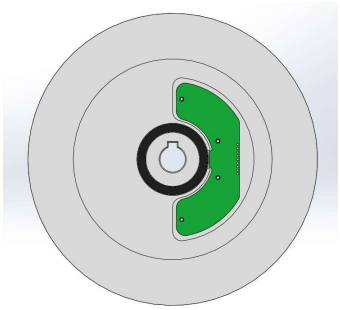
Joint flange encoders according to IEC



In speed controlled applications where a constant RPM or position information is necessary, the encoder provides the solution. The encoder flange is designed by IEC standard, and thereby easily installed between the IEC motor and gear unit. There is no need for custom made parts which is in common by comparable encoders.

The pulses are generated by the magnet, and the electronics are fully encapsulated in Epoxy resin. This ensures that the encoder is completely protected against influences from outside. Standard the encoder is supplied with a 0.75 meter encapsulated cable and ferrules. On customer request we can edit the length of the cable and supply it with M8 or M12 connector.

Specifications

About the incremental encoder with two output signals. To safe space the encoder has the shape of a flange.

Signals

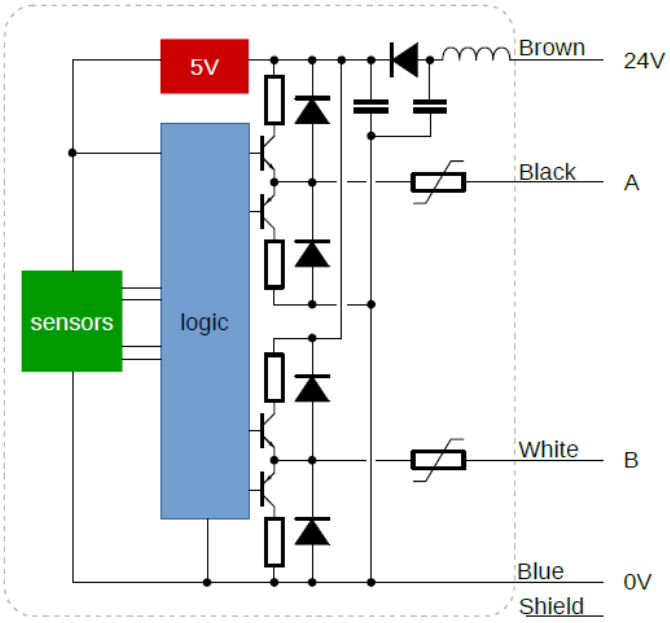
on / off dispensation Between 40% and 60 %
phase relation between A and B 90° ± 15°
Pulse per revolution 60, 30, 20, 15, 10 etc
Zero pulse (chanel Z) No

Electric

Supply voltage (Ub) 12 to 24V, -10% to 15%, Max ripple 5%
Rest current <30 mA
Current inrush <1 A, 24V
Output signal HTL between 0,2V and Ub - 1,0V
Output impedance 470 Ω
Output current 10 mA shortcircuit protected

Description

The outputs are able to use as universal NPN or PNP. Circuit is as following:



The supply voltage enters through a coils, along a capacitor to prevent interference. A diode protects against reverse connecting the supply voltage.

The output signal is being send from a pushpull circuit by two transistors. A poly-fuse (self healing fuse of 10 mA) is connected in series. The outputs are also provided with protecting diodes which protect the outputs against reverse connecting the supply voltage, as well against large interference signals.

Intern the supply voltage is converted to 5 Volt for the sensors and the internal logic.

Connecting

The universal outputs of the encoder can control a PNP as well as a NPN input signal.

With a PNP-system the positive will switch and the load is connected to the negative. The output delivers current. It is ***sourcing***.

With a NPN-system the load is connected to the positive, it delivers current to the encoder. The encoder has a switch between the output and the negative. The encoder is ***sinking***.

The diagram shows the voltage at different currents, in sourcing and sinking operation of the sensor.

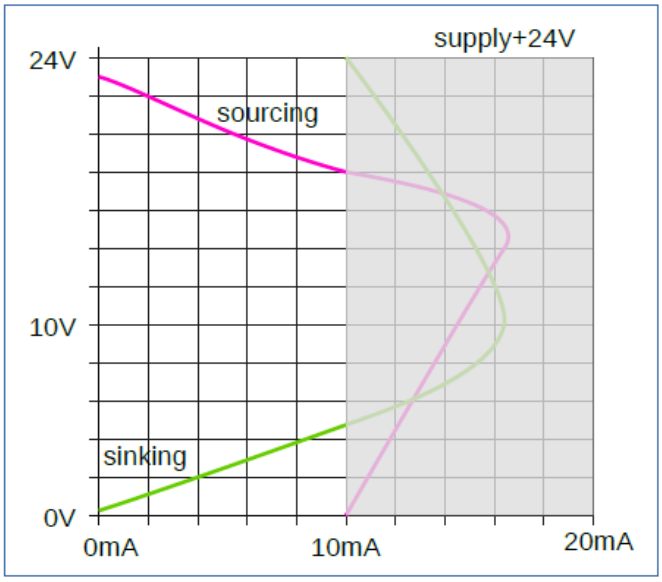


Figure 1 Output signals A and B

PNP application:

In a PNP-application, there is an imaginary switch in the encoder, between the +24V and the output.
Current flows from the sensor to the PLC, and through the PLC to the 0V. A typical current for a PLC input is 4 mA.

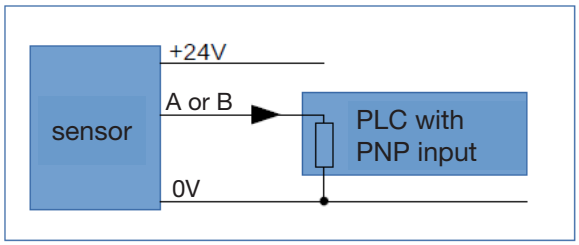


Figure 2 PNP-application, sensor is sourcing

NPN application:

In a NPN-application, there is an imaginary switch in the encoder, between the 0V and the output. The current flows from +24V first through the PLC, to the sensor and through the sensor to the 0 V.

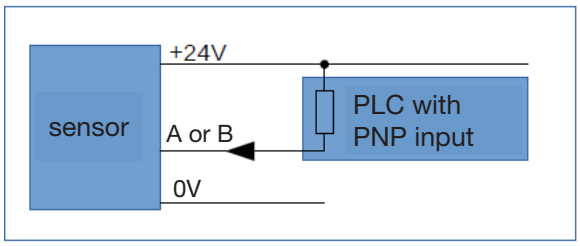


Figure 3 NPN-application, sensor is sinking

Potential free

With a potential free input, the input can be used as NPN or PNP input.

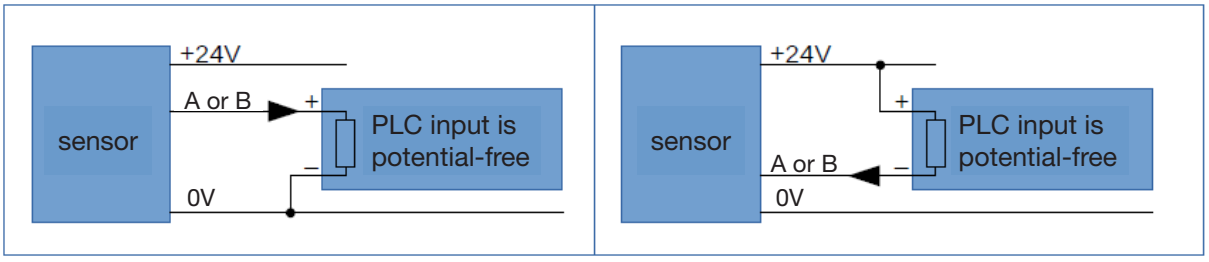
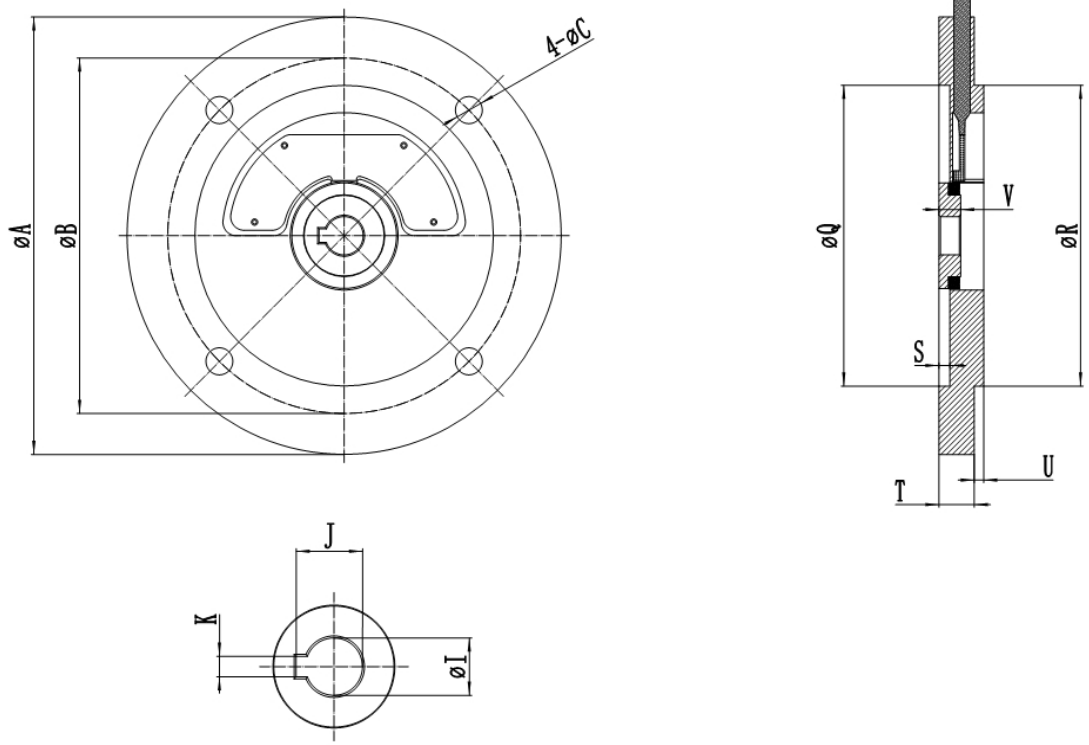


Figure 4 Potential free input, as PNP input

Potential free input, as NPN input



IEC Flange Encoder		
Dimension \ Model	71B5	90B14a
A	160	140
B	130	115
C	10	10
I	14G7	24G7
J	16.3	27.3
K	5	8
Q	110j6	95j6
R	110H7	95H7
S	4	3.5
T	13	12
U	3.5	3
V	8	8.5