



Type 2R58

- Shaft Encoder - $\varnothing$ 58 mm
- Shaft: $\varnothing$ 6 in to $\varnothing$ 10 mm
- Resolution up to 12.500 ppr
- Terminal Shut down at 155 °C
- Standard IP 67

Electrical Specifications

Code:	Incremental
Resolution:	1 to 12.500 ppr (pulses per revolution)
Supply Voltage:	4,5 Vdc min. to 30 Vdc max. ** (35 mA max. - no load)
Output Voltage:	Low: 500 mV max. at 10 mA High: ($V_{in} - 0,6$) at -10 mA ($V_{in} - 1,3$) at -25 mA
Output Current:	30 mA max. load per output channel **
Frequency Response:	300 kHz max. **
Output Format:	Two channel (A, B) quadrature with Index (Z) and optional complementary (A-, B-, Z-) outputs
Phase Sense:	A leads B clockwise (CW) from the mounting end of the encoder
Index:	Gated with Channels A and B high
Accuracy:	+/- 0,8 arc-min.
Outputs:	ASIC Push pull and Differential OL7272 Push-pull and Differential Line Driver 26C31 Differential Line Driver 5V output (with 5V input)
Electrical Protection:	Reverse polarity and output short circuit protected
Noise Immunity:	Tested to EN61000-6-2 : 2005 (industrial environments) Electromagnetic compatibility (EMC) and EN 61000-6-3 : 2007 (residential, commercial, and light- industrial environments) for Electromagnetic compatibility (EMC)

Mechanical Specifications

Material:	Housing: Aluminum Cap: Aluminum Shaft: Stainless steel
Weight:	Encoder: ~ 190 gr (6,7 oz) Cable: 60 gr / meter (2,12 oz / meter)
Bearing Life:	> $1,9 \times 10^{10}$ revolutions at rated load
Shaft Speed:	3.000 rpm (max. sustained) IP 66
Starting Torque:	< 0,02 Nm (2,83 oz-in) at 25° C
Mass Moment of Inertia:	6,0 gcm ² ($8,5 \times 10^{-5}$ oz-in-sec ²)
Shaft Loads:	Axial: 50 N (11,24 lbs) max. Radial: 50 N (11,24 lbs) max.

Environmental Specifications

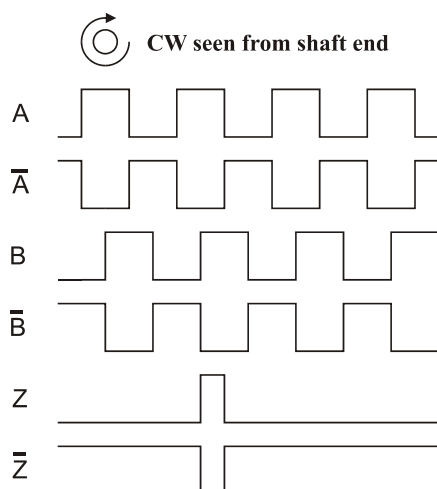
Operating Temp.:	-40° to +85° C
Storage Temp.:	-40° to +85° C
Shock:	100 G / 11 ms
Vibration:	10-2000 Hz / 10 G
Bump:	10 G / 16 ms (1000 x 3 axis)
Humidity:	98 % RH without condensation
IP Rating:	IP 67 / Nema 6 (approx.)

Connection Options

Cable:	8 leads (0,14 mm ² , 26 AWG) twisted pairs; shielded
Connector:	5-pin M12 8-pin M12 9-pin M23 12-pin M23

** = It is recommended user not to combine max. values for all 3 parameter

Output waveform



Channel tolerance 180 e° +/- 36 e°
 Phase difference tolerance 90 e° +/- 18 e°
 Z channel tolerance 90 e° +/- 18 e°

Disk Resolutions (Pulses per revolution)

