Incremental Shaft Encoders Type RI 36-H

Industrial types Hollow shaft

- 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 on request

TECHNICAL DATA mechanical

Mounting	Clamping shaft (one side open) with clamping ring front
Coupling	Hubshaft with tether
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^{-1}
Torque	≤ 1 Ncm
Moment of inertia	approx. 3 gcm^2
Protection class (EN 60529)	Housing IP64, bearings IP64
Operating temperature	–10 … +70 °C
Storage temperature	–25 … +85 °C
Vibration resistance	100 m/s^2 (10 … 2000 Hz)
Shock resistance	1000 m/s^2 (6 ms)
Connection	1.5 m cable [1] axial or radial
Housing	Aluminium
Weight	approx. 80 g

[1] Other cable length on request

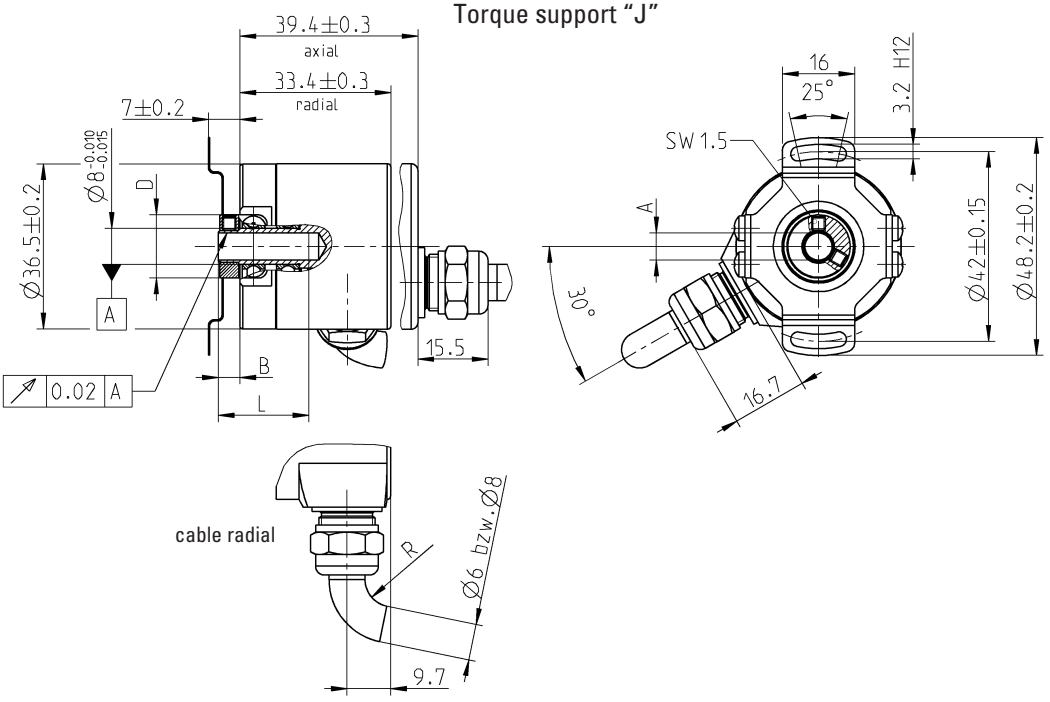
TECHNICAL DATA electrical

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, I):	DC 10 - 30 V [2]
Max. current w/o load	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)	
Standard output versions [3]	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, $\overline{A}$, $\overline{B}$, $\overline{N}$, $\overline{Alarm}$

[2] Pole protection
[3] Output description and technical data see chapter “Technical basics”

