

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 programming cable;
- 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

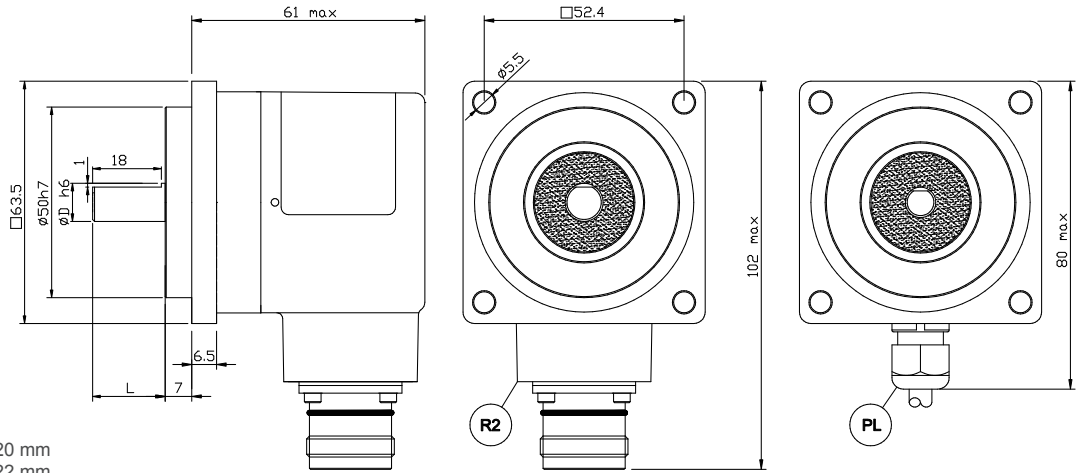
j CUSTOM

CUSTOM custom execution/ esecuzione custom

DEFAULT CONFIGURATION/ CONFIGURAZIONE PREDEFINITA

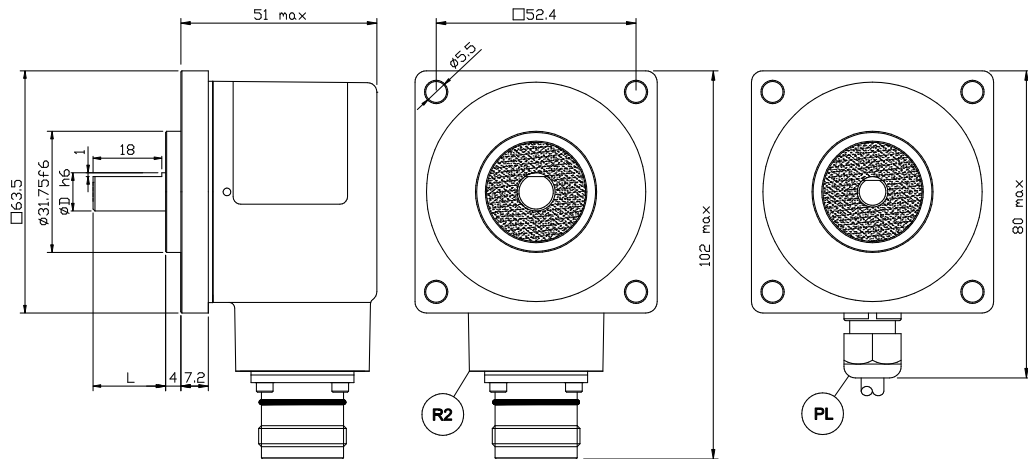
| | |
|---|---|
| Resolution/ Risoluzione | 1024 |
| Counting direction/ Direzione di conteggio | Increasing for CW shaft rotation, see on flange side/ Crescente per rotazione oraria albero encoder vista lato flangia |
| Zero index pulse width/ Larghezza impulso di zero | 90° |
| Output voltage levels/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

F1 Flange



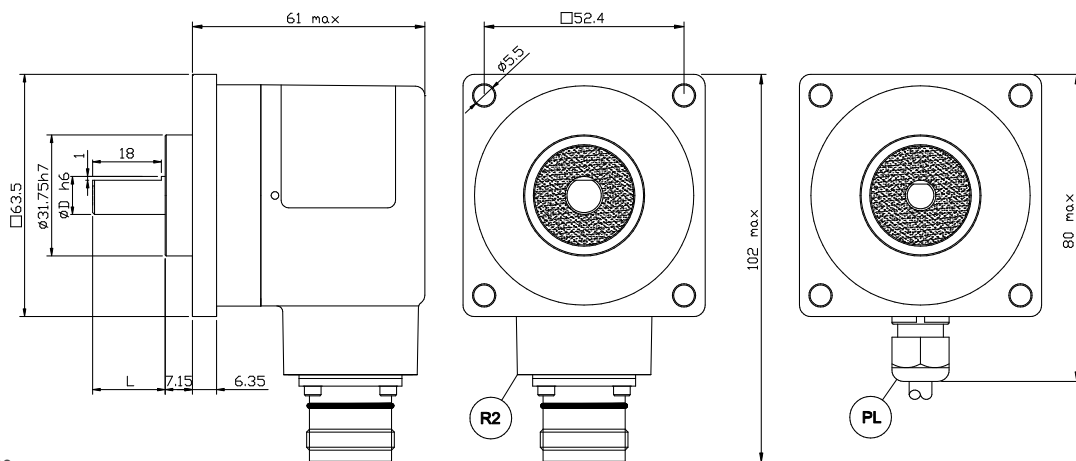
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9.52$: L=22 mm

F2 Flange



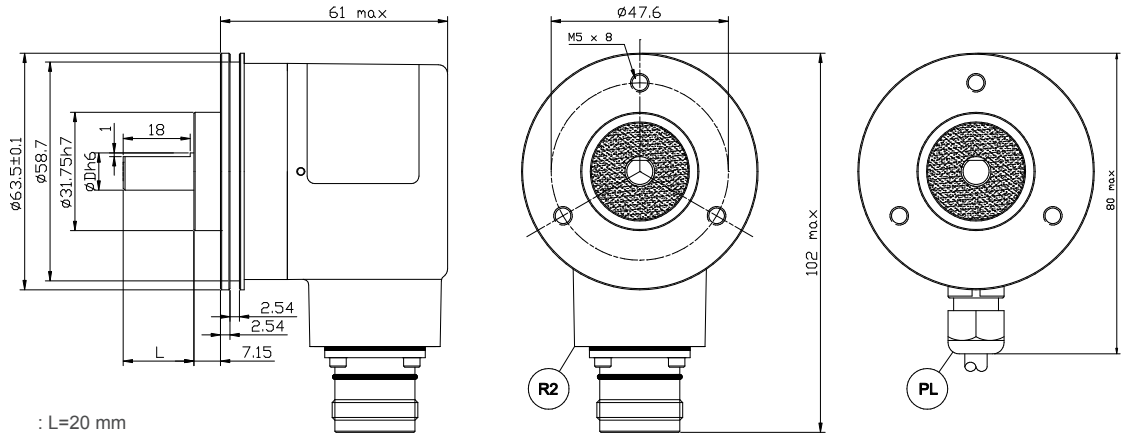
Shaft/ Albero $\varnothing 6,8,9,52,10$: L=20 mm

F3 Flange



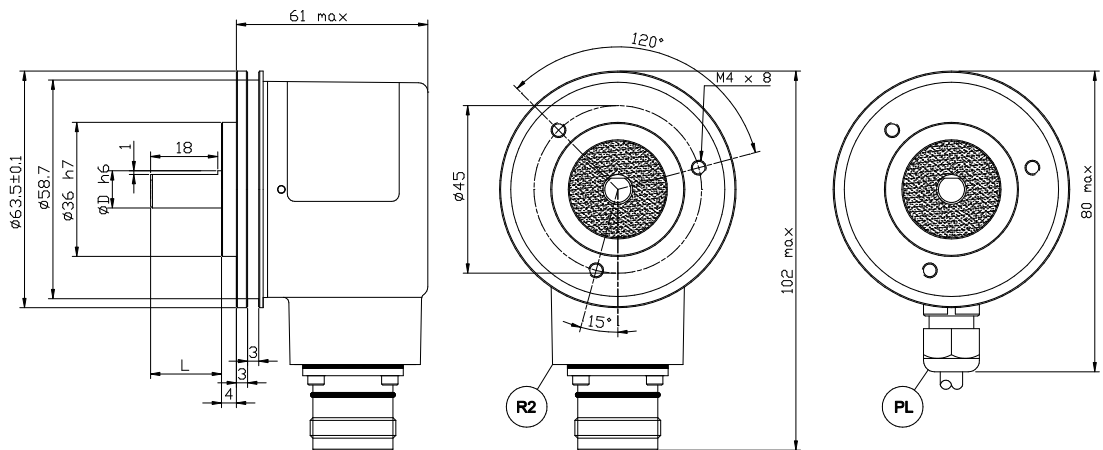
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9.52$: L=22 mm