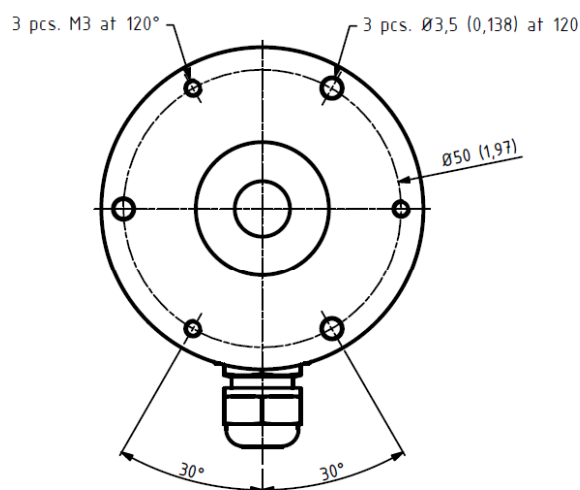
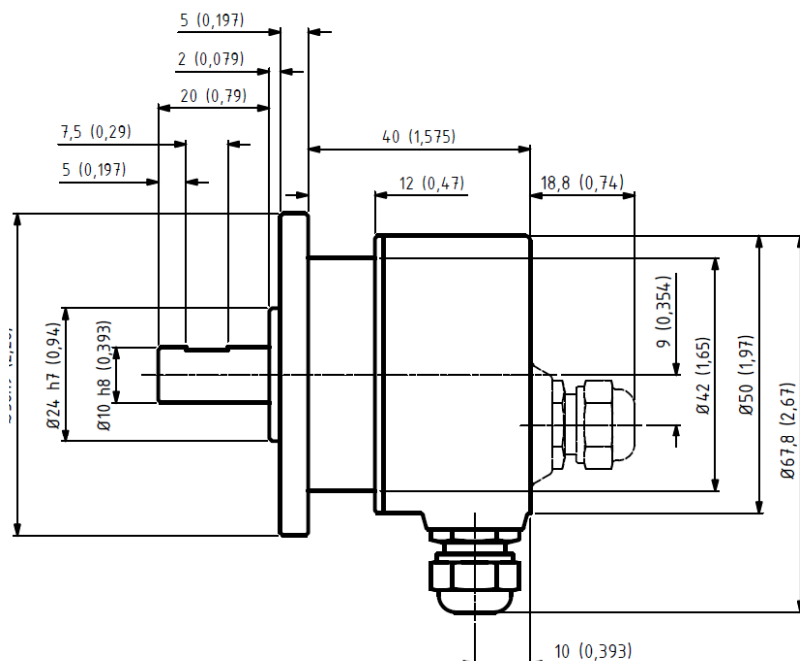
1	32	125	720	3000
2	36	150	800	3072
5	40	180	1000	3600
6	45	200	1000	4000
7	47	250	1024	4096
8	50	256	1131	5000
10	60	300	1200	8192
12	64	360	1250	9000*
15	70	400	1270	10000*
16	75	455	1500	12500*
18	80	500	2000	
20	90	512	2048	
25	100	600	2400	
30	120	635	2500	

