

PRELIMINARY



GENERAL INFORMATION

NUMBER OF PULSES

TECHNICAL DATA mechanical

TECHNICAL DATA electrical

Incremental Shaft Encoders

Type RI 80-E

Industrial types

Hollow shaft

- Incremental Output
- 30...45 mm hollow shaft
- Rugged mechanical design
- Unbreakable disc
- Integrated diagnostic system
- Wide voltage range DC 5 ... 30 V

The central element of the RI80-E is the latest Hengstler OptoAsic technology, which offers the following key benefits:

- Highest EMC immunity
- Outstanding reliability by reduced number of components and integrated diagnostics system
- Aging compensation by integrated LED light regulation
- Integrated monitoring of pollution, disk damage, LED lifetime, temperature

A robust and generously dimensioned mechanical design ensures long maintenance free operation.

The RI80-E is ideally suited for applications like:

- Geared Elevators
- Asynchronous Motors
- Industrial Machinery

1024 / 2048 / 4096

Other number of pulses on request

Shaft fixation	Keyway, set screw
Coupling	Spring tether (single, double)
Protection	IP50, IP64
Max. Speed	3 600 min ⁻¹ (IP50) 1 500 min ⁻¹ (IP64)
Moment of inertia	240 kgmm ²
Max. parallel shaft misalignment	axial: ± 0.5 mm radial: ± 0.05 mm
Operating temperature	-20 ...+70°C
Storage temperature	-40 ...+70°C
Material housing	Glass fiber-reinforced plastic/ aluminum
Weight	1000 g

General design	As per DIN EN 61010, protection class III, Contamination level 2 , over voltage class II
Supply voltage	DC 5V±10% or DC 5 - 30V ¹
Max. current w/o load	max 60mA (DC 5V), 60mA (DC 10V), 35mA (DC 24V)
Standard output versions	With RS 422 (R): A, B, N, \bar{A} , \bar{B} , \bar{N} , Alarm, Sense With push-pull (K): A, B, N, $\overline{\text{Alarm}}$ With push-pull (I): A, B, N, \bar{A} , \bar{B} , \bar{N} , $\overline{\text{Alarm}}$, Sense
Connection	Sub-D 15-pole, cable radial

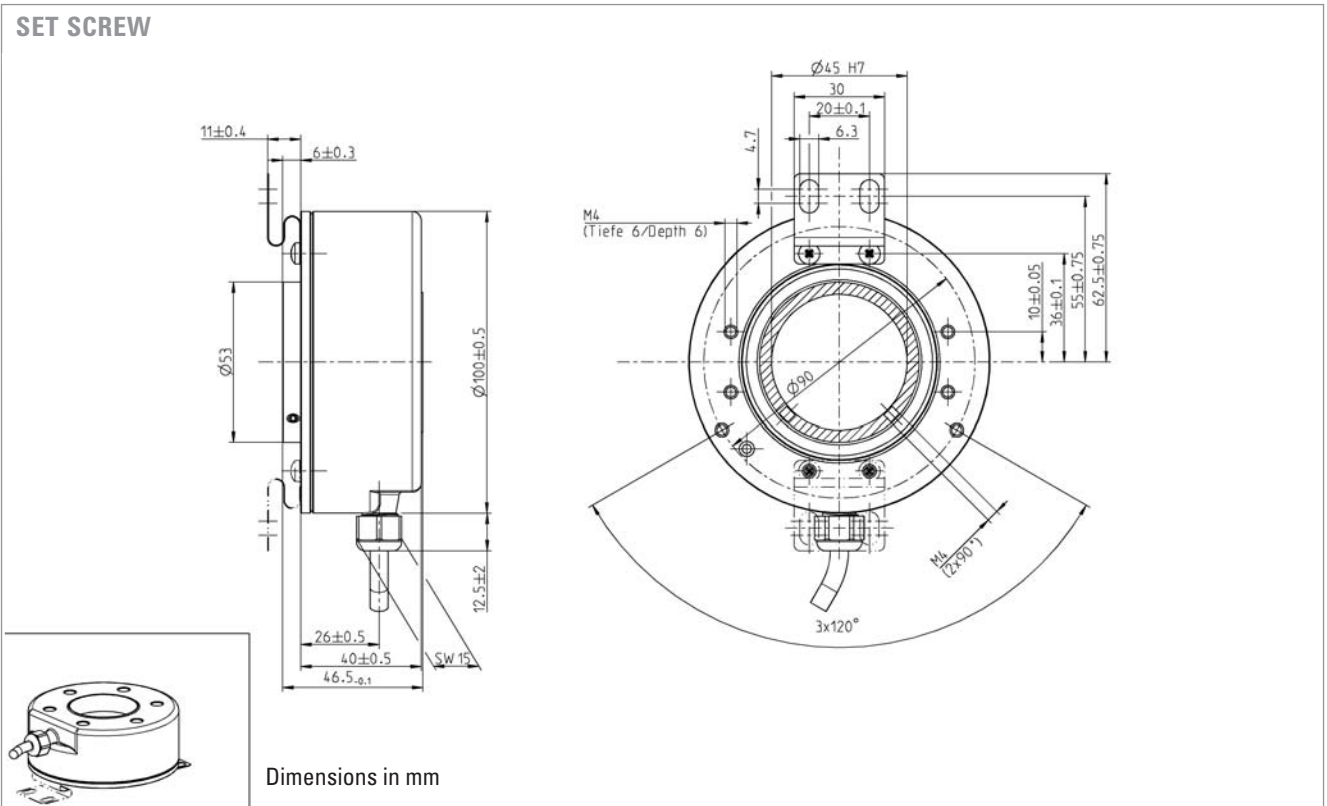
¹ Pole protection with supply voltage DC 5 ...30 V

