



Instruction manual

Inductive Sensor

IGEX20a 05 GSP

P31381



Intended use

The inductive proximity switch is for use as contactless wearout-free limit switch in industrial control systems. It can be mounted inside gas-hazardous areas that require equipment of category 1G (zone 0) or dust-hazardous areas that require equipment of category 1D (zone 20). The permissible process pressure for the safe use of this device in Ex atmospheres is 0.8...1.1 bar. The use of the inductive proximity switch under different process pressures is the responsibility of the user. The specifications of the device must be observed. The permissible ambient temperature range is determined for each temperature class in the technical data. If there are additional regulations for the particular design regarding the installation, they must be observed as well.

Safety instructions

- Only professionals with sufficient knowledge are allowed to install and operate the device.
- Prior to installation disconnect the system from power supply.
- Comply with the provisions of the instruction manual.
- Comply with the national regulations and installation provisions (e.g. EN 60079-14).
- Absolutely abide by the specific conditions.
- Observe safety instructions also during disassembly.

Installation and operation

- Make sure that the device is used only in the area of application corresponding to its Ex marking.
- Do not modify the device (e.g. painting).
- Make sure that the housing of the proximity switch has electrical contact to a grounded metal structure.
- Install cables according to the applicable regulations and protect them from damage.
- The device complies with the EMC requirements for proximity switches according to EN 60947-5-2:2007+A1:2012.
- Cables longer than 30 m can require additional EMC measures.

Maintenance, repairs and trouble-shooting

- Do not modify or repair the device. Contact the manufacturer for any problems.
- Prevent dust from covering the device, i.e. by regular cleaning with a damp cloth.
- Datasheet, EU type examination certificate and MTTF values are available on request.

Specific conditions

- Protect the device from UV light.
- Markings that are not on the device will be found in the instruction manual.
- When using types with a plastic surface larger than 400 mm² (gas) and 500 mm² (dust), the installation of the devices must ensure that no electrostatic charge can occur on the non-metallic housing parts.
- The free cable ends of the connections must be wired outside the potentially explosive area or in a suitable terminal box certified for use in potentially explosive areas.
- Prevent the energy recovery through terminal S.
- The device is resistant against the risk of low mechanical danger of 4 J. Protect it from higher mechanical danger.

Technical data

EU Examination of Conformity		EPS 17 ATEX 1 117 X
IECEX Certificate		IECEX EPS 17.0059X
UKCA-certificate		EPS 22 UKEX 1 085 X
Ignition protection type (ATEX/UKEX):	gas Ex dust Ex	II 1G Ex ma IIC T6...T3 Ga II 1D Ex ma IIIC T₂₀₀ 90 °C Da
Ignition protection type (IECEX):	gas Ex dust Ex	Ex ma IIC T6...T3 Ga Ex ma IIIC T₂₀₀ 90 °C Da
Temperature range in T6		-20 °C ≤ Ta ≤ +60 °C
Temperature range in T5		-20 °C ≤ Ta ≤ +60 °C
Temperature range in T4		-20 °C ≤ Ta ≤ +60 °C
Temperature range in T3		-20 °C ≤ Ta ≤ +60 °C
Temperature range dust Ex		-20 °C ≤ Ta ≤ +60 °C
Maximum surface temperature		90 °C
Rated Voltage		27 V DC
Supply voltage		24 V DC ±10%
Rated current		50 mA DC
Switching current		50 mA DC
Short-circuit current of external circuit		≤100 A
Electrostatic chargeable plastic housing		
With reference to group II (gas):		227 mm ²
With reference to group III (dust):		480 mm ²
Housing material		Br-Ni / PA
Switching output		PNP-Normally open 
Switching distance Sn		5 mm flush
Operating point		0.8 Sn
Hysteresis		< 0.1 Sn
Switching frequency		300 Hz
Test voltage		500 V / 50 Hz / 60 s
Degree of protection [EN 60529]		IP 67
Electrical connection		2 m PUR-cable, grey, 3x0.34 mm ²
Accessories		2x nut M18x1, Br-Ni

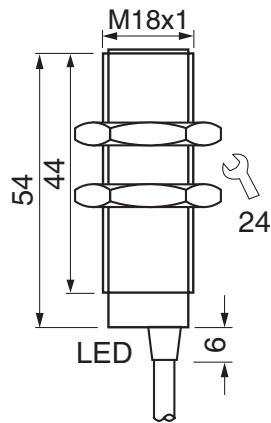
Trouble shooting

Failure	Cause of failure	Remedy
The functioning indicator does not light up when the proximity switch is actuated	Supply voltage too low or not connected	Check power supply
No change of switching signal	Operation of the proximity switch outside of specification	Check range of application of the proximity switch

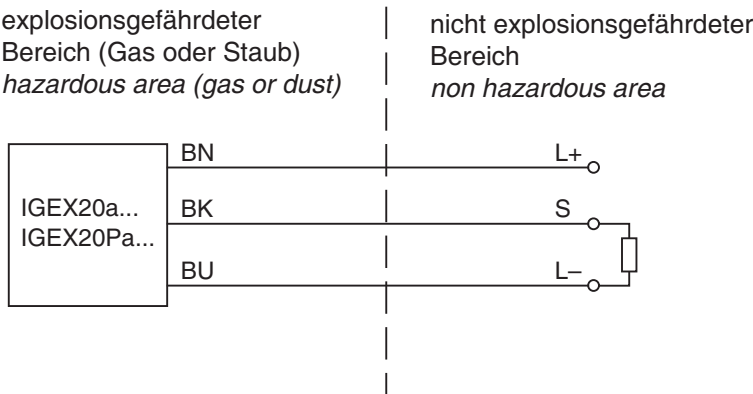
Scope of delivery, transportation and disposal

- Inspect packaging and content for damage.
- Check the delivery for completeness.
- Disposal note: Do not dispose the device in the domestic waste, comply with relevant laws and national regulations.

Dimensions

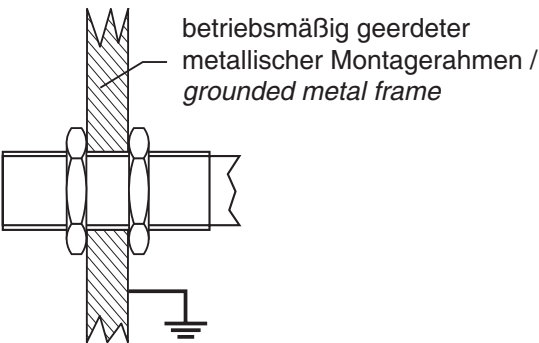


Connection diagram



Colour code BK: black | BN: brown | BU: blue | GY: grey | WH: white

Installation



Bauform / type	max. Drehmoment / max. torque
M12x1	10 Nm
M18x1	25 Nm
M30x1,5	40 Nm

CE EU Declaration of Conformity

We, EGE-Elektronik Spezial-Sensoren GmbH, Ravensberg 34, 24214 Gettorf, Germany, declare in sole responsibility that the following product:

Inductive proximity switch
Ex-Device category 1
IGEX20a 05 GSP – P31381

subject to this declaration fulfils the essential health and safety requirements of the stated EU Directives:

2014/34/EU: Equipment and protective systems intended for use in potentially explosive atmosphere (ATEX)

Applied standards and year of issue:

EN IEC 60079-0:2018

EN 60079-18:2015/AC:2018

2014/30/EU: Electromagnetic compatibility (EMC)

Applied standard and year of issue:

EN IEC 60947-5-2:2020

2011/65/EU: Restriction of the use of certain hazardous substances in electrical and electronic equipment (ROHS3)

Applied standard and year of issue:

EN IEC 63000:2018

Marking gas Ex  **II 1 G Ex ma IIC T6...T3 Ga**
Marking dust Ex  **II 1 D Ex ma IIIC T₂₀₀ 90 °C Da**

The notified body Bureau Veritas Consumer Products Services Germany GmbH (No. 2004) performed the conformity assessment procedure according to the Directive 2014/34/EU Annex III and issued the certificate: EU-type examination certificate EPS 17 ATEX 1 117 X.

Assessment of quality assurance in production process according to annex IV of the Directive 2014/34/EU was conducted by: TÜV NORD CERT GmbH (No. 0044).

Gettorf, 20.01.2023



Head of Development

Manufacturer

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**UK
CA UKCA Declaration of Conformity**

This Declaration of Conformity is issued under the sole responsibility of the product manufacturer.

Inductive proximity switch
Ex-Device category 1
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The object of the declaration described above is in conformity with the relevant UK Statutory Instruments and their amendments:

SI 2016 No. 1107: The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016

The following designated standards were applied:

EN IEC 60079-0:2018

EN 60079-18:2015/AC:2018

SI 2016 No. 1091: The Electromagnetic Compatibility Regulations 2016

The following designated standard was applied:

EN IEC 60947-5-2:2020

SI 2012 No. 3032: The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The following designated standard was applied:

EN IEC 63000:2018

Marking gas Ex  **II 1 G Ex ma IIC T6...T3 Ga**
Marking dust Ex  **II 1 D Ex ma IIIC T₂₀₀ 90 °C Da**

The approved body Bureau Veritas Consumer Products Services United Kingdom Limited (No. 8507) performed the conformity assessment procedure according to the UKSI 2016 No. 1107 (as amended) and issued the certificate: UKCA-type examination certificate EPS 22 UKEX 1 085 X.

Assessment of quality assurance in production process according to UKSI 2016 No. 1107 (as amended) approved by: Element Materials Technology Warwick Ltd. (No. 0891).

Gettorf, 20.01.2023



Head of Development

Importer UK

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