

TKC50

solid shaft

Ø 63,5



Italsensor Quality System certified according to the UNI EN ISO 9001



## Features:

TKC50- robust absolute singleturn encoder suitable for various industrial applications, especially designed for heavy duty applications.

- Robust encoder for various applications;
- high reliability and long service life;
- resolution: 12 bit standard/ 13 bit on request;
- high protection degree up to IP66;
- STD codes: GRAY/ BINARY/ BCD/ ANALOG;
- cable and connector outputs;



## MECHANICAL SPECIFICATIONS/ CARATTERISTICHE MECCANICHE

Dimensions/ *Dimensioni*

Shaft loading/ *Carico sull'albero*

Shaft Rotation Speed/ *Numero giri*

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 RPM (with proof shaft/ *con asse stagno*).  
 5 x 10<sup>9</sup> rev. min./ *giri (minimo)*  
 ~ 0,52 kg

## ELECTRICAL SPECIFICATIONS/ CARATTERISTICHE ELETTRICHE

Power supply/ *Alimentazione*

STD codes

Output frequency/ *Frequenza in uscita*

Protection/ *Protezione*

5 V; 11÷30 V; 18÷30 V  
 GRAY/ BINARY/ BCD/ ANALOG  
 from 0 to 20 kHz (L.S.B. without error/ *senza errore*)  
 against inversion of polarity (except 5V)/  
 contro inversione di polarità (escluso 5V)

## MATERIALS/ MATERIALI UTILIZZATI

Flange/ *Flangia*

Housing/ *Corpo*

Shaft/ *Albero*

aluminum non corroding/ *in alluminio anticorrