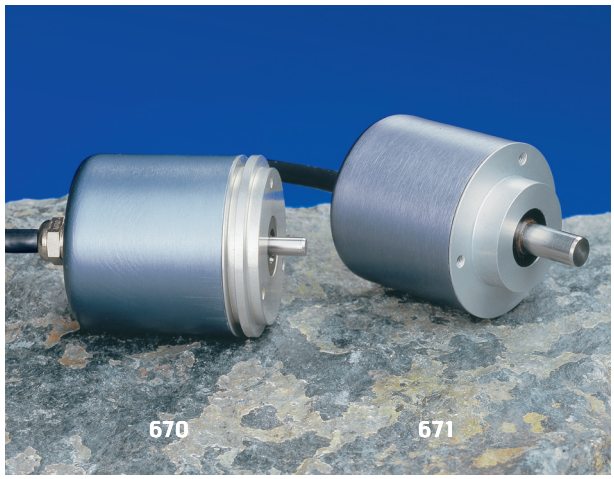
# ANALOGUE 670 / 671

## 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<br>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 |
| $U_{high}$ | > +EV x 0,6 | > +EV x 0,6 |
| $U_{low}$ | < +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 | | Colour |
|---|---|---|
| *Standard* | *Teach-In* | |
| + E Volt | + E Volt | Red |
| 0 Volt | 0 Volt | Blue |
| I out | I out | Green |
| ZeroSet | Teach-In | White |
| DIRECTION | DIRECTION | Black |

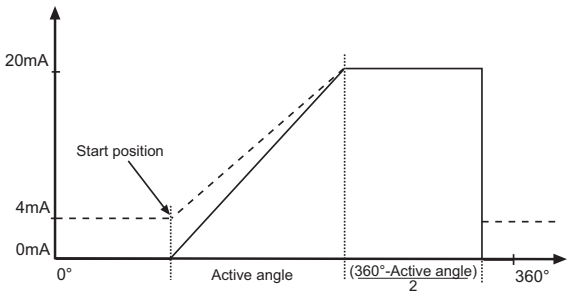
## DESCRIPTION ABSOLUTE ANALOGUE ENCODER

**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.

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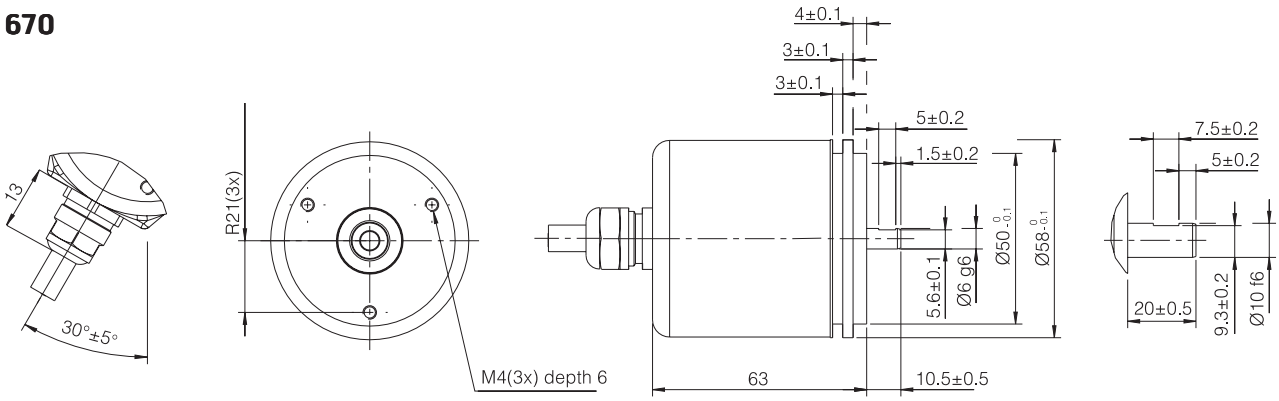
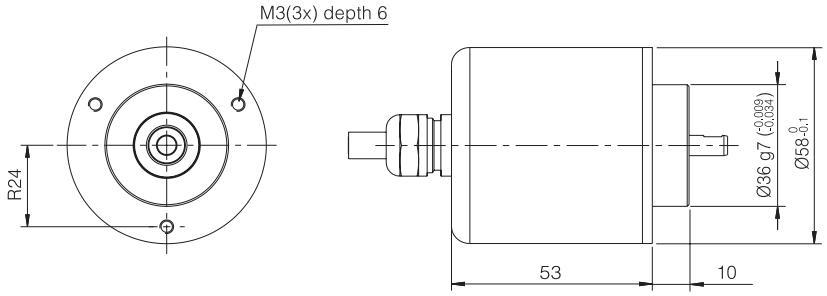
# 670/671 ANALOGUE

## 670




## 671




## MECHANICAL SPECIFICATION

| | |
|---|---|
| Shaft, Stainless steel | Ø 6mm, 10mm |
| Moment of inertia | 2,6 x $10^{-6}$ kgm² |
| 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/s² (50...2000 Hz) |
| Shock | <1000m/s² (11ms) |
| Cable | 6x0,25mm² 2x0,35mm² PVC |

## ORDERING INFORMATION

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**Type**
70 = Synchro flange
71 = Clamping flange

**Option**
50 = 0-20mA output (Standard)
51 = 4-20mA output (Standard)
55 = 0-20mA output (Teach-In)
56 = 4-20mA output (Teach-In)

**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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04-06-17 PS. Specifications can be changed without prior notice.