Tippkemper® ISO 9001:2015 / ATEX MATRIX elektronik ag

Original operating manual: LPO-532-CJY-ZA
Laser pointer inside M30 housing

CE 0000

Ex

II (1)G
II (1)D

IECEx Pending

[Ex op is Ga] IIC T4
[Ex op is Da] IIIC T135°C

- Green laser light for better visibility
- Eye-safe laser class 2
- The laser pointer must be mounted outside the Ex-zone. The Light can work in Ex Zone (0).

Technical Data \ Type	LPO-532-CJY-ZA
Beam shape	point
Gas Ex protection designation	II (1)G [Ex op is Ga] IIC T4
Dust Ex protection designation	II (1)D [Ex op is Da] IIIC T135°C
For use in Ex Zones	Zone (0)
Light Source	Laser, green, 520nm, class 2
Beam divergence angle	6mrad
Optical output rising time	3.2us
Optical output falling time	3us
Supply voltage, Ue	24 VDC ± 10%
Absolute maximum supply voltage, Um	30 VDC
Current consumption	30mA
Housing	M30, Material: Ms 58 nickel plated
Enclosure rating	IP67
Ambient working temperature range, T_{amb}	0°C up to +40°C
Storage temperature range	–20°C up to +70°C
EMC, shock and vibration resistance	Vibration: 30g over 20Hz to 2Khz. Shock: 100g for 3ms
Connection cable	4 + PE x 0.5mm2, TPU, shielded, halogen free, leads numbering marked, for drag chaining, length: 10m

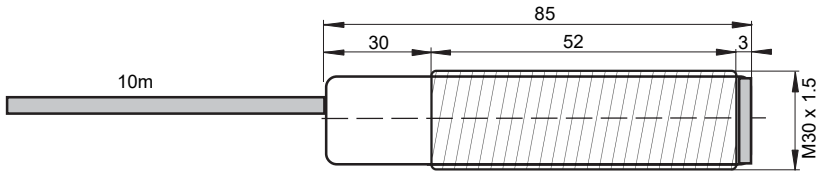
Accessories

Included	Optional
• 2x nuts M18 • 1x Warning plate "LASER RADIATION. DO NOT STARE INTO BEAM. CLASS 2 LASER PRODUCT", self-adhesive for gluing near to the sensor.	• 1x clamp

Wiring and Connection

Lead-No	Function
1	24 VDC ± 10%
2	0V
3	DI (ON:0V, OFF:24V)
4	DO
white	Cable shield
yellow-green	PE/PA

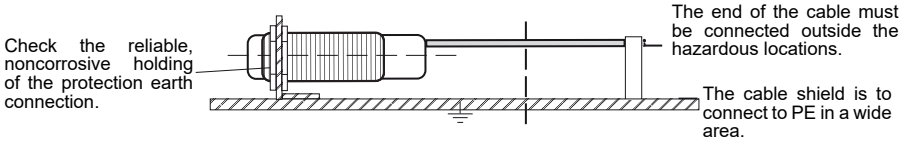
Dimensions



EX related markings

CE 0000	Manufacturer with Address
Typ: LPO-532-CJY-ZA	Electrical data according table
Gas: II (1)G [Ex op is Ga] IIC T4	Dust: II (1)D [Ex op is Da] IIIC T135°C
ATEX:	Pending
IECEx:	Pending
Tamb:	0°C up to +40°C
Manufacturing date:	Number 5 to 8 of the Serial Number (Year / CW)

Safe equipotential bonding for Ex devices



LPO-532-CJY-ZA_e3/2020–11–18/PDL

Installation prescriptions for Ex hazardous locations
The applicable international and national rules and regulations must be strictly observed. The maximum input voltage Um=30 VDC must not be exceeded. Additional optical lenses are not allowed in hazardous areas. The local potential equalization must be applied. The protective earth (PE) must be connected to the housing. The cables must be laid and/or protected in such a way that they cannot be damaged.
The limited optical radiation of the laser pointer can be used in hazardous areas (0). Do not connect or disconnect the laser pointer in a hazardous atmosphere.

Safety regulations for Laser devices class 2
The relevant standard is IEC/EN 60825-1 ”Safety of laser products”, see paragraphs 12.5.1 and 12.6.1. It is only necessary to take precautions to avoid a direct and prolongued staring into the beam. A direct look into the beam is not considered hazardous if the normal eye reflex limits it to a short duration (max. 0.25s). The laser beam path should be blocked at the end of its useful path when this is reasonably practicable. Additionally, the laser should not be directed at people.

General mounting prescriptions
Mount the laser stable and vibration-free. The electrical connections must be exactly as shown in the connection diagr am. The cable shield must be connected as short as possible. The cable shield should be connected to the protection earth, large-surfaced. Do not exceed the maximum ratings or install the connection cables parallel to high voltage cables.

Function
Once the laser pointer is energized, it takes about 10 seconds to start. After that the laser pointer can be switched on and off via the DI input. The DI-input must be set to +24V to switch off the laser pointer. The laser pointer is switched on when the DI input is set to 0V or left open. The switching frequency of the laser pointer can be up to the kHz range. The lifetime depends on the switching frequency and the ambient temperature. To prolong the life of the laser pointer, it should be switched off when not in use. If there is an internal error, the DO output switches to ”High”. Connect the DO output only to inputs or leave it open. Never connect the DO output directly to 0V, GND, ground or +24V.

General safety instructions
”WARNING - EXPLOSION HAZARD - WHEN IN HAZARDOUS LOCATIONS, TURN OFF POWER BEFORE REPLACING OR WIRING MODULES. DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS”. The mounting of the sensor in dusty locations without fixed cordset or protection cap results in a high ignition risk.

General notes, disposal
We reserve the right to make changes. The laser pointer is built as environmentally friendly as possible. It contains no environmentally harmful substances. A minimum of energy and resources are used during production and operation. Irreparable or no longer used devices must be disposed of according to the valid regulations.

Maintenance
No special maintenance is required. For a high reliability hold the Laserpointer window free from sediments. It should be cleaned only with a non-aggressive cleaning liquid. Equipment should only be repaired by the manufacturer.

EU-Declaration of Conformity
The product complies with the following standards and provisions:
IEC 60079-0, IEC/EN 60079-28, IEC/EN 60825-1, IEC/EN 60825-2, IEC/EN 60529, IEC 61000-4-2 to IEC 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 certification: II (1)G [Ex op is Ga] IIC T4, II (1)D [Ex op is Da] IIIC T135°C. Certification No. Pending, IECEx Pending, ExCB: Eurofins Electric & Electronic Product Testing AG, Luppmenstrasse 3, CH-8320 Fehraltorf, Ident. Number: 1258.
ATEX certification of quality management system, type production of Ex devices, in accordance to the directive 2014/34/EU, CE 0158. Certification No. BVS 18 ATEX ZQS / E118, QAR No. DE/BVS/QAR13.0004/04. Mr. 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 with the ATEX module ”Production”, declares:

Ehrendingen, 18.11.2020

Pablo Ledergerber, Matrix Elektronik AG

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