/21, 22. For the zones 20/21 only the front part (optical lens) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21. <i>Type PSN-5/10-GD:</i> Only applicable in Ex zones 2 and 22. The maximum rated input voltage $U_m = 30VDC$ must not be exceeded. General mounting prescriptions Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables. Function The sensor works basically as proximity switch on diffuse optical reflections. By changing the polarity of the supply voltage, the output function will be inverted. If the sensor detects reflected light, the LED shows yellow and the output switches on 0VDC or +24VDC dependent of the polarity of the supply voltage. If no reflected light will be recognized, the LED distinguished and the output switches on +24VDC or 0V dependent of the polarity of the supply voltage. The load must be connected 0V. Optical range The nominal range is defined on white paper A4, 80g. The range will be influenced by the color, kind of surface and shape of the object. The types PSS (without S99) are provided with a potentiometer for fine adjustment. PSN/PSD-5/10-GD: Input RSEL, Selection of the maximum range for optimizing the application: The input RSEL is PNP compatible. RSEL= 0V or not connected =Range 1.0m RSEL= High (24VDC) =Range 0.5m Fibre optics For efficiently detection solutions look for our multiple program of fibre optics, also for high temperature areas. Fibre optics for Ex zones </td><td> must be ATEX certificated and only driven by ATEX certificated sensors with limited optical output power. Maintenance No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-aggressive cleaning liquid. Equipment must only be repaired by the manufacturer. Safety Informations The sensor PSS/PSN/PSD-5/10-(GD) must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL(BGR104), BetrSichV(ATEX137), Single directive 1999/92/EG Standards met: - EN 60079-0:2004, EN 60079-1:2004, EN 60079-15:2005, EN 60241-0:2004, EN 61241-1:2004; EN 60079-28:2007 - EN 60825-1:2006, EN 60825-2:2004 - EN 60529; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4; - Ex protection: 94/9/EC (ATEX 100a) - Machine directive: 98/37EC - Low voltage directive: 73/23/EWG, 93/68/EWG - EMC: 89/336/EWG - RoHS directive: 2002/95/EC - Tech.-File: AN-MAT-08-EX-E054 General Notes We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. 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Photoelectric High Speed Proximity Switch PSS-2-10KHZ, PSN/PSD-2-10KHZ-GD

PSN-2-10KHZ-GD

Housing M18

PSD-2-10KHZ-GD



II 3G Ex nA IIB T4

II 3D Ex tD A22 IP67 T135°C

- Types PSD-1/2: Range selectable 0.1m / 0.2m
- Types PSS-2: With potentiometer
- Applicable for Ex Zones 1, 2, 20/21, 22
- Short response time 45us
- Applicable with different types of fibre optics
- Output function selectable by the polarity of the supply voltage

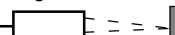
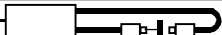
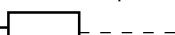
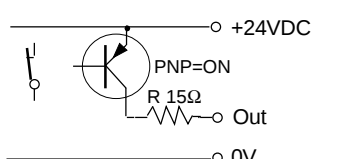
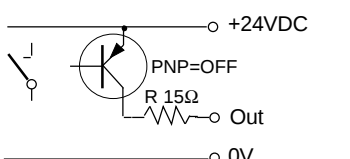
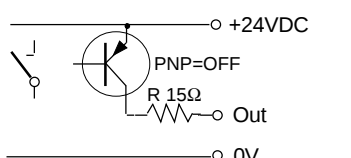
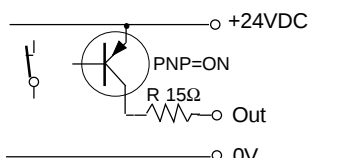


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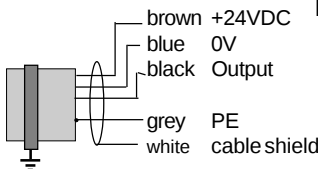
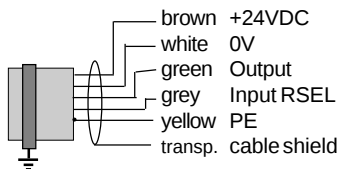
II 2G Ex d IIC T6

II 1/2D Ex tD A20/21 IP67 T90°C

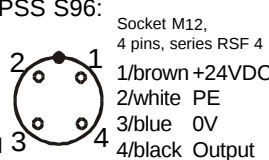
Technical data	Type	PSS-2-10KHZ	PSN-2-10KHZ-GD	PSD-2-10KHZ-GD
Type of Ex protection, Gas, at 94/9/EC		None	II 3G Ex nA IIB T4	II 2G Ex d IIC T6
Type of Ex protection, Dust, at 94/9/EC		None	II 3D Ex tD A22 IP67 T135°C	II 1/2D Ex tD A20/21 IP67 T90°C
Applicable in Ex Zones		--	Zone 2, 22	Zones 1, 2, 20/21, 22
Range, on white paper, A4, 80g		0.2m, adjustable	0.1m/0.2m, switchable	0.1m/0.2m, switchable
Light source		Infrared 880nm		
Optical beam angle (Emitter)		appr.10°		
Response time		45us / 11.1kHz		
Supply voltage		24 VDC +- 10%		
Current consumption		80mA		
Maximum power dissipation		2.1W		
Output		PNP, 100mA, short circuit protected		
Potentiometer		yes	no	no
Input, Range Select RSEL		no	yes, PNP compatible	yes, PNP compatible
Housing		M18, brass Ms 58, nickel plated		
Enclosure rating, at EN 60529		IP 54	IP 67	
Operating temperature range TA		-10°C < TA < +50°C	-10°C < TA < +40°C	
Connection cable, shielded, length: 3m		4 x AWG24(0.2mm²)	5 x 0.25mm²	
Connection: PSS S96		Cable: 0.1m with socket M12, Binder 713/763	--	
Connection: PSS S99		Socket: M12, Lumberg series RSF, 5 terminals	--	
Range: PSS S99		Without potentiometer and LED, with range selection input RSEL	--	
Options		- Integrated delay functions on request - Cable length up to 100m on request - PSS S96: With cable 10cm, and socket Binder 713/763, 4 terminals, with LED and potentiometer - PSS S99: With socket M12, Lumberg RSF5, 5 terminals without LED and potentiometer and with range selection function		
Accessories included, all types		2 x nuts M18		
Accessories not included		- Single ended cordset M12 for S96: Lumberg RKTS 4-298/xx (straight type), RKTW/RKWTH 4-298/xx (right angle type) or Binder series 713/763 - Single ended cordset, straight type: RKTS 5-298/xx or right angle type: RKTW/RKWTH 5-298/xx , Lumberg M12/5P		
Function and LED indication (No LED indication for the types S99)		LB with fibre  Light beam free Proximity switch  with fibre optic  Object detected, LED ON	LB with fibre  Light beam interrupted Proximity switch  with fibre optic  No object detected, LED OFF	
Wiring:				
PSN/D PSS S96 S99 brown brown 1/brown 1/brown +24VDC white blue 2/blue 2/blue 0V green black 3/black 3/black Output grey -- -- 2/white RSEL yellow grey 2/white 5/grey PE blank white Cable shield				
Wiring, for inverted output function:				
PSN/D PSS S96 S99 brown brown 1/brown 1/brown 0V white blue 2/blue 2/blue +24VDC green black 3/black 3/black Output grey -- -- 2/white RSEL yellow grey 2/white 5/grey PE blank white Cable shield				
Input RSEL: Range selection: Not or at 0V connected = Range 0.2m / Connected at 24VDC = Range 0.1m				

PSS-2-10KHZ_e1.2009-01-23/HB

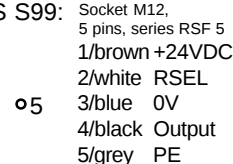
Wiring layout PSD/PSN, cable: Wiring layout PSS, cable:



Wiring layout PSS S96:

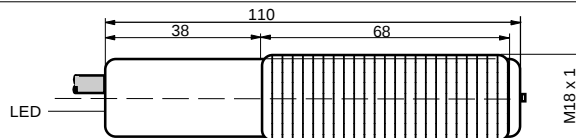


Wiring layout PSS S99:



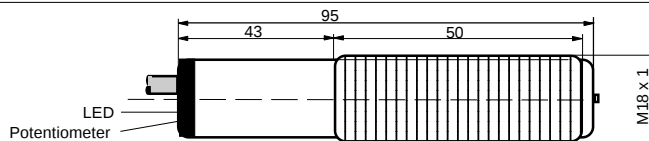
Dimensions

PSD/PSN-2-10KHZ-GD:



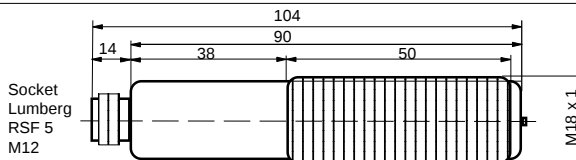
Dimensions

PSS-2-10KHZ



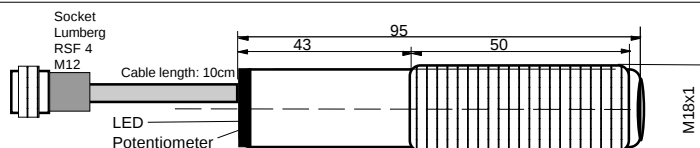
Dimensions

PSS-2-10KHZ S99



Dimensions

PSS-2-10KHZ S96



ATEX related designations:

CE 0158

Type PSD-...-GD:

Type PSN-...-GD:

TA: -10°C < TA < +40°C

Manufacturer with address

II 2G Ex d IIC T6, II 1/2D Ex tD A20/21 IP67 T90°C

II 3G Ex nA IIB T4, II 1/2D Ex tD A22 IP67 T135°C

Electrical data according to the chart



Date of construction: Numeral 4 to 7 of the serial number

EC certification number: : DMT 99 ATEX E 056

Declaration by manufacturer at 94/9/EC:

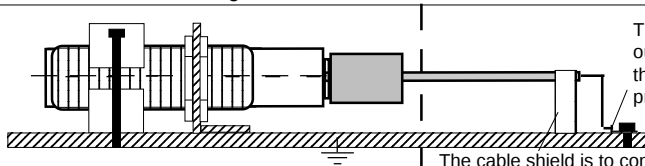
Tech File No: AN-MAT-08-EX-E056

Equipotential bonding

grounding

prescription:

PSN and PSD:



The end of the cable must be connected outside the hazardous location. Check the reliable, noncorrosive holding of the protection earth connection.

Operating Manual / EC - Declaration of Conformity:

Mounting prescriptions

INSTALLATION INSTRUCTIONS FOR HAZARDOUS LOCATIONS:

"WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES."

"WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS."

It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The local equipotential bonding have to be done. The protective earth (PE) is solid connected with the housing. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. To connect cables inside hazardous locations only use certificated Ex e housings. All cable terminals must be connected outside hazardous locations. Other than original manufacturer, additional optical components are not allowed in hazardous locations. The maximum rated input voltage $U_m = 26.4VDC$ must not be exceeded. Type PSD-2-10KHZ-GD: Applicable in Ex Zones 1, 2 and 20/21, 22. For the zones 20/21 only the front part (optical lens) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21. Type PSN-2-10KHZ-GD: Only applicable in Ex zones 2 and 22.

General mounting prescriptions

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function

The sensor will be influenced by other alternating light sources. Protect the sensing area an the sensor against alternating light sources. The sensor works basically as proximity switch on diffuse optical reflections. By changing the polarity of the supply voltage, the output function will be inverted. If the sensor detects reflected light, the LED shows yellow and the output switches on 0VDC or +24VDC dependent of the polarity of the supply voltage. If no reflected light will be recognized, the LED distinguished and the output switches on +24VDC or 0V dependent of the polarity of the supply voltage. The load must be connected OV.

Optical range

The nominal range is defined on white paper A4, 80g. The range will be influenced by the color, kind of surface and shape of the object. The types PSS (without S99) are provided with a potentiometer for fine adjustment.

PSN/PSD-2-10KHZ-GD: Input RSEL

Selection of the maximum range for optimizing the application. The input

RSEL= 0V or not connected =Range 0.2m
RSEL= High (24VDC) =Range 0.1m

Fibre optics

For efficiently detection solutions look for our multiple program of fibre optics, also for high temperature areas. Fibre optics for Ex zones 0 and 20 must only be driven by ATEX approved sensors with limited optical output power at DMT 99 ATEX 056!

Maintenance

No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-aggressive cleaning liquid. Equipment must only be repaired by the manufacturer.

Safety informations

The sensor PSS/PSN/PSD-2-10KHZ-(GD) must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL(BGR104), BetrSichV(ATEX137), Single directive 1999/92/EC

Standards met:

- EN 60079-0:2004, EN 60079-1:2004, EN 60079-15:2005, EN 60241-0:2004, EN 61241-1:2004; EN 60079-28:2007
- EN 60825-1:2006, EN 60825-2:2004
- EN 60529; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4;
- Ex protection: 94/9/EC (ATEX 100a)
- Machine directive: 98/37/EC
- Low voltage directive: 73/23/EWG, 93/68/EWG
- EMC: 89/336/EWG - RoHS directive: 2002/95/EC
- Tech.-File: AN-MAT-08-EX-E054

General Notes

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC Declaration of Conformity

Type PSD-...-GD: EC type certification. No: DMT 99 ATEX E 056

Type PSN-...-GD: Declaration of conformity by manufacturer at 94/9/EC.

Tech File No: AN-MAT-08-EX-E056.

ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118

The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2000 with the ATEX module "Production", declares:

Unterzeichnet: Martin Flathaus, AG

mailbox@sentronic.com
www.sentronic.com

Photoelectric Proximity Switch PSS-4, PSN-4, PSD-2/4

PSN-4-GD
Housing M18
PSD-2/4-GD

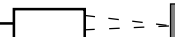
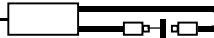
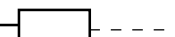
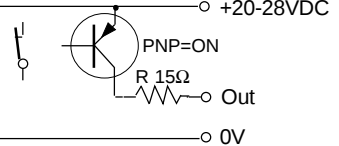
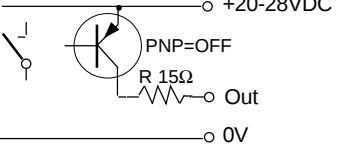
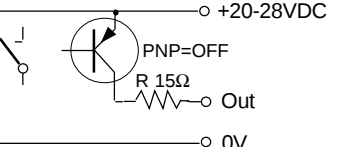
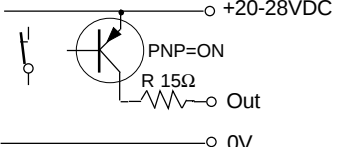
II 3 G Ex nA IIB T4 Gc
II 3 D Ex tb IIIB T135°C Dc IP67

- Types PSD-2/4: Range selectable 0.2m/0.4m
- Types PSS/PSN-4: With potentiometer
- PSD: Applicable for Ex Zones 1, 2, 20/21, 22
- PSN: Applicable for Ex Zones 2, 22
- Short response time
- Applicable with different types of fibre optics
- Output function selectable by the polarity of the supply voltage



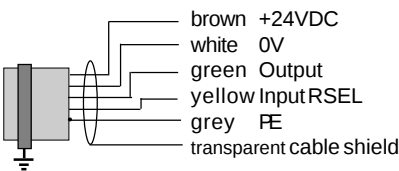
0158


II 2 G Ex d IIC T6
II 1/2 D Ex td A20/A21 IP67 T90°C

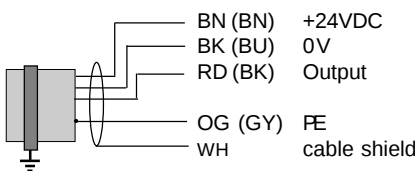
Technical data	Type	PSS-4	PSN-4-GD	PSD-2/4-GD
Type of Ex protection Gas, at 94/9/EC		none	II 3G Ex nA IIB T4 Gc	II 2G Ex d IIC T6
Type of Ex protection Dust, at 94/9/EC		none	II 3D Ex tb IIIB T135°C Dc IP67	II 1/2D Ex tD A20/21 IP67 T90°C
Applicable in Ex zones		none	2, 22	1, 2, 20/21, 22
Range, on white paper, A4, 80g		0.4m, adjustable	0.4m, adjustable	0.2m/0.4m
Light source		Infrared 880nm		
Optical beam angle (Emitter)		appr.10°		
Response time		1ms / 500Hz (integrated delay functions on request)		
Supply voltage		24 VDC +- 10%		
Current consumption		40mA		
Maximum power dissipation		1.12W		
Output		PNP, 100mA, short circuit protected		
Potentiometer		yes	yes	no
Input, Range Select RSEL		no	no	yes, PNP compatible
Housing		M18, brass Ms 58, nickel plated		
Enclosure rating, at EN 60529		IP 54	IP 67	IP67
Operating temperature range TA		-10°C < TA < +60°C	-10°C < TA < +50°C	-10°C < TA < +50°C
Connection cable, shielded, length: 3m		4 x AWG24(0.2mm²)	4 x AWG24(0.2mm²)	5 x 0.25mm²
Connection: PSS/PSN S96		Cable: 0.1m with socket M12, type RSTS5-183		--
Connection: PSS/PSN S99		Socket: M12, Lumberg type RSF, 5 terminals		--
Range selection: PSS/PSN S99		0.2m/0.4m switchable by RSEL input without potentiometer and LED		--
Options		- Cable length up to 100m on request - PSS/PSN-4 S96: With socket M12, Lumberg type RSTS5-183, 5 terminals, at a special PVC cable, length 10cm, with LED and potentiometer - PSS/PSN-4 S99: With socket M12, Lumberg RSF5, 5 terminals without LED and potentiometer. With range selection function		
Accessories included, all types		- 2 x nuts M18		
Accessories not included, PSS/PSN-4 S96/S99		- Single ended cordset M12 for S96/S99: Lumberg RKT5-298/xx (straight type), RKTW/RKWT5-298/xx (right angle type), Lumberg M12		
Function and LED indication (No LED indication for the types S99)		LB with fibre Light beam free Proximity switch with fibre optic Object detected, LED ON		LB with fibre Light beam interrupted Proximity switch with fibre optic No object detected, LED OFF
Wiring: PSD PSN/PSS S96 S99 Function brown brown (brown) 1/brown 1/brown +24VDC white black (blue) 3/blue 3/blue 0V green red (black) 4/black 4/black Output yellow -- -- 2/wt=NC 2/white RSEL grey orange (grey) 5/grey 5/grey PE blank white white -- -- Cable shield				
Wiring, for inverted output function: PSD PSN/PSS S96 S99 Function brown brown (brown) 1/brown 1/brown 0V white black (blue) 3/blue 3/blue +24VDC green red (black) 4/black 4/black Output yellow -- -- 2/wt=NC 2/white RSEL grey orange (grey) 5/grey 5/grey PE blank white white -- -- Cable shield				
Input RSEL: Range selection: Not or at 0V connected = Range 0.4m / Connected at 24VDC = Range 0.2m				

