KIEPE ELEKTRIK

Pulse Transducer

DG

contactless

APPLICATION

The DG type proximity switches are contactless pulse transducers. They are especially designed to meet operating conditions, where high switching accuracy, durability, corrosion and wear resistance are required. The pulse transducers generate pulses, the frequencies of which is proportional to the rational speed. The evaluation of the generated pulses is assesed and monitored by either of the Kiepe speed monitors EDO or JMNC.

OPERATING PRINCIPLES

2-Wire Pulse Transducer according to NAMUR-EN 50227

Essentially, these pulse transducers consists of an electronic oscillator, the high-frequency stray field of which makes up the response zone. When a metallic object is immersed into the effective area of the stray zone, the resonant circuit is short-circuited and its internal resistance becomes high-impedance. The oscillations stop and the current consumption of the pulse generator degreases. This current change is analysed by the Kiepe speed monitors.

3-Wire Pulse Transducer, PNP-switching

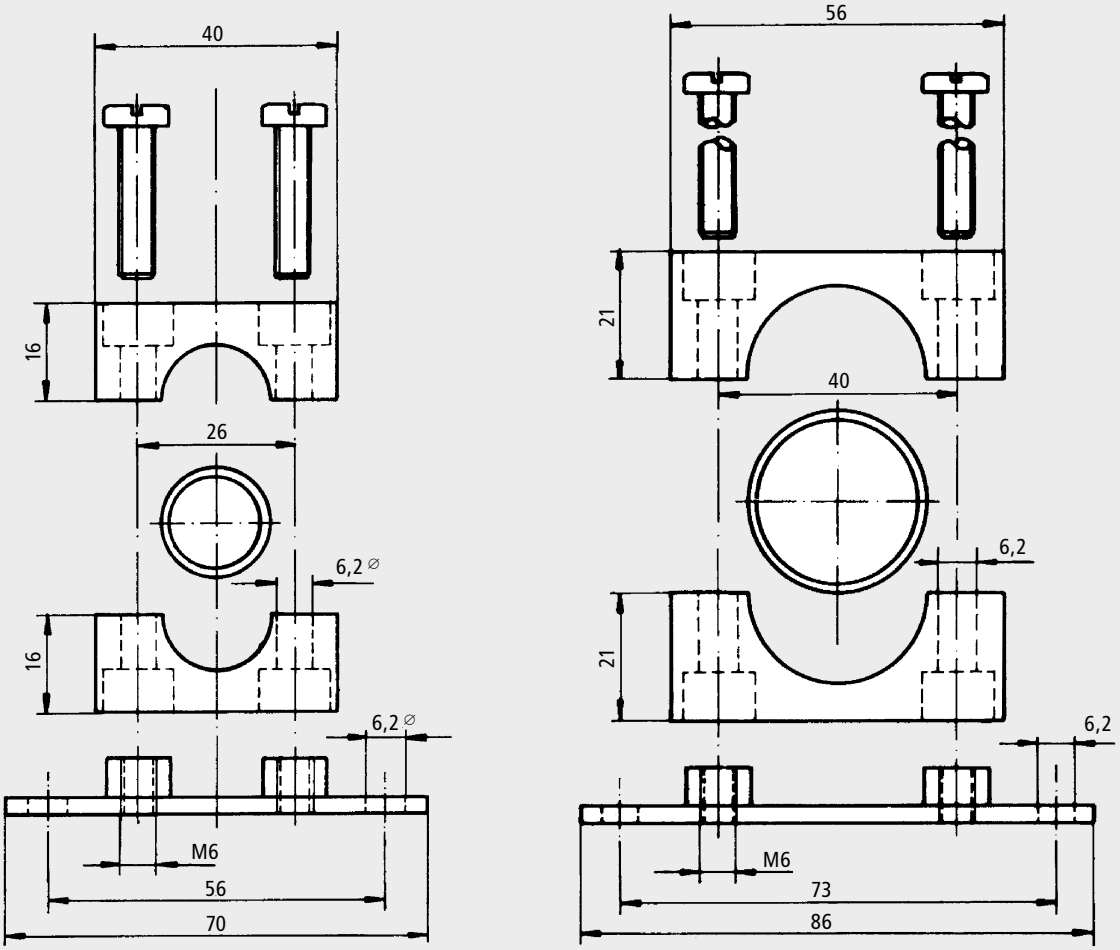
These pulse transducers differ from the NAMUR types by an additional downstream flip-flop, which effects a change of the output potential from GND to +Ub when the active zone is damped. These pulse transducers can also be directly connected to a PLC.

INSTALLATION

The pulse transducers are to be installed in such a way that within the sensing zone one or several metal parts (Fe metals, if possible) can rotate passing the transducer´s head within the response distance. One pulse is generated per metal part. Pulse multiplication via several metal parts is recommended for low rational speeds. the metal parts should at least have the dimensions of the transducer´s head and the distance between any two parts should not be below twice the diameter of the transducer´s head.

