



## 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	

## 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).

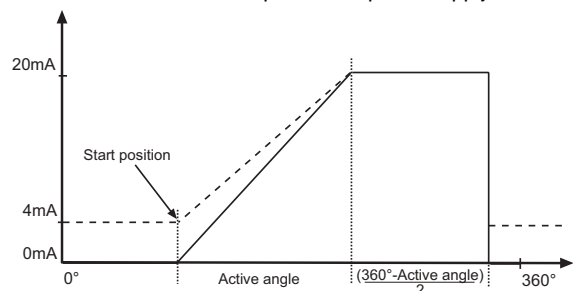
### DIRECTION:

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.



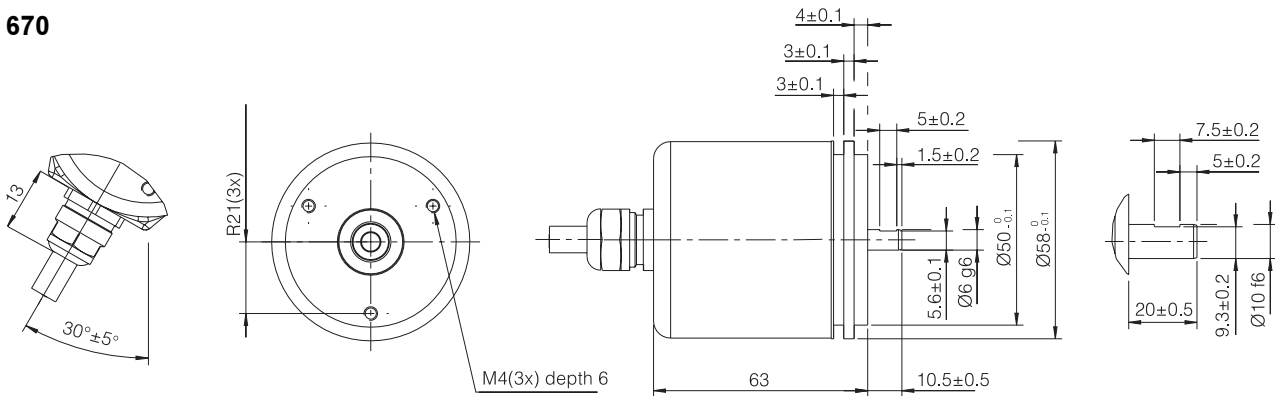
## CONNECTION

Function	Colour
+ E Volt	Red
0 Volt	Blue
I out	Green
ZeroSet	White
DIRECTION	Black

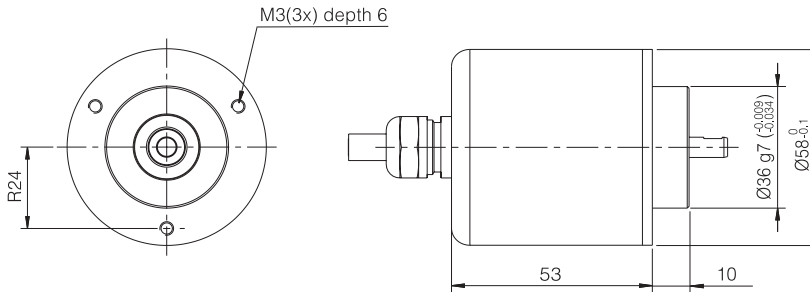


# 670/671 ANALOGUE

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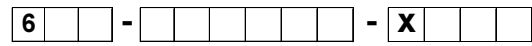
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## MECHANICAL SPECIFICATION

Shaft, Stainless steel	Ø 6mm, 10mm
Moment of inertia	2,6 x 10 <sup>-6</sup> kgm <sup>2</sup>
Load max	
Radial	60N
Axial	50N
Speed max	6000 rpm
Code disc	Standard
Temperature	
Operating	-25°C ... +70°C
Storage	-25°C ... +70°C
Housing	Aluminum, anodized
Weight	Approx. 300g
Protection class	IP 65 according to IEC 529
Vibration	<100m/s <sup>2</sup> (50...2000 Hz)
Shock	<1000m/s <sup>2</sup> (11ms)
Cable	6x0,25mm <sup>2</sup> 2x0,35mm <sup>2</sup> PVC

## ORDERING INFORMATION



### Type

70 = Synchro flange  
71 = Clamping flange

### Option

50 = 0-20mA output  
51 = 4-20mA output

### Shaft

1 = Ø 6 mm with face  
6 = Ø 10 mm with face

### Connection

1 = Cable, axial 1.5 m  
3 = Cable, radial 1.5 m  
8 = Cable, axial xx m  
9 = Cable, radial xx m

### Supply voltage

8 = 9-36Vdc

### Internal use

0 = 10 bit

### Active angle

10° up to 360°

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