Other options on request

Pulses per revolution,
 min. 1 – max. 12.500

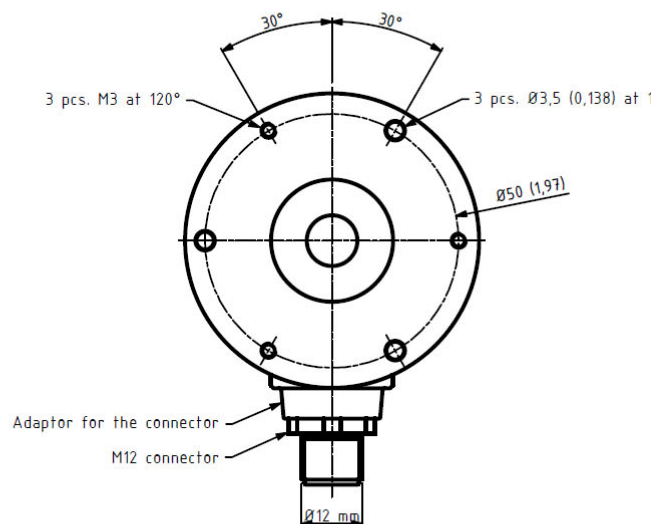
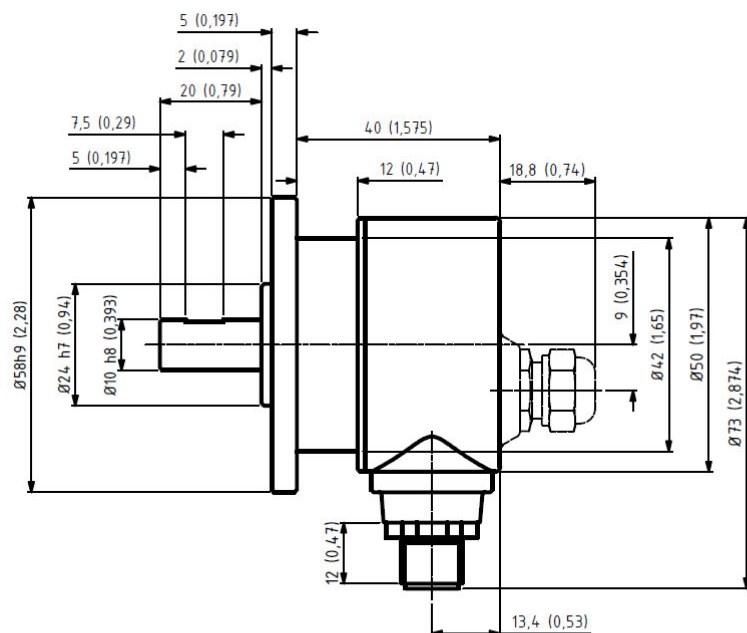
* Operating temperature: -20° C to 50° C

Mechanical Dimensions



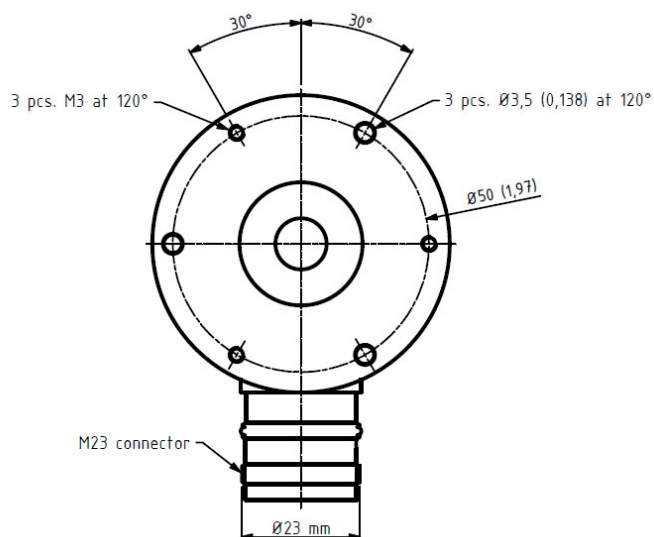
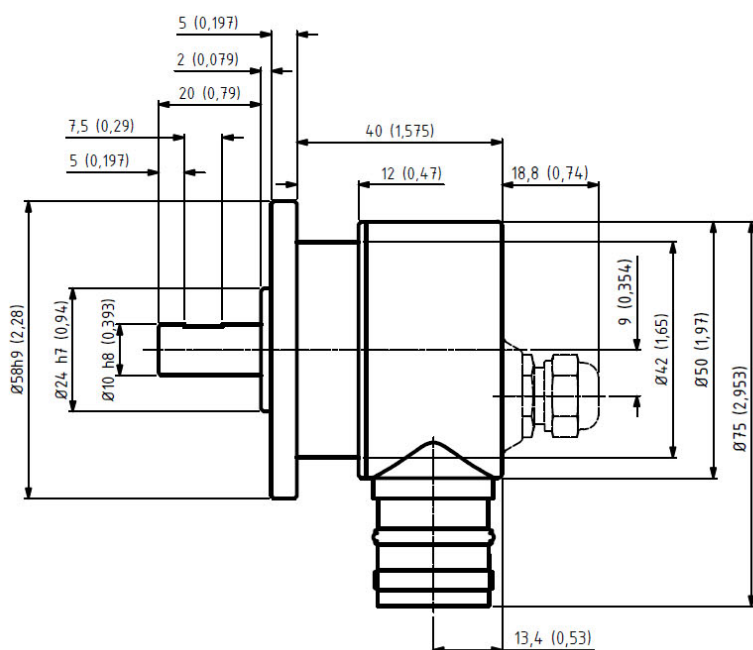
Standard Cable Gland
 Side (S) or Back (B)

