

Incremental optical programmable encoders

TISP58 programmable

solid shaft

Ø 58



Italsensor Quality System certified according to the UNI EN ISO 9001



programmable from 1 up to 65.536 ppr

Features:

Incremental optical programmable encoder **TISP58** user-programmable from **1 to 65.536 PPR** is an ideal solution for different applications when one single model of encoder is required with different resolutions.

- **lead time reduction: reduced inventory costs, faster turning inventory, less waste, faster production times;**
- **zero pulse position, counting direction can be set directly by user;**
- **easy programming with simple USB interface;**
- **software free of charge.**



MECHANICAL SPECIFICATIONS/ CARATTERISTICHE MECCANICHE

Dimensions/ Dimensioni

Shaft/ Albero

Shaft loading/ Carico sull'albero

Shaft Rotation Speed/ Numero giri

Starting torque at 25°C/ Coppia di partenza a 25 °C

Moment of inertial/ Momento di inerzia

Bearing life/ Vita dei cuscinetti

Weight/ Peso

see drawings / vedi disegni
stainless steel/ acciaio inossidabile
axial/ assiale 100 N; radial/ radiale 100 N
10.000 RPM (short cycle time/ brevi periodi) 6.000 RPM (continuous/ continui)
2.000 turn/min with protection shaft/ giri/min con asse stagno
0,025 Nm; 0,040 Nm with proof shaft /con asse stagno*(1)
40 g cm²
5 x 10⁹ rev. min./ giri (minimo)
~ 0,40 kg

ELECTRICAL SPECIFICATIONS/ CARATTERISTICHE ELETTRICHE

Resolution/ Risoluzione

Power supply/ Alimentazione

Index pulse positioning/ Posizione impulso di zero

Counting direction/ Direzione di conteggio

Output frequency/ Frequenza in uscita

Protection/ Protezione

Power dissipation/ Potenza assorbita

programmable from 1 to 65.536 ppr/ programmabile da 1 a 65.536 ppr
5÷30 V
index position freely settable/ posizione dello zero impostabile dall'utente
user selectable / selezionabile dall'utente (CW or CCW)
up to 300 kHz/ fino a 300 kHz
against inversion of polarity and short circuit/ contro inversione di polarità e corto circuito
<500 mW (without load/ a vuoto)

MATERIALS/ MATERIALI UTILIZZATI

Flange/ Flangia

Housing/ Corpo

Shaft/ Albero

aluminum non corroding/ in alluminio anticorrosivo
polyamid 6 (PA6)/ poliammide; aluminum on request/ alluminio a richiesta
stainless steel/ acciaio inossidabile

ENVIRONMENTAL SPECIFICATIONS/ CARATTERISTICHE AMBIENTALI

Operating temperature range/ Temperatura di lavoro

Storage temperature range/ Temperatura di stoccaggio

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)

-25°C ÷ +85 °C (100 °C on demand/ a richiesta)
-25°C ÷ +85 °C
up to IP66/ fino a IP66
98% RH without condensing/ senza condensazione
10 g (from 10 up to 2.000 Hz) / (da 10 a 2.000 Hz)
20 g (for 11 ms) /(per 11 ms)

*(1) Not a test parameter, information only/ Valore indicativo

ORDER CODE

TISPXXX . XXX . XXXXX . 5/30 . S . XX . XX,XX . XXnn . XXX-XXX . Xnnn .

a

b

c

d

e

f

g

h

i

j

a MODEL/ MODELLO

TISP581 bidirectional + index/ bidirezionale + zero

b ASSEMBLY/ MONTAGGIO

F1 Square flange / flangia quadra (TK40)
 F2 Square flange / flangia quadra (TK45)
 F3 Square flange / flangia quadra (TK50)
 SG1 Servo-clip / servo-graffe (TK50)
 SG2 Servo-clip / servo-graffe (TK45)
 SG3 Servo-clip / servo-graffe
 S1 Servo flange / flangia servo
 S2 Servo flange / flangia servo (TK45)
 FRE Flange REO - REO 444 (TK50)

c PULSE RATE/ IMPULSI GIRO

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

If not specified will be set equal to 1024 PPR
 Se non specificato impostata a 1024 PPR

