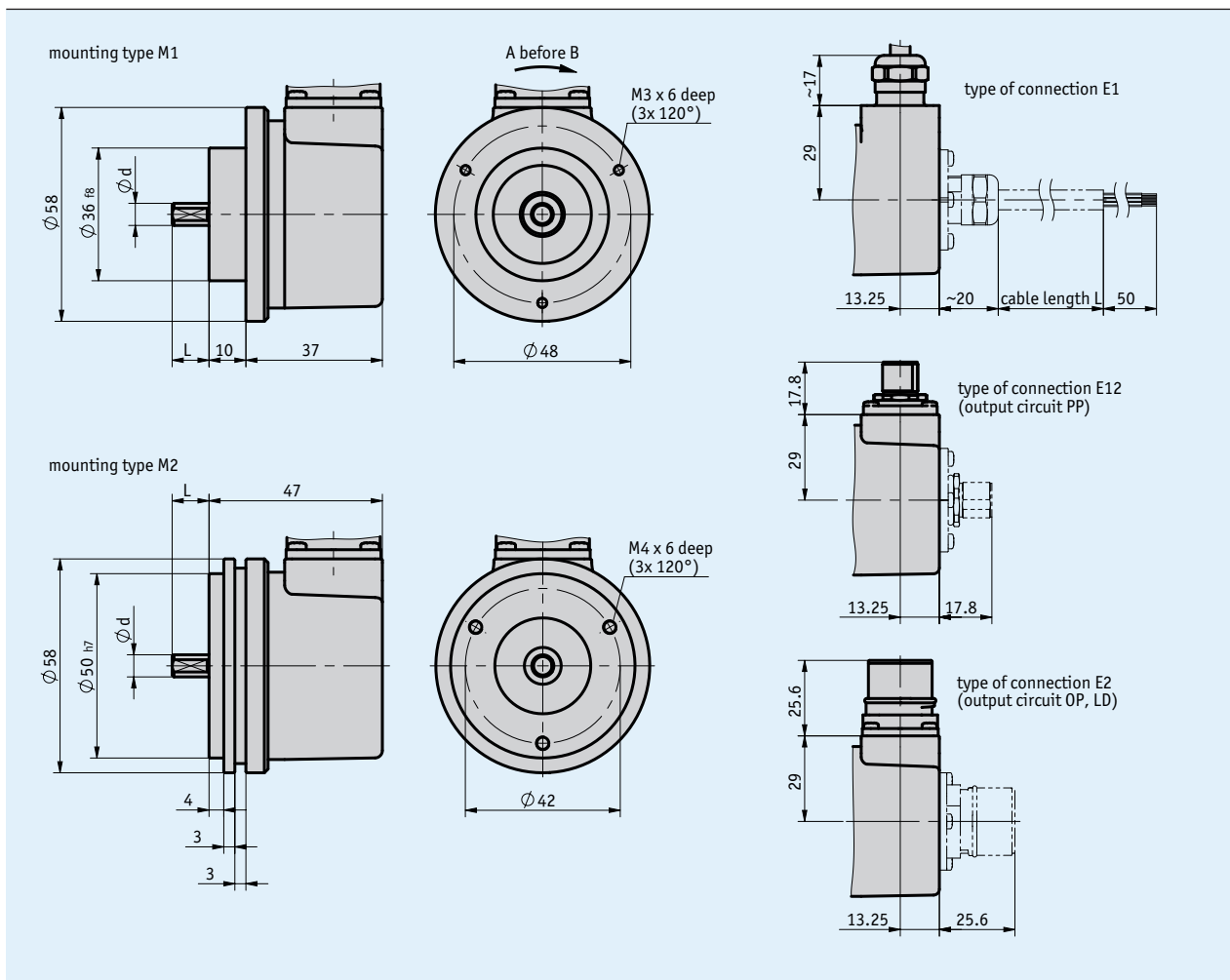


Incremental encoder IV5800

Robust optical standard rotary encoder, solid shaft

Profile

- Resolution max. 5000 pulses/revolution
- IP65 or IP66/IP67 protection class
- Robust bearing construction
- -40 ... 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 ⁻⁶ kgm ²	
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]
6 _{h7}	10
8 _{h7}	15
10 _{h7}	20