PSX4_e10.2010-11-16/HB

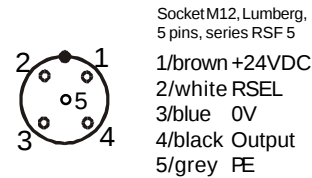
Wiring layout PSD , cable:



Wiring layout PSS / PSN, cable:

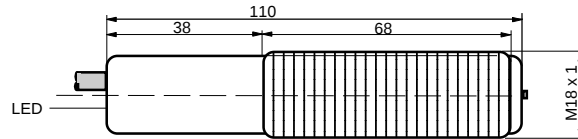


Wiring layout PSS / PSN S96/S99:



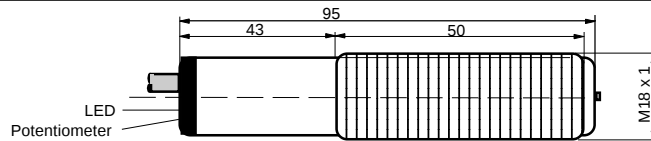
Dimensions

PSD-2/4-GD:



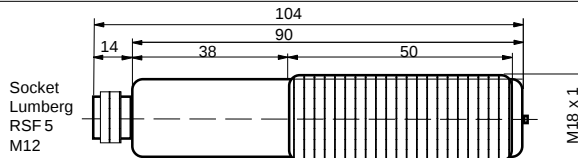
Dimensions

PSS-4 / PSN-4-GD:



Dimensions

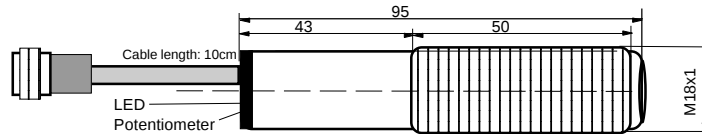
PSS-4 / PSN-4-GD S99:



Dimensions

PSS-4 / PSN-4-GD S96:

Socket
Lumberg
RSTS5-183
M12



ATEX related designations:

CE0158

Type PSD-...-GD:

Type PSN-...-GD:

TA: -10°C < TA < +50°C

Manufacturer with address

II 2G Ex d IIC T6, II 1/2D Ex tD A20/A21 IP67 T90°C
II 3G Ex nA IIB T4 Gc, II 3D Ex tb IIB T135°C Dc IP67

Electrical data according to the chart, Table page 1

Date of construction: Numeral 4 to 7 of the serial number

EC certification: DMT 99 ATEX E 056

Declaration by manufacturer at 94/9/EC

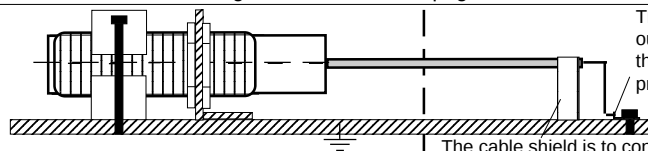
Tech File No: AN-MAT-08/10-EX-E056

Equipotential bonding

grounding

prescription:

PSN and PSD:



The end of the cable must be connected outside the hazardous location. Check the reliable, noncorrosive holding of the protection earth connection.

Operating Manual / EC - Declaration of Conformity:

Mounting prescriptions

It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The local equipotential bonding have to be done. The protective earth (PE) is solid connected with the housing. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. To connect cables inside hazardous locations only use certificated Ex e housings. All cable terminals must be connected outside hazardous locations. Other than original manufacturer, additional optical components are not allowed in hazardous locations.

Type PSD-2/4-GD: Applicable in Ex Zones 1 and 20/21. For the zones 20/21 only the front part (optical lens) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21.

Type PSN-4-GD: Only applicable in Ex zones 2 and 22. The maximum rated input voltage $U_m = 30VDC$ must not be exceeded.

Type PSN-4-GD S96/S99: Only applicable in Ex zones 2 and 22. The maximum rated input voltage $U_m = 30VDC$ must not be exceeded. The PE/PA connection (terminal 5 of the cordset) and the cable shield must be connected reliable and noncorrosive to PE. The PE terminal and the socket are solid connected to the housing. ONLY Lumberg cordsets RKTS 5-186/xx, RKTS 5-298/..M (Straight type) RKTW 5-186/xx, RKTW 5-298/..M (Right angle type) are allowed. Do not separate the connector when the supply voltage is connected to the cable. When installing the sensor, the safety lock device must be fitted at the cable connector. The additional adhesive warning label must be fixed to the connector housing at the connection cable. In dusty locations, without connected cable connectors, the protection caps must be fitted.

General mounting prescriptions

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function

The sensor works basically as proximity switch on diffuse optical reflections. By changing the polarity of the supply voltage, the output function will be inverted. If the sensor detects reflected light, the LED shows yellow and the output switches on 0VDC or +24VDC dependent of the polarity of the supply voltage. If no reflected light will be recognized, the LED distinguished and the output switches on +24VDC or 0V dependent of the polarity of the supply voltage. The load must be connected OV.

Optical range

The nominal range is defined on white paper A4, 80g. The range will be influenced by the color, kind of surface and shape of the object. The types PSS/PSN (without S99) are provided with a potentiometer for fine

adjustment.

PSD-2/4-GD: Input RSEL

Selection of the maximum range for optimizing the application:

The input RSEL is PNP compatible.

RSEL= 0V or not connected =Range 0.4m

RSEL= High (24VDC) =Range 0.2m

Fibre optics

For efficiently detection solutions look for our multiple program of fibre optics, also for high temperature areas. Fibre optics for Ex zones 0 and 20 must only be driven by ATEX approved sensors with limited optical output power.

Maintenance

No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-aggressive cleaning liquid. Equipment must only be repaired by the manufacturer.

