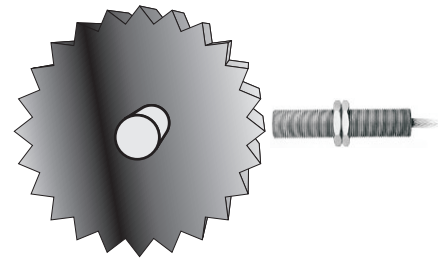


The pulse sensors FGL 3/ and FGL 3/. Exi are suitable for a non-contact speed sensing on objects made of ferromagnetic material and for the connection to digital speed indicators or frequency/analogue converters. They consist of a differential MDR sensor, which represent a half-bridge. Therefore the signal alternating voltage is superimposed to the constant voltage with approximately half the value of the auxiliary voltage. A lower limiting frequency of 1 Hz is in most cases determined by the capacitive coupling of the measuring instruments to be connected. The profile of the output is dependent on the objects to be measured.

The pulse sensor FGL 3/. Exi can be installed in hazardous areas and has to be connected to intrinsically safe circuits.



PICKUP AND GEARWHEEL

## TECHNICAL DATA

### FGL 3/ and FGL 3/. Ex i

Sampling frequency range	< 0,3 mm for module 0,7
Air gap	< 0,7 mm for module 1,0 < 1 mm for module 1,5 < 1,5 mm for module 2,0 < 1,3 mm for module 3,0
Auxiliary voltage	5 .. 8,2V = / approx. 20 .. 30 mA (Ri ≤ 50 Ohm)

Output voltage	The signal alternating voltage is superimposed to the half auxiliary voltage, depending on the air gap and proportional to the auxiliary voltage; approx. 0,4 Vpp at a.m. air gap and 5V + auxiliary voltage.
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Working Temperature	-10 .. + 60 °C
Storage temperature	-20 .. +80 °C
Enclosure	IP 67 DIN 40050
Weight with cable	110 g (FGL 3/1)
Maximum length of cable	approximately 300 m
Connection cable	2 m LiYCY 3x0,25 mm <sup>2</sup> , shielded
Housing	nickel plated brass
	0 .. 20 kHz

### FGL 3/. Ex i for the use in hazardous ares

Signal circuit	safety Eex ib IIC, for the connection with an intrinsically safe electrical circuit with the following maximum values: no load voltage = < 9.0 V short circuit current < 70 mA maximum power < 300 mW
Inner inductive	negligible
Inner Capacitance	negligible
Enclosure	Eex ib IICT5
PTB No.	Ex-83/2071X
Weight with cable	190 g (FGL 3/1 Exi)
Connection cable	2 m LiYCY 3x0,75 mm <sup>2</sup> , shielded, cable cover blue.
Elclosure class intrinsically	

### Mounting

For mounting it is of greatest importance that the rectangular active surface of the sensor lies parallel to the gear-wheel tip. This is given when the connecting line between both markings on the cable side of the sensor is parallel to the axial line of the gear. With a lead of 1 mm of the sensor thread this optimum position can always be attained. With other gear tooth forms, pins or holes in a shaft whose speed is to be determined, a comparison with an involute tooth system should give the best sensor to object distance.

A decrease in the sensor to object distance will improve results. However the active surface is extremely sensitive to damage.

Attention: The distance for FGL 3/. Ex i in hazardous areas should not be less than 0,5mm.