

# Incremental Shaft Encoders Type RI64

## Industrial types

## Hollow shaft



- Flexible hollow shaft design up to diameter 16 mm
- Through hollow shaft or as end shaft (blind shaft)
- Wide disk gap - great tolerance for motor shaft axial runout
- **Insulated hub** - prevent axial current through the shaft of large motor
- Max frequency response up to 300kHz
- **Operation temperature -40...+100°C**
- Wide power supply range 5-26VDC



### NUMBER OF PULSES

1000, **1024**, 2000, **2048**, **4096**

### TECHNICAL DATA mechanical

Mounting	Tether with hollow shaft or Hub shaft
Shaft diameter	10 (only Hub shaft), 12, 14, 15, 16 mm
Mating shaft runout	±0.2mm (includes shaft perpendicularity to mounting surface)
Mating shaft axial movement	±0.8mm max.
Outside Diameter	
Outside diameter	63mm (with cover)
Mounting depth	54mm
Max.mechanical RPM	6,000 min <sup>-1</sup> (hollow shaft) 12,000 min <sup>-1</sup> (Hub shaft)
Enclosure rating	IP67/IP64
Operating temperature	-40...+100°C
Storage temperature	-40...+100°C
Vibration resistance	20 g = 200 m/s <sup>2</sup> (10 ... 2000 Hz)
Shock resistance	200 g = 2000 m/s <sup>2</sup> (6 ms)
Material	
Bearing housing	Aluminium
Cover	Aluminium
Shaft	Hard coated aluminium (ceramic)
Weight	approx. 245g

### TECHNICAL DATA electrical

Supply voltage	DC 5±10% or DC 5-26V
Output signal	TTL or HTL/PP compatible
Incremental signal	A,B,Z and complimentary channels
Resolution	1000, 1024, 2000, 2048, 4096
Accuracy	±2.5 arc-mins.max. edge to any edge
A and B phasing	A lead B 90° cw (view from encoder side)
Index pulse width	180°gated with B low
Max.response frequency	300 kHz (data and index)

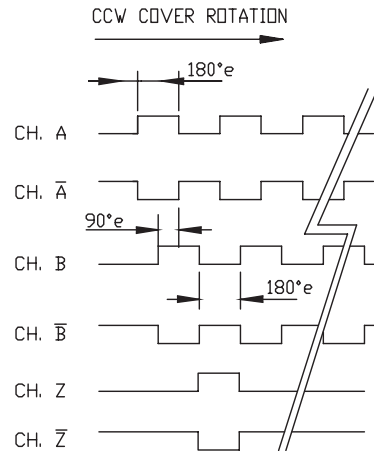
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### PIN ASSIGNMENT

