

TK45

solid shaft

Ø 63,5



Italsensor Quality System certified according to the UNI EN ISO 9001



Features:

TK45 - robust incremental optical encoder suitable for various industrial applications.

- Robust encoder for various applications;
- high reliability and long service life;
- wide range of flanges
- resolution up to 5.000 ppr; others on demand;
- protection degree up to IP64;
- cable and connector outputs;



MECHANICAL SPECIFICATIONS/ CARATTERISTICHE MECCANICHE

Dimensions/ *Dimensioni*

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*
 axial/ *assiale* 200 N; radial/ *radiale* 200 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*
 0,025Nm;
 50 g cm²
 5 x 10⁹ rev. min./ *giri (minimo)*
 ~ 0,23 kg

ELECTRICAL SPECIFICATIONS/ CARATTERISTICHE ELETTRICHE

Resolution/ *Risoluzione*

Power supply/ *Alimentazione*

Output frequency/ *Frequenza in uscita*

Synchronous index output/ *Sincronismo di zero*

Supply current without load/ *Assorbimento in corrente*

Protection/ *Protezione*

up to 5.000 ppr; others on demand/ *fino a 5.000 ppr; altri a richiesta*
 5 V; 24/5 V; 11±30 V
 up to 100 kHz/ *fino a 100 kHz*
 on A default, B- A+B optional/ *su canale A predefinito - B- A+B a richiesta*
 150 mA max
 short circuit protection, no limit duration (only output LD2 and PP2);
 against inversion of polarity (except 5V) /
 contro il cortocircuito (solo elettronica LD2 e PP2);
 contro inversione di polarità (escluso 5V) .

MATERIALS/ MATERIALI UTILIZZATI

Flange/ *Flangia*

Housing/ *Corpo*

Shaft/ *Albero*

aluminum non corroding/ *in alluminio anticorrosivo*
 Polyamid 6 (Pa6)/ *Poliammide 6 (Pa6)*
 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)*

-10°C ÷ +70 °C
 -30°C ÷ +80 °C
 up to IP64/ *fino a IP64*
 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)*

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ORDER CODE

TKXXX. XX . XXXXX . XXXXX . X . XX . XX,XX . XXnn . XXX-XXXX . Xnnn

a b c d e f g h i j

a MODEL/ MODELLO

TK451	unidirectional / monodirezionale
TK452	unidirectional + index/ monodirezionale + zero
TK461	bidirectional / bidirezionale
TK462	bidirectional + index/ bidirezionale + zero

b ASSEMBLY/ MONTAGGIO

FA	Square flange / flangia quadra
SG	Servo-clip / servo-graffe
S	Flange servo/ servo standard

c PULSE RATE/ IMPULSI GIRO

2 - 5 - 10 - 20 - 25 - 30 - 32 - 36 - 40 - 50 - 60 - 64 - 72 - 80 - 88 - 90 - 100 - 120 - 125 - 127 - 128 - 150 - 162 - 180 - 183 - 200 - 240 - 250 - 254 - 256 - 300 - 314 - 360 - 375 - 390 - 400 - 500 - 512 - 576 - 600 - 625 - 635 - 720 - 750 - 800 - 900 - 1000 - 1024 - 1200 - 1250 - 1270 - 1440 - 1500 - 1800 - 2000 - 2048 - 2500 - 2540 - 2700 - 3600 - 4096 - 5000

others on demand/ altri a richiesta

d POWER SUPPLY/ ALIMENTAZIONE

5	+5 V ±5 %
11/30	+11÷30 V
24/5	+11/30 V supply +5 V output

e OUTPUT FREQUENCY/ FREQUENZA IN USCITA

S	from 0 a - up to 50 kHz / da 0 a 50 kHz
V	from 0 a - up to 100 kHz / da 0 a 100 kHz

f PROTECTION DEGREE/ GRADO DI PROTEZIONE

K1	IP 55 (EN60529)
K4	IP 64 (EN60529)

g SHAFT/ ALBERO

6	∅ 6 mm
8	∅ 8 mm
9,52	∅ 9,52 mm
10	∅ 10 mm

h ELECTRICAL CONNECTIONS/ CONNESSIONI ELETTRICHE

OUTPUT	S ; P ; OC ; OP ; PP2 ; LD ; LD2 (except TK462, escluso TK462)
Pnn	on axial cable gland with cable 1 ÷ 6 m long /pressacavo assiale con cavo da 1 a 6 m;
PLnn	radial cable gland with cable 1 ÷ 6 m long /pressacavo radiale con cavo da 1 a 6 m;
S07	on 7 pins axial MIL connector /conn. circolare militare assiale a 7 poli
L07	on 7 pins radial MIL connector /conn. circolare militare radiale a 7 poli

