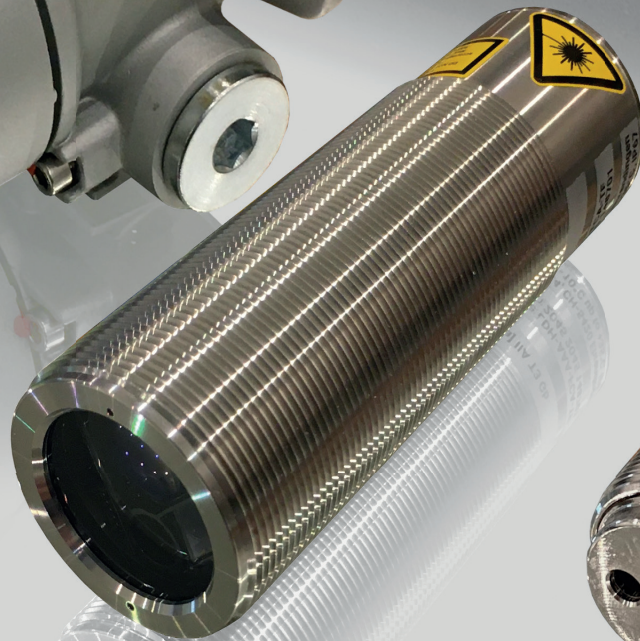
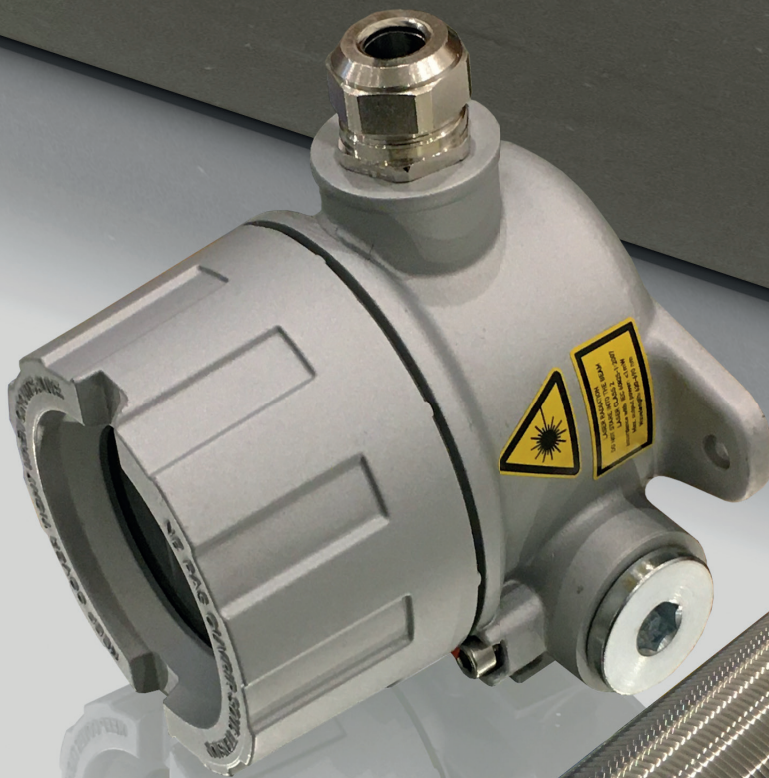


# Measuring sensors for Hazardous areas

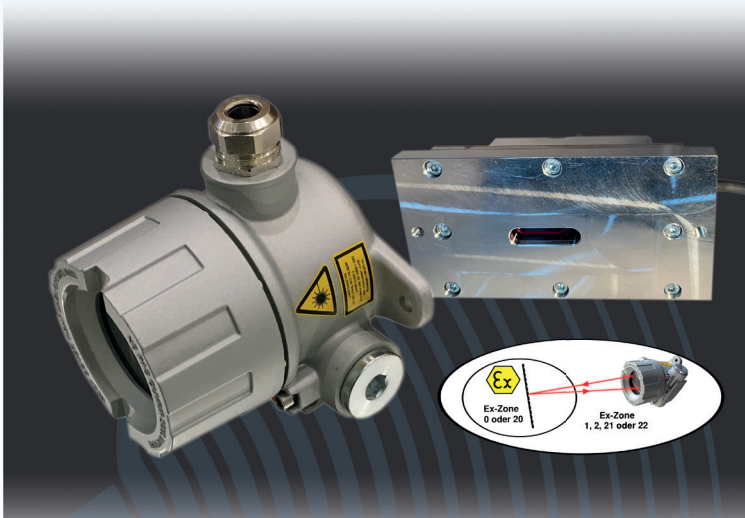
by Tippkemper-Matrix



# Laser triangulation measuring

with highest precision

in  hazardous areas



Distance measurements with a reproducibility of <math>< 10 \mu\text{m}</math>

Measuring range 100 mm, > 50 mm < 150 mm

Easy alignment due to visible laser light

Stable measurement values independent of colour and brightness of the object to be measured

