



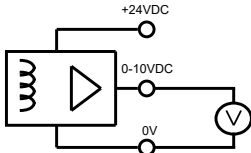
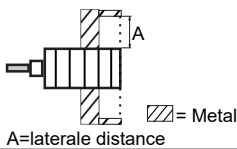
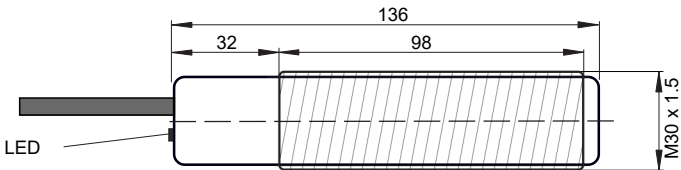
Operating manual: ISD-10-NB-GD-S339 Inductive Sensor

- With analog voltage output



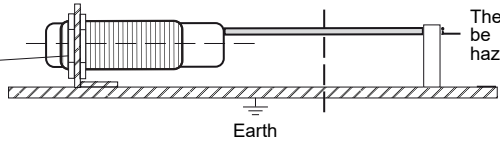
IECEx BVS 18.0022X


Ex db IIC T5 Gb
Ex tb IIC T100°C Db

Type		ISD-10-NB-GD-S339											
Technical Data													
Gas Ex protection designation		II 2G Ex db IIC T5 Gb											
Dust Ex protection designation		II 2D Ex tb IIIC T100°C Db											
For use in Ex Zones		Zones 1, 2, 21, 22											
Linearity deviation		±0.4mm											
Response time		5ms											
Pollution degree		3 (according to EN 60664-1)											
Installation Method		embeddable											
Rated operating distance sn		0 - 10mm, (on steel 37, (sn x 3) ² x 1mm), non flush mounting											
Supply voltage, Ue		24VDC ±10%											
Current consumption		20mA											
Maximum power dissipation		0.53W											
Power up delay time		3s											
Analog voltage output		0 - 10V, PNP, output impedance appr. 1k Ω											
Housing		M30, Ms, brass nickel plated / sensing area: Synthetic PEEK mod.											
Enclosure rating		IP67											
Ambient working temperature range, T _{amb}		-10°C up to +60°C											
EMC, shock and vibration resistance		300m/s ² , 10 - 55Hz, in all directions (according to IEC 60947-5-2)											
Options		Cable length: Up to 100m, upon request											
		Included	Optional										
Accessories		<ul style="list-style-type: none">• 2x nuts M30• 2x shim rings DIN 988, stainless steel A2, 30/42/1mm											
LED indication													
Output function:													
<p>Installation: Lateral protection plates must not rise above the sensor. Sensors for non flush mounting arrangement have the highest operating distance, but a part of the parasitic lateral electromagnetic field can disturb the function. Lateral protection plates or other metallic objects must not influence the Sensor. For proper function a lateral free space around the sensor must be guaranteed.</p> 													
Ex related markings	<div>CE 1258 Ex designation according to 2014/34/EU ATEX certification number: IECEx certification number: T_{amb} Date of construction: Electrical data according to the table "Technical data"</div> <div>Manufacturer with address II 2G Ex db IIC T5 Gb, II 2D Ex tb IIIC T100°C Db BVS 07 ATEX E 044 X IECEx BVS 18.0022X -10°C up to +60°C Numeral 5 to 8 of the serial number (year/calendar week)</div>												
Dimensions and wiring	 <table><tr><th>Lead-No</th><th>Function</th></tr><tr><td>1</td><td>+24VDC</td></tr><tr><td>2</td><td>0V</td></tr><tr><td>3</td><td>OUT</td></tr><tr><td>yellow-green</td><td>PA/PE</td></tr></table>			Lead-No	Function	1	+24VDC	2	0V	3	OUT	yellow-green	PA/PE
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Installation prescriptions for Ex hazardous locations

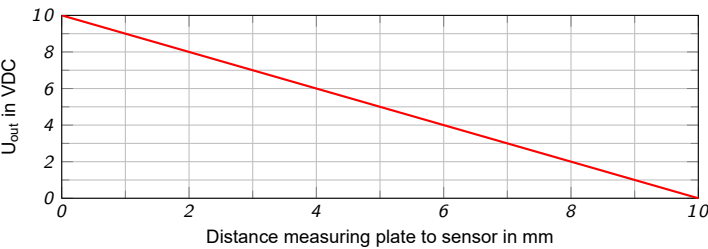
Ensure local equipo-
tential bonding by
means of a corrosion-
resistant PE connec-
tion.



The end of the cable must
be connected outside the
hazardous locations.

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

**Output characteristic for axial approx-
imation**
On plate stainless steel 1.4301 (45mm x
45mm x 1mm).
Sensor non-flush mounted.



Operating Manual / EC-/EU-declaration of conformity

Installation prescriptions for Ex hazardous locations

Only applicable in Ex Zones 1, 2, 21, 22. 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 reliable and noncorrosive. The protective earth (PE/PA) is solid connected with the housing and the cable shielding. 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.
Additional safety information related Ex protection
BVS 07 ATEX E 044 X: X = The plastic part of the housing (sensitive area) must be protected against direct sunlight and UV irradiation.

General mounting prescriptions

Lateral protection plates must not rise above the sensor. Electrolytic fluids, graphitized greases or other magnetizable substances can disturb the correct function. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield must be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.
Equal to the damping of the electromagnetic field, the output varies between 0V and 10V. A strong damping generates a higher voltage. The output characteristic is determined with a measure plate, stainless steel 1.4301 (45mm x 45mm x 1mm) at non-flush mounting.

Chemical resistance

The sensor must not be exposed to the following substances: Chromic acid, CAS-No. 7738-94-5. Hydrochloric acid, CAS-No. 7647-01-0. Sulfuric acid, CAS-No. 7664-93-9 / CAS-No. 7783-05-3. Hydrobromic acid 100%, CAS-No. 10035-10-6. Nitric acid, CAS-No. 7697-37-2. Bromine, CAS-No. 7726-95-6. Chlorine, CAS-No. 7782-50-5. Ferric(III) chloride, CAS-No. 7705-08-0 (anhydrous), CAS-No. 10025-77-1. Fluorine, CAS-No. 7782-41-4. Iodine, CAS-No. 7553-56-2. Sodium (hot), CAS-No. 7440-23-5. Concentrated phenol, CAS-No. 108-95-2.

Maintenance

The sensor does not require any special maintenance. Magnetic precipitations must be cleared. Equipment must only be repaired or serviced by the manufacturer.

General notes to the operating distance

The nominal operating distance sn (IEC 60947-5-2) does not take into account production tolerances and influences of temperature or voltage. The output characteristic is determined with a measure plate, stainless steel 1.4301 (45mm x 45mm x 1mm) at non-flush mounting. On other materials or smaller objects a reduction factor must be taken into account.

Material	Reduction factor
Steel 37	1.2
Stainless steel	1.0
Aluminum	0.4

General safety instructions

The mounting of the sensor in dusty locations without fixed cordset or protection cap results in a high ignition risk. The sensors 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.

General notes, disposal

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.

EU-Declaration of Conformity

The product meets the requirements of the following standards and directives: EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-28:2015, EN 60079-31:2014, 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, ATEX directive 2014/34/EU, Machine directive 2006/42/EC, EMC directive 2014/30/EU, RoHS directive 2011/65/EU

ATEX/IECEx-Designation:

Gas: II 2G Ex db IIC T5 Gb
Dust: II 2D Ex tb IIIC T100°C Db
ATEX EU-type examination certificate No.: BVS 07 ATEX E 044 X
IECEx CoC No.: IECEx BVS 18.0022X
Ex CB IECEx: DEKRA Testing and Certification GmbH, Carl-Beyling-Haus, Dinendahlstrasse 9, D-44809 Bochum.

ATEX certification of quality management system, type production of Ex devices, in accordance to the directive 2014/34/EU:

Certification No.: SEV 21 ATEX 4580, QAR No.: CH/SEV/QAR21.0009/00, CB: Eurofins Electric & Electronic Product Testing AG, Luppenstrasse 3, CH-8320 Fehraltorf CE 1258.

Pablo Ledergerber, Matrix Elektronik AG, is authorized to generation of documentation.

The conformity of the devices with all used standards and directives and the EC-type examination certificate and the observation of the Quality Management System ISO 9001:2015, declares:

Ehrendingen, 4.4.2023

Pablo Ledergerber, Matrix Elektronik AG

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