OUTPUT	LD ; LD2 (only TK462, solo TK462)
Pnn	on axial cable gland with cable 1 ÷ 6 m long /pressacavo assiale con cavo da 1 a 6 m;
PLnn	radial cable gland with cable 1 ÷ 6 m long /pressacavo radiale con cavo da 1 a 6 m;
S10	on 10 pins axial MIL connector /conn. circolare militare assiale a 10 poli
L10	on 10 pins radial MIL connector /conn. circolare militare radiale a 10 poli
PS	cap radial cable gland with cable 1 ÷ 6 m long/ gommino passacavo radiale con cavo da 1 a 6 m;

nn cable length/ lunghezza cavo (es. PL10 = 1 m. ...PL60 = 6 m)

i OUTPUT CIRCUITS/ CIRCUITI DI USCITA

S	NPN standard (resistor included- resistenza di pull-up inclusa)
OC	NPN open collector
P	PNP (resistor included resistenza di pull-down inclusa)
OP	PNP open collector
PP2-5	Push-Pull 5 V output only
PP2-1130	Push-Pull 11/30 Vcc output (only with voltage supply - solo con alimentazione 11/30 V)
LD	Line driver RS422 (26LS31) only - solo 5 V or 24/5V
LD2-5	Line driver 5 Vcc output only - solo 5 V
LD2-1130	Line driver 11/30 Vcc output (only with voltage supply - solo con alimentazione 11/30V)

