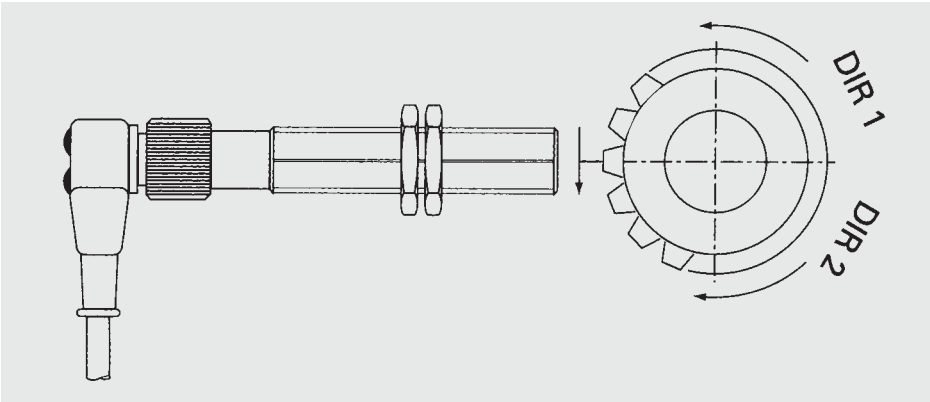
MAGNETORESISTIVE PROXIMITY SWITCHES



number of revolution- and direction detection by magnetoresistive switch

Number of Revolutions- and Directions Detection

Magnetoresitive switches gain importance in the remote sensing detection of mechanical data as number of revolutions and direction.

These switches are stable working in a temperature range –25 °C ...+70 °C and have protection class IP 67. They are connection compatible to inductive switches and are used preferably where an inductive switch has – based upon rising requirements to the switching frequency – gone to the limit.

Direction of Rotation

Magnetoresistive switches are manufactured with a detection unit for the direction of rotation. Our sensors supply (by two parts positioned in the threaded housing) two phase-opposite quadriform signals, where is signal 1 for counter-clockwise rotation advanced to signal 2 and lagged for clockwise rotation.

Therefor our version DPI-D9 is able to replace an incremental transducer.

Alternate to this, another version evaluates the signals inside the sensor itself: depending in the direction of rotation the sensor produces a frequent HIGH or frequent LOW impulse.

The frequency output is realised by a separate connection cable. Possible would be e.g. an up- and down counter with direct trigger by this magnetoresitive switch.

Switching Frequencies 0 to 20 kHz

Minimal field changes (e.g. by a passing gear wheel) are detected by our version DPI up to a frequency of 20 kHz and a sensing distance of 2,5 mm.

Our cylindric sizes M12/M18 enable a fast and exact positioning of the sensor. It's a 3-wire specification with the usual working voltage of 10 ... 30 V DC, short-circuit proof and pole-proof. The output allows a max. load current of 200 mA or 2 x 100 mA.

Mounting

- simple positioning by longitudinal slot
- integrated magnet
- for ferromagnetic metals applicable
- triggering by gear wheel (made of steel)

Generals

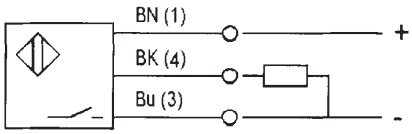
The data shown in the diagram refer to an external spur tooth wheel with spur toothing of hardened steel C45. Tooth wheel diameter > 10 mm.

With other materials or tooth wheel variations there may be variations to Sn and f.

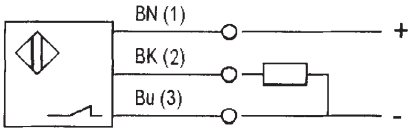
CONNECTIONS

Inductive proximity switches DC

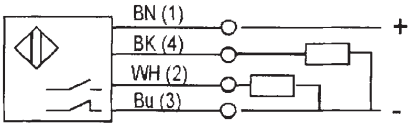
PNP-NO



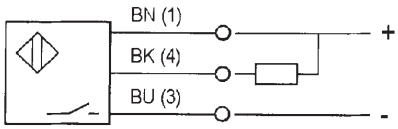
PNP-NC



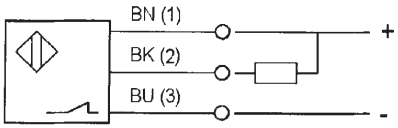
PNP-NO + NC



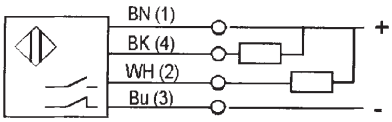
NPN-NO



NPN-NC

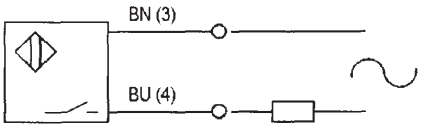


NPN-NO + NC

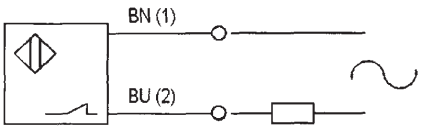


Inductive proximity switches

AC-NO

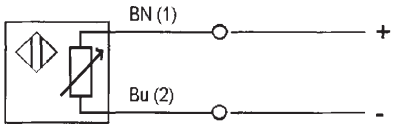


AC-NC



Inductive proximity switches Namur

NA



- All types CE marked
- Plastic construction on request