Measuring rate up to 2 kHz

Analogue output signal 4 - 20 mA, data interface RS 422

Explosion-proof, robust housing made of die-cast aluminium in flameproof Ex „d“ enclosure

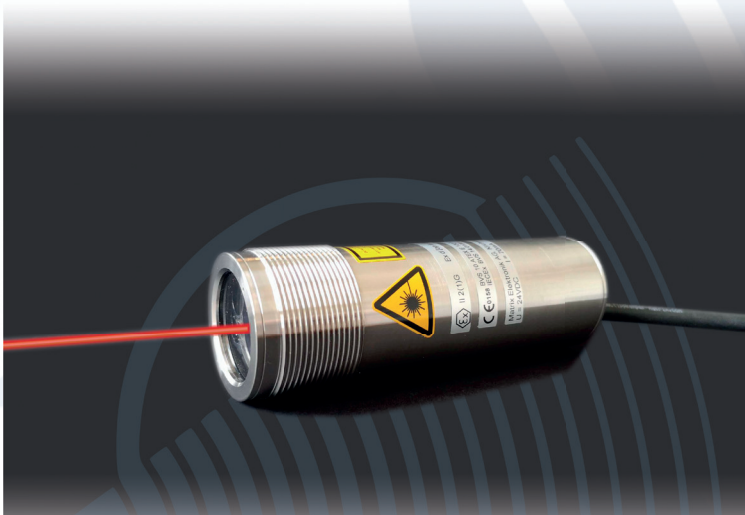
Approved for Ex zones 1, 2, 21, 22 (gas and dust Ex)

Optical power limitation - sensors may radiate in zones 0 and 20

Protection class IP65

# Laser distance measurement

in  hazardous areas



Exact, precise and millimetre-precise measurement

by means of time-of-flight measurement

Ranges up to 30000 mm with 1mm triggering

Suitable for matt, shiny and differently coloured - even black - objects

Explosion-proof, robust stainless steel housing M42 in flameproof enclosure Ex „d“

Approved for Ex zones 1, 2, 21, 22

(gas and dust Ex)

Optical power limitation -

Sensors may radiate in zones 0 and 20

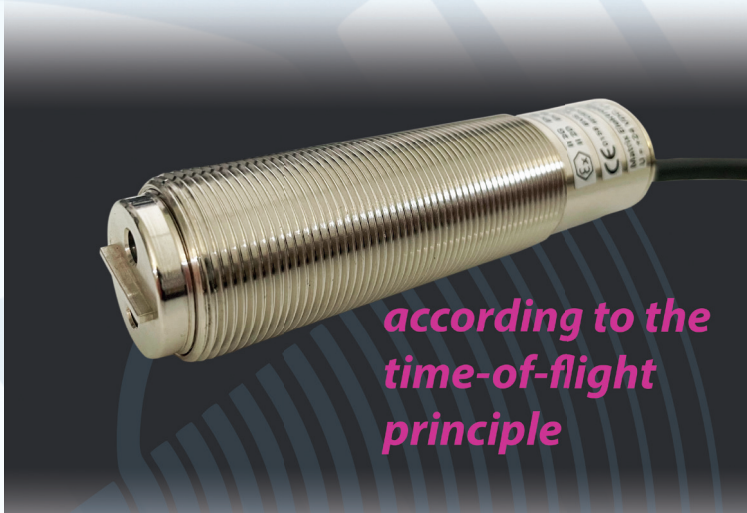
New! Units with lens heating and selectable laser pulsing

Protection class IP67

# Proximity switch TDD

Precise and centimetre-accurate time-of-flight measurement

in  hazardous areas



Infrared light 860nm with a measuring range from 100 mm to 1000 mm

Operates independently of the reflectance of the object being measured

Explosion-proof, rugged and compact M30 metal housing in flameproof enclosure Ex„d“

Approved for operation in Ex zones 1, 2, 21, 22 (gas and dust Ex)

Optical power limitation - sensors may radiate in zones 0 and 20

Versions with switching function and analogue output 4-20 mA

Protection class IP 67

## Product overview

Light scanners

Light barriers

Reflex light barriers

Laser light barriers

Laser distance sensors

Proximity switches

Accident prevention light barriers and systems

Camera systems

Light sources

Safety inductive sensors

Infrared distance sensors

Capacitive level sensors

Ex iA, Ex db, Ex nA, Ex mb in design M18, M30 and M42

Light sources (laser/LED) in all sensors according to IEC / EN 60079-28 (op is) for EPL Ga / Da

Products of explosion protection category 1,2 and 3 for gas and dust according to ATEX and IEC

Special developments according to customer requirements

## Areas of application

Ex-area Zone 0, 1, 2 and 20, 21, 22

Heavily polluted atmospheres

High voltage ranges

Increased temperatures



# Group of companies



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