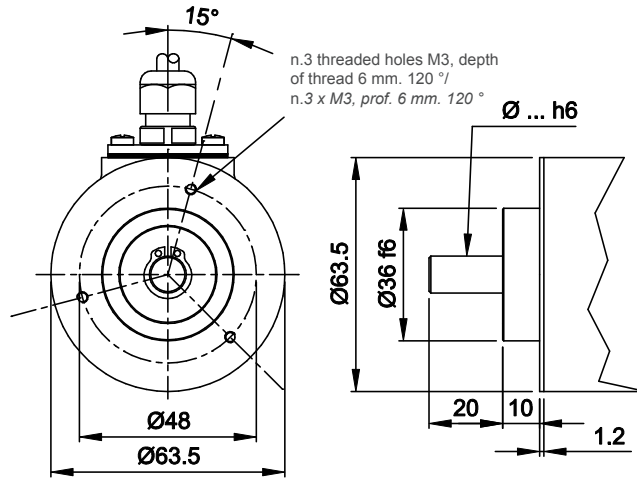
j CUSTOM

CUSTOM custom execution/ esecuzione custom

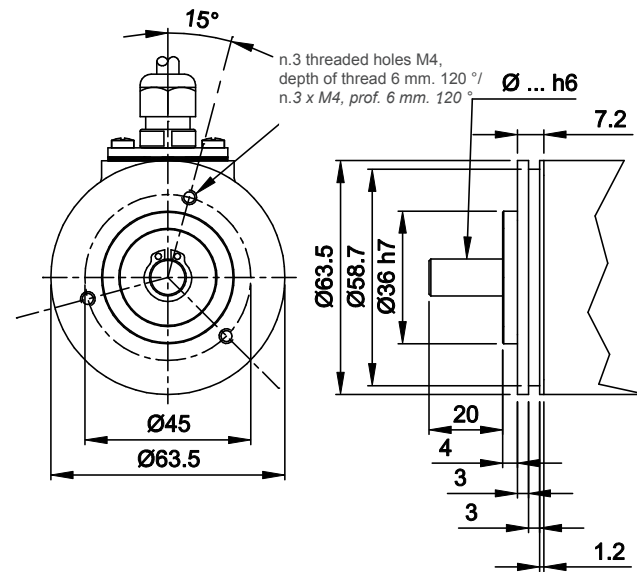
Incremental optical encoders

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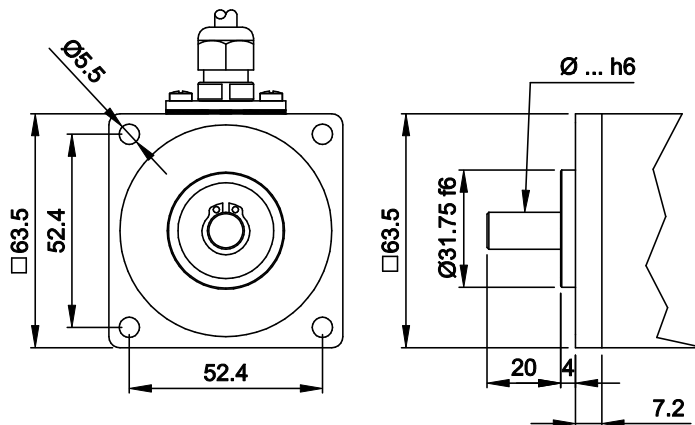
S Servo standard



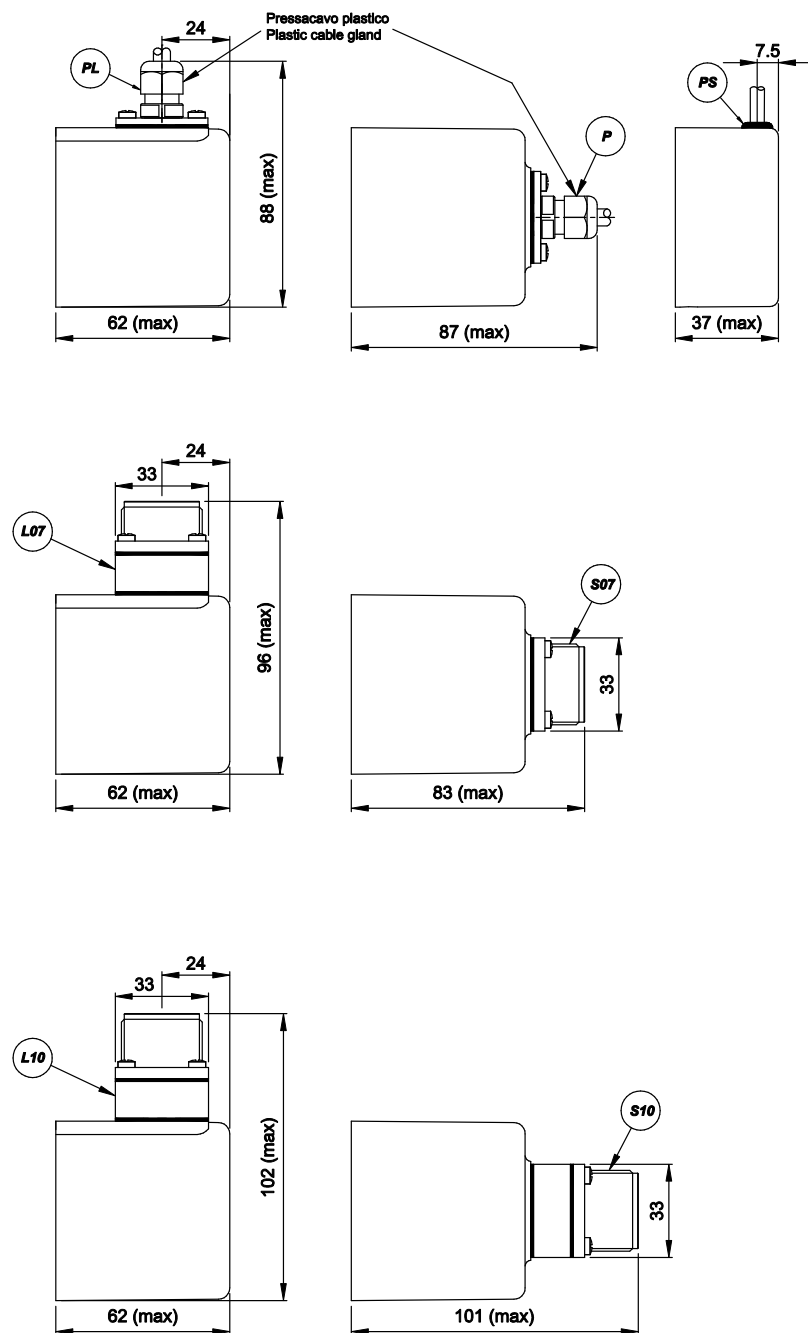
SG Servo-clip



FA Square Flange



Electrical connections/ *connessioni elettriche*



Technical specifications subject to changes.