d POWER SUPPLY/ ALIMENTAZIONE

5/30 +5+30 V

e OUTPUT FREQUENCY/ FREQUENZA IN USCITA

S from 0 a - up to 300 kHz / da 0 a 300 kHz

f PROTECTION DEGREE/ GRADO DI PROTEZIONE

K4 IP 64 (EN60529) (F1-F2-F3-SG1-SG2-SG3-S1-S2-FRE)
 K5 IP 65 (EN60529) (F1-F3-SG1-S1-FRE)
 K6 IP 66 (EN60529) (F1-F3-SG1-S1-FRE)

g SHAFT/ ALBERO

6 Ø 6 mm ((Flange F1- F2 - F3 - SG1 - SG2 - SG3 - S1 - S2)
 8 Ø 8 mm (Flange F1- F2 - F3 - SG1 - SG2 - S1 - S2)
 9,52 Ø 9,52 mm (Flange F1- F2 - F3 - SG1 - SG2 - S1 - S2)
 10 Ø 10 mm (Flange F1- F2 - F3 - SG1 - SG2 - S1 - S2)
 11 Ø 11 mm (Flange FRE - SG1)
 11R Ø 11 mm (Flange FRE - SG1)

h ELECTRICAL CONNECTIONS/ CONNESSIONI ELETTRICHE

OUTPUT PP2 ; LD2

PLnn radial cable gland with cable 1 ÷ 6 m long /pressacavo radiale con cavo da 1 a 6 m;
 R2 on 12 pins radial "contact" connector /conn. circolare radiale antiorario a 12 poli;

Other types of connection on request/ Altre tipologie di connessione a richiesta

i OUTPUT CIRCUITS/ CIRCUITI DI USCITA

PP2-530 Push-Pull output 5V or 5/30V user selectable
 Push-Pull 5V oppure 5/30V impostabile dall'utente

LD2-530 Line-driver output 5V or 5/30V user selectable
 Line driver 5V oppure 5/30V impostabile dall'utente

Other electronics interfaces on demand / altre interfacce di uscita a richiesta

j CUSTOM

CUSTOM custom execution/ esecuzione custom

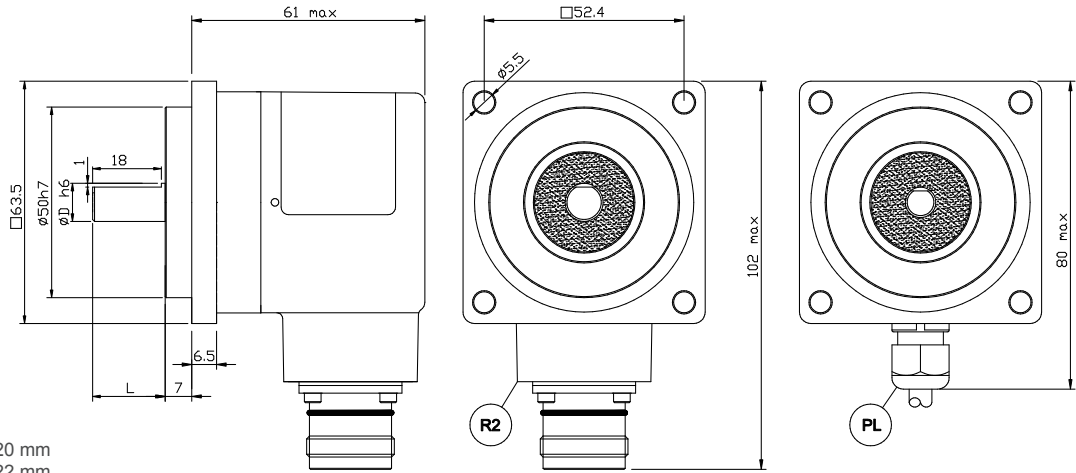
DEFAULT CONFIGURATION/ CONFIGURAZIONE PREDEFINITA

Resolution/ Risoluzione	1024
Counting direction/ Direzione di conteggio	Increasing for CW shaft rotation, see on flange side/ Crescente per rotazione oraria albero encoder vista lato flangia
Zero index pulse width/ Larghezza impulso di zero	90°
Output voltage levels/ Tensione di uscita	Output voltage levels will follow the input voltage VIN (segue la tensione di alimentazione)

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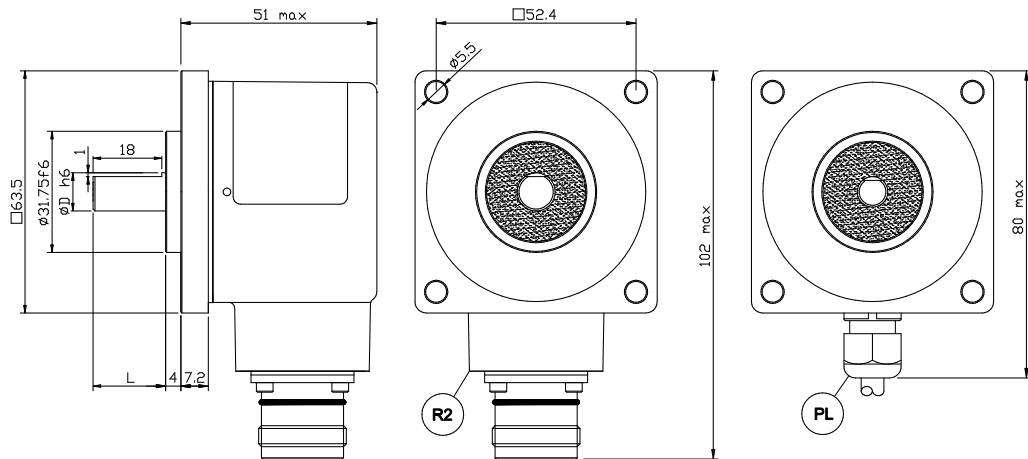
TISP58 programmable / solid shaft / Ø 58

F1 Flange



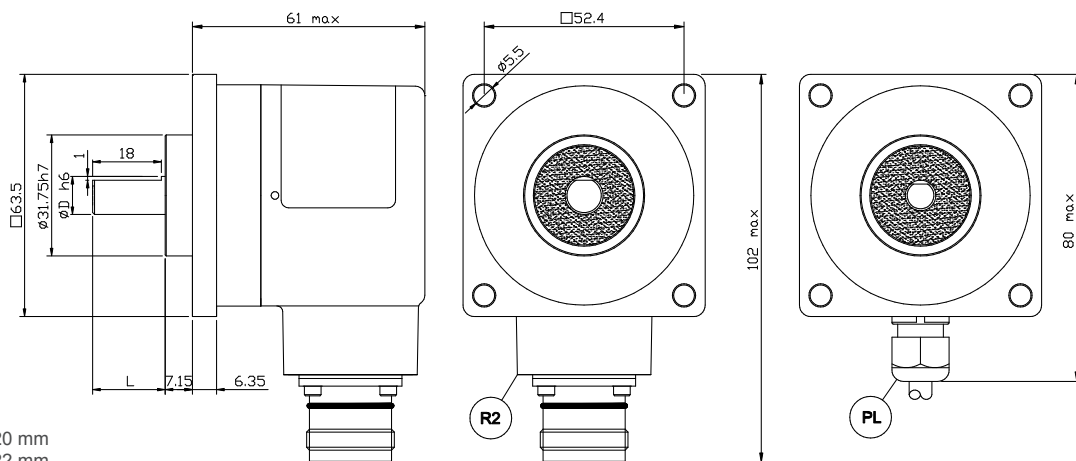
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9,52$: L=22 mm

F2 Flange



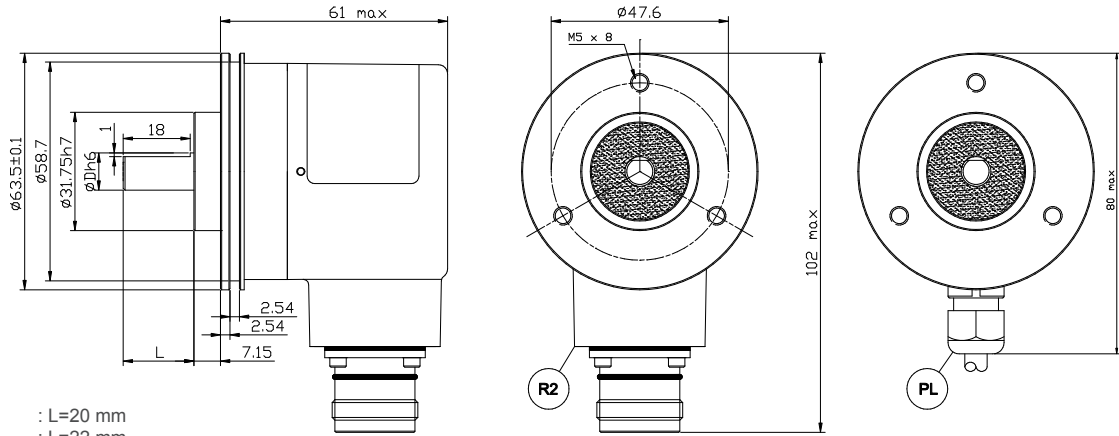
Shaft/ Albero $\varnothing 6,8,9,52,10$: L=20 mm

F3 Flange



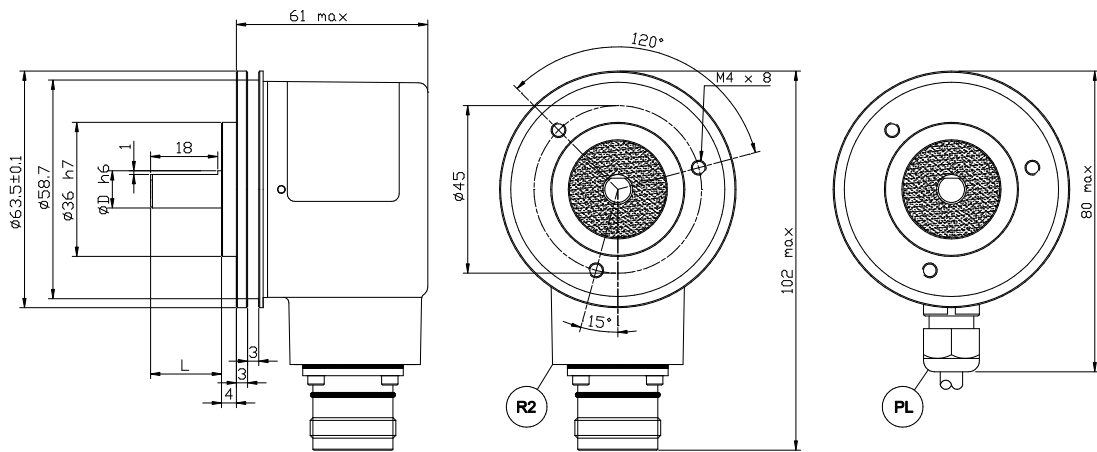
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9,52$: L=22 mm

SG1 Flange



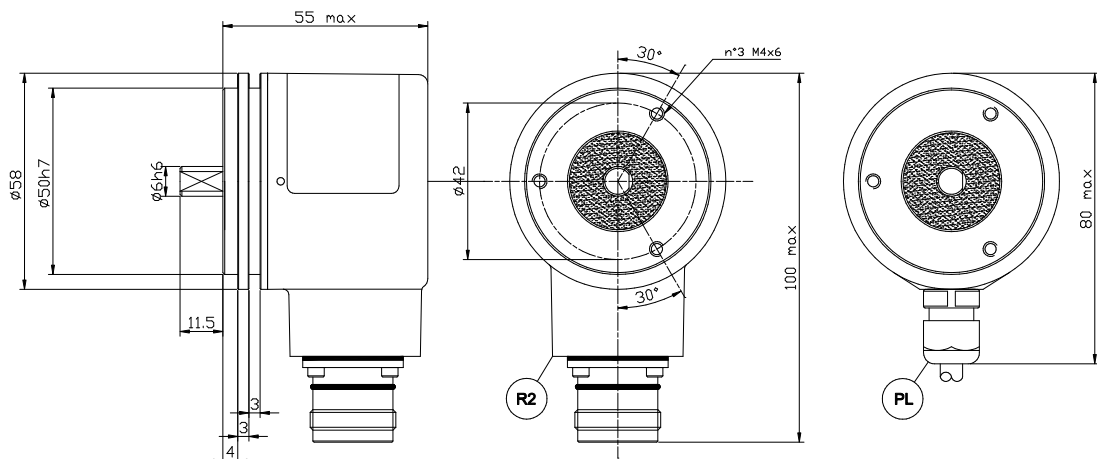
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9.52$: L=22 mm
 Shaft/ Albero $\varnothing 11$ cod.11R : L=20 mm

SG2 Flange



Shaft/ Albero $\varnothing 6,8,9.52,10$: L=20 mm

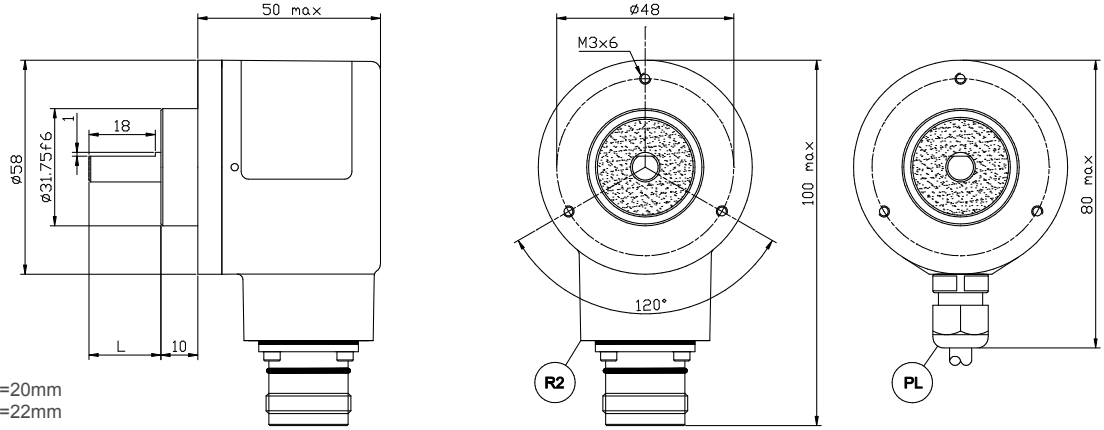
SG3 Flange



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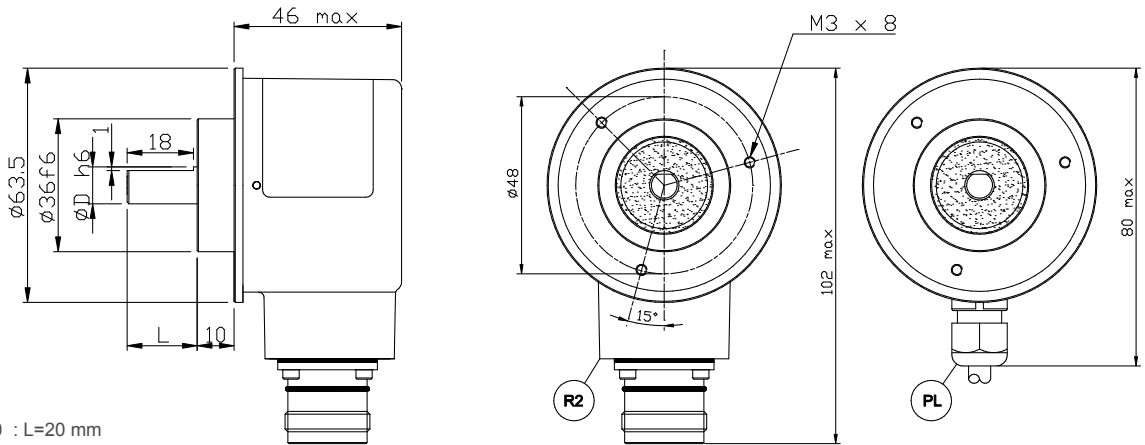
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S1 Flange



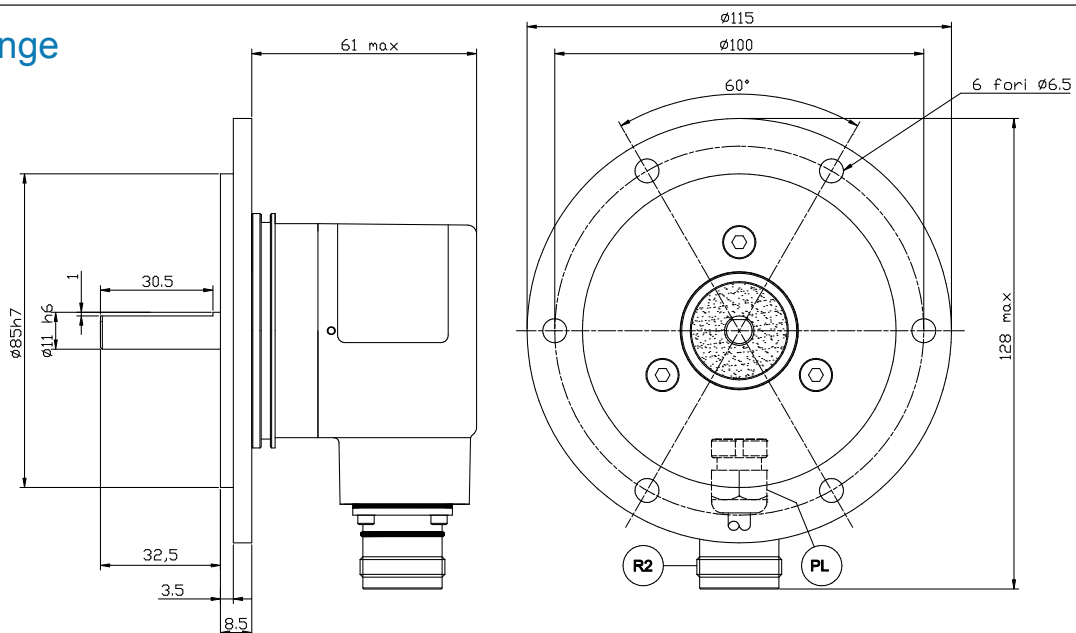
Shaft/ Albero $\varnothing 6,8,10$: L=20mm
 Shaft/ Albero $\varnothing 9,52$: L=22mm

S2 Flange



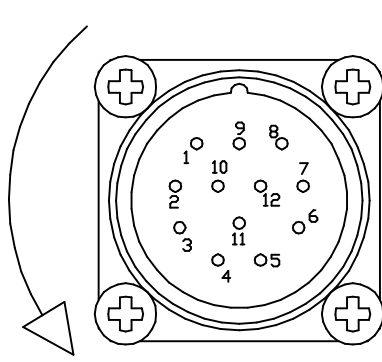
Shaft/ Albero $\varnothing 6,8,9,52,10$: L=20 mm

FRE Flange



Electrical connections/ *connessioni elettriche*

“R2” type of connection/ *connessione tipo “R2”*

Connettore M23 maschio 12 poli, numerazione antioraria (vista lato contatti) M23 male connector 12 pin, CCW (fontal side view)	
	Pin 1: /CHB
	Pin 2: impostazione senso conteggio / counting direction setting
	Pin 3: CHZ
	Pin 4: /CHZ
	Pin 5: CHA
	Pin 6: /CHA
	Pin 7: RX (RS232 programmazione / programming)
	Pin 8: CHB
	Pin 9: impostazione posizione impulso di zero / zero index position setting
	Pin 10: 0V
	Pin 11: TX (RS232 programmazione / programming)
	Pin 12: +Vcc

“PL” type of connection/ *connessione tipo “PL”*

Connessione PL (cod.1EC816B) PL Connections (cod.1EC816B)		
COLORE DEL CAVO	CABLE COLOR	SEGNALE / SIGNAL
Rosso	Red	+Vcc
Nero	Black	0V
Verde	Green	CHA
Marrone	Brown	CHAN
Giallo	Yellow	CHB
Rosa	Pink	CHBN
Blu	Blue	CHZ
Bianco	White	CHZN
Bianco-Verde	White-Green	Up/Down
Giallo-Marrone	Yellow-Brown	Zero Index position setting
Viola	Violet	RX
Grigio	Gray	TX

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Programming interface/ *cavo di programmazione*

Product code/ *codice prodotto* **TISP581PRGCBL.20.**



Product code/ *codice prodotto* **TISP581-PL-PRGCBL.20.**



Product code/ *codice prodotto* **TISP581PRGCBL.20.XC24.**

