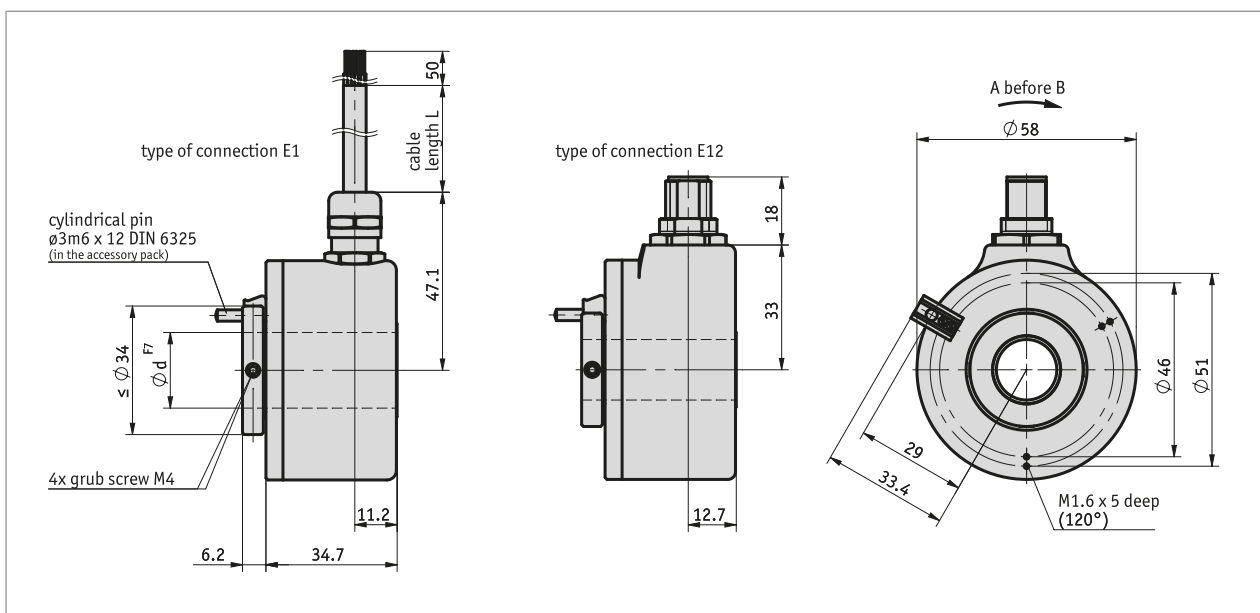


# Incremental encoder IH5828

Optical rotary encoder, large hollow shaft, small overall size

## Profile

- Resolution max. 5000 pulses/revolution
- Through hollow shaft up to max.  $\varnothing 28$  mm
- M12 or cable connection



## Mechanical data

Feature	Technical data	Additional information
shaft	steel	
Housing	aluminum	
Speed	$\leq 2500 \text{ min}^{-1}$	
Moment of inertia	$\sim 3.5 \times 10^{-6} \text{ kgm}^2$	
Starting torque	$< 0.1 \text{ Nm at } 20^\circ \text{C}$	
Cable sheath	PVC	$\varnothing 4.5 \text{ mm}$
Cable bending radius	27 mm	static
	68 mm	dynamic
Weight	$\sim 0.4 \text{ kg}$	

### Electrical data

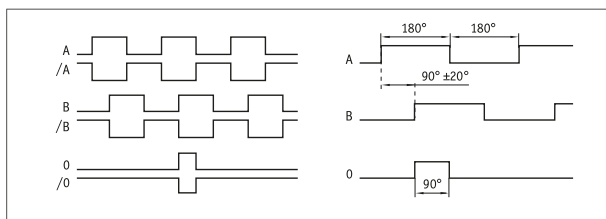
#### ■ OP output circuit

Feature	Technical data	Additional information
Operating voltage	8 ... 30 V DC	reverse polarity protected, the power-supply unit corresponds to Class 2 (UL 1310)
Current consumption	40 mA, typical	≤100 mA (no load)
Output signal level high	≥UB - 3.0 V	short-circuit proof
Output signal level low	≤2.5 V	short-circuit proof
Pulse frequency	≤200 kHz	
Load	±40 mA	max. adm.
Type of connection	open cable end	
	1x M12-plug connector	8-pole, 1x pin

#### ■ LD5 output circuit

Feature	Technical data	Additional information
Operating voltage	5 V DC	reverse polarity protected, the power-supply unit corresponds to Class 2 (UL 1310)
Current consumption	40 mA, typical	≤90 mA (no load)
Output signal level high	≥2.5 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-plug connector	8-pole, 1x pin

#### ■ Signal image



### 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	63.4 Year(s)	

### Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-20 ... 70 °C at rotational speed ≤2000 min <sup>-1</sup> -20 ... 60 °C at rotational speed ≤2500 min <sup>-1</sup>	
EMC	EN 61000-6-2 EN 61000-6-3	interference resistance / immission emitted interference / emission
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	IP64	EN 60529 (protection type not yet reviewed by UL)
Shock resistance	1000 m/s <sup>2</sup> , 6 ms	EN 60068-2-27
Vibration resistance	100 m/s <sup>2</sup> , 10 ... 2000 Hz	EN 60068-2-6

### pin assignment

Signal	E1	E12
GND	white	1
+UB	brown	2
A	green	3
/A	yellow	4
B	gray	5
/B	Pink	6
0	blue	7
/0	red	8

### Order

#### Ordering table

Feature	Ordering data	Spezifikation	Additional information
pulses/revolution	A ...	50, 100, 125, 250, 400, 500, 512, 1000, 1024, 2000, 2048, 5000	
Type of connection	B E1 E12	open cable ends connector	
Cable length	C ... OK	01.0, 03.0 in m without	only at E1 only with E12
Output circuit	D OP LD5 LD24	push-pull with inversion LineDriver, 5 V LineDriver, 8 ... 30 V	
hollow shaft/diameter	E ...	16, 20, 24, 28 in mm	

#### Order key

IH5828 - AB0 - A - B - C - D - E

**Scope of delivery:**

IH5828, Quick Start Guide

**Accessories you can find:**

Cable extension KV08S2  
Overview Mating connector  
Measurement display MA10/4  
Measurement display MA48  
Measurement display MA55  
Mating connector, 8-pole, socket

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