mm (inches)



M12 Connector

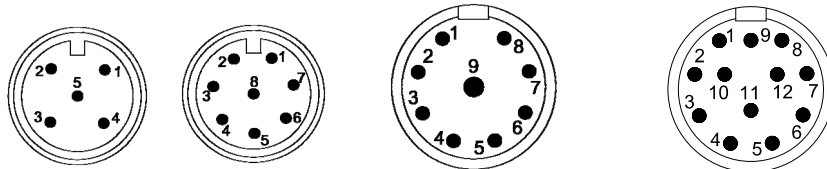
mm (inches)



M23 Connector

mm (inches)

Output Terminations



Standard Cable				M12	M12	M23	M23	M23	M23
				5 - pin	8 - pin	9 - pin	9 - pin	12 - pin	12 - pin
				Standard	Differential	Standard	Differential	Standard	Differential
				Output	Output	Output	Output	Output	Output
Channel	Wire Color		Pin	Channel	Channel	Channel	Channel	Channel	Channel
A	Pink	Pink	1	Vsup	A	A	A	GND	B -
A -	Gray*	Gray	2	B	Vsup	B	B	NC	NC
B	Green	Green	3	GND	A -	Z	Z	Z	Z
B -	Yellow*	Yellow	4	A	B	GND	A -	GND	Z -
Z	White	White	5	Z	B -	GND	B -	A	A
Z -	Brown*	Brown	6		Z	GND	Z -	GND	A -
Vsup	Red	Red	7		GND	Vsup	Vsup	NC	NC
GND	Blue	Blue	8		Z -	GND	GND	B	B
				9		Shield	Shield	Shield	Shield
GND = Circuit Ground				10	GND = Circuit Ground			GND	GND
* Internally connected as GND				11				NC	NC
				12	Shield = Case Ground			Vsup	Vsup

Ordering Code

Example: 2R58 – 1024 – D – 6 – 12 – 67 – 01 – S – 00

2R58	-		-		-		-		-		-		-		-	
		1		2		3		4		5		6		7		8

1. Pulses per revolution

See table on page 2

2. Output

Standard N
 Standard (Open collector NPN) **NON**
 Standard (Open collector PNP) **NOP**
 Differential **D**
 26C31 Line Driver (5V IN/OUT) **L**
 26C31 Line Driver (9-30V IN / 5V OUT) **5L**
 OL 7272 Line Driver **M**

3 & 4. Hollow Shaft diameter

3.

4.

6 mm x 12 mm	06	x	12
8 mm x 16 mm	08	x	16
10 mm x 20 mm	10	x	20

5. IP Rating

IP 65 **65**
 IP 66 **66**
 IP 67 **67**

6. Cable Length

Standard cable is 1m **01**
 Specify length **XX**
 No cable **00**

7. Cable & Connector Takeout

Side radial **S**
 Back axial **B**

8. Connector

M12 5-pin **P5**
 M12 8-pin **P8**
 M23 9-pin **C9**
 M23 12-pin **C12**
 No connector **00**