

### Features:

Optical absolute multiturn encoder **TSMW58P-PRNET-IO** with **PROFINET IO output interface** is an ideal solution for use in harsh environmental conditions thanks to its robust design, high resolution up to 28 bit and high protection degree up to IP67.

- resolution singleturn: 1,...,65535 ppr (up to 16 bit);
- number of turn: max. 4096 ppr (12 bit);
- total resolution: 1,...,268435456 (28 bit) programmable;
- high protection degree up to IP 67;
- easy setting of a preset value using a control bit.



## MECHANICAL SPECIFICATIONS/ CARATTERISTICHE MECCANICHE

Dimensions/ *Dimensioni*

Shaft loading/ *Carico sull'albero*

Moment of inertia/ *Momento di inerzia*

Shaft Rotation Speed/ *Numero giri*

Weight/ *Peso*

see drawings / vedi disegni  
 axial/ assiale 40 N; radial/ radiale 80 N  
 typically  $7,5 \cdot 10^{-6}$  kgm<sup>2</sup>  
 9000 RPM, 7000 RPM (continuous/ continui) up to/ fino a 70 °C  
 7000 RPM, 4000 RPM (continuous/ continui ) up to/ fino a T<sub>max</sub>  
 ~ 0,54 kg

## ELECTRICAL SPECIFICATIONS/ CARATTERISTICHE ELETTRICHE

Power supply/ *Alimentazione*

Diagnostic Link 1 and 2, LED (green/yellow)/ *(verde/ giallo)*

Error LED (red/ rosso)/ PWR LED (green/verde)

Protection/ *Protezione*

Power dissipation/ *Potenza assorbita*

10÷30 V  
 green – active link; yellow – data transfer /  
 verde – link attivo; giallo – trasferimento dati  
 see manual/ vedere manuale  
 against inversion of polarity/ contro inversione di polarità  
 <3 W

## MATERIALS/ MATERIALI UTILIZZATI

Flange/ *Flangia*

Housing/ *Corpo*

Shaft/ *Albero*

aluminum non corroding/ in alluminio anticorrosivo  
 zinc die-cast/ pressofusione alluminio  
 stainless steel/ acciaio inossidabile

## ENVIRONMENTAL SPECIFICATIONS/ CARATTERISTICHE AMBIENTALI

Operating temperature range/ *Temperatura di lavoro*

Protection degree/ *Grado di protezione* (EN 60529)

Relative humidity/ *Umidità relativa*

Vibrations/ *Vibrazioni* (EN 60068-2-6)

Shock resistance/ *Resistenza a shock* (EN 60068-2-27)

-40 °C ÷ +85 °C  
 up to IP67  
 98% RH without condensing/ senza condensazione  
 100 m/s<sup>2</sup>, 55 .. 2000 Hz  
 2500 m/s<sup>2</sup>, 6 ms

### ORDER CODE

**TSMW58P . XX . 65535 . 4096 . B . 10/30 . XX . XX . L= . PRNET**

**a**

**b**

**c**

**d**

**e**

**f**

**g**

**h**

**i**

**j**

#### **a** MODEL/ MODELLO

TSMW58P

#### **f** POWER SUPPLY/ ALIMENTAZIONE

10/30 +10÷30 V

#### **b** ASSEMBLY/ MONTAGGIO

M0 Flange with spring element/ flangia con cavo antirotazione  
 M1 Flange with stator coupling/ con molla antirotazione Ø63 mm  
 M2 Flange with stator coupling/ con molla antirotazione, Ø65 mm

#### **g** PROTECTION DEGREE/ GRADO DI PROTEZIONE

K5 IP65 (EN 60529)  
 K7 IP67 (EN 60529)

#### **c** STEPS/ PASSI PER GIRO

65535 from 1 up to 65535 steps/turn programmable  
 da 1 a 65535 passi/giro programmabile

#### **h** SHAFT/ ALBERO

10 Ø10 mm (M0, M1, M2) (H7)  
 12 Ø12mm (M0, M1, M2) (H7)  
 14 Ø14mm (M0, M1, M2) (H7)  
 15 Ø15mm (M0, M1, M2) (H7)

#### **d** TURNS/ NUMERO GIRI

4096 from 1 to 4096 revolutions programmable (12 bit)  
 da 1 a 4096 giri programmabili

Max. depth/ profondità mass. 30 mm

#### **e** CODE/ CODE

B Binary/ binario

#### **i** ELECTRICAL CONNECTIONS/ CONNESSIONI ELETTRICHE

L= 3 x radial M12 connector 4-pin  
 uscita radiale su n° 3 connettori M12 a 4-pin

#### **j** OUTPUT CIRCUITS/ CIRCUITI DI USCITA

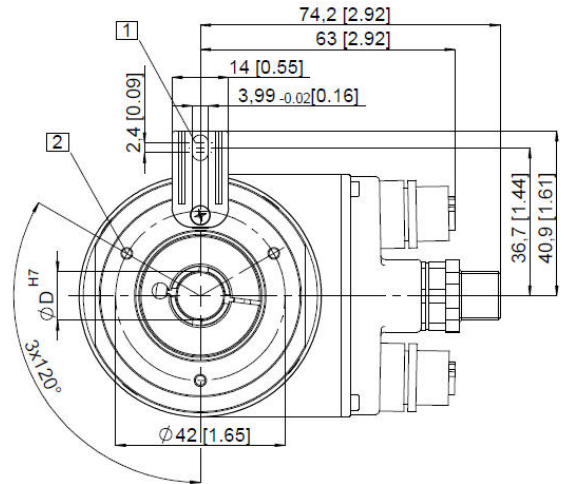
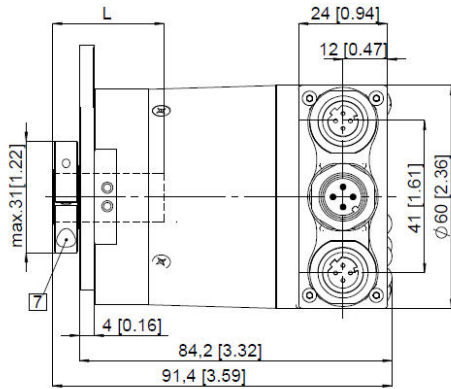
PRNET PROFINET IO

