

## Industrial types

## Solid shaft



- Miniature encoder for industrial use
- Low current consumption
- High noise interference immunity
- Cable lengths of up to 100 m
- Suitable for high pulse frequencies
- High protection class
- Application e.g.:  
CNC machines, manipulators, motors,  
medical technology, textile machines

### NUMBER OF PULSES

5 / 10 / 20 / 25 / 30 / 50 / 60 / 100 / 120 / 128 / 200 / 250 / 256 / 288 / 300 / 360 / 400 / **500 / 512** / 600 / 720 / 900 / **1000** / 1024 / 1250 / 1500

Other number of pulses on request

Preferably available versions are printed in bold type.

### TECHNICAL DATA mechanical

Shaft diameter	5 mm
Absolute max. shaft load	radial 10 N, axial 5 N
Absolute max. speed	max. 10 000 min <sup>-1</sup>
Torque	≤ 0.2 Ncm
Moment of inertia	approx. 0.8 gcm <sup>2</sup>
Protection class (EN 60529)	Housing IP64, bearings IP64
Operating temperature	-10 ... +70 °C
Storage temperature	-25 ... +85 °C
Vibration resistance	100 m/s <sup>2</sup> (10 ... 2000 Hz)
Shock resistance	1 000 m/s <sup>2</sup> (6 ms)
Connection	1.5 m cable radial/axial <sup>1</sup> , connector axial
Housing	Aluminium
Flange	S = synchro flange, R = pilot flange
Weight	approx. 60 g

<sup>1</sup> Other cable length on request

### TECHNICAL DATA electrical

General design	as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II	
Supply voltage (SELV)	with RS 422 (R, T): DC 5 V ± 10 % with push-pull (K): DC 10 - 30 V <sup>2</sup>	
Max. current w/o load	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)	
Standard-output versions <sup>3</sup>	RS 422 (R)	A, B, N, $\overline{A}$ , $\overline{B}$ , $\overline{N}$ , Alarm
	RS 422 (T)	A, B, N, $\overline{A}$ , $\overline{B}$ , $\overline{N}$ , Sense
	push-pull (K)	A, B, N, Alarm

<sup>2</sup> Pole protection

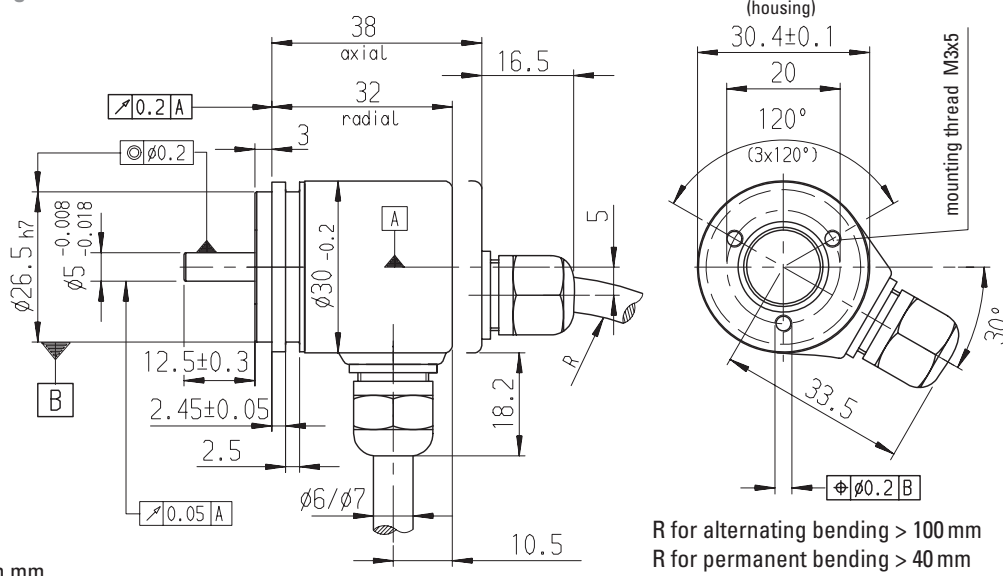
<sup>3</sup> Output description and technical data see chapter "Technical basics"

