Absolute multiturn encoders

TSML58P-PRNET-IO | solid shaft | ∅58

Italsensor Quality System certified according to the UNI EN ISO 9001

Features:

Absolute multiturn encoder **TSML58P-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,...,65536 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*	see drawings / vedi disegni
Shaft loading/ *Carico sull'albero*	axial/ assiale 40 N; radial/ radiale 110 N
Moment of inertia/ *Momento di inerzia*	typically $3,0*10^{-6}$ kgm^2
Shaft Rotation Speed/ *Numero giri*	12.000 RPM
Weight/ *Peso*	< 400g

ELECTRICAL SPECIFICATIONS/ *CARATTERISTICHE ELETTRICHE*

Power supply/ *Alimentazione*	10÷30 V
Diagnostic / Status LED	see pag. 4 of datasheet / vedere pagina 4 del datasheet
Protection/ *Protezione*	against inversion of polarity/ contro inversione di polarità
Power dissipation/ *Potenza assorbita*	≤2,5 W
Start-up time	<1s

MATERIALS/ *MATERIALI UTILIZZATI*

Flange/ *Flangia*	aluminum non corroding/ in alluminio anticorodal
Housing/ *Corpo*	zinc die-cast/ pressofusione alluminio
Shaft/ *Albero*	stainless steel/ acciaio inossidabile

ENVIROMENTAL SPECIFICATIONS/ *CARATTERISTICHE AMBIENTALI*

Operating temperature range/ *Temperatura di lavoro*	-40 °C ÷ +85 °C
Protection degree/ *Grado di protezione* (EN 60529)	up to IP67
Relative humidity/ *Umidità relativa*	98% RH without condensing/ senza condensazione
Vibrations/ *Vibrazioni* (EN 60068-2-6)	≤10g (10Hz - 1000Hz)
Shock resistance/ *Resistenza a shock* (EN 60068-2-27)	≤100g (halfsine 6ms)

TSML58P-PRNET-IO | solid shaft | ∅ 58

ORDER CODE

TSML58P . XXX . 65536 . 4096 . B . 10/30 . XX . XX . L= . PRNET

a b c d e f g h i j

a MODEL/ *MODELLO*

TSML58P

b ASSEMBLY/ *MONTAGGIO*

SG1	Synchro flange/ flangia servo-graffe
SG2	Synchro flange/ flangia servo-graffe
F1	Square flange (pilot 31.75 mm) / Flangia quadra (centratore 31.75mm)

c STEPS/ *PASSI PER GIRO*

65536	from 1 up to 65536 steps/turn programmable da 1 a to 65536 passi/giro programmabile

d TURNS/ *NUMERO GIRI*

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

e CODE/ *CODE*

B	Binary/ binario

f POWER SUPPLY/ *ALIMENTAZIONE*

10/30	+10÷30 V

g PROTECTION DEGREE/ *GRADO DI PROTEZIONE*

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

h SHAFT/ *ALBERO*

6	Ø6 mm (SG2) Fit/ tolleranza: f6
10	Ø10 mm (SG1) Fit/ tolleranza: h8
9,52	Ø9,52 mm (F1) Fit/ tolleranza: h8

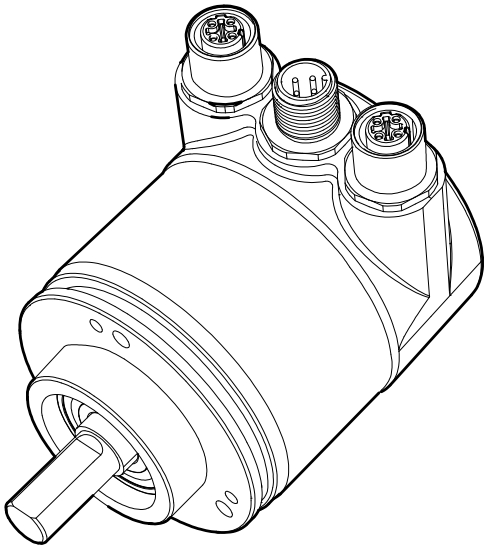
i ELECTRICAL CONNECTIONS/ *CONNESSIONI ELETTRICHE*

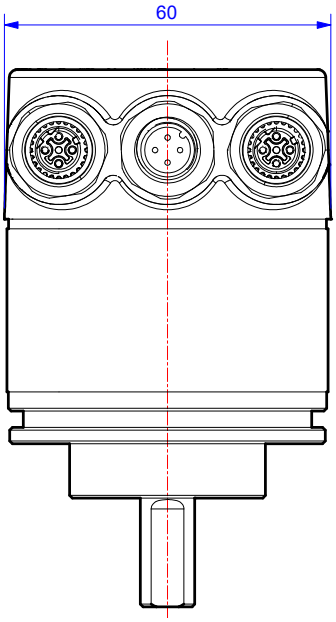
L=	3 x radial M12 connector 4-pin uscita radiale su n° 3 connettori M12 a 4-pin

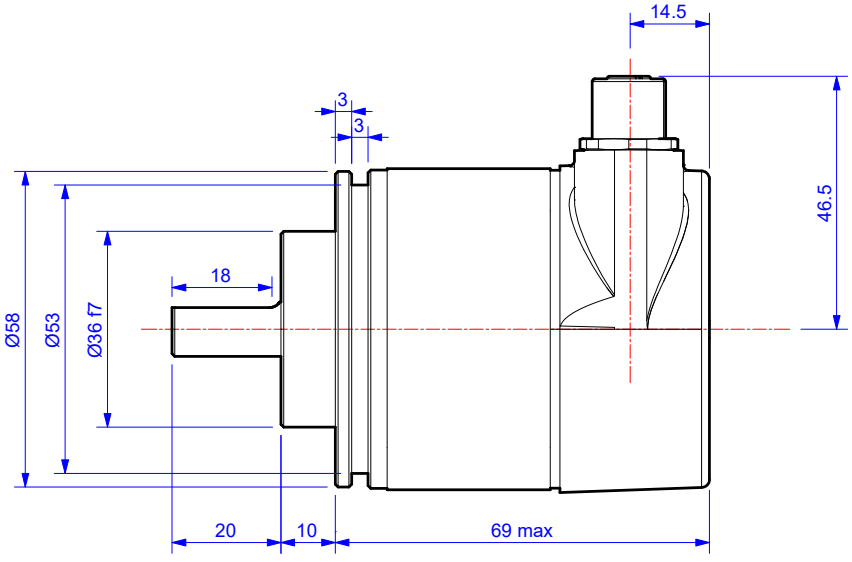
j OUTPUT CIRCUITS/ *CIRCUITI DI USCITA*

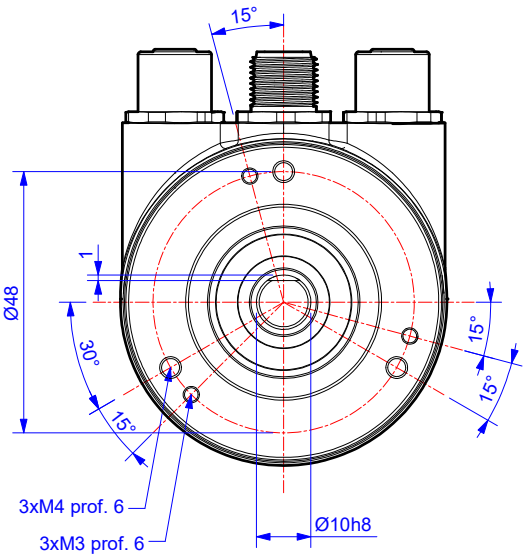
PRNET	PROFINET IO

