



# EEx Electro-Optic Level Switch

 II 1 G EEx ia IIC T6

Nemko 02ATEX087



 CE 0470  II 1 G EEx ia IIC T6 Nemko 02ATEX087 Production Year: Rev 03 <a href="http://www.teklab.biz">www.teklab.biz</a>	<b>Safe Parameters:</b> Ii: 160mA Ui: 30 VDC Pi:1.2W	Temperature range: -20÷+60°C Operating Voltage: 9 ÷ 28 VDC Max. output sink current: 40mA OUTPUT TYPE: OPEN COLLECTOR CONTACT: <input type="checkbox"/> NC in air <input checked="" type="checkbox"/> Code 5125 CONTACT: <input type="checkbox"/> NO in air <input checked="" type="checkbox"/> Code 5124
	<b>CABLE COLORS:</b> BN: Power; BK: Output; BU: GND (Brown) (Black) (Blue)	The device must be mounted only by qualified persons in strict accordance with the technical brochure. Failure to observe this warning could result in serious injury or damages.

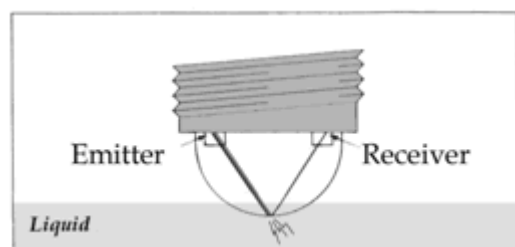
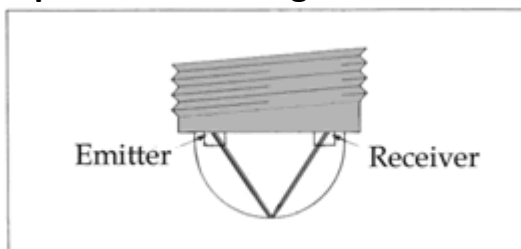
## Safety notes

The sensor has been manufactured to achieve the ia intrinsically safety, and to work in potential explosive environment – IIC Group – in the T6 (85°C) temperature class.

The device shall be mounted **only by qualified and authorized persons**.

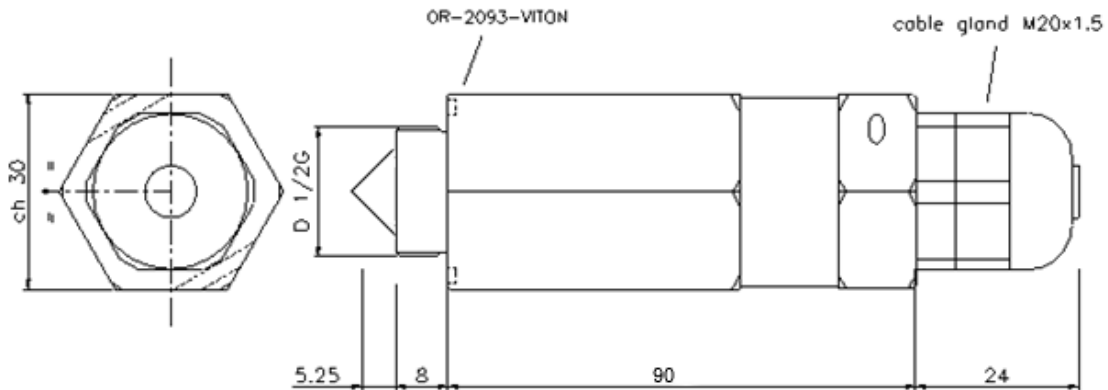
Since the sensor primary use is in hazardous location, **an appropriate intrinsically safe interface must be used and installed in strict accordance with this technical brochure**. Failure to observe this warning could result in serious injury or damages.

## Principle of functioning



The sensors contains an infrared-ray emitter and an optical receiver. In air (liquid not present), all the light emitted is reflected - internally - by the dome and then redirected to the receiver. When the liquid reaches the sensor dome, a big amount of the light emitted is lost in the liquid and the sensor senses its presence.