SG1 Flange



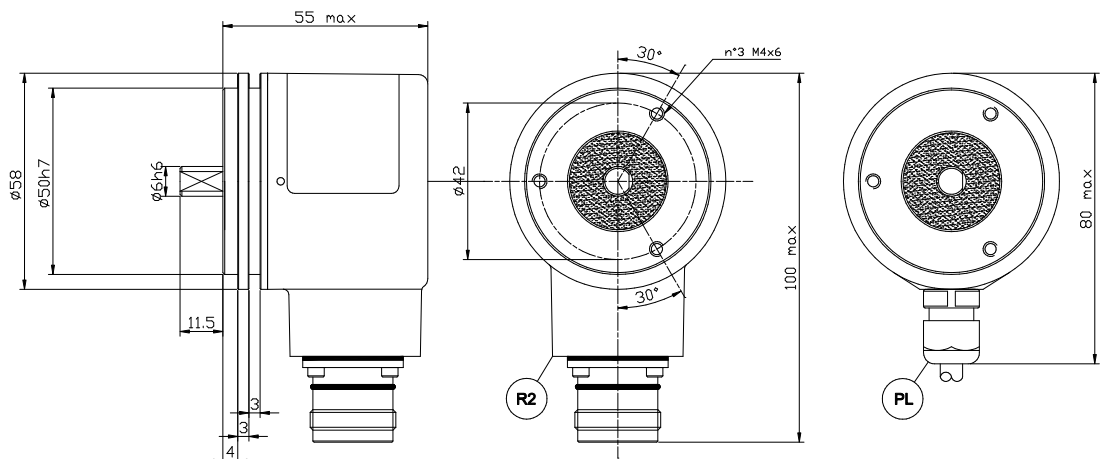
Shaft/ Albero $\varnothing 6,8,10$: L=20 mm
 Shaft/ Albero $\varnothing 9,52$: L=22 mm
 Shaft/ Albero $\varnothing 11$ cod.11R : L=20 mm

SG2 Flange



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

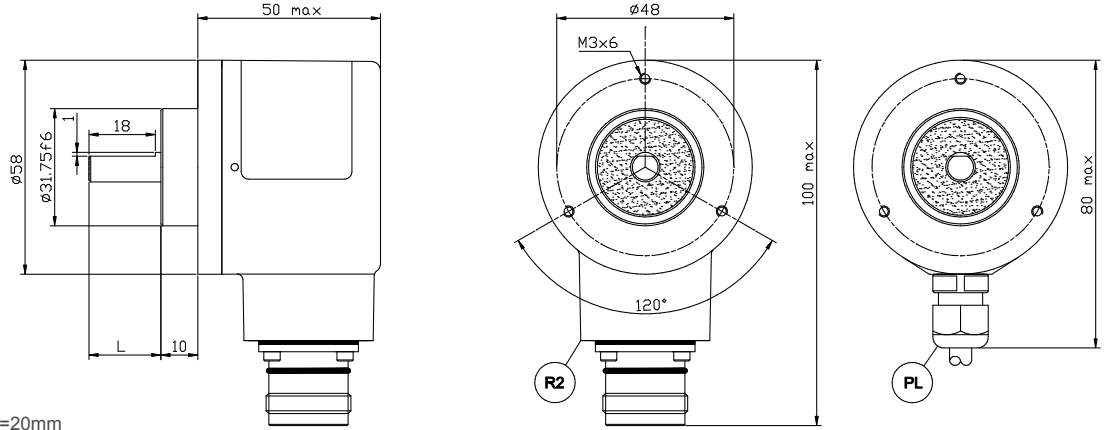
SG3 Flange



Incremental optical programmable encoders

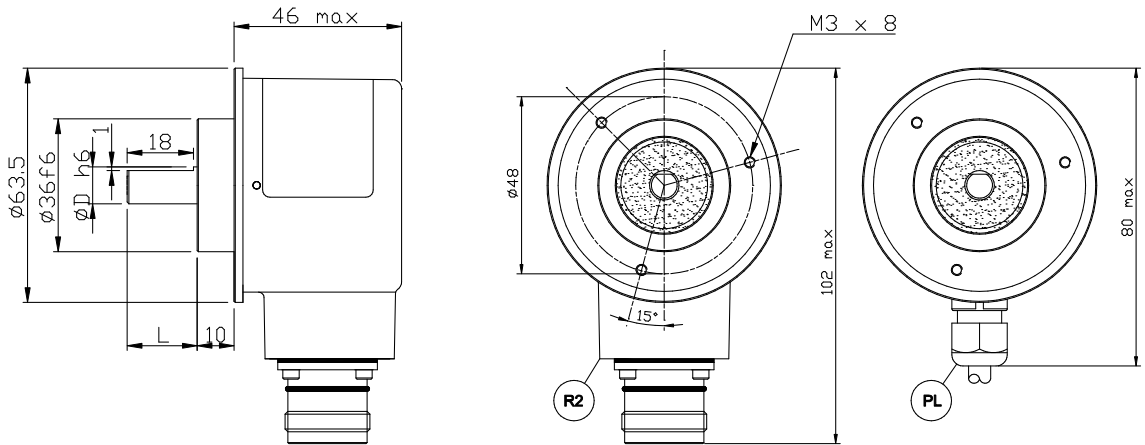
TISP58 programmable / solid shaft / $\varnothing 58$

