

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 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	IP 50, IP 64
Max. Speed	3 600 min <sup>-1</sup> (IP 50) 1 500 min <sup>-1</sup> (IP 64)
Moment of inertia	240 kgmm <sup>2</sup>
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 ST/ MT	1000 g

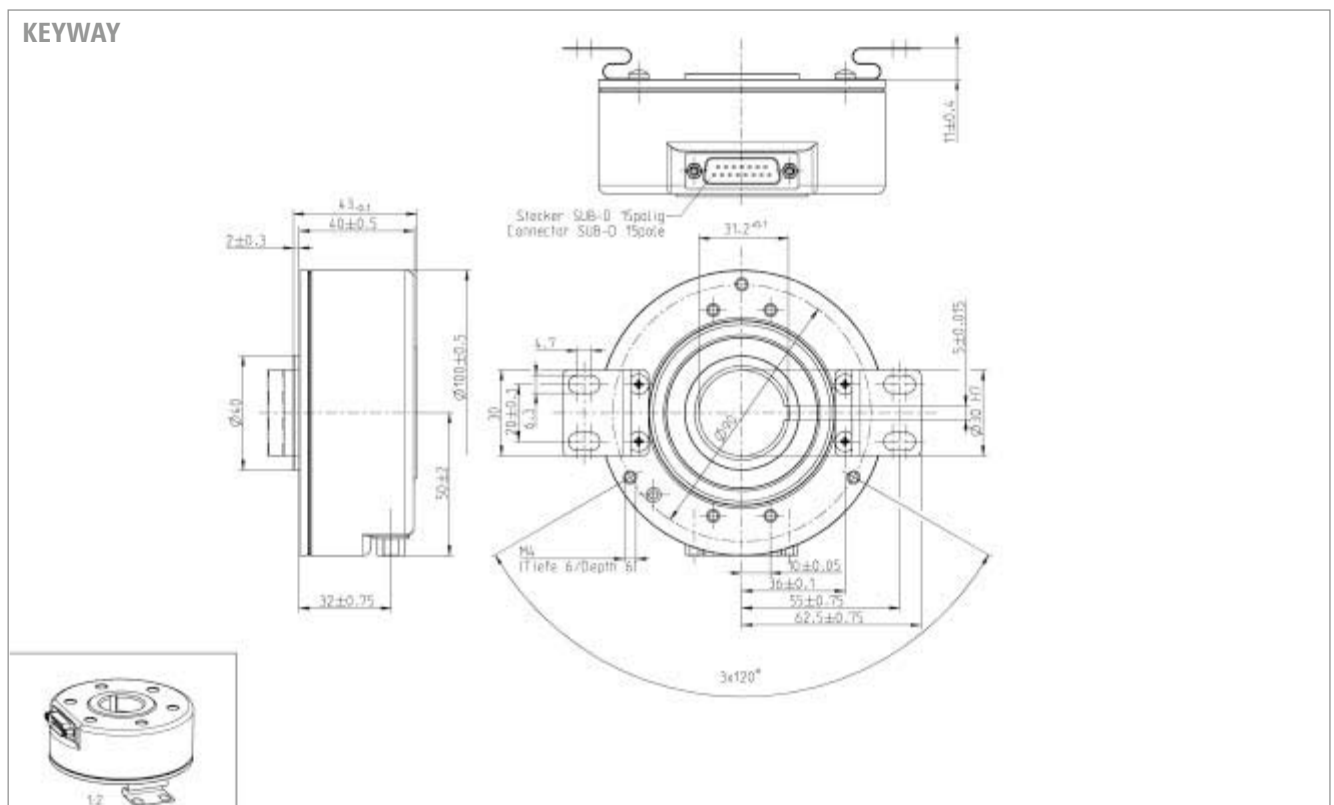
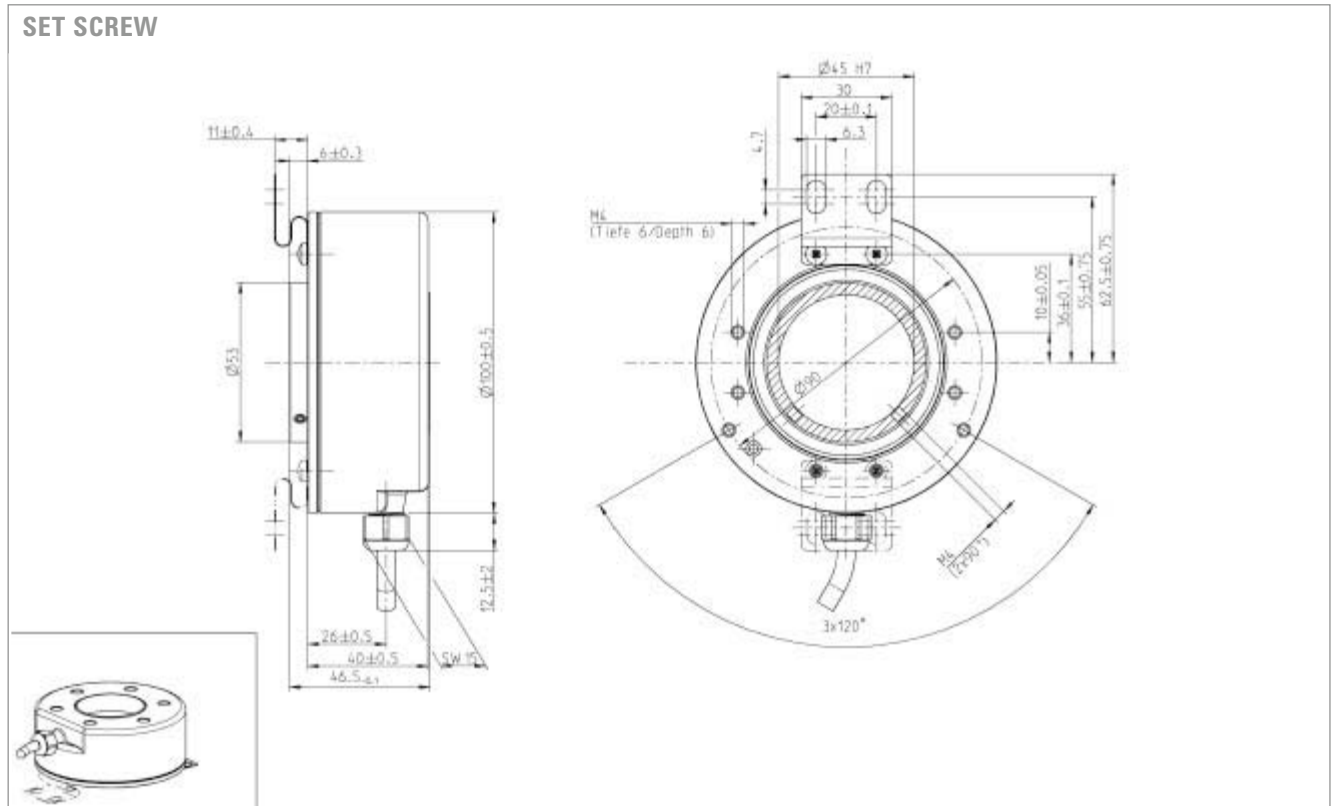
General design	As per DIN EN 61010, protection class III, Contamination level 2 , over voltage class II
Supply voltage	DC 5V±10% or DC 10-30V <sup>1</sup>
Max. current w/o load	max 60mA (DC 5V), 60mA (DC 10V), 35mA (DC 24V)
Standard output versions	With RS 422 +Alarm (R): A, B, N, $\bar{A}$ , $\bar{B}$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

