

# Incremental Shaft Encoders Type RI 59

## Industrial types Stainless Steel



- Stainless steel encoder with high protection class
- High corrosion resistance
- Use in the area of food production or if sea-water proof is required
- Application e.g.:
  - packing machines
  - bottling machines
  - washing plants
  - mixers
  - cranes
  - hoists
  - marine outfitters

### NUMBER OF PULSES

1 / 2 / 3 / 4 / 5 / 10 / 15 / 20 / 25 / 29 / 30 / 35 / 40 / 50 / 60 / 64 / 70 / 72 / 80 / 100 / 117 / 120 / 125 / 127 / 128 / 136 / 144 / 150 / 180 / 200 / 226 / 230 / 250 / 256 / 280 / 300 / 314 / 350 / 356 / 360 / 375 / 400 / 460 / 480 / 500 / 512 / 600 / 625 / 635 / 720 / 750 / 889 / 900 / 942 / 1,000 / 1,024 / 1,125 / 1,200 / 1,250 / 1,270 / 1,500 / 1,600 / 1,800 / 1,885 / 1,979 / 2,000 / 2,048 / 2,400 / 2,500 / 3,000 / 3,400 / 3,480 / 3,600 / 3,750 / 3,925 / 3,958 / 3,968 / 4,000 / 4,096 / 4,445 / 4,800 / 5,000 / 5,400 / 6,000 / 6,875 / 7,200 / 7,680 / 7,854 / 8,000 / 8,192 / 9,000 / 10,000

Other numbers of pulses available on request.

### TECHNICAL DATA mechanical

Shaft diameter	9.52 mm/10 mm
Absolute max. shaft load	radial 160 N / axial 107 N (35/24 lbs)
Absolute maximum speed	10,000 RPM
Torque	≤ 1 Ncm
Moment of inertia	ca. 20 gcm <sup>2</sup>
Protection class (EN 60529)	Housing IP 67, bearings IP 67
Operating temperature	-10 ... +70 °C
Storage temperature	-25 ... +85 °C
Vibration proof (IEC 68-2-6)	100 m/s <sup>2</sup> (10 ... 2000 Hz)
Shock resistance (IEC 68-2-27)	1,000 m/s <sup>2</sup> (6 ms)
Type of connection	1.5 m cable <sup>1)</sup> radial or axial
Housing	stainless steel Ø 58 mm
Flange	Q= square flange 63.5 x 63.5 mm
Weight	approx. 620 g
Bearing life	1 x 10 <sup>10</sup> revolutions (typ.) at 35 % of full rated shaft load 1 x 10 <sup>9</sup> revolutions (typ.) at 75 % of full rated shaft load 1 x 10 <sup>8</sup> revolutions (typ.) at 100 % of full rated shaft load For example 30,000 h at 6,000 RPM with a 13 lb radial load

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

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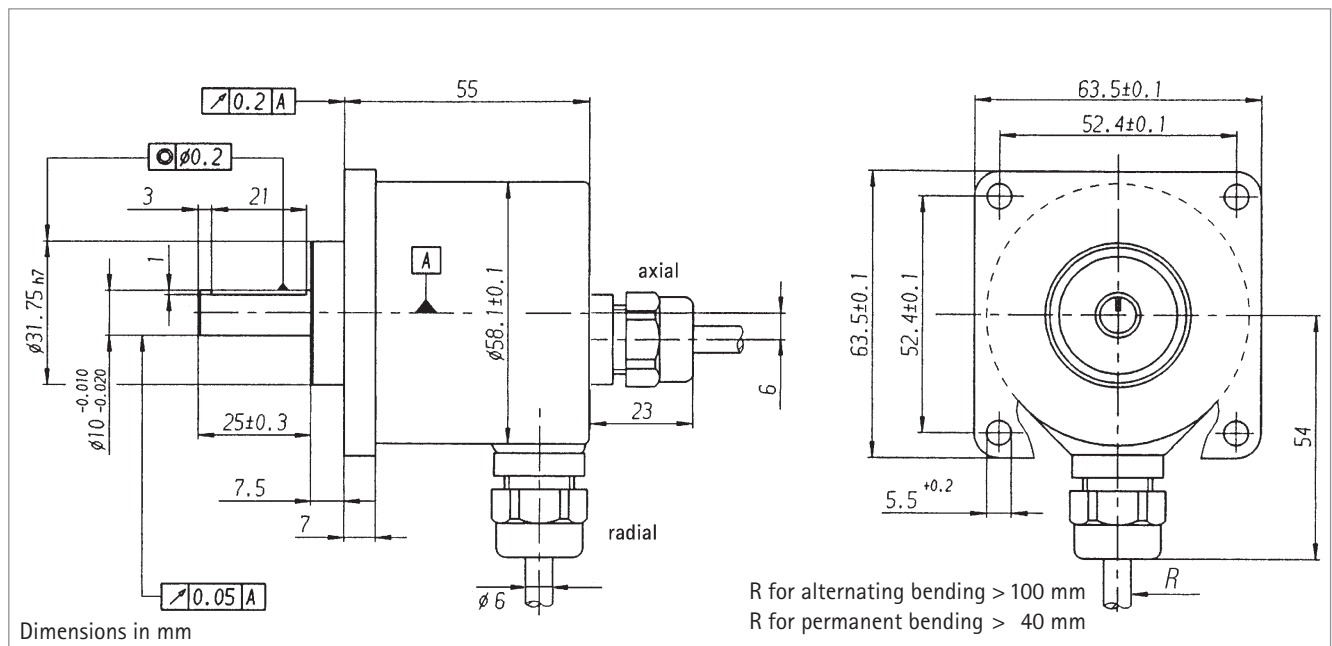
### TECHNICAL DATA electrical

General design	as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II	
Supply voltage (SELV)	with RS 422 + Sense (T):	5 VDC $\pm$ 10 %
	with RS 422 + Alarm (R):	5 VDC $\pm$ 10 % or 10 ... 30 VDC <sup>1)</sup>
	with push-pull (K, I):	10 ... 30 VDC <sup>1)</sup>
Power consumption	40 mA (5VDC), 60 mA (10VDC), 30 mA (24 VDC)	
Standard-Output versions <sup>2)</sup>	RS 422 (R):	A, B, N, $\bar{A}$ , $\bar{B}$ , $\bar{N}$ , Alarm
	RS 422 (T):	A, B, N, $\bar{A}$ , $\bar{B}$ , $\bar{N}$ , Sense
	push-pull (K):	A, B, N, Alarm
	push-pull complementary (I):	A, B, N, $\bar{A}$ , $\bar{B}$ , $\bar{N}$ , Alarm

<sup>1)</sup> Pole protection with supply voltage 10 ... 30 VDC

<sup>2)</sup> Output description and technical data see section „output“

### DIMENSIONED DRAWING



## Industrial types

### CONNECTION DIAGRAM

Connection cable		Output	
Colour	Lead Ø mm <sup>2</sup>	RS 422	push-pull
		T and R	K and I
red	0.5 mm <sup>2</sup>	5/10...30 VDC	10 ... 30 VDC
red/yellow	0.14 mm <sup>2</sup>	Sense V <sub>CC</sub>	Sense V <sub>CC</sub>
white	0.14 mm <sup>2</sup>	Channel A	Channel A
white/brown	0.14 mm <sup>2</sup>	Channel $\bar{A}$	Channel $\bar{A}$ <sup>1)</sup>
green	0.14 mm <sup>2</sup>	Channel B	Channel B
green/brown	0.14 mm <sup>2</sup>	Channel $\bar{B}$	Channel $\bar{B}$ <sup>1)</sup>
yellow	0.14 mm <sup>2</sup>	Channel N	Channel N
yellow/brown	0.14 mm <sup>2</sup>	Channel $\bar{N}$	Channel $\bar{N}$ <sup>1)</sup>
black	0.5 mm <sup>2</sup>	GND	GND
black/yellow	0.14 mm <sup>2</sup>	$\bar{\text{Alarm}}$ /Sense GND <sup>2)</sup>	$\bar{\text{Alarm}}$
screen <sup>3)</sup>		screen <sup>3)</sup>	screen <sup>3)</sup>

<sup>1)</sup> only push-pull complementary (I)

<sup>2)</sup> depending on ordering code

<sup>3)</sup> connected to housing

### ORDERING DATA