S1 Flange



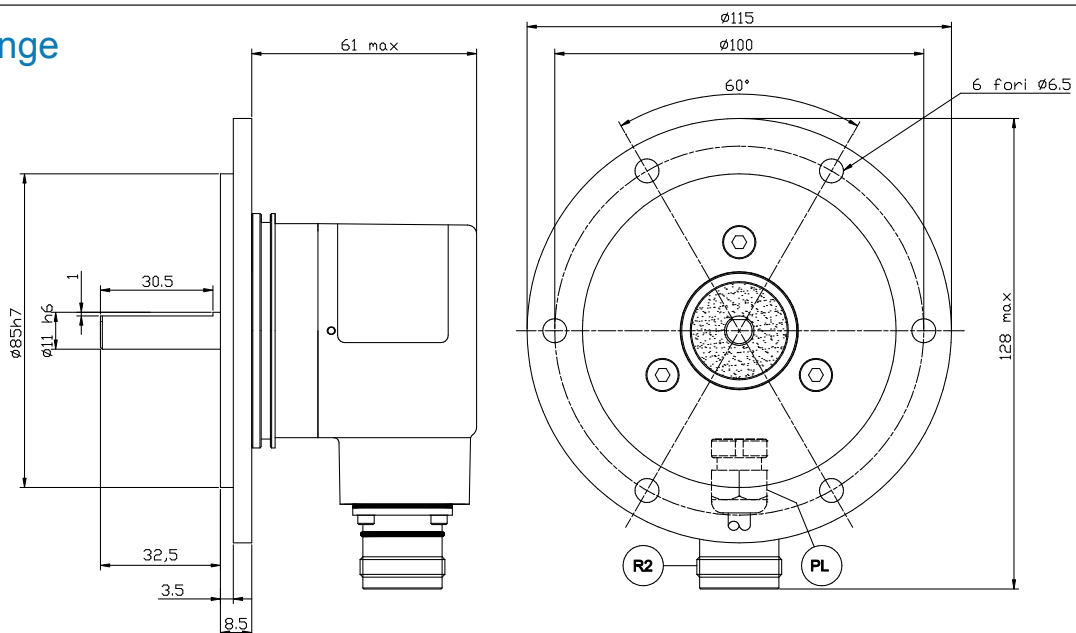
Shaft/ Albero $\varnothing 6,8,10$: L=20mm
 Shaft/ Albero $\varnothing 9.52$: L=22mm

S2 Flange



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

FRE Flange



Incremental optical programmable encoders

| | | |
|---------------------|-------------|------|
| TISP58 programmable | solid shaft | Ø 58 |
|---------------------|-------------|------|

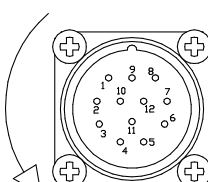
Programming interface/ *cavo di programmazione*

Product code/ *codice prodotto* TISP581PRGCBL.20



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, frontal side view (contact side) | |
|---|--|
|  | <ul style="list-style-type: none"> Pin 1 : /CHB Pin 2 : impostazione senso di 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 con cavo -40°C+105°C per posa mobile e coppie twistate (cod. 1E1CA14C) PL Connection with -40°C+105°C twisted cable pairs for fixed and flexible installation | | |
|---|-------------|-----------------------------|
| COLORE DEL CAVO | CABLE COLOR | SEGNALE / SIGNAL |
| Rosso | Red | +Vcc |
| Nero | Black | 0V |
| Verde | Green | CHA |
| Marrone | Brown | CHAN |
| Giallo | Yellow | CHB |
| Arancione | Orange | CHBN |
| Blu | Blue | CHZ |
| Bianco | White | CHZN |
| Grigio | Gray | Up/Down |
| Rosso-Blu | Red-Blue | Zero Index position setting |
| Viola | Violet | RX |
| Bianco-Verde | White-Green | TX |