SG1 - Synchro flange

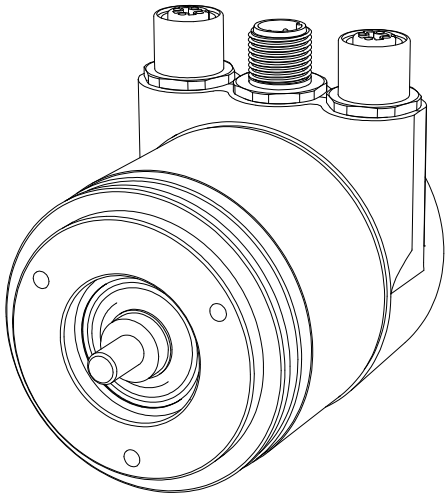


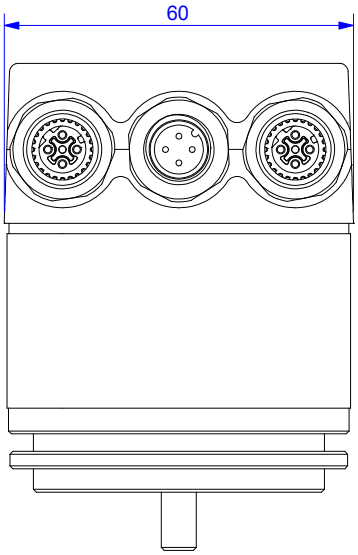


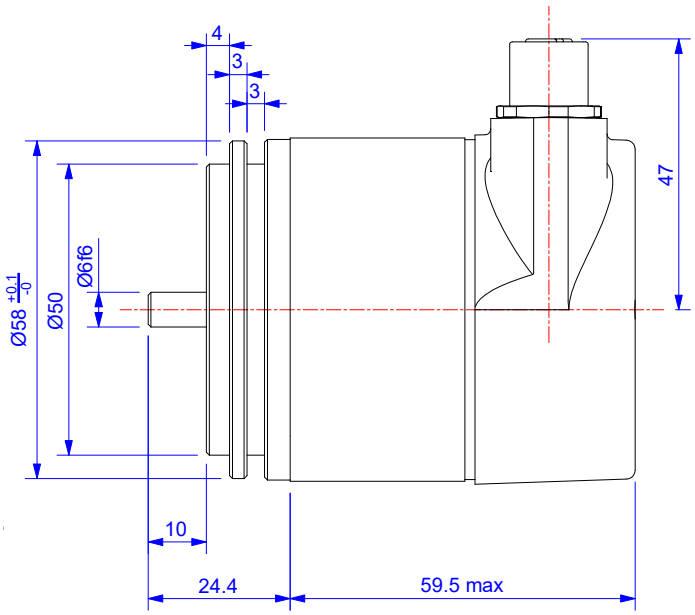


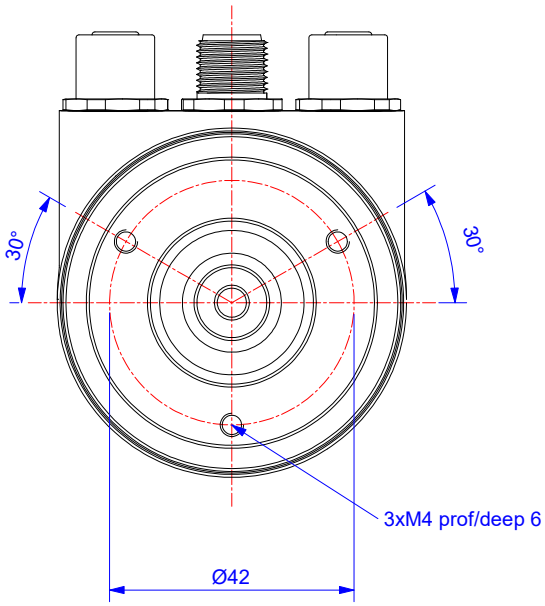


SG2 - Synchro flange

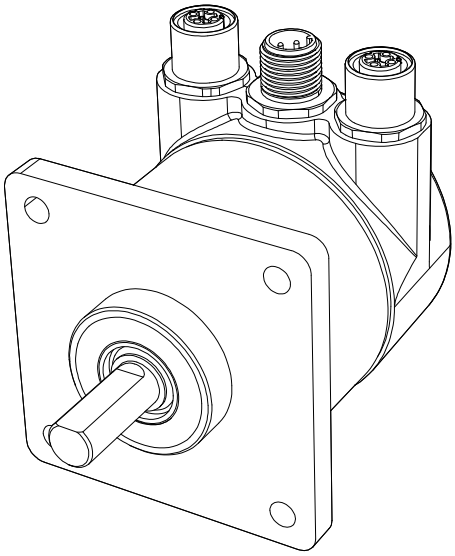


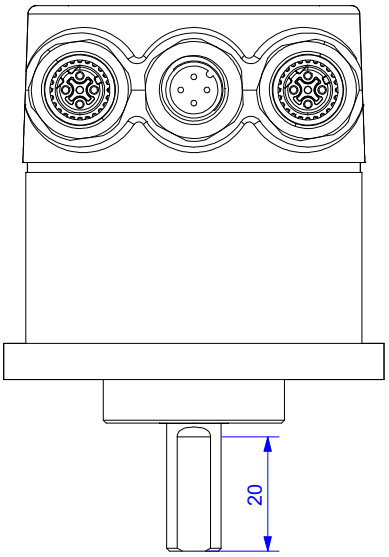


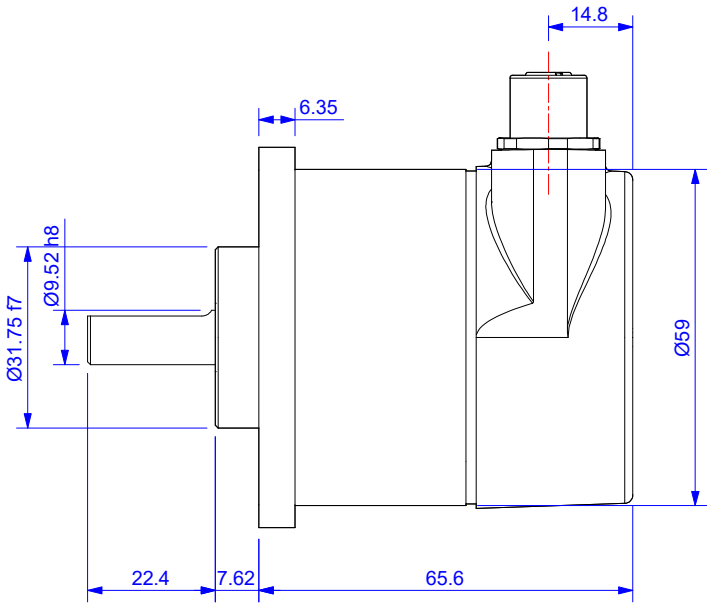


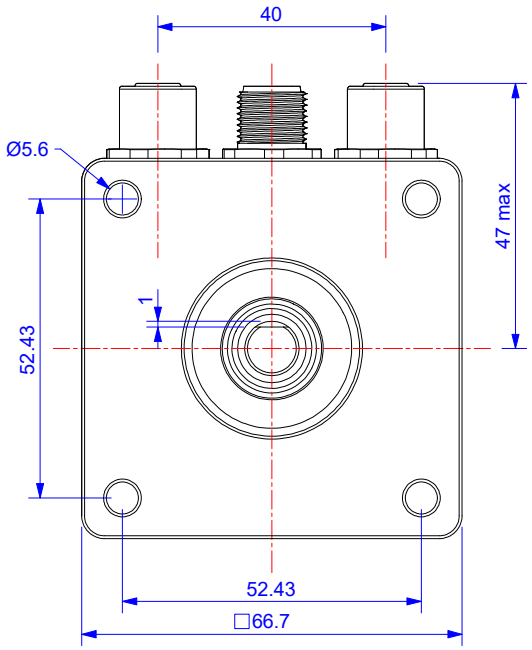


F1 - Square flange

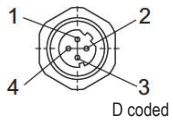
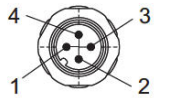
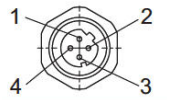


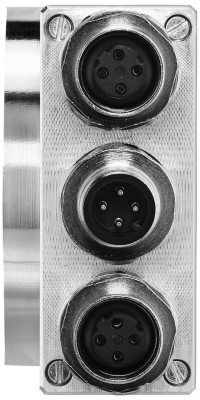




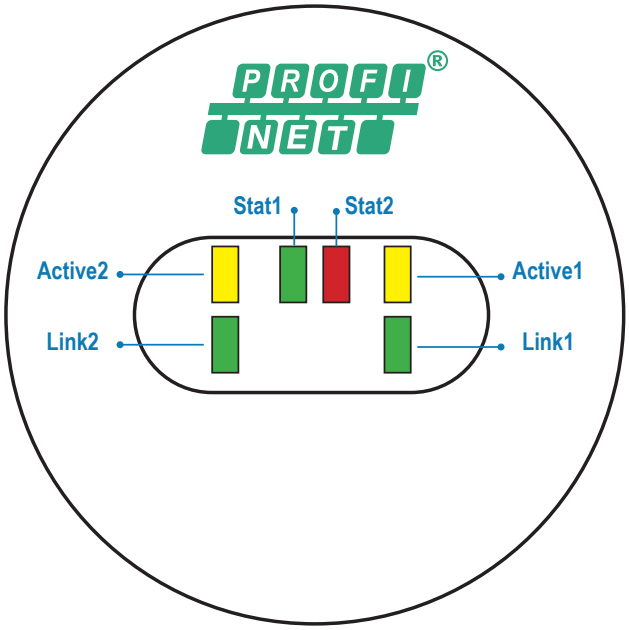


Terminal assignment/ *schema connessioni*

Interface	Type of connection	Function	M12 connector, 4-pin					
PRNET	Bus Port 1	M12 Female 4 pin D-coded	Signal:	Transmit data +	Receive data +	Transmit data -	Receive data -	 D coded
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	
	Power Supply	M12 Male 4 pin A-coded	Signal:	Transmit data +	Receive data +	Transmit data -	Receive data -	
			Abbreviation:	+ V	-	0V	-	
			Pin:	1	2	3	4	
	Bus Port 2	M12 Female 4 pin D-coded	Signal:	Transmit data +	Receive data +	Transmit data -	Receive data -	 D coded
			Abbreviation:	TxD+	RxD+	TxD-	RxD-	
			Pin:	1	2	3	4	



Diagnostic and Status LED / LED di diagnostica e stato



Diagnostic LEDs		
LED	**Color**	**Description for LED = on**
Active1	Yellow	Incoming and outgoing traffic at port 1
Link1*	Green	Link to another Ethernet component via port 1
Active2	Yellow	Incoming and outgoing traffic at port 2
Link2*	Green	Link to another Ethernet component via port 2
Stat1	Green	Status 1, details see next table
Stat2	Red	Status 2, details see next table

** Flashes with 2Hz if engineering identification call is activated and link connection is available*

Status LED indication			
Status 1 Green	**Status 2 Red (Bus Failure)**	**Meaning**	**Cause**
OFF	OFF	No power	Fuse blown or cable defect
ON	ON	No connection to controller Criteria: no data exchange	- Bus disconnected - IO-Controller not available / switched off / not in run
ON	BLINKING (1)	Parametrization fault, no data exchange Criteria: connection available. However, the slave did not switch to the data exchange mode.	- Slave not configured yet or wrong configuration
ON	OFF	Data exchange. Slave and operation ok	- Wrong station address assigned (but not outside the permitted range) - Actual configuration of the slave differs from the nominal configuration

(1) The blinking frequency is 0.5 Hz. Minimal indication time is 3 sec.