

# Incremental Encoder with Hollow Shaft

## Type RI 36-H



- miniature industry encoder for high number of pulses
- short mounting length
- easy mounting procedure
- Application e.g.:
  - Motors
  - Machine tools
  - Packaging Machines
  - Robots
  - Automated SMD equipment

### NUMBER OF PULSES

5 / 10 / 20 / 25 / 50 / 60 / 100 / 200 / 250 / 300 / 360 / 500 / 600 / 720 / 1000 / 1024 / 1250 / 1500 / 2000 / 2048 / 2500 / 3000 / 3600  
 Other number of pulses available on request

### TECHNICAL DATA mechanical

Mounting	Clamping shaft (one side open) with front clamping ring
Coupling	spring plate
Shaft diameter	4, 6, 8, 10 mm hollow shaft
Angular shaft misalignment max.	±0,15 mm radial, ±0,5 mm axial
Absolute max. speed	max. 10.000 min <sup>-1</sup>
Torque	≤ 1 Ncm
Moment of inertia	ca. 3 gcm <sup>2</sup>
Protection class (EN 60529)	Housing IP 64, bearings IP 64
Operating temperature	-10...+70 °C
Storage temperature	-25 ... +85 °C
Vibration performance	100 m/s <sup>2</sup> (10...2000 Hz)
Shock resistance	1000 m/s <sup>2</sup> (6 ms)
Type of connection	1,5 m cable <sup>1)</sup> axial or radial
Housing	aluminium
Weight	ca. 80 g

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

### TECHNICAL DATA electrical

General design	as per DIN EN61010-1, protection class III, contamination level 2, overvoltage class II	
Supply voltage (SELV)	with RS 422 (R, T):	5 VDC 10 %
	with push-pull (K, I):	10 ... 30 VDC <sup>1)</sup>
Power consumption	40 mA (5 VDC), 60 mA (10 VDC), 30 mA (24 VDC)	
Standard-Output version <sup>2)</sup>	RS 422 (R):	A, B, N, $\overline{A}$ , $\overline{B}$ , $\overline{N}$ , $\overline{Alarm}$
	RS 422 (T):	A, B, N, $\overline{A}$ , $\overline{B}$ , $\overline{N}$ , Sense
	push-pull (K):	A, B, N, $\overline{Alarm}$
	push-pull complementary (I):	A, B, N, $\overline{A}$ , $\overline{B}$ , $\overline{N}$ , $\overline{Alarm}$

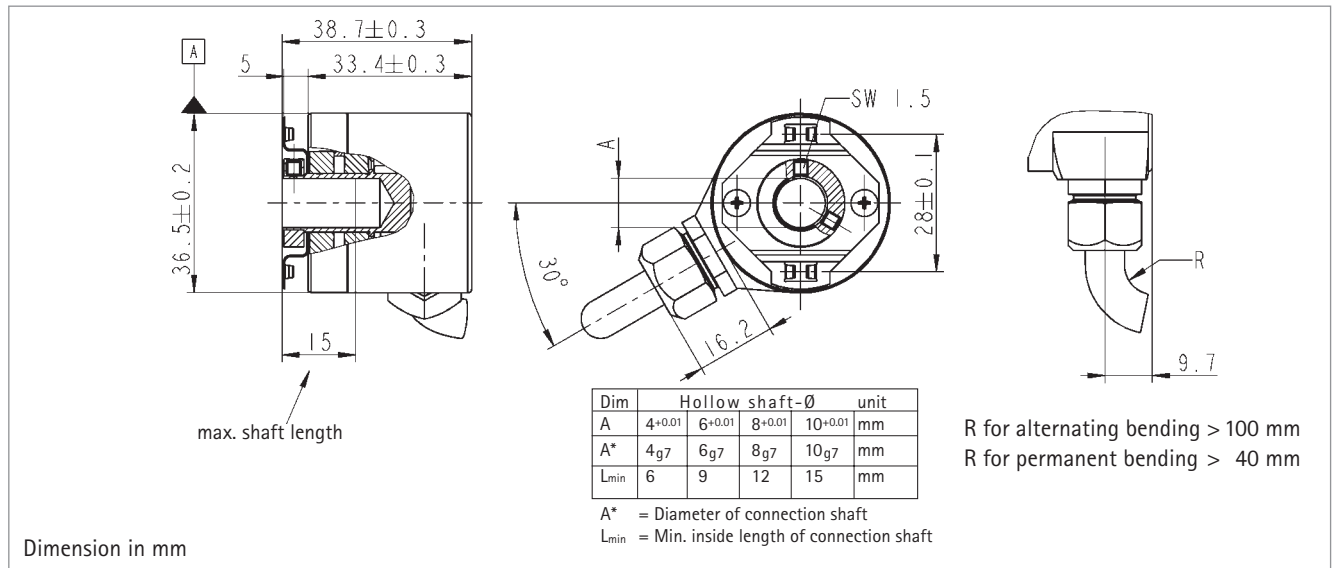
<sup>1)</sup> pole protection

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

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## DIMENSIONED DRAWING



The spring plate as torque support must be fixed by a cylindrical pin (2.4 mm Ø) at the machine side

## CONNECTION DIAGRAM

Cable PVC (A, B)	Lead Ø	Output RS 422 (R, T)	push-pull (K)	push-pull complementary (I)
red	0.5	5 VDC=	10...30 VDC=	10...30 VDC=
yellow/red	0.14	Sense V <sub>CC</sub>	Sense V <sub>CC</sub>	
white	0.14	Channel A	Channel A	Channel A
white/brown	0.14	Channel $\bar{A}$		Channel $\bar{A}$
green	0.14	Channel B	Channel B	Channel B
green/brown	0.14	Channel $\bar{B}$		Channel $\bar{B}$
yellow	0.14	Channel N	Channel N	Channel N
yellow/brown	0.14	Channel $\bar{N}$		Channel $\bar{N}$
black	0.5	GND	GND	GND
yellow/black	0.14	Alarm/Sense GND <sup>1)</sup>	Alarm	Alarm
Screen <sup>2)</sup>		Screen <sup>2)</sup>	Screen <sup>2)</sup>	Screen <sup>2)</sup>

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

<sup>2)</sup> connected to housing

## ORDERING DATA

H Hollow shaft	Supply voltage A 5 VDC E 10 ... 30 VDC (push-pull only)	Mounting F clamping shaft	Shaft diameter O 4 mm 1 6 mm C 8 mm 2 10 mm
RI 36 - H	/	F · 3	
Number of pulses 5 ... 3600	Protection class 3 IP 64	Output T RS 422 + Sense K push-pull short circuit proof R RS 422 + Alarm I push-pull complementary	Type of connection A Cable axial B Cable radial