The pulse transducer is fastened with two fixing nuts or by means of the enclosed plastic mounting clips c/w welding plate. Since the pulse transducers are suitable for a flush mounting they can be screwed directly in a thread.
In order not to influence the sensitivity of the pulse transducer, the distance between the pulse transducer´s head and any metal machine parts has to be at least 24 mm for M18 and 30 mm for M30 pulse transducers.

DRAWING INSTALLATION

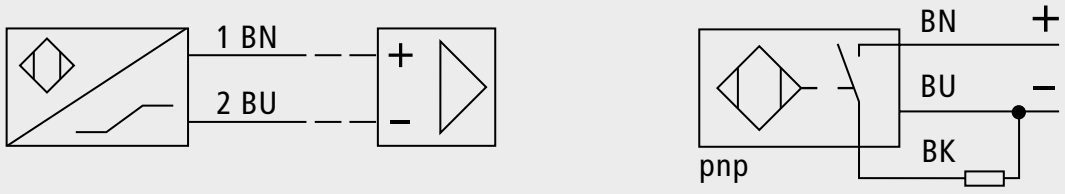


Width of the welding plates: 30 mm
Thickness of the welding plates: 7 mm

TECHNICAL DATA

2-Wire-Pulse Transducer according to NAMUR-EN 50227		
Rated operational voltage	U_O	DC 8,2 V
Internal resistance	R_i	1000 Ω
	$I_{activated}$	≤ 1,2 mA
	$I_{non\text{-}activated}$	≥ 2,1 mA
3-Wire-Pulse Transducer, PNP-switching		
Rated operational voltage	U_B	DC 10 ... 30 V, completely polarized
Rated operational current	I_e	200 mA

CONNECTION DIAGRAM



GENERAL DATA

Standards	EN 60947-5-2 EN 50227 (only NAMUR-types) EN 50081-2 EN 50082-2 VDE 0110 - pollution degree 3
Protection	IP 67 according to EN 60529
Housing	Chrome-plated brass PA 12-GF 30 for temperature resistant types
Ambient temperature	Standard - 25 °C ... + 70 °C TN-Type - 40 °C ... + 70 °C TH-Type - 25 °C ... +100 °C
Connecting cable	2 x 0,5 mm², length 2 m for NAMUR-types 3 x 0,34 mm², length 2 m for PNP-types

SELECTION TABLE

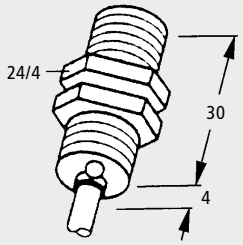
Type	Rated operating distance s_n (mm)	Output	Diametre (mm)	Order Number
DG 5	5	NAMUR	18	96.040 610.105
DG 5 TN	5	NAMUR	18	215.36.01.02.10
DG 5 TH	5	NAMUR	18	215.36.01.02.11
DGP 5	5	PNP	18	383.06.07.20.00
DG 10	10	NAMUR	30	96.040 610.110
DG 10 TN	10	NAMUR	30	215.36.01.02.15
DG 10 TH	10	NAMUR	30	215.36.01.02.16
DGP 10	10	PNP	30	383.06.07.03.00

The TN- and TH-types are also resistant against oil, petrol and alkaline solutions.

TYPES AND DIMENSIONS

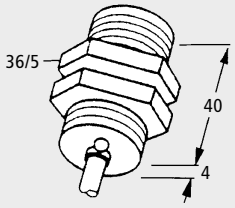
DG 5

Threaded barrel M18 x 1
Housing diameter 18 mm
Fixing torque 25 Nm
Spanner size (AF) 24
Thickness of nut 4 mm



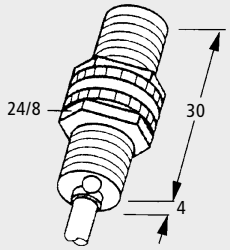
DG 10

Threaded barrel M30 x 1,5
Housing diameter 30 mm
Fixing torque 90 Nm
Spanner size (AF) 36
Thickness of nut 5 mm



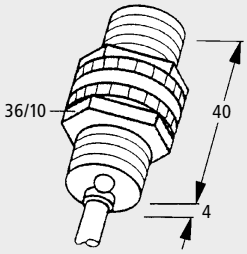
DG 5 TH
DG 5 TN

Threaded barrel M18 x 1
Housing diameter 18 mm
Fixing torque 2 Nm
Spanner size (AF) 24
Thickness of nut 8 mm



DG 10 TH
DG 10 TN

Threaded barrel M30 x 1,5
Housing diameter 30 mm
Fixing torque 5 Nm
Spanner size (AF) 36
Thickness of nut 10 mm



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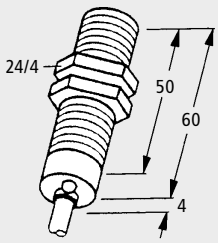

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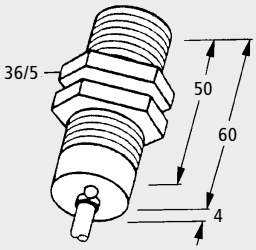

Subject to change without notice.

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