

GARDIX Safety Inductive Sensor ISS-10-B / ISN-10B-GD

ISS-10-B

Housing M30

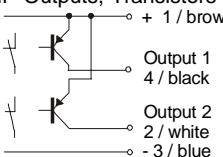
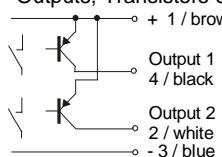
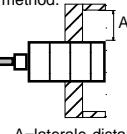
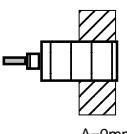
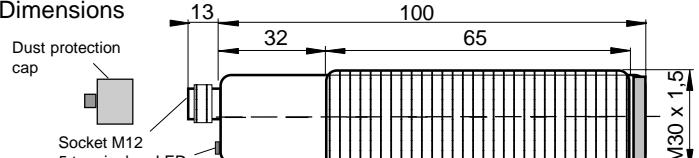


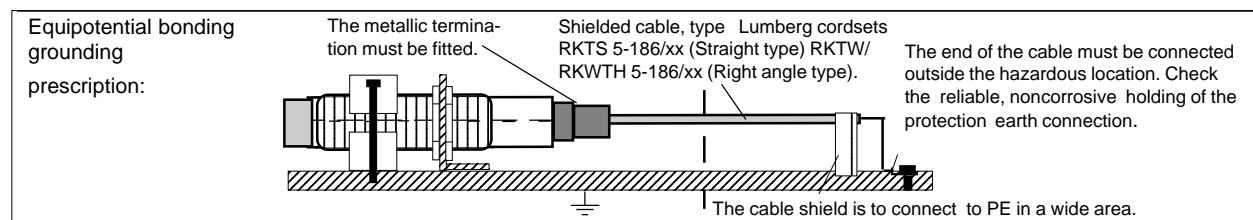
- Safety level 4 at EN 954-1
- Type ISN-10-B-GD: Ex-Protection EEx nA II T5 IP67 T100°C
- Applicable Ex zones 2, 22
- For embeddable installation method



ISN-10-B-GD


Ex II 3 G EEx nA II T5
II 3 D IP67 T100°C


Technical Data	Types	ISS-10-B	ISN-10-B-GD	
Safety level at EN 954		4		
Type of Ex protection Gas, at 94/9/EG		None	II 3 G EEx nA II T5	
Type of Ex protection Dust, at 94/9/EG		None	II 3 D IP67 T100°C	
Applicable in Ex zones		None	2, 22	
Housing		M30, brass, nickel plated / Sensing area: Synthetic, PEEK mod.		
Installation method		embeddable		
Rated operating distance sn, (EN60947-2-5)		10mm, (on steel 37, (sn x 3) ² x 1mm), at embedded installation		
Assured operating distance sa		2mm to 8mm		
Hysteresis		0.5-1.5mm		
Safe switched OFF distance (sn x 3)		30mm		
Protection degree		IP67 at EN 60529		
Supply voltage		24VDC		
Maximum supply voltage Ui		28VDC		
Absolute maximum supply voltage Um	--		30VDC	
Current consumption		45mA		
Maximum power dissipation		1260mW		
Internal capacitance / inductance	--		Li = 0 / Ci = 0	
Response time		20ms		
Outputs		2 x PNP / max. 70mA / short circuit protected		
Ambient working temperature TA		-10°C < TA < +60°C		
Connection		Socket M12, Lumberg type: RSF 5, 5 terminals		
Accessories, all types		- 2x nuts M30. (Optional 1x clamp)		
Accessories, types ISN-10-B-GD		- 1x Safety lock device, mount at the cable connection, for locking the connection. - 1x Warning plate "WARNING - Explosion Hazard - Do Not Disconnect While Circuit Is Live Unless Area Is Known To Be Non-Hazardous", self-sealing, for gluing on the cable connector. - 1x Protection cap for the sensor connector.		
Accessories, not included		- Single ended cordset, straight type: RKTS 5-186/xx or right angle type: RKWTH 5-186/xx, Lumberg M12/5P		
Options				
Function and LED indication		 Object detected, LED green	 No object detected, LED red	
Output with dynamic test function Object detected, Outputs switched ON + VDC 0V Outputs inactive no object detected 200us (Testpuls)		2 x PNP-Outputs, Transistors conducted.  Output 1 4 / black Output 2 2 / white - 3 / blue	2 x PNP-Outputs, Transistors open.  Output 1 4 / black Output 2 2 / white - 3 / blue Safe status	
Installation: Lateral protection plates must not rise above the sensor. Sensors for not embeddable mounting arrangement have the highest operating distance, but a part of the parasitic lateral electromagnetic field can disturb the safe function. Lateral protection plates or other metallic objects must not influence the Sensor. For safe function a lateral free space around the sensor must be guaranteed. The series ISX-10-B, sensors for embeddable mounting, no lateral free space is required (A=0). It's possible to realize a better mechanical protection and they have a higher immunity against spurious releasing. In a not embeddable mounting arrangement the sensors reach a lower level of operating distance (sa) then sensors for not embeddable mounting.		Other sensors for not embeddable installation method.  A = laterale distance	ISX-10-B: For embeddable installation method  A = 0mm	
Dimensions		 13 32 100 65 M30 x 1.5	ISS-10-B +24VDC Output2 0V Output1 4/black 5/grey PE/PA	ISN-10-B-GD +24VDC Output2 0V Output1 Output1 PE/PA
ATEX RELATED MARKINGS ON THE SENSORS:		Manufacturer with address	Electrical data according to the chart	
CE 0158		ISN-10-B-GD	Production date: Numbers 4 to 7 of the serial number	
Device type		GXIS_AN5/AN_ATEX_1154/N2	II 3 G EEx nA II T5 / II 3 D IP67 T100°C	
File number:			TA: -10° < TA < +60°C	



