

**Laser distance sensors**  
**Proximity switches**  
**Light guides      Cameras**

# Distance measurement

in  Hazardous areas



Video: <https://youtu.be/PePArKBpPY>

## TDD – Proximity switch

Measuring range	100 mm to 1000 mm
Resolution	± 10%
Output	RS485, 4 - 20mA, switching output
Areas	(0), 1, 2, (20), 21 and 22

Works independently of the reflectance of the measurement object  
Explosion-proof, robust and compact M30  
Metal housing in flameproof enclosure Ex„d“  
Optical power limitation -  
Sensors may radiate in zones 0 and 20  
Versions with switching function and analog output 4 - 20 mA  
Protection class IP 67



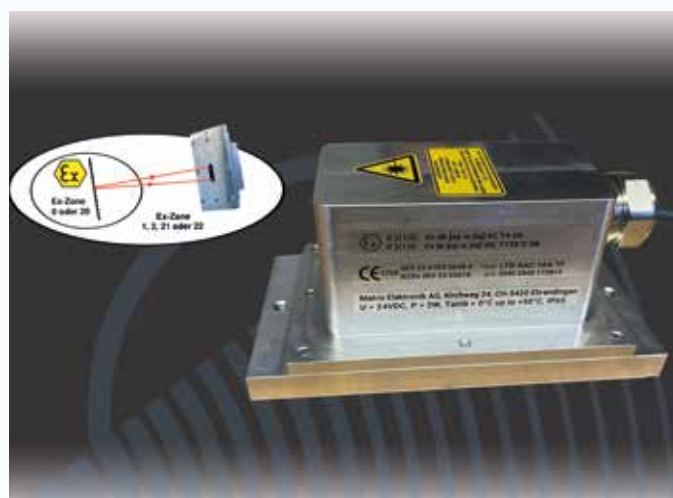
**New!** Devices with windshield heating and selectable laser timing

Video: <https://youtu.be/AlzknTL5TVw>

## LDH, LDG – Laser distance sensors

Measuring range	50 mm to 30.000 mm
Resolution	1 mm
Output	RS485, 4 - 20mA
Areas	(0), 1, 2, (20), 21 and 22

Exact, precise and millimeter-accurate measurement using time-of-flight measurement  
Suitable for matt, glossy and different colored - also black - objects  
Explosion-proof, robust stainless steel housing  
M42 housing in flameproof Ex„d“ enclosure  
Optical power limitation -  
Sensors may radiate in zones 0 and 20  
Protection class IP67



Video: <https://youtu.be/seiO2kTCvu8>

Additional information and data sheets can be found on our website [www.tippkemper-matrix.de](http://www.tippkemper-matrix.de)

## LTG – Laser triangulation sensors

Measuring range	43 mm to 143 mm
Resolution	10 µm
Output	RS422, 4 - 20mA
Areas	(0), 1, 2, (20), 21 and 22

Distance measurements with a reproducibility of < 10 µm  
Easy alignment thanks to visible laser light  
Stable measured values regardless of the color and brightness of the measured object, measuring rate up to 2 kHz  
Analog output signal 4 - 20 mA, data interface RS 422  
Explosion-proof, robust housing made of die-cast aluminum in flameproof Ex„d“ encapsulation  
Optical power limitation -  
Sensors may radiate in zones 0 and 20  
Protection class IP65



# High-performance light barriers

## High-performance light barrier ILG-260



Infrared, 850nm  
Insensitive to ambient light  
Use in Ex zones 1, 21  
according to ATEX, IECEx  
Range: up to at least 30m  
Power supply: 24 VDC  
Output: pnp  
Design: M30  
Metal housing  
Protection class IP 67



## High-performance light barrier ILS-260 – for the most extreme applications



Easy assembly and alignment of  
transmitter and receiver  
Increased range of up to 600m  
Extremely resistant to dirt  
Very strong penetration  
Insensitive to external light  
Sturdy metal housing  
Protection class IP 67

Video: <https://youtu.be/PePArKBpPY>

## Cameras and light sources

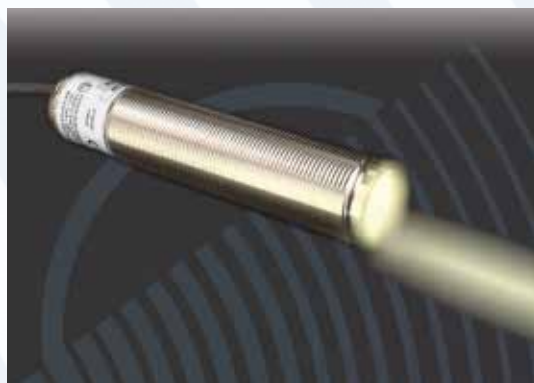
in  Hazardous areas

### CV – Color cameras, explosion-proof



Video transmission speed of up to 90 FPS  
with a resolution of up to 1920x1080 pixels  
Photos with up to 3280x2464 pixels  
8-megapixel camera  
Integrated barcode and QR code capture  
Configurable and controllable via Modbus TCP  
For Ex Zones (0), 1, 2, (20), 21, 22 (Gas and Dust Ex)  
Explosion-proof, robust stainless steel housing  
M42 in pressure-proof encapsulation (Ex „d“)  
Protection class IP67

### LQ – Continuous light sources for hazardous areas



Continuous light sources for all Ex zones  
Explosion-proof, robust stainless steel housing in M30 and M42  
In pressure-proof encapsulation Ex „d“  
Light sources with and without fiber optic adaptation  
Daylight white light source color  
Optical power limitation –  
Light sources may emit in Zone 0 and 20  
Protection class IP67

Additional information and datasheets can be found on our  
website [www.tippkemper-matrix.de](http://www.tippkemper-matrix.de)



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Tippkemper-Matrix is a medium-sized, family-owned company with several locations in Germany and Switzerland and is one of the leading sensor manufacturers in industrial automation. In addition to optical, inductive and capacitive sensors, we specialise in sensor solutions for hazardous areas.



[www.tippkemper-matrix.de](http://www.tippkemper-matrix.de)