

# INCREMENTAL ENCODERS

## IEP58

### Programmable Line

- Standard dimension  $\varnothing 58\text{mm}$
- Hollow or solid shaft
- High resolution up to 16384 PPR
- Programmable via USB cable



#### APPLICATIONS

- Motion control
- Automated machinery
- Conveyor lines



#### MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

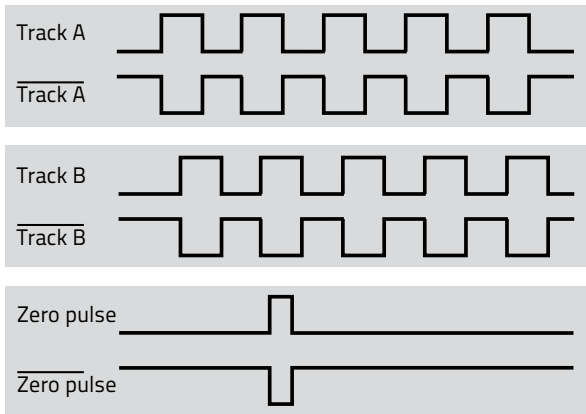
Case dimension	$\varnothing 58\text{ mm}$ , depth 54 mm
Shaft dimension	Hollow $\varnothing 14$ or $15\text{ mm}$ , solid $\varnothing 6, 8$ or $10\text{ mm}$
Shaft loading (axial and radial)	100 N max.
Shaft rotational speed	6000 rpm continuous, 12000 rpm temporary
Starting torque at 20 °C	0,15 Ncm (S06); 0,4 Ncm (S08/S10/H14/H15)
Bearings life	$400 \times 10^6$ rev. min. ( $10^9$ rev. min. with 20 N shaft loading max.)
Weight	0.2 kg (7 oz) ca.
Case material	Aluminium anticorrosional UNI EN AW-6082
Flange material	Aluminium anticorrosional UNI EN AW-6082
Shaft material	Stainless steel non-magnetic UNI EN 4305
Bearings material	ABEC 5
Mechanical protection	IP65
Shock resistance	100g, 6 ms (MIL STD 202F)
Vibration resistance	10 g, 5-2000 Hz (MIL STD 202F)
Operating temperature	-40 to +85 °C (-40 to 185 °F)
Storage temperature	-40 to +100 °C (-40 to 212 °F), 98% R.H. non condensing

Note: specifications subject to changes without prior notice, please refer to the user manual received with the product for mounting, wiring and operation.

## ELECTRICAL SPECIFICATIONS

Resolution	Programmable from 1 to 16384 PPR
Accuracy	± 0.05°
Counting frequency	500 kHz max.
Output signals	AB0 and /A/B/0
Output circuit	Smart Push-Pull & Line Driver
Power supply	5 – 30 Vdc
Consumption	60 mA max.
Output current	40 mA max (per each channel)
Connection	12-poles shielded cable 1.5m or connector M12 or M23
Protection	Polarity inversion and short circuit
EMC	According to EN61000-4-2 and EN61000-4-4
Light source	Ga-Al diodes
Optoelectronic life	> 100000 hrs

## OUTPUT AND INPUT SIGNALS



The incremental encoders supply A and B, 90° phase shifted signals, and their related complement outputs.

A single channel can provide the rotation speed only, whereas two phase shifted channels can give also the rotation direction and increase resolution.

The 0 index is used as reference mark for the "home" position.

Index set: the 0 index is selectable for length 90° or 180° electrical.

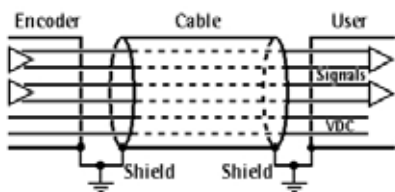
Count dir.: the count direction is selectable cw or ccw.

SDA: serial data line carries the data bits.

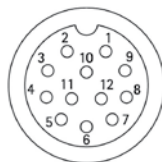
SCL: serial clock line is used for data timing.