Electrical data

PP output circuit

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse polarity protected, the power-supply unit corresponds to Class 2 (UL 1310)
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	1x M12 connector	5-pole, 1x pin

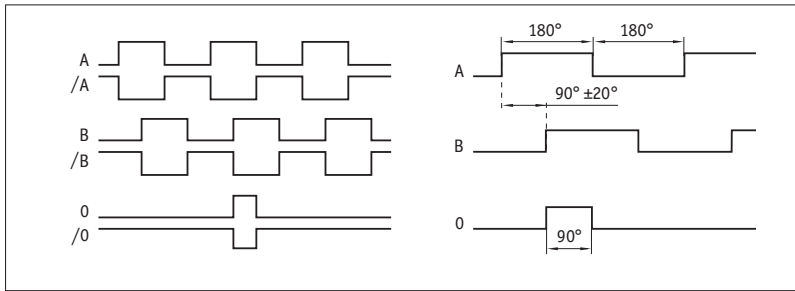
OP output circuit

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse polarity protected, the power-supply unit corresponds to Class 2 (UL 1310)
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, the power-supply unit corresponds to Class 2 (UL 1310)
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**



System data

Feature	Technical data	Additional information
Approval	UL	UL 61010-1, File No. E503367

■ **Characteristics of functional safety**

Feature	Technical data	Additional information
MTTFd	60.1 year(s)	

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
Safety regulations	UL 61010-1	Indoor use, outdoor use possible, not intended for use involving direct exposure to UV light. Environment dry / wet. Protection class III as per EN 61140. Pollution degree 2 as per EN 61010. Maximum humidity 93% at 40 °C.
Protection category	IP65, IP66/IP67	EN 60529 (protection type not yet reviewed by UL)
Shock resistance	3000 m/s ² , 6 ms	EN 60068-2-27
Vibration resistance	300 m/s ² , 10 ... 2000 Hz	EN 60068-2-6

Pin assignment

LD, PP, OP output circuits

Signal OP, LD	Signal PP	Cable color E1
/B	nc	pink
+SUB (sense line)	+SUB (sense line)	red-blue
0	0	blue
/0	nc	red
A	A	green
/A	nc	yellow
B	B	gray
GND	GND	white
SGND (sense line)	SGND (sense line)	gray-pink
+UB	+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	... A	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	E1 B E2 E12	open cable end plug M23 plug M12	only with OP, LD only with OP, LD only with PP
Position of electrical connection	A C R	axial radial	
Cable length	... D OK	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 only with E2 and E12
Mounting type	M1 E M2	clamping flange servo flange	
Output circuit	PP F OP LD	push-pull push-pull with inversion LineDriver	
Shaft diameter x length	6x10 G 8x15 10x20	ø6 mm, length 10 mm ø8 mm, length 15 mm ø10 mm, length 20 mm	
Protection category	IP65 H IP66/67	IP65 IP66/IP67	

Order key

IV5800 - **ABO** - - - - - - - - - -

A B C D E F G H

Scope of delivery: IV5800, Quick Start Guide

Accessories:

Electronic display MA10/4	www.siko-global.com
Electronic display MA48	www.siko-global.com
Electronic display MA55	www.siko-global.com
Draw-Wire Encoder SG31	www.siko-global.com
Draw-Wire Encoder SG60	www.siko-global.com
Draw-Wire Encoder SG120	www.siko-global.com
Draw-Wire Encoder SG150	www.siko-global.com
Cable extension KV05S0, with PP	www.siko-global.com
Cable extension KV12S1, with OP and LD	www.siko-global.com
Mating Connector Overview	www.siko-global.com
Mating connector, with PP, 5-pole, socket	Order key 84109
Mating connector, with OP and LD, 12-pole, socket	Order key 81935