# Incremental Shaft Encoders Industrial types

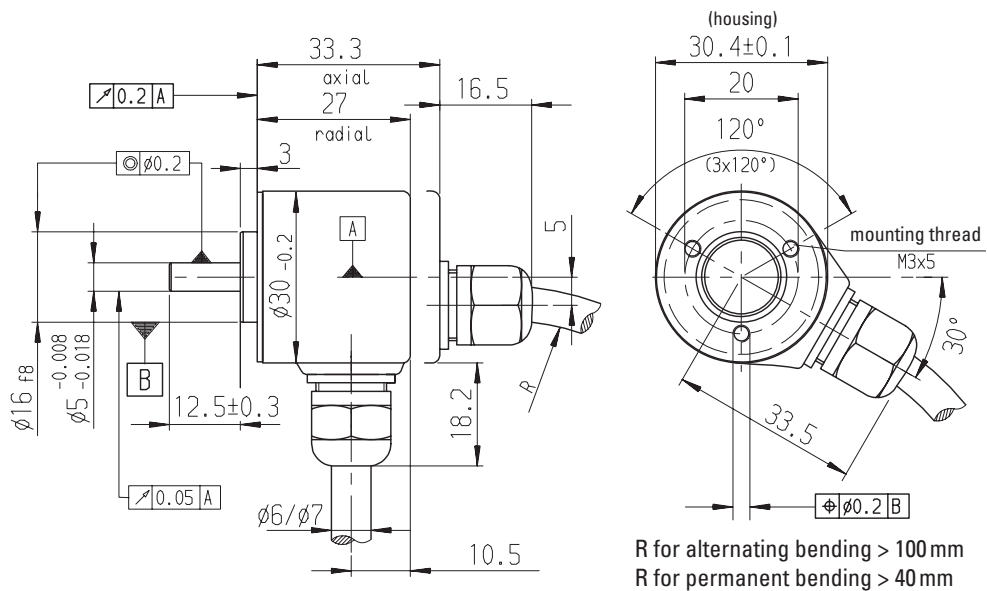
# Type RI 30 Solid shaft

## DIMENSIONAL DRAWINGS

### Synchro flange, cable



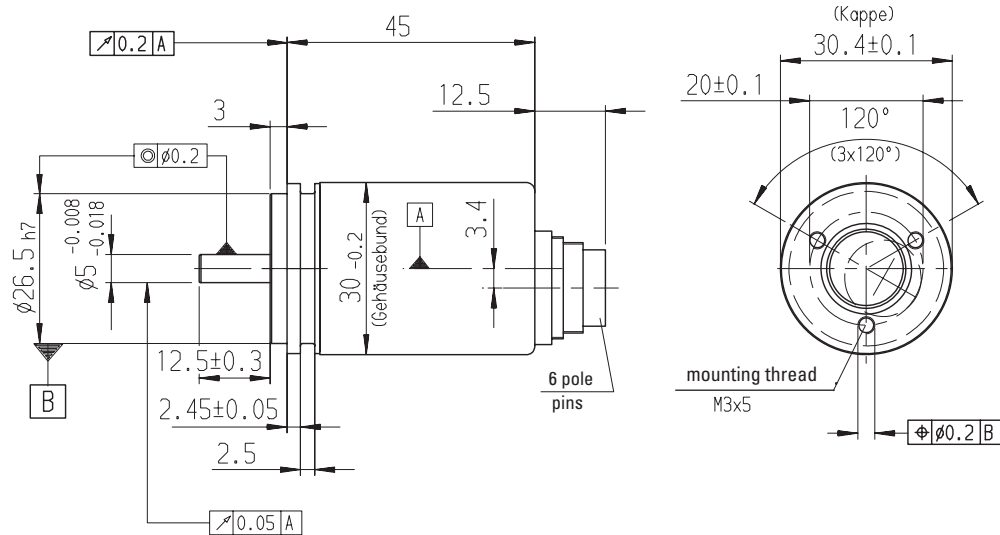
### Pilot flange, cable



# Incremental Shaft Encoders Industrial types

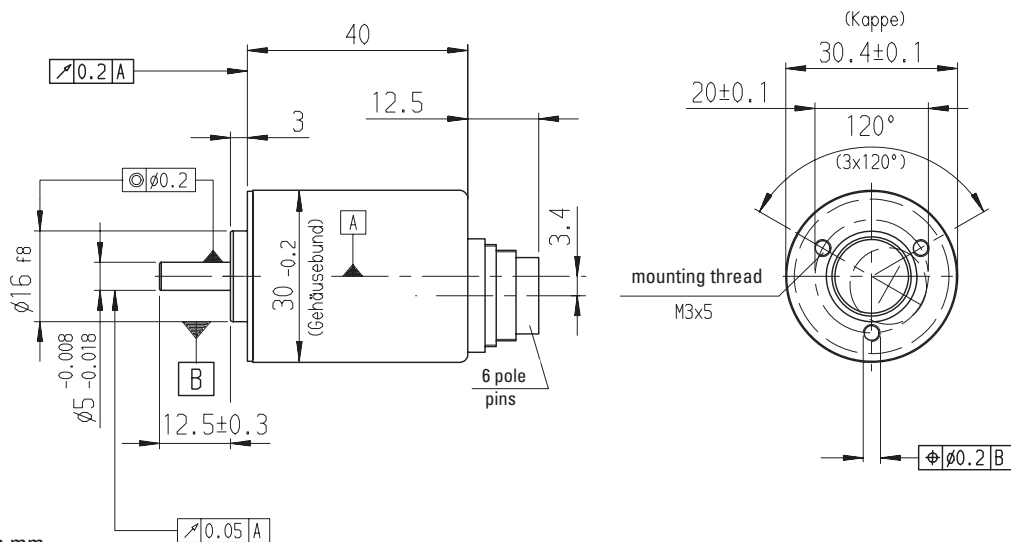
# Type RI 30 Solid shaft

## Synchro flange, BINDER



Dimensions in mm

## Pilot flange, BINDER



Dimensions in mm

# Incremental Shaft Encoders

# Type RI 30

## Industrial types

## Solid shaft

### CONNECTOR 6 POLE (BINDER)

Description (push-pull)	Pin
DC 10 - 30 V	1
Channel A	2
Channel N	3
Channel B	4
Alarm	5
GND	6

### PIN ASSIGNMENT Cable

Description (push-pull)	Description (RS 422)	Lead Ø mm <sup>2</sup>	Colour
DC 10 - 30 VDC	DC 5 V	0.5	red
	Sense V <sub>CC</sub>	0.14	yellow/red
Channel A	Channel A	0.14	white
	Channel $\bar{A}$	0.14	white/brown
Channel B	Channel B	0.14	green
	Channel $\bar{B}$	0.14	green/brown
Channel N	Channel N	0.14	yellow
	Channel $\bar{N}$	0.14	yellow/brown
GND	GND	0.5	black
Alarm	Alarm /Sense GND <sup>1</sup>	0.14	yellow/black
screen <sup>2</sup>	screen <sup>2</sup>		screen <sup>2</sup>

<sup>1</sup> depending on ordering code

<sup>2</sup> connected with encoder housing

### ORDERING INFORMATION

Type	Model	Number of pulses	Supply voltage	Flange, Protection, Shaft	Output	Connection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>RI30-</b>	<b>O</b> Standard	<b>5 ... 1 500</b>	<b>A</b> DC 5 V <b>E</b> DC 10 - 30 V (only with push-pull)	<b>S.34</b> Synchro, IP64, 5 mm <b>R.34</b> Pilot, IP64, 5 mm	<b>T</b> RS422 + Sense <b>K</b> push-pull short circuit proof <b>R</b> RS422 + Alarm	<b>A</b> Cable axial <b>B</b> Cable radial <b>N</b> BINDER <sup>1</sup> 6 pole, axial (only push-pull)
<sup>1</sup> encoder connector with pins						