Operating manual, short form / CE Declaration of Conformity:

Accident prevention:

When installing and operating the sensor, it is necessary to take into consideration the complete operating manual. All other parts of the safety system must be approved at safety level 4 at EN 954-1. All connections and installations must be executed at safety fundamental rules.

Chemical resistance

The sensor must not be exposed to the following substances: Formic Acid, Chlorosulfonic Acid, Chronic Acid conc., Hydrochloric Acid, Hydrobromic Acid (100%), Oluem, Azotic Acid, Sulphuric Acid, Bromine, Chlorine, Ferric(III)-chlorid, Fluorine, Iodine, Sodium (hot), concentrated Phenol.

Installation prescriptions for Ex hazardous locations:

It is necessary to take into consideration the valid international and national rules and regulations (En 60079-14). Do not exceed the maximum ratings. The local equipotential bonding have to be done. The protective earth (PE/PA) 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 certified Ex e housings. All cable terminals must be connected outside hazardous locations. 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. Lumberg cordsets RKTS 5-186/xx (Straight type) RKTW/RKWTH 5-186/xx (Right angle type) are allowed ONLY. It is necessary to take into consideration the mounting prescription of the connector manufacturer. In dusty locations, the protection cap for the socket must be fitted, when the connection cable is NOT connected.

The safety inductive sensor ISN-10-B-GD is only applicable in Ex zones 2 AND 22. The maximum rated input voltage $U_m = 30VDC$ must not be exceeded.

General notes to the operating distance

The nominal operating distance s_n (EN60947-2-5) does not take into account production tolerances and influences of temperature or voltage. The safe operating distance s_a is the minimal reachable operating distance on steel 37 (36mmx36mmx1mm) on all mounting arrangements. On other materials or smaller objects a reduction factor must be taken into account.

Material	Reduction factor
Steel 37	1
Stainless steel	0,8
Aluminum	0,4

Safety distance s_d : An inductive sensor is safe switched OFF, when the distance between sensor and actuator plate is greater then $3 \times$ nominal distance s_n .

Safety instructions

When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations: EN 60079-14, ATEX118a, EX-RL, ElexV, TrbF, TRD, UVV, BetrSichV, Einzel-RL 1999/92/EG

Standards met:

- EN 954-1; EN 50014, EN 50021, EN 50282-1-1; EN 60529
- EN 61000-4-2 bis EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4;
- Machine directive: 98/37EG
- Low voltage directive: 73/23/EWG, 93/68/EWG
- EMC: 89/336/EWG, 91/263/EWG, 92/31/EWG, 93/68/EWG
- RoHS: 2002/95/EG
- ATEX-File: GXIS_AN5/AN_ATEX_1154/N3

General notes

We reserve the right to modify our equipment. Our equipment is designed in accordance with the RoHS directive. 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.

Declaration of Conformity / Certifications

EC-type examination BG No. 99118, BG-PRÜFZERT No.99117,

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:

Hans Bracher, Matrix Elektronik AG: