

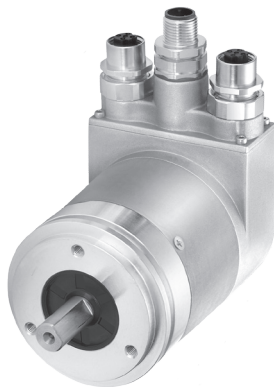
## TSM58P-ETHCAT

## solid shaft

## Ø 58



Italsensor Quality System certified according to the UNI EN ISO 9001



EtherCAT<sup>®</sup>

### Features:

Optical absolute multiturn encoder **TSM58P-ETHCAT with EtherCAT 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  $3,0 \cdot 10^{-6}$  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 LED (red/rosso)

Run LED (green/verde)

2 × Link LEDs (yellow/giallo)

Protection/ *Protezione*

Power dissipation/ *Potenza assorbita*

10÷30 V  
 LED is ON with the following fault conditions:  
 Sensor error (internal code or LED error), low voltage, over-temperature/  
 LED acceso (ON) in caso di errore: Errore di sensore (codice interno o errore  
 LED), bassa tensione, surriscaldamento  
 LED is ON with the following conditions/LED acceso (ON) nelle condizioni:  
 Preop-, Safeop e Op-State (EtherCAT status machine)  
 LED is ON with the following conditions (port IN and port OUT): Link detected/  
 LED acceso (ON) in caso di (port IN e port OUT): Link attivo  
 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 ÷ +80 °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

**TSM58P . XXX . 65535 . 4096 . B . 10/30 . XX . XX . L= . ETHCAT**

**a**

**b**

**c**

**d**

**e**

**f**

**g**

**h**

**i**

**j**

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

TSM58P

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

10/30 +10÷30 V

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

SG1 Clamping flange/ flangia servo  
 SG2 Synchro flange/ flangia servo-graffe  
 F Square flange/ flangia quadra

#### **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 to 65535 passi/giro programmabile

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

6 ∅6 mm (SG1, SG2, F) Fit/ tolleranza: h7  
 10 ∅10 mm (SG1, SG2, F) Fit/ tolleranza: f7