## Mechanical drawing



## Case features

Body materials:

Stainless Steel AISI 303, 304, 316L

Dome materials:

Glass

Available Body threads:

from 3/8" up to 3/4" GAS cylindrical;

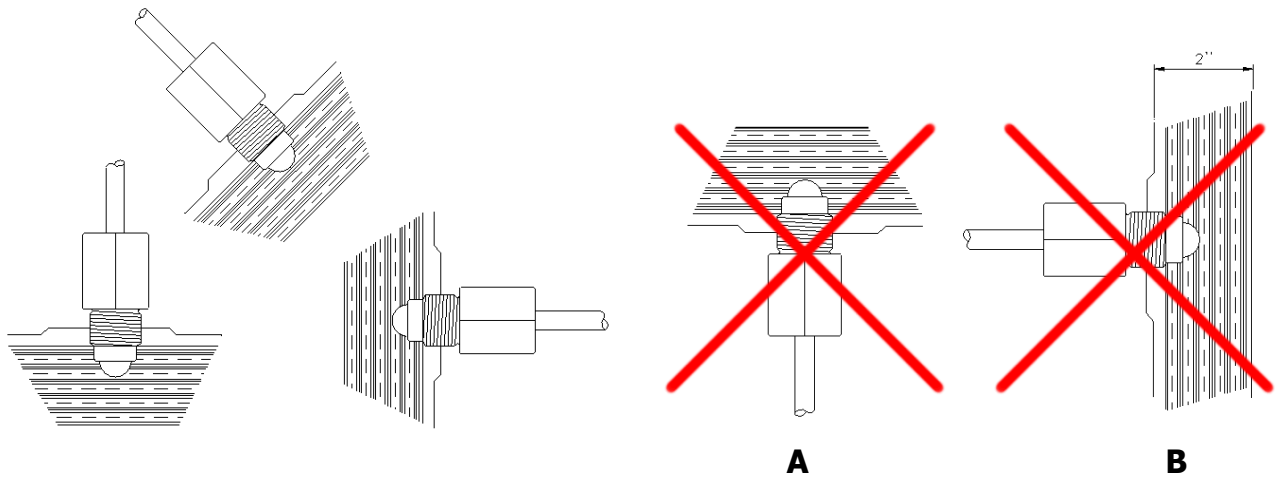
from 3/8" up to 3/4" GAS conic;

from 3/8" up to 3/4" NPT;

from 5/8"-24 up to 1" 1/8-18 UNEF;

from M18 up to M30 ISO metric.