Safety Informations

The dismantling of the connector safety lock device while the supply voltage is connected is hazardous! The mounting of the sensor in dusty locations without fixed cordset or protection cap results in a high ignition risk. The sensors series PSx must not be used for Accident-Prevention! In worst case of disturbance, the outputs can show any state. When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. (EN 60079-14, single directive 1999/92/EC)

Standards met:

EN 60079-0:2009, EN 60079-1:2004, EN 60079-15:2005, EN 60079-31:2010, EN 60241-0:2004, EN 61241-1:2004; EN 60079-28:2007; EN 60825-1:2006, EN 60825-2:2004; EN 60529; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4; Ex protection: 94/9/EG (ATEX 100a), Machine directive: 2006/46/EC, EMC: 2004/108/EC, RoHS: 2002/95/EC.

General Notes

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC Declaration of Conformity

PSD-2/4-GD: EC ATEX certification No: DMT 99 ATEX E 056

PSN-2/4-GD: ATEX declaration of conformity by manufacturer at 94/9/EC. Tech File No: AN-MAT-08/10-EX-E054. ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118. The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2008 with the ATEX module "Production", declares:

Hans Bröcher, Metrix Elektronik AG

mailbox@sentronic.com

www.sentronic.com

Photoelectric High Speed Proximity Switch PSS-4-6KHZ, PSN/PSD-2/4-6KHZ-GD

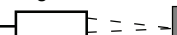
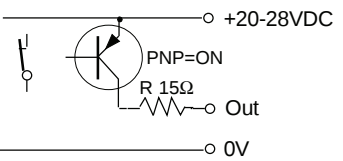
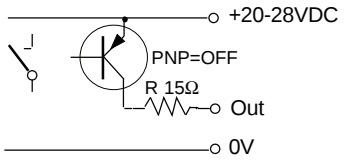
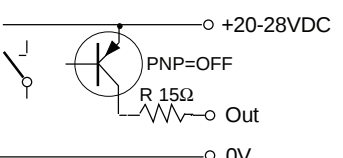
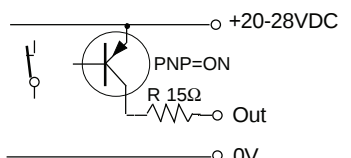
PSD-2/4-6KHZ-GD
Housing M18
PSN-2/4-6KHZ-GD

II 3G Ex nA IIB T4
II 3D Ex tD A22 IP67 T135°C

- Types PSD-2/4: Range selectable 0.2m / 0.4m
- Types PSS/PSN-4: With potentiometer
- Applicable for Ex Zones 1, 2, 20/21, 22
- Short response time 90us
- Applicable with different types of fibre optics
- Output function selectable by the polarity of the supply voltage

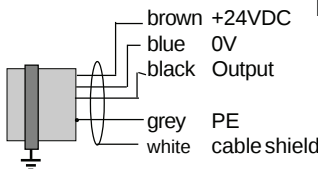
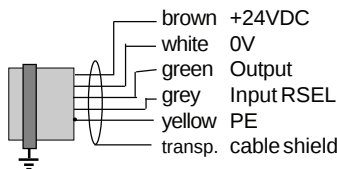

0158

II 2G Ex d IIC T6
II 1/2D Ex tD A20/21 IP67 T90°C

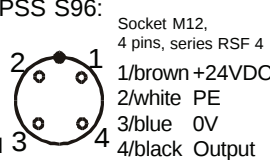
Technical data	Type	PSS-4-6KHZ	PSN-2/4-6KHZ-GD	PSD-2/4-6KHZ-GD
Type of Ex protection, Gas, at 94/9/EC		None	II 3G Ex nA IIB T4	II 2G Ex d IIC T6
Type of Ex protection, Dust, at 94/9/EC		None	II 3D Ex tD A22 IP67 T135°C	II 1/2D Ex tD A20/21 IP67 T90°C
Applicable in Ex Zones		--	Zone 2, 22	Zones 1, 2, 20/21, 22
Range, on white paper, A4, 80g		0.4m, adjustable	0.2m/0.4m	0.2m/0.4m
Light source		Infrared 880nm		
Optical beam angle (Emitter)		appr.10°		
Response time		88us / 6kHz		
Supply voltage		24 VDC (20 to 28VDC)		
Current consumption		60mA		
Maximum power dissipation		1.68W		
Output		PNP, 100mA, short circuit protected		
Potentiometer		yes	no	no
Input, Range Select RSEL		no	yes, PNP compatible	yes, PNP compatible
Housing		M18, brass Ms 58, nickel plated		
Enclosure rating, at EN 60529		IP 54	IP 67	
Operating temperature range TA		-10°C < TA < +60°C	-10°C < TA < +50°C	
Connection cable, shielded, length: 3m		4 x AWG24(0.2mm²)	5 x 0.25mm²	
Connection: PSS S96		Cable: 0.1m with socket M12, Binder 713/763	--	
Connection: PSS S99		Socket: M12, Lumberg series RSF, 5 terminals	--	
Range: PSS S99		Without potentiometer and LED, with range selection input RSEL	--	
Options		- Integrated delay functions on request - Cable length up to 100m on request - PSS S96: With cable 10cm, and socket Binder 713/763, 4 terminals, with LED and potentiometer - PSS S99: With socket M12, Lumberg RSF5, 5 terminals without LED and potentiometer and with range selection function		
Accessories included, all types		2 x nuts M18		
Accessories not included		- Single ended cordset M12 for S96: Lumberg RKTS 4-298/xx (straight type), RKTW/RKWTH 4-298/xx (right angle type) or Binder series 713/763 - Single ended cordset, straight type: RKTS 5-298/xx or right angle type: RKTW/RKWTH 5-298/xx , Lumberg M12/5P		
Function and LED indication (No LED indication for the types S99)		LB with fibre  Light beam free Proximity switch  with fibre optic  Object detected, LED ON	LB with fibre  Light beam interrupted Proximity switch  with fibre optic  No object detected, LED OFF	
Wiring: PSN/D PSS S96 S99 brown brown 1/brown 1/brown +24VDC white blue 2/blue 2/blue 0V green black 3/black 3/black Output grey -- -- 2/white RSEL yellow grey 2/white 5/grey PE blank white Cable shield		 +20-28VDC PNP=ON R 15Ω Out 0V	 +20-28VDC PNP=OFF R 15Ω Out 0V	
Wiring, for inverted output function: PSN/D PSS S96 S99 brown brown 1/brown 1/brown 0V white blue 2/blue 2/blue +24VDC green black 3/black 3/black Output grey -- -- 2/white RSEL yellow grey 2/white 5/grey PE blank white Cable shield		 +20-28VDC PNP=OFF R 15Ω Out 0V	 +20-28VDC PNP=ON R 15Ω Out 0V	
Input RSEL: Range selection: Not or at 0V connected = Range 0.4m / Connected at 24VDC = Range 0.2m				