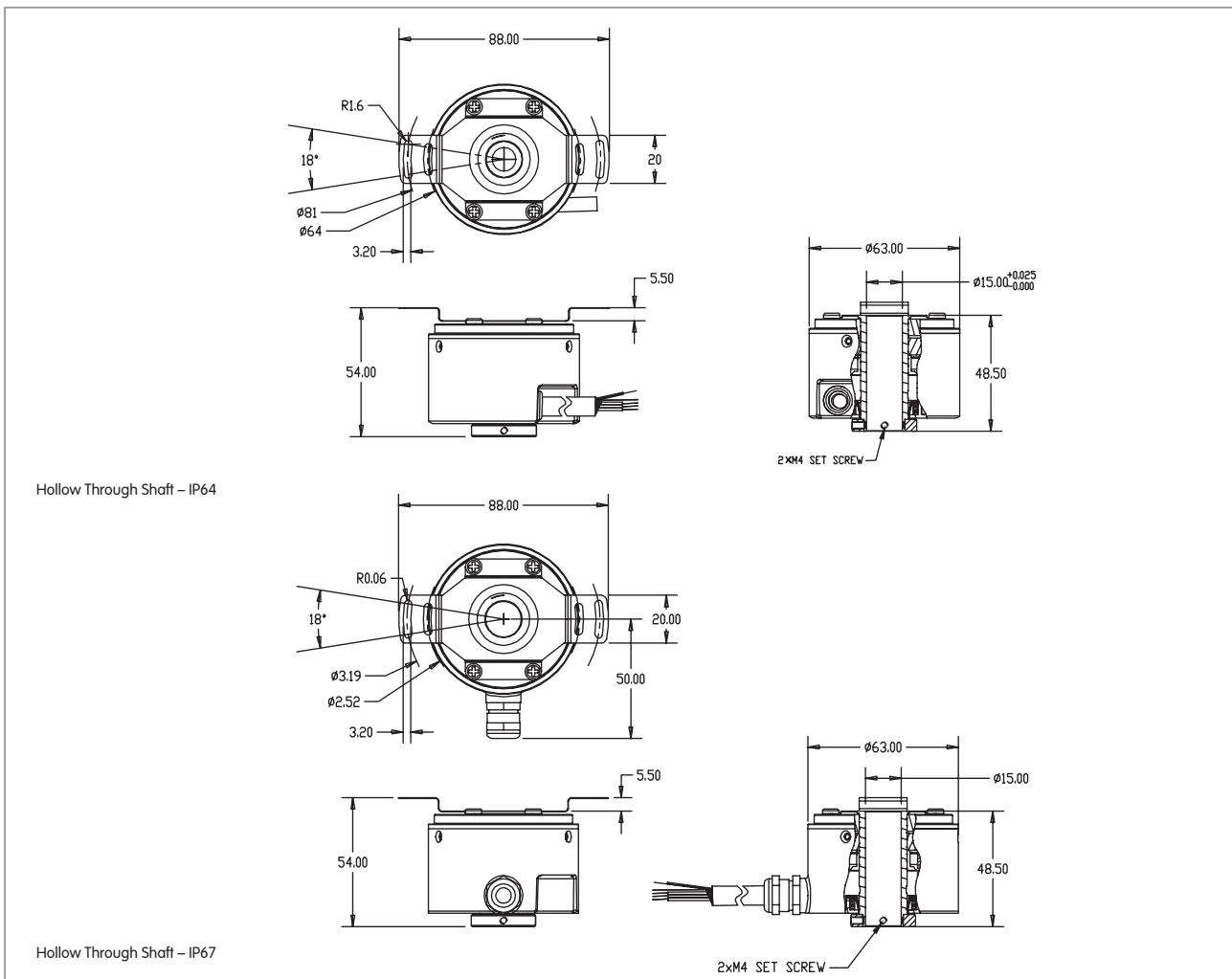
COLOR	FUNCTON	M23 connector PIN
RED	VCC	12
BLK	GND	10
BLU	A	5
GRN	B	8
VIO	Z	3
BLU/BLK	$\bar{A}$	6
GRN/BLK	$\bar{B}$	1
VIO/BLK	$\bar{Z}$	4
DRAIN	SHIELD	