## ELECTRICAL CONNECTIONS

Signal	0Vdc	+Vdc	A	/A	B	/B	0	/0	Index set	Count dir.	SDA	SCL	Ground
Wire	White	Brown	Green	Yellow	Gray	Pink	Blue	Red	Black	Violet	Gray/Pink	Red/Blue	Shield
M12 pin	1	2	3	4	5	6	7	8	9	10	11	12	Case
M23 pin	1	2	3	4	5	6	7	8	9	10	11	12	Case



12-poles cable



M12 12-pin connector



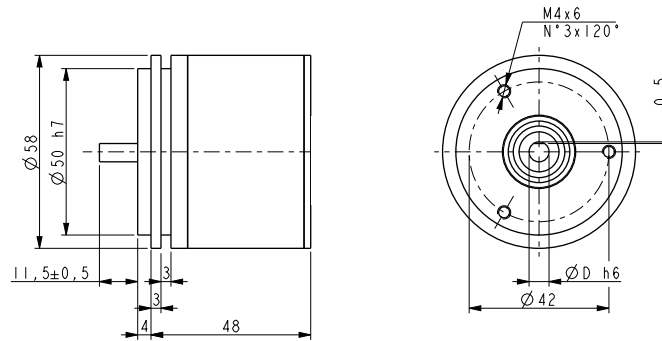
M23 12-pin cw connector

NOTE: view and pin-out of the connectors on the encoder side

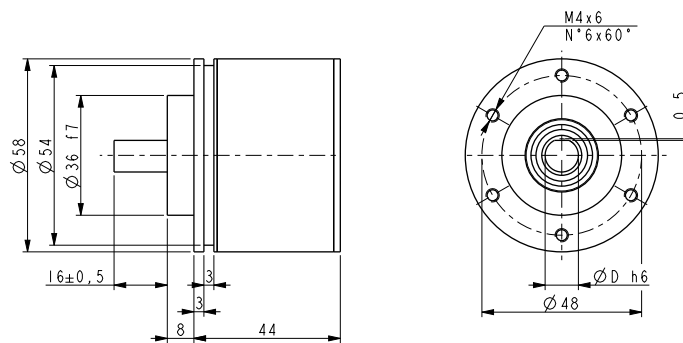
# INCREMENTAL ENCODERS

## DIMENSIONS

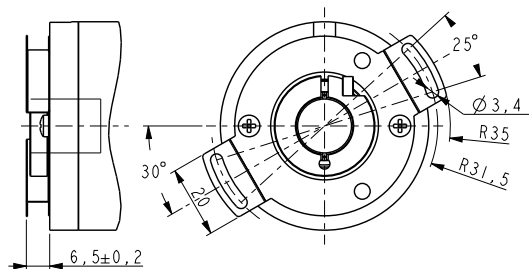
### S06 VERSION



### S08/S10 VERSION



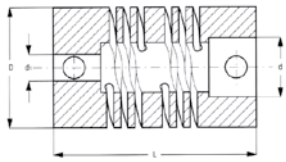
### H14/H15 VERSION



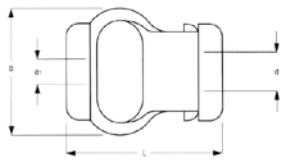
## Model selection

SHAFT	CONNECTION	MODEL	ORDER NO.
Solid shaft • $\varnothing 6$ mm	Cable 1.5 m	IEP58-S06-PROG-C15	95B081830
	M12 conn.	IEP58-S06-PROG-M12	95B081840
	M23 conn.	IEP58-S06-PROG-M23	95B081850
Solid shaft • $\varnothing 8$ mm	Cable 1.5 m	IEP58-S08-PROG-C15	95B081860
	M12 conn.	IEP58-S08-PROG-M12	95B081870
	M23 conn.	IEP58-S08-PROG-M23	95B081880
Solid shaft • $\varnothing 10$ mm	Cable 1.5 m	IEP58-S10-PROG-C15	95B081890
	M12 conn.	IEP58-S10-PROG-M12	95B081900
	M23 conn.	IEP58-S10-PROG-M23	95B081910
Hollow shaft ○ $\varnothing 14$ mm	Cable 1.5 m	IEP58-H14-PROG-C15	95B081920
	M12 conn.	IEP58-H14-PROG-M12	95B081930
	M23 conn.	IEP58-H14-PROG-M23	95B081940
Hollow shaft ○ $\varnothing 15$ mm	Cable 1.5 m	IEP58-H15-PROG-C15	95B081950
	M12 conn.	IEP58-H15-PROG-M12	95B081960
	M23 conn.	IEP58-H15-PROG-M23	95B081970