PSX-4-6KHZ_e1, 2008-08-20/HB

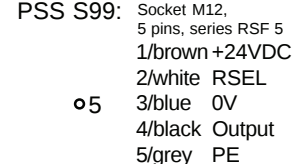
Wiring layout PSD/PSN, cable: Wiring layout PSS, cable:



Wiring layout PSS S96:

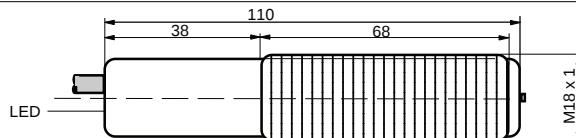


Wiring layout PSS S99:



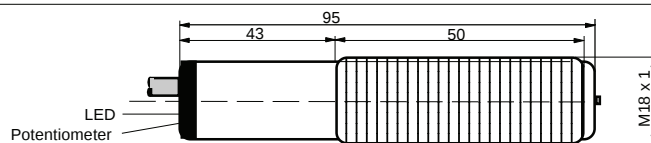
Dimensions

PSD/PSN-2/4-6KHZ-GD:



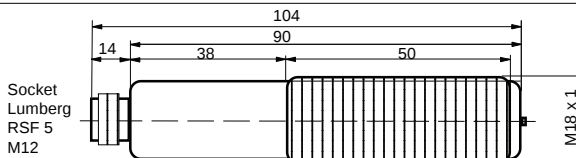
Dimensions

PSS-4-6KHZ



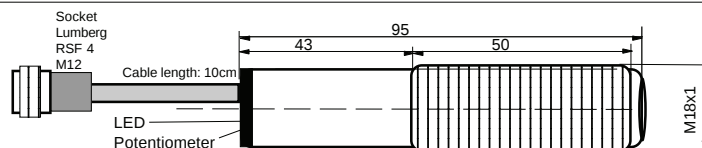
Dimensions

PSS-4-6KHZ S99



Dimensions

PSS-4-6KHZ S96



ATEX related designations:

CE 0158

Type PSD-...-GD:

Type PSN-...-GD:

TA: -10°C < TA < +50°C

Manufacturer with address

II 2G Ex d IIC T6, II 1/2D Ex tD A20/21 IP67 T90°C

II 3G Ex nA IIB T4, II 1/2D Ex tD A22 IP67 T135°C

Electrical data according to the chart



Date of construction: Numeral 4 to 7 of the serial number

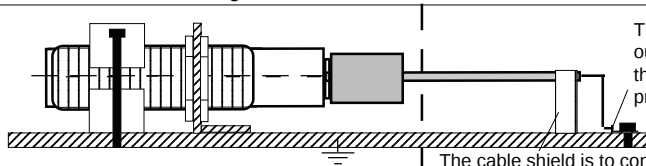
EC certification number: : DMT 99 ATEX E 056

Declaration by manufacturer at 94/9/EC:

Tech File No: AN-MAT-08-EX-E056

Equipotential bonding grounding prescription:

PSN and PSD:



The end of the cable must be connected outside the hazardous location. Check the reliable, noncorrosive holding of the protection earth connection.

Operating Manual / EC - Declaration of Conformity:

Mounting prescriptions

INSTALLATION INSTRUCTIONS FOR HAZARDOUS LOCATIONS:

"WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES."

"WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS."

It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The local equipotential bonding have to be done. The protective earth (PE) is solid connected with the housing. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. To connect cables inside hazardous locations only use certificated Ex e housings. All cable terminals must be connected outside hazardous locations. Other then original manufacturer, additional optical components are not allowed in hazardous locations. Type PSD-2/4-6KHZ-GD: Applicable in Ex Zones 1, 2 and 20/21, 22. For the zones 20/21 only the front part (optical lens) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21. Type PSN-4-6KHZ-GD: Only applicable in Ex zones 2 and 22. The maximum rated input voltage $U_m = 30VDC$ must not be exceeded.

General mounting prescriptions

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function

The sensor works basically as proximity switch on diffuse optical reflections. By changing the polarity of the supply voltage, the output function will be inverted. If the sensor detects reflected light, the LED shows yellow and the output switches on 0VDC or +24VDC dependent of the polarity of the supply voltage. If no reflected light will be recognized, the LED distinguished and the output switches on +24VDC or 0V dependent of the polarity of the supply voltage. The load must be connected 0V.

Optical range

The nominal range is defined on white paper A4, 80g. The range will be influenced by the color, kind of surface and shape of the object. The types PSS (without S99) are provided with a potentiometer for fine adjustment.

PSN/PSD-2/4-6KHZ-GD: Input RSEL,

Selection of the maximum range for optimizing the application:

The input RSEL is PNP compatible.

RSEL= 0V or not connected =Range 0.4m

Fibre optics

For efficiently detection solutions look for our multiple program of fibre optics, also for high temperature areas. Fibre optics for Ex zones 0 and 20 must only be driven by ATEX approved sensors with limited optical output power at DMT 99 ATEX 056!

Maintenance

No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-aggressive cleaning liquid. Equipment must only be repaired by the manufacturer.

Safety Informations

The sensor PSS/PSN/PSD-2/4-6KHZ-(GD) must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL(BGR104), BetrSichV(ATEX137), Single directive 1999/92/EG

Standards met:

- EN 60079-0:2004, EN 60079-1:2004, EN 60079-15:2005, EN 60241-0:2004, EN 61241-1:2004; EN 60079-28:2007
- EN 60825-1:2006, EN 60825-2:2004
- EN 60529; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4;
- Ex protection: 94/9/EC (ATEX 100a)
- Machine directive: 98/37/EC
- Low voltage directive: 73/23/EEG, 93/68/EEG
- EMC: 89/336/EEG
- RoHS directive: 2002/95/EC
- Tech.-File: AN-MAT-08-EX-E054

General Notes

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC Declaration of Conformity

Type PSD-...-GD: EC type certification. No: DMT 99 ATEX E 056

Type PSN-...-GD: Declaration of conformity by manufacturer at 94/9/EC.

Tech File No: AN-MAT-08-EX-E056.

ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118

The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2000 with the ATEX module "Production", declares:

Speed Control Sensors PSS-LTD / PSN-LTD-GD / PSD-LTD-GD, Rev V2

PSN-LTD-GD Housing M18 PSD-LTD-GD



II 3G Ex nA IIB T4
II 3D Ex tD A22 IP67 T135°C

- Well applicable with plastic and glass fibre optics
- Laser-emitter, red light 650nm
- Type PSD: applicable in Ex Zones 1 + 20/21
- Type PSN: applicable in Ex Zones 2, 22
- Speed control up to 100'000 RPM
- Very high reliability (EMC)

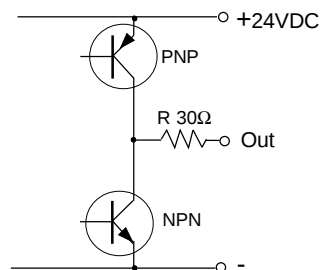
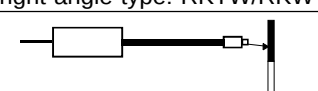
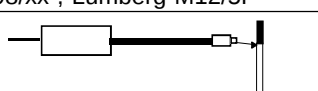
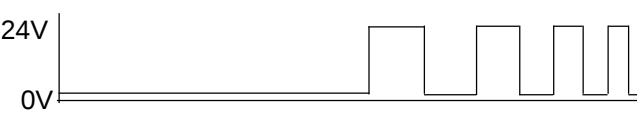


0158



II 2G Ex d IIC T6

II 1/2D Ex tD A20/A21 IP67 T90°C

Technical Data	Type	PSS-LTD	PSN-LTD-GD	PSD-LTD-GD
Type of Ex protection, Gas, at 94/9/EC		None	II 3G Ex nA IIB T4	II 2G Ex d IIC T6
Type of Ex protection, Dust, at 94/9/EC		None	II 3D Ex tD A22 IP67 T135°C	II 1/2D Ex tD A20/21 IP67 T90°C
Applicable in Ex Zones		--	Zone 2, 22	Zones 1, 2, 20/21, 22
Laser class		Class II, 650nm red, Po <= 1mW, radiant power stabilized		
Switching frequency		3Hz - 10kHz ^{Note1}		
Rise/fall time		<= 20us		
Speed measurment accuracy		+/-0.5%		
Supply voltage		24VDC (20 to 28VDC)		
Absolute maximum input voltage Um		30VDC		
Current consumption		44mA		
Power dissipation		maximum 1.3		
Power up delay time		10 seconds		
Output		1 x Push-Pull, short circuit protected, maximum 50mA		
Output impedance		max.30Ω		
External potentiometer, only PSD-LTD-GD S173		nominal 500kR (10kR to 500kR allowed)		
Housing		M18, brass, nickel plated		
Enclosure rating at EN 60529		IP 65	IP 67	
Working temperature T _{Amb}		-10°C < T _{Amb} < +50°C	-30°C < T _{Amb} < +50°C ^{Note 2}	
Connection cable, shielded		4 x AWG24 (0.2mm²) , L=3m		
Connection cable, PSD-LTD-GD S173		IEEE 802.3 Transceiver Cable, PVC/PP, 4 pairs, 3 x AWG28 + 1 x AWG24, shielded , L=0.4m (0.3m + 0.1m)		
Socket, type: PSS-LTD		Socket, M12 5 terminals	not available	
Optical fibre connection		M18 connection, system Matrix		
Options		- PSS-LTD S99 : Socket M12: Lumberg RSF 5 - PSD-LTD-GD S173 : External potentiometer, rating 500kR at the cable end for sensitivity adjustment. Special cable at IEEE 802.3.		
Accessories, included all types		- 2x Nuts M18		
Accessories, POF's, not included		- POF type: PE-M18-3000-1-T-4.7-2G3D - POF type: PE-M18-3000-1-T-6.2-2G3D		
Accessory POF adapter, not included		- M18 fast fixing adapter for POF Type: POFAD18-2.2-6x8		
Accessories, PSS-LTD S99 not included		- Single ended cordset, straight type: RKTS 5-298/xx or right angle type: RKTW/RKWTH 5-298/xx , Lumberg M12/5P		
Output / Function:		 Rotary indicator is static: Output: Holds "L"  Rotary indicator is turning: Output generates pulses equal to the rotation speed. 		

Note 1: The real reachable switching/rotary frequency is dependent on the condition and the partition of the marking disc and the type, the working condition and the length of the optical fibres.

Note 2: Temperature range: Cable static: -30°C to +50°C
Cable dynamic: -15°C to +50°C

ATEX related designations:

CE 0158

Manufacturer with address



Date of construction: Numeral 5 to 8 of the serial number

Type PSD-LTD-GD: II 2G Ex d IIC T6, II 1/2D Ex tD A20/21 IP67 T90°C

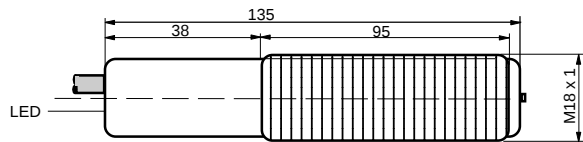
EC certification number: : DMT 99 ATEX E 056

Type PSN-LTD-GD: II 3G Ex nA IIB T4, II 3D Ex tD A22 IP67 T135°C

Declaration by manufacturer at 94/9/EC:

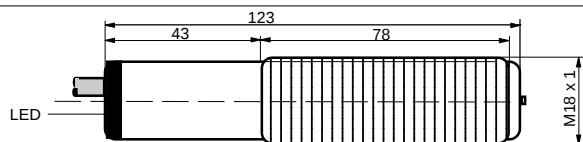
TA: -30°C < TA < +50°C Electrical data according to the chart

Dimensions
PSD-LTD-GD
PSN-LTD-GD:



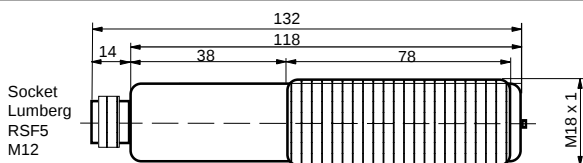
Connection layout:
brown +24VDC
blue 0V
black Output
grey PE
white Cable shield

Dimensions
PSS-LTD:



Connection layout:
brown +24VDC
blue 0V
black Output
grey PE
white Cable shield

Dimensions
PSS-LTD S99:

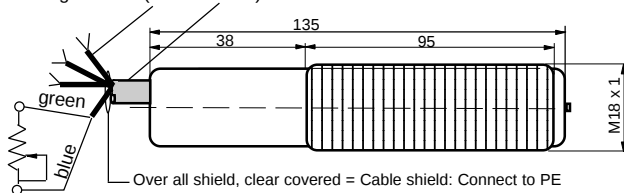


Connection layout:
1/brown +24VDC
2/white NC
3/blue 0V
4/black Output
5/grey PE

Dimensions
PSD-LTD-GD S173:

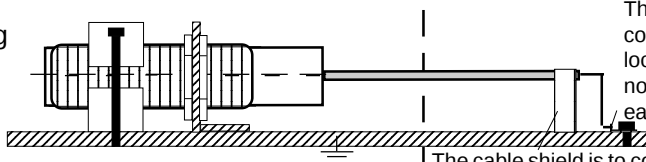
Do not connect the internal shieldings and the tracing wire at any potential! Connect the outside cable shield at PE.
External potentiometer 500kR.
Do not connect the wires to other potentials.

Cable length: 0.4m (0.1m + 0.3m)



Connection layout:
Cable 1:
red +24VDC
black 0V
grey Output
white 0V
yellow PE
orange PE
blank Cable shielding
blue Ext. Pot A
green Ext. Pot B
Do not connect the shield of this pair to any potential

Equipotential Bonding prescription:



The end of the cable must be connected outside the hazardous location. Check the reliable, noncorrosive holding of the protection earth connection.

The cable shield is to connect to PE in a wide area.

Operating Manual / EC - Declaration of Conformity:

Ex Protection:

It is necessary to take into consideration the valid international and national rules and regulations (EN 60079-14). The maximum input voltage $U_m=30VDC$ must not be exceeded. The local equipotential bonding have to be done reliable and noncorrosive. The protective earth (PE) is solid connected with the housing. Other than original manufacturer, additional optical components are not allowed in hazardous locations. The cable have to be installed and protected against damages. The cable with termination fittings, or in cable tray systems and installed in a manner to avoid tensile stress at the termination fittings. Inside hazardous locations only use certificated Ex housings. All cable terminals must be connected outside hazardous locations.

Type: PSD-LTD-GD: Only applicable in Ex Zones 1, 2 and 20/21, 22. For the zones 20/21 only the front part (fibre optics connection) can be mounted inside the zone 20. The rear part with the cable must be in the zone 21.

Type: PSN-LTD-GD: Only applicable in Ex zones 2 and 22.

General mounting prescriptions:

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function:

The sensor can only be used with connected fibre optics. Laser light reflection alterations, generated by the marking disc of the spraying apparatus, will be amplified and formed.

Potentiometer, only type PSD-LTD-GD S173

Use the potentiometer to adjust the sensor at different marking discs, POF and mechanical arrangements. Set the potentiometer as well, that the output signal will be free of failures over the operating range. The potentiometer has a nominal rating of 500kR. (Do not exceed 500kR). The internal cable shieldings and the the tracing wire must NOT be connected at any potential! Connect the outside cable shield at PE.

Potentiometer adjustment

Turn the sensor potentiometer clockwise to the end. Set the sprayer rotation speed to 90 RPM. Adjust the potentiometer to an output signal free of failures. Increase to rotation speed of the sprayer to the maximum. The output signal must be free of failures at all times.

Using the fibre optics

The sensor PS.-LTD must not go into operation without mounted fibre optics. The fibre optics must be handled careful. Do not use optical fibres longer than 10m. The functional safety of the sensor is given by the condition of the marking disc and the careful working up of the optical fibres. The fibre optics must not be buckled or laid with a small radius. Buckled or bad laid fibre optics results to a strong decrease of performance. Avoid performance decreasing and failures caused by wear, by a functional mounting of the fibre optics. If self-conditioned POFs are using, a special cutter or an other professional tool must be used for cutting the POFs.

Maintenance

Protect the fibre optic adaptor of the sensor and the optical fibres against

pollution. If the fibre optic or the sensor are contaminated, clean with alcohol. Do not use aggressive solvents. Plastic optical fibres can be destroyed by strong solvents. Equipment must only be repaired or serviced by the manufacturer.

Safety regulations for Laser devices class 2

The sensors types PS.-LTD must not go into operation without mounted fibre optics. By the installation, the going into operation and the application, it is necessary to take into consideration the valid rule EN 60825 (Parts 12.5.1/12.6.1). Warning! Without mounted fibre optics the optical power reach Laser Class 2. Do not stare into the beam! With mounted fibre optics no safety measures are needed.

Safety Informations

The sensor PSS/PSN/PSD-LTD-(GD) must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations. ATEX 118a, ElexV, TRbF, TRD, UVV, EX-RL(BGR104), BetrSichV(ATEX137),

Single directive 1999/92/EG

Standards met:

- EN 60079-0:2004, EN 60079-1:2004, EN 60079-15:2005, EN 60241-0:2004, EN 61241-1:2004
- EN 60825-1:2006, EN 60825-2:2004
- EN 60529; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4;
- Ex protection: 94/9/EC (ATEX 100a)
- Machine directive: 98/37/EC
- Low voltage directive: 73/23/EEG, 93/68/EEG
- EMC: 89/336/EEG
- RoHS directive: 2002/95/EC

General Notes

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EC-Declaration of Conformity

Type PSD-LTD-GD: EC type certification

No: DMT 99 ATEX E 056

Type PSN-LTD-GD: Declaration of conformity by manufacturer at 94/9/EC.

ATEX certification of quality type production of Ex devices at the directive 94/9/EC Certification No: BVS 03 ATEX ZQS / E118

The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2008 with the ATEX module "Production", declares:

Hans Bracher, Matrix Elektronik AG

PSX_LTD_GD-V2_e12/2011-03-17/HB