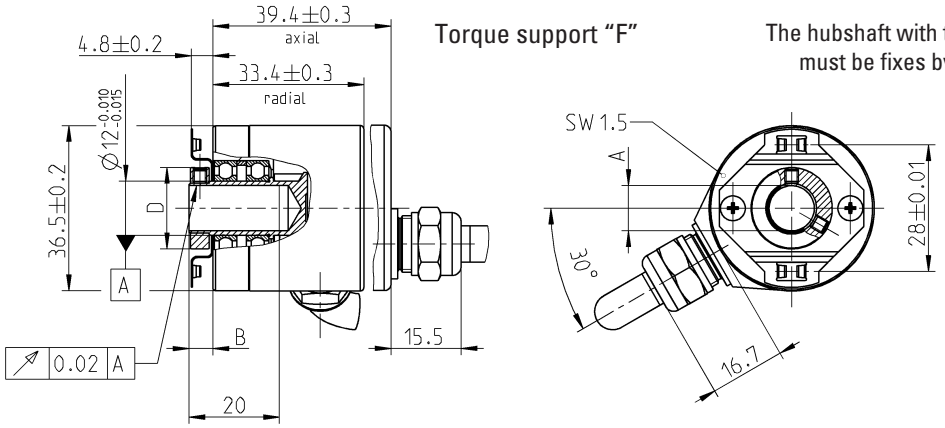
DIMENSIONAL DRAWINGS

Torque support "J"



Torque support "F"

The hubshaft with tether (F) as torque support must be fixes by a cylindric pin (2.4 mm ∅) at the machine side



Dim.:	Hollow shaft ∅				Unit
A	4 +0.01	6 +0.01	8 +0.01	10 +0.01	mm
A*	4 g7	10 g7	8 g7	10 g7	mm
B	4.8±0.2	4.8±0.2	5.3±0.2	5.3±0.2	mm
D	12	14	16	18	mm
L min	6	9	12	15	mm
L max	20	20	20	20	mm

A* = diameter of connection shaft
B = space between housing and shaft
D = ∅ clamping ring
L = length of connection shaft

R for alternating bending ≥ 100 mm
R for permanent bending ≤ 40 mm

Tightening torque of set screw 15 Ncm

Dimensions in mm

Industrial types Hollow shaft

PIN ASSIGNMENT

Cable PVC (A, B)		Output RS 422	push-pull	push-pull
Colour	Litze mm²	(R, T)	(K)	complementary (I)
red	0.5	DC 5 V	DC 10 - 30 V	DC 10 - 30 V
yellow/red	0.14	Sense V_{CC}		Sense V_{CC}
white	0.14	Channel A	Channel A	Channel A
white/brown	0.14	Channel $\overline{A}$		Channel $\overline{A}$
green	0.14	Channel B	Channel B	Channel B
green/brown	0.14	Channel $\overline{B}$		Channel $\overline{B}$
yellow	0.14	Channel N	Channel N	Channel N
yellow/brown	0.14	Channel $\overline{N}$		Channel $\overline{N}$
black	0.5	GND	GND	GND
yellow/black	0.14	$\overline{Alarm}$ /Sense GND [1]	$\overline{Alarm}$	$\overline{Alarm}$
screen [2]		screen [2]	screen [2]	screen [2]

[1] depending on ordering code
[2] connected with encoder housing

ORDERING INFORMATION

Type	Model	Number of pulses	Supply voltage	Flange, Protection, Shaft	Output	Connection
RI36-	**H** Hollow shaft	**5 … 3 600**	**A** DC 5 V **E** DC 10 - 30 V (only with push-pull)	**F.30** Clamping, IP64, 4 mm * **F.31** Clamping, IP64, 6 mm * **F.3C** Clamping, IP64, 8 mm * **F.32** Clamping, IP64, 10 mm * **J.30** Clamping, IP64, 4 mm ** **J.31** Clamping, IP64, 6 mm ** **J.3C** Clamping, IP64, 8 mm ** **J.32** Clamping, IP64, 10 mm **	**T** RS 422 + Sense **K** push-pull short circuit proof **R** RS 422 + Alarm **I** push-pull complementary	**A** Cable axial **B** Cable radial

* Fixing of hubshaft with tether by cylindrical pin
** Fixing of hubshaft with tether by oblong hole