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

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

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

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

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

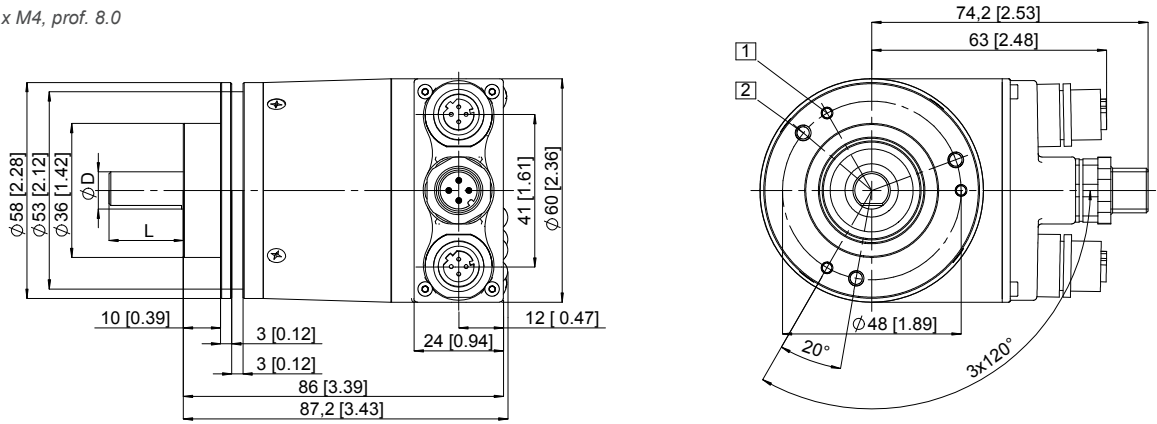
B Binary/ binario

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

ETHCAT EtherCAT

### SG1 - Clamping flange

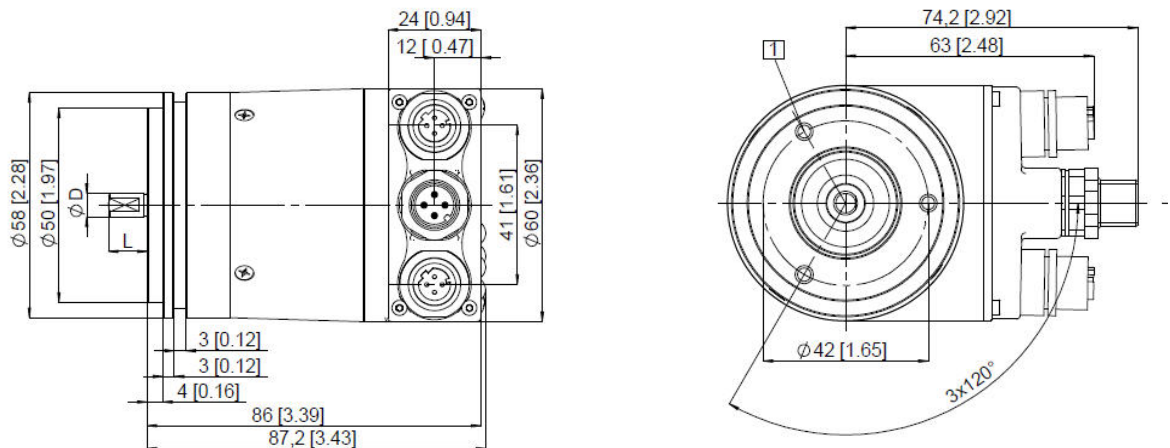
- ① 3 x M3, 6.0 deep/ 3 x M3, prof. 6.0
- ② 3 x M4, 8.0 deep/ 3 x M4, prof. 8.0



D	L
6	10
10	20

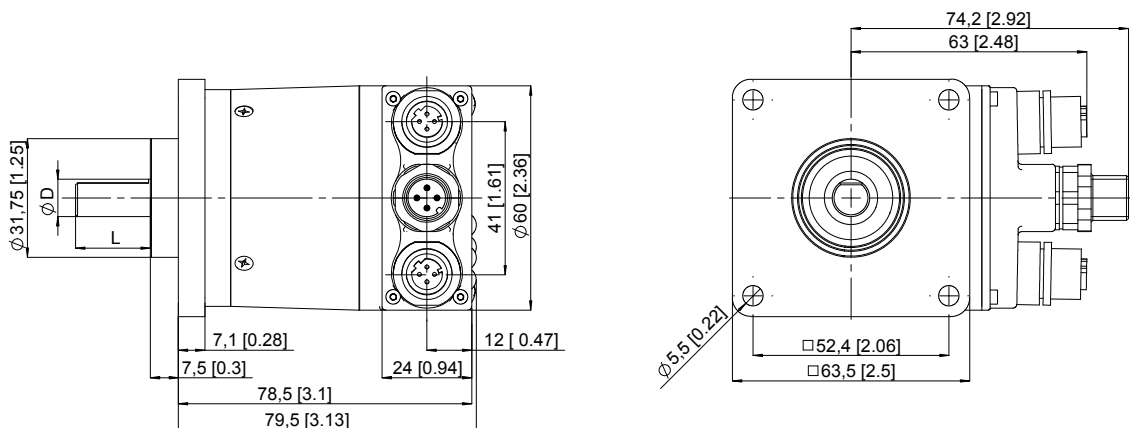
### SG2 - Synchro flange

- ① 3 x M4, 6.0 deep/ 3 x M4, prof. 6.0



D	L
6	10
10	20

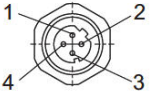
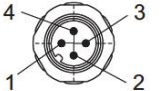
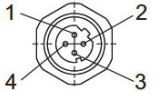
### F - Square flange



D	L
6	10
10	20

## TSM58P-ETHCAT / solid shaft / Ø 58

### Terminal assignment/ *schema connessioni*

Interface	Type of connection	Function	M12 connector, 4-pin				Diagram	
			Signal:	Transmit data+	Receive data+	Transmit data -		Receive data -
ETHCAT	N (3 x M12 connector)	Bus Port <b>IN</b>	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 <b>OUT</b>	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

