



## Absolute analogue encoders

- ▶ 0...20 mA or 4...20 mA output
- ▶ Free choice of active angle  
10° up to 360°
- ▶ ZeroSet function
- ▶ DIRECTION function



## ELECTRICAL SPECIFICATION

Supply voltage +EV	9-36V	
	Polarity protected	
Current consumption at no load	1,1 W Max 1,7 W	
Active angle (factory set)	Free of choice 10° up to 360°	
Output (factory set)	0 - 20mA	4 - 20mA
Temperature stability	± 0,5% of active angle	
Linearity	± 0,15% of active angle	
Resolution	10 Bit over 360° angle	
Load max	$(+EV - 2) / 20mA = R_{max}$	
Load min	150ohm +EV<30V (300ohm +EV>30V)	
Rise time 0 to 20mA	150µs	
Update frequency	5kHz	
Inputs	ZeroSet	DIRECTION
U <sub>high</sub>	> +EV x 0,6	> +EV x 0,6
U <sub>low</sub>	< +EV x 0,25	< +EV x 0,25
Active	High	High (CCW)
Not connected	Low	Low (CW)
Delay	1,0ms	150µs

## ACCESSORIES

Mounting bracket	See datasheets for accessories
Mounting kit	
Bearing box	
Couplings	

## CONNECTION

Function	Standard	Teach-In	Colour
+E Vdt	+E Vdt		Red
0 Vdt	0 Vdt		Blue
I out	I out		Green
ZeroSet	Teach-In		White
DIRECTION	DIRECTION		Black

## DESCRIPTION ABSOLUTE ANALOGUE ENCODER

### Active angle:

The encoder will have an output signal span within the active angle. If you chose 90° active angle you will have 0mA or 4mA at the start position and 20mA when you have turned the encoder 90°. The active angle and start position value (0mA or 4mA) is set when manufacturing the encoder.

### Resolution:

The encoder resolution is always 10 bit over 360° (1024 positions / revolution).

### DIRECTION:

When the DIRECTION input pin is not connected or at low level the encoder has a rising output signal when turning the shaft clockwise, seen from shaft side. If you put the DIRECTION input pin to high level the encoder will have rising output signal when turning the shaft counter clockwise.

### ZeroSet:

With the ZeroSet input you chose from where you want to make the measurement. When ZeroSet input is given as a high pulse of minimum 1ms the encoder will set the position it has for the moment to zero as a start position for the measurement. CW or CCW direction must have been chosen before the ZeroSet position is chosen.

The start position is stored in a non-volatile memory and will not be lost in case of interruption in the power supply.