## Mounting Positions



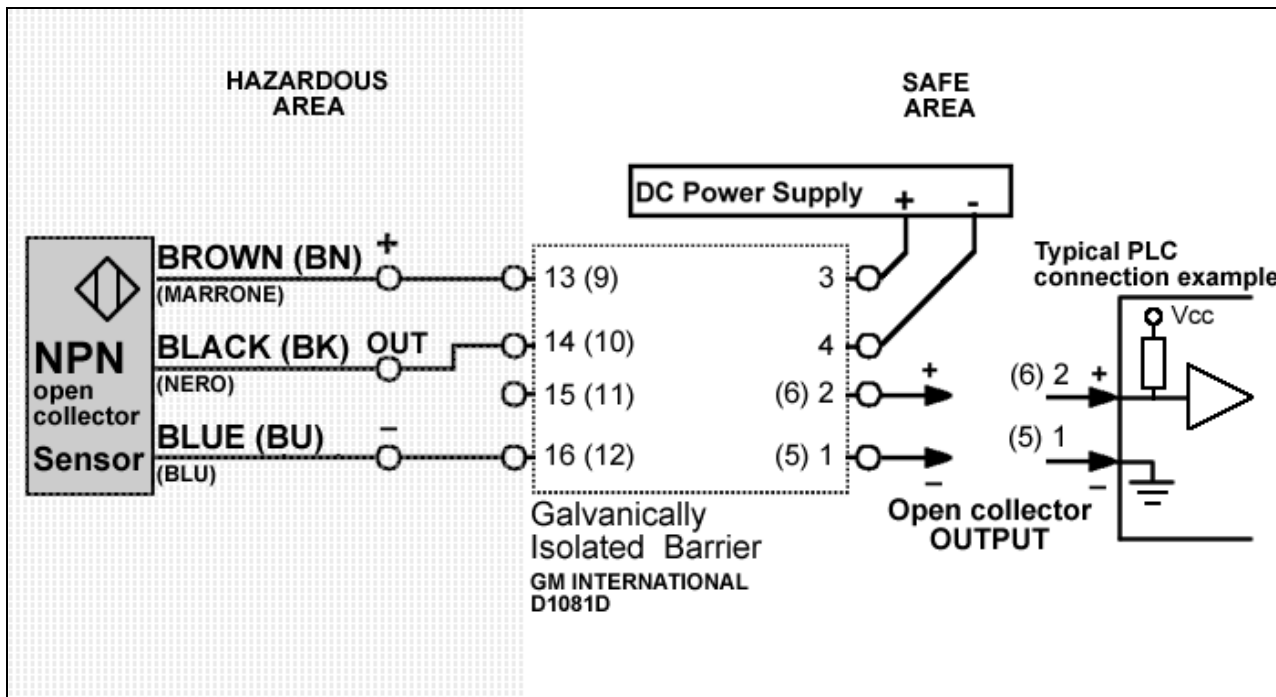
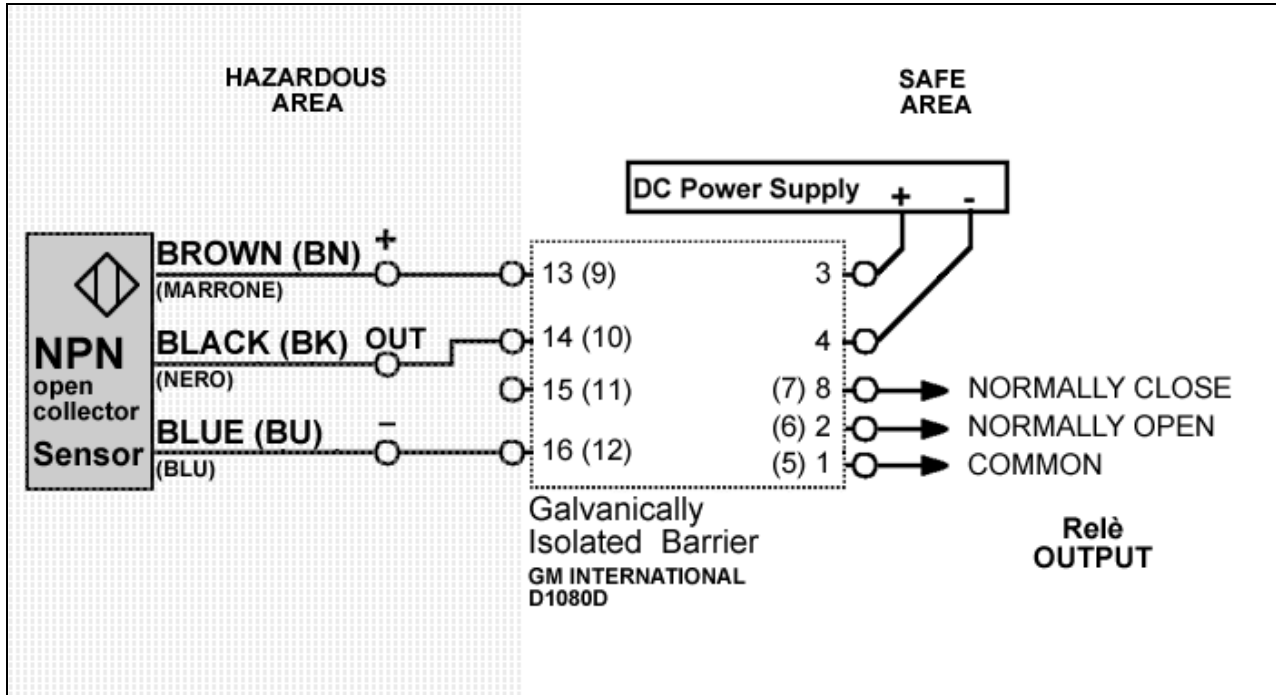
## **WARNING**

- Do not install sensor close to infrared sources.
- Do not install the sensor in a stagnation point of the liquid (*Example A*).
- Dome of the sensor must be at least 2" (~ 50mm) from any reflective surfaces (Please contact Teklab for lower distances). (*Example B*).
- Do not use to detect freezing liquids

## Wiring

The sensor is available with the following output types:

- ✓ NPN OPEN COLLECTOR



### ATTENTION

Leads connection only as indicated in the picture: any other combination may damage the sensor in an irreversible way.

## Electrical features

Power supply	9 ÷ 28 Vdc
Working Temperature	-20°C ÷ 60°C
Storage Temperature	-20°C ÷ 60°C
Output Type	Open collector
Max. output NPN O.C. sink current	40 mA
Cable capacitance	140 pF/m
Cable inductance	1,25 µH/m
Cable resistance	39 mΩ/m

## Safety Parameters

U<sub>i</sub> = 30VDC

I<sub>i</sub> = 160mA

P<sub>i</sub> = 1,2W

Ingress Protection Code:

In front IP68, 20 bar 30min

NOTE. Cable parameters can change from a production batch to another but they can never exceeds the values reported above

## Code number

Output Mode	Code Number
Normally Open in air	5124
Normally Closed in air	5125

## Chemical compatibility

The sensor body material resists to several aggressive chemical agents; **it is strictly to the customer pertinence, the test of compatibility between the sensor itself and the liquid in which the sensor will be used.**

## Maintenance

Sensor may require a periodic cleaning of the photo-sensible dome surface.  
Eventual solids deposits shall be removed with a mild detergent.

### **Teklab S.r.l.**

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