# Absolute multiturn encoders

## TSMW58P-PRNET-IO hollow shaft Ø 58

### M0 Flange with spring element

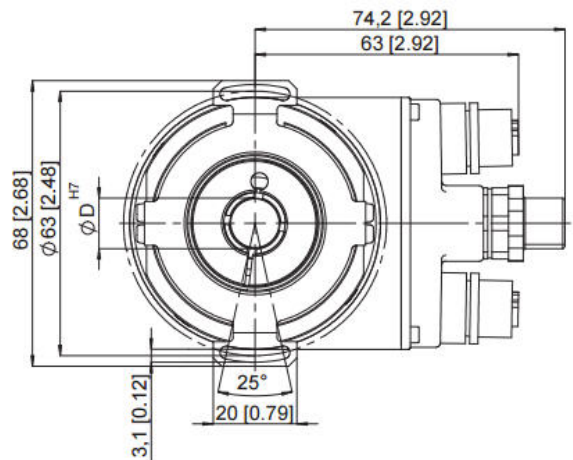
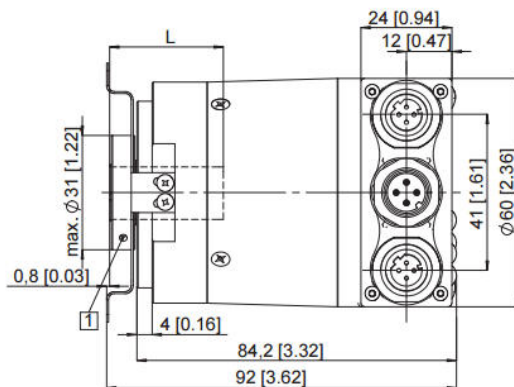
- 1 Slot spring element recommendation: cylindrical pin DIN7, UNI1707, Ø 4 /  
Cava antirrotazione per pin cilindrico DIN7, UNI1707, Ø 4
- 2 3 x M3, 5.5 deep / 3 x M3, prof. 5.5
- 3 Recommended torque for the clamping ring 0.6 Nm /  
Coppia serraggio massima 0.6 Nm



L = max. depth 30 mm. / profondità massima 30 mm. (blind hollow shaft/ albero cavo cieco)

### M1 Flange with stator coupling, Ø63

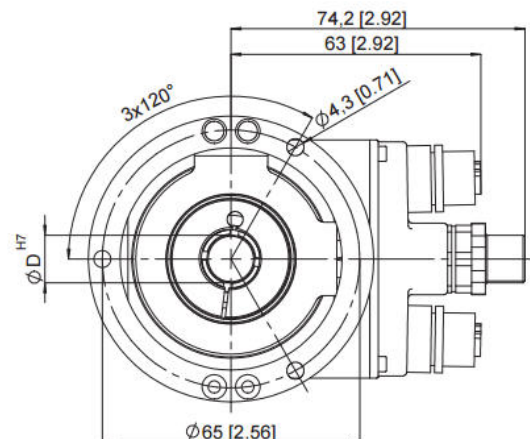
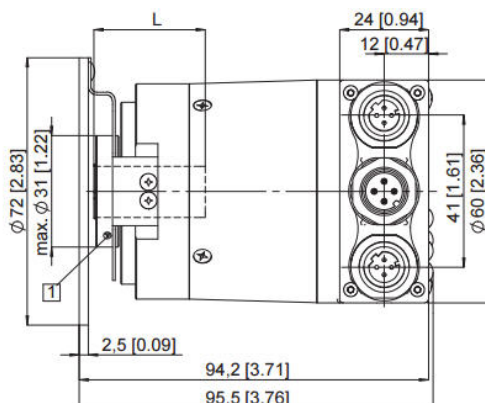
- 1 Recommended torque for the clamping ring 0.6 Nm / Coppia serraggio massima 0.6 Nm



L = max. depth 30 mm. / profondità massima 30 mm. (blind hollow shaft/ albero cavo cieco)




### M2 Flange with stator coupling, Ø65

- 1 Recommended torque for the clamping ring 0.6 Nm / Coppia serraggio massima 0.6 Nm



L = max. depth 30 mm. / profondità massima 30 mm. (blind hollow shaft/ albero cavo cieco)

### Terminal assignment/ *schema connessioni*

Interface	Type of connection	Function	M12 connector, 4-pin				Diagram	
			Signal:	Transmit data+	Receive data+	Transmit data -		Receive data -
PRNET	N (3 x M12 connector)	Bus Port 1	Signal:	Transmit data+	Receive data+	Transmit data -	Receive data -	 D coded
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	
		Power supply	Signal:	Voltage +	-	Voltage -	-	
			Abbreviation:	+ V	-	0 V	-	
			Pin:	1	2	3	4	
		Bus Port 2	Signal:	Transmit data+	Receive data+	Transmit data -	Receive data -	 D coded
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	

M12 connector, 4-pin/ connettore M12, 4-pin