### SIGNAL FORMAT



### DIMENSIONAL DRAWINGS

#### Hollow Through shaft

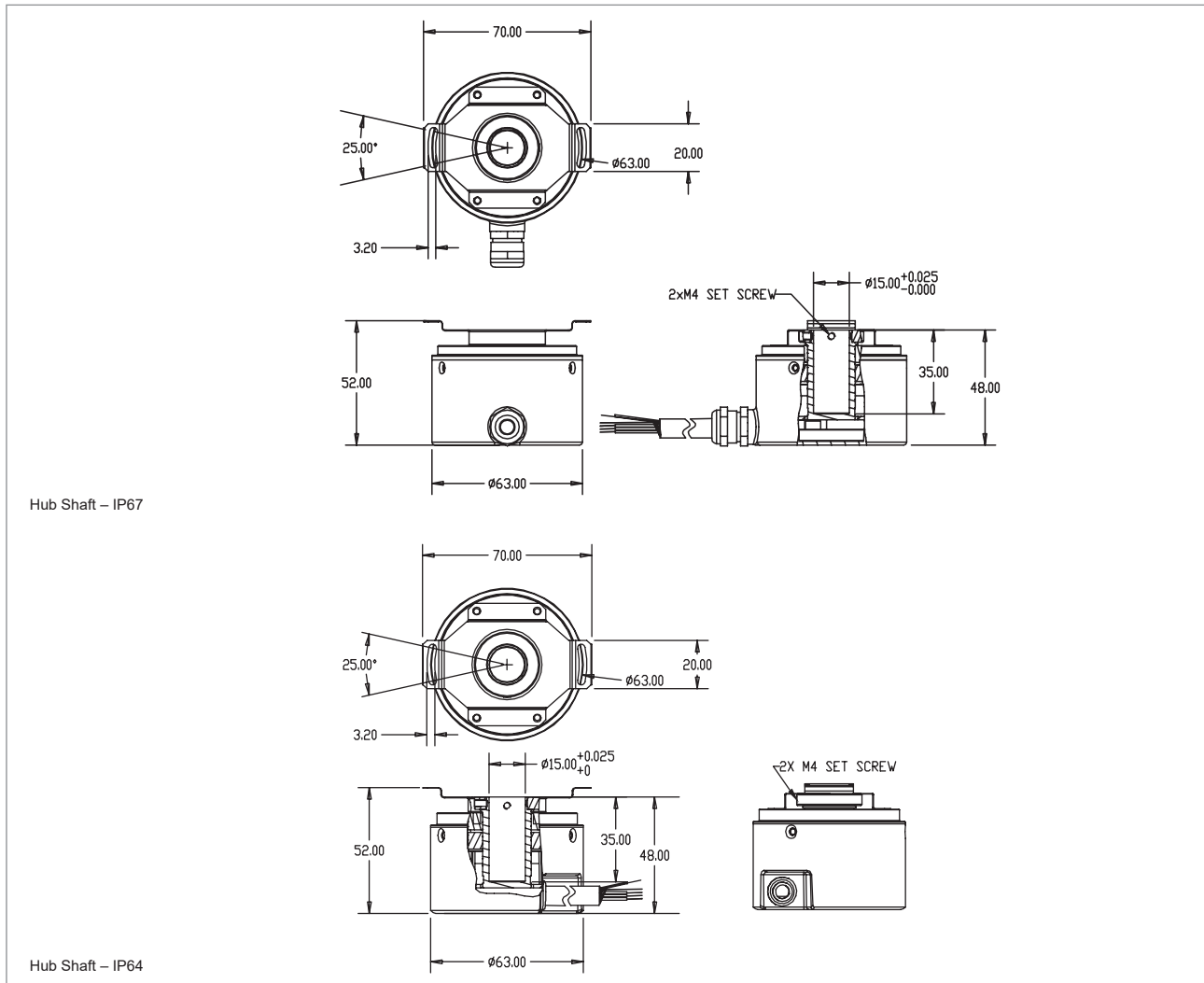


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### DIMENSIONAL DRAWINGS

#### Hub Shaft



### ORDERING INFORMATION

Type	No of pulses	Supply voltage	Tether	Protection	Shaft mounting	Shaft diameter	Output	Connection	Cable length (option)	Connector on end of cable (option) <sup>2</sup>	Special version
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>RI64</b> /	<b>1000</b> <b>1024</b> <b>2000</b> <b>2048</b> <b>4096</b>	<b>A</b> 5 VDC <b>B</b> 5-26 VDC	<b>V</b> 63 <b>W</b> 81/64 <b>O</b> without	<b>4</b> IP64 <b>7</b> IP67	<b>F</b> hubshaft with clamping ring frontside <b>H</b> Hollow through shaft with clamping ring rear side	<b>2</b> 10mm <b>7</b> 12mm <b>9</b> 14mm <b>D</b> 15mm <b>G</b> 16mm	<b>T</b> <sup>1</sup> TTL (RS422) push-pull complementary <b>I</b> <sup>2</sup>	<b>B</b> PVC cable radial	<b>B5</b> 1.5m (Standard length) <b>A5</b> 0.5m <b>D0</b> 3 m <b>F0</b> 5 m <b>K0</b> 10 m <b>P0</b> 15 m <b>U0</b> 20 m <b>V0</b> 25 m	<b>O</b> no connector <b>I</b> male M23 cw <b>D</b> male M23 ccw	-

<sup>1</sup> Output T not with supply voltage B

<sup>2</sup> Output I not with supply voltage A

<sup>3</sup> Other cable connector options (M12; MIL 7pin; MIL 12 pin...) on request.

<sup>4</sup> M23(Conin), 12 pole, ccw, mating connector for connector I, ordering code 3 539 229

<sup>5</sup> M23(Conin), 12 pole, cw, mating connector for connector D, ordering code 3 539 202

Example: RI64/2048BV.4H7IB-B5-O