<sup>1</sup> Pole protection with supply voltage DC 5 ...30 V

# Incremental Shaft Encoders Industrial types

# Type RI80-E Hollow shaft

## DIMENSIONAL DRAWINGS



## Industrial types

## Hollow shaft

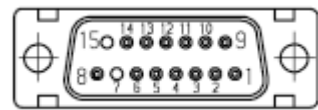
### PIN ASSIGNMENT Cable

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

<sup>1</sup> white cable only cable for RS 422 + Sense (T)

### 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
<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>RI80-</b>	<b>E</b>	<b>1024</b> <b>2048</b> <b>4096</b>	<b>A</b> DC 5 V <b>E</b> DC 5 - 30 V	<b>A</b> single <b>B</b> double <b>O</b> without	<b>1</b> IP 50 <b>4</b> IP 64	<b>K30</b> Keyway/ 30mm <b>G30</b> Set screw/ 30mm <b>G45</b> Set screw/ 45mm	<b>R</b> RS422+Alarm <b>T</b> RS422+Sense <b>K</b> Push-pull <sup>1</sup> <b>I</b> Push-pull complementary <sup>1</sup>	<b>B</b> Cable radial 1.5 m <b>B-F0</b> Cable radial 5 m <b>B-K0</b> Cable radial 10 m <b>4</b> SUB-D 15

<sup>3</sup> Driver type DL, see < [www.ichaus.de](http://www.ichaus.de) >