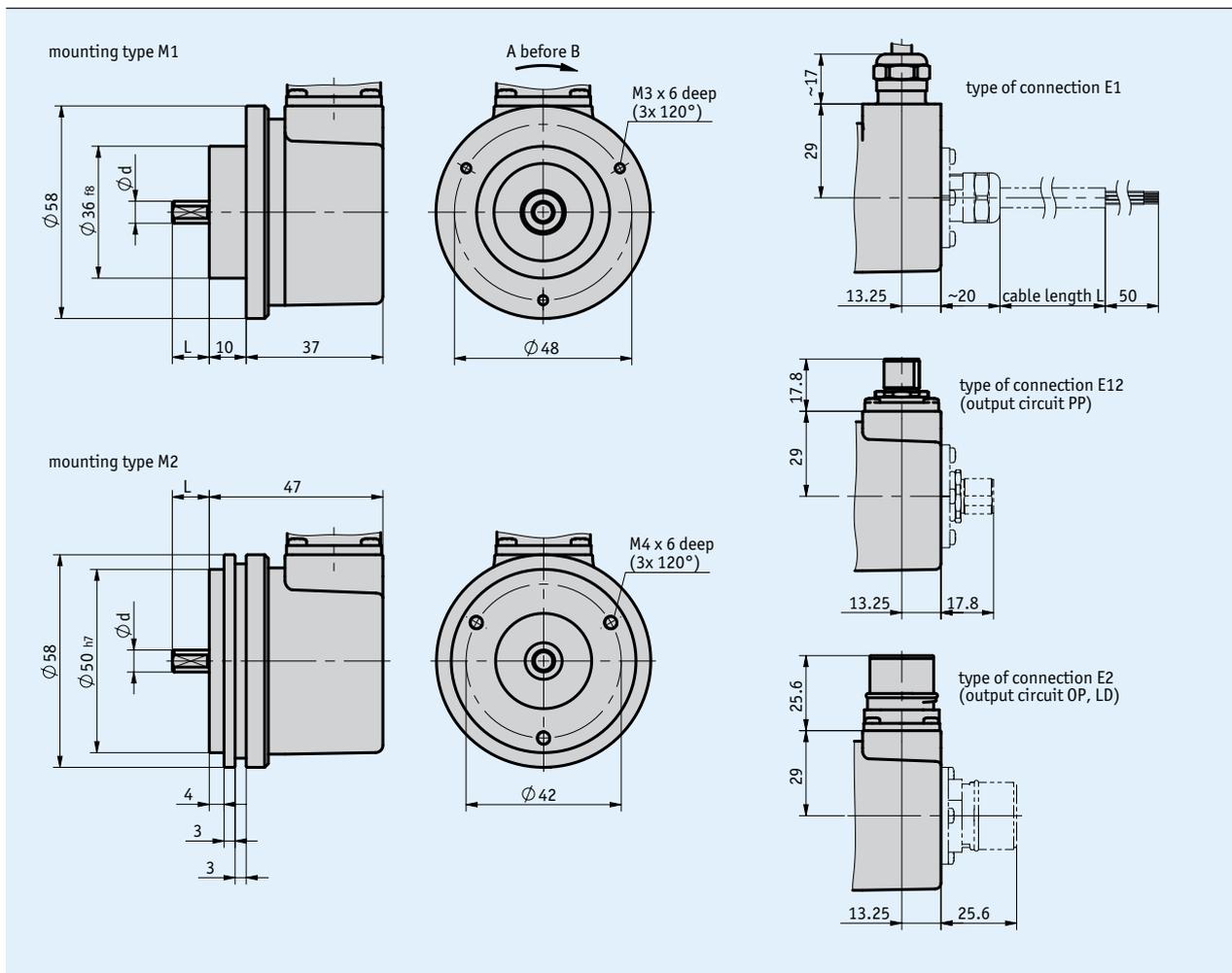


# Incremental encoder IV5800

Robust optical standard rotary encoder, solid shaft

## Profile

- Resolution max. 5000 pulses/revolution
- IP65 or IP66/IP67 type of protection
- Robust bearing construction
- -40 °C ... +85 °C operating temperature
- High shock and vibration resistance



### Mechanical data

Feature	Technical data	Additional information
Shaft	stainless steel	
Housing	die-cast	
Speed	≤12000 rpm	IP65
	≤6000 rpm	IP65 continuous operation
	≤6000 rpm	IP66/IP67
	≤3000 rpm	IP66/IP67 continuous operation
Moment of inertia	~1.8 x 10 <sup>-6</sup> kgm <sup>2</sup>	
Starting torque	<0.01 Nm at 20 °C	IP65
	<0.05 Nm at 20 °C	IP66/IP67
Shaft load rating	100 N	radial
	50 N	axial
Cable sheath	PVC	~ø6.7 mm
Cable bending radius	75 mm	static
	110 mm	dynamic
Weight	~0.4 kg	

### Table of dimensions

Measure ød [mm]	Measure L [mm]
ø <sub>h7</sub>	10
8 <sub>h7</sub>	15
10 <sub>h7</sub>	20

### Electrical data

#### PP output circuit

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse-polarity protected
Current consumption	typical 50 mA	≤100 mA (no load)
Output signal level high	≥UB - 1.0 V	short-circuit proof
Output signal level low	≤0.5 V	short-circuit proof
Pulse frequency	≤300 kHz	
Load	±20 mA	max. adm.
Type of connection	open cable end	
	1x M12 connector	5-pole, 1x pin

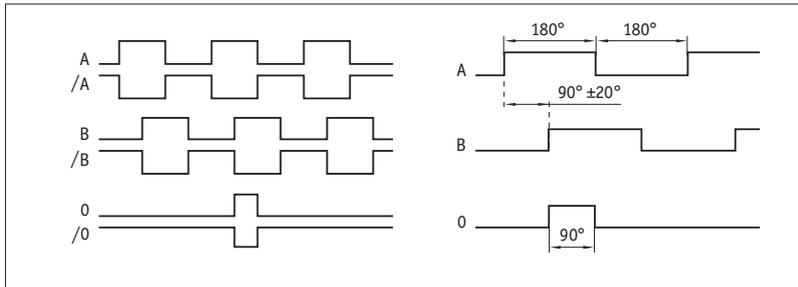
#### OP output circuit

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse polarity protected
Current consumption	typical 50 mA	≤100 mA (no load)
Output signal level high	≥UB - 1.0 V	short-circuit proof
Output signal level low	≤0.5 V	short-circuit proof
Pulse frequency	≤300 kHz	
Load	±20 mA	max. adm.
Type of connection	open cable end	
	1x M23 connector	12-pole, 1x pin

#### LD output circuit

Feature	Technical data	Additional information
Operating voltage	5 ... 30 V DC	reverse-polarity protected
Current consumption	typical 40 mA	≤90 mA (no load)
Output signal level high	≥2.5 V	short-circuit proof, not against UB
Output signal level low	≤0.5 V	short-circuit proof, not against UB
Pulse frequency	≤300 kHz	
Load	±20 mA	max. adm.
Type of connection	open cable end	
	1x M23 connector	12-pole, 1x pin

## ■ signal pattern



## Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-40 ... 85 °C	plug
	-30 ... 85 °C	static laying of cables
	-20 ... 85 °C	dynamic laying of cables
EMC	EN 61326-1	immunity requirement of industry
Protection category	IP65, IP66/IP67	EN 60529
Shock resistance	3000 m/s <sup>2</sup> , 6 ms	EN 60068-2-27
Vibration resistance	300 m/s <sup>2</sup> , 10 ... 2000 Hz	EN 60068-2-6

## Pin assignment

### ■ LD, PP, OP output circuits

Signal	Cable color E1
/B	pink
+SUB (Sense line)	red-blue
0	blue
/0	red
A	green
/A	yellow
B	gray
GND	white
SGND (Sense line)	gray-pink
+UB	brown

### ■ PP output circuit

Signal	PIN E12
GND	1
+UB	2
A	3
B	4
0	5

### ■ LD, OP output circuits

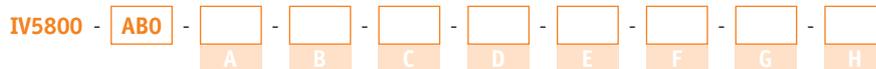
Signal	PIN E2
/B	1
+SUB (Sense line)	2
0	3
/0	4
A	5
/A	6
nc	7
B	8
nc	9
GND	10
SGND (Sense line)	11
+UB	12

## Order

### Ordering table

Feature	Ordering data	Specification	Additional information
Pulses/revolution	... <b>A</b>	50, 64, 100, 200, 250, 256, 300, 360, 400, 500, 512, 800, 1000, 1024, 1200, 2000, 2048, 2500, 3600, 4000, 600, 4096, 5000	
Type of connection	<b>E1</b>	open cable end	
	<b>E2</b>	plug M23	only with OP, LD
	<b>E12</b>	plug M12	only with PP
Position of electrical connection	<b>A</b>	axial	
	<b>R</b>	radial	
Cable length	... <b>D</b>	01.0, 02.0, 03.0, 04.0, 05.0, 06.0, 08.0, 10.0, 15.0, 20.0 in m	only with E1
	<b>OK</b>		only with E2 and E12
Mounting type	<b>M1</b>	clamping flange	
	<b>M2</b>	servo flange	
Output circuit	<b>PP</b>	Push-pull	
	<b>OP</b>	Push-pull with inversion	
	<b>LD</b>	LineDriver	
Shaft diameter	<b>6x10</b>	ø6 mm, length 10 mm	
	<b>8x15</b>	ø8 mm, length 15 mm	
	<b>10x20</b>	ø10 mm, length 20 mm	
Protection category	<b>IP65</b>	IP65	
	<b>IP66/67</b>	IP66/IP67	

### Order key



**Scope of delivery:** IV5800, Quick Start Guide

#### Accessories:

Electronic display MA10/4	<a href="http://www.siko-global.com">www.siko-global.com</a>
Electronic display MA48	<a href="http://www.siko-global.com">www.siko-global.com</a>
Electronic display MA55	<a href="http://www.siko-global.com">www.siko-global.com</a>
Wire-actuated encoder SG31	<a href="http://www.siko-global.com">www.siko-global.com</a>
Wire-actuated encoder SG60	<a href="http://www.siko-global.com">www.siko-global.com</a>
Wire-actuated encoder SG120	<a href="http://www.siko-global.com">www.siko-global.com</a>
Wire-actuated encoder SG150	<a href="http://www.siko-global.com">www.siko-global.com</a>
Cable extension KV05S0, with PP	<a href="http://www.siko-global.com">www.siko-global.com</a>
Cable extension KV12S1, with OP and LD	<a href="http://www.siko-global.com">www.siko-global.com</a>
Mating Connector Overview	<a href="http://www.siko-global.com">www.siko-global.com</a>
Mating connector, with PP, 5-pole, socket	Order key 84109
Mating connector, with OP and LD, 12-pole, socket	Order key 81935