Incremental Shaft Encoders Industrial types

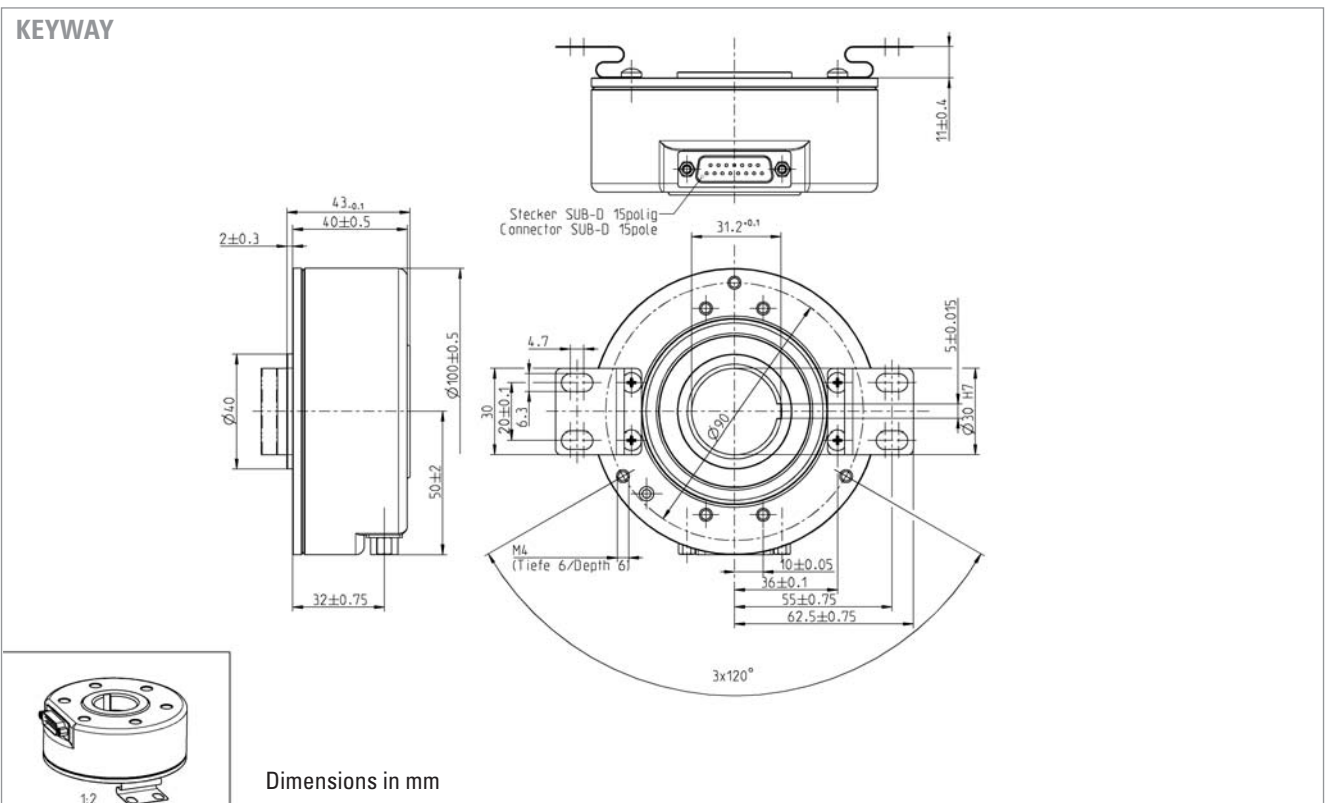
Type RI80-E Hollow shaft

DIMENSIONAL DRAWINGS

SET SCREW



KEYWAY



Incremental Shaft Encoders

Type RI 80-E

Industrial types

Hollow shaft

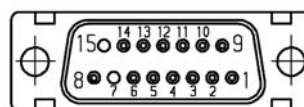
PIN ASSIGNMENT Cable

Color	RS 422 + Alarm + Sense (R)	Push-pull (K)	Push-pull Complement. (I)
brown	Channel A	Channel A	Channel A
green	Channel \bar{A}		Channel \bar{A}
grey	Channel B	Channel B	Channel B
pink	Channel \bar{B}		Channel \bar{B}
red	Channel N	Channel N	Channel N
black	Channel \bar{N}		Channel \bar{N}
violet	Alarm	Alarm	Alarm
white	Sense GND		Sense GND
blue	Sense V_{CC}		Sense V_{CC}
brown/green	DC 5 - 30 V	DC 5 - 30 V	DC 5 - 30 V
white/green	GND	GND	GND
screen ¹	screen ¹	screen ¹	screen ¹

¹ connected with encoder housing

PIN ASSIGNMENT Sub-D 15 pin

Pin	Signal
1	\bar{B}
2	B
3	\bar{A}
4	A
5	GND
6	+Ub
7	n.c.
8	screen
9	\bar{N}
10	N
11	n.c.
12	n.c.
13	n.c.
14	n.c.
15	n.c.



ORDERING INFORMATION

Type	Model	Number of pulses	Supply voltage	Spring tether	Protection	Mounting/ shaft	Output	Connection
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RI80-	E	1024 2048 4096	A DC 5 V B DC 5 - 30 V	A single B double O without	1 IP50 4 IP64 0 IP40	K30 Keyway/ 30mm G30 Set screw/ 30mm G45 Set screw/ 45mm	R RS422 + Alarm + Sense K Push-pull ¹ I Push-pull complementary ¹	F Cable radial 1.5 m F-F0 Cable radial 5 m F-K0 Cable radial 10 m 4 SUB-D 15

¹ Driver type DL, see < www.ichaus.de >