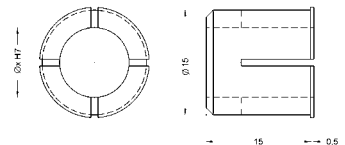
ACCESSORIES		
DESCRIPTION	MODEL	ORDER NO.
IEP58 PROGRAMMING TOOL	IEP58-PROG-TOOL	95B081980
M23 PROGRAMMING CABLE	CN-M23-PROG CABLE	95B081990
M12 PROGRAMMING CABLE	CN-M12-PROG CABLE	95B082000
Flexible Aluminium coupling Ø6 mm	FAC06-06	95B081300
Flexible Aluminium coupling Ø10 mm	FAC10-10	95B081310
Flexible standard plastic coupling Ø6 mm	FBC06-06	95B081320
Flexible standard plastic coupling Ø10 mm	FBC10-10	95B081330
Encoder reducing sleeve Ø15 - 6 mm	RS15-06	95B081340
Encoder reducing sleeve Ø15 - 8 mm	RS15-08	95B081350
Encoder reducing sleeve Ø15 - 10 mm	RS15-10	95B081360
Encoder reducing sleeve Ø15 - 11 mm	RS15-11	95B081370
Encoder reducing sleeve Ø15 - 12 mm	RS15-12	95B081380
Encoder reducing sleeve Ø15 - 9.52 mm (3/8")	RS15-3/8	95B081390
Ø58 Encoder fixing clamps (3 kits)	ST-58-KIT	95B081400
Ø58 Encoder mounting bell	ST-58-BELL	95B081410
Ø58 Encoder mounting L-bracket	ST-58-BRKT	95B081420
Ø58 Encoder mounting square flange	ST-58-FLNG	95B081430
Incremental encoder conn. cw M23 12-poles with 5m cable	CN-M23-12P-05	95B081260
Incremental encoder conn. cw M23 12-poles with 10m cable	CN-M23-12P-10	95B081270
Incremental encoder conn. cw M23 12-poles without cable	CN-M23-12P-00	95B081280
Metal M12 12-poles female conn. with 5m cable	CN-M12-12P-05	95B082010
Metal M12 12-poles female conn. with 10m cable	CN-M12-12P-10	95B082020
Metal M12 12-poles female connector without cable	CN-M12-12P-00	95B082030



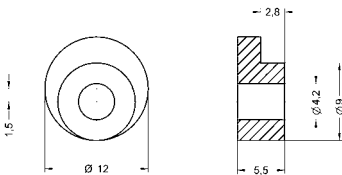
FAC06-06 (L22/D19/d6 mm)  
FAC10-10 (L24/D25/d10 mm)



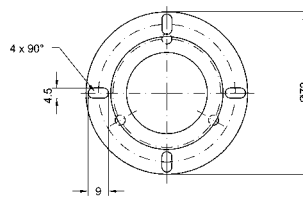
FBC06-06 (L29/D22/d6 mm)  
FBC10-10 (L29/D22/d10 mm)



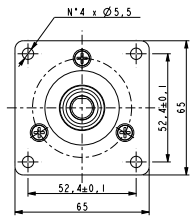
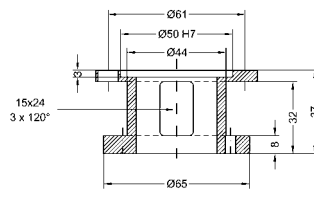
RS15-xx (int. Ø as specified in description)



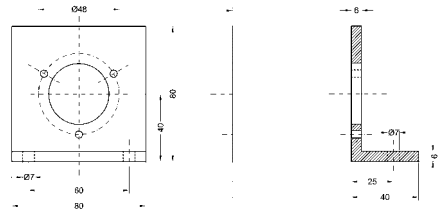
ST58-KIT



ST-58-BELL



ST-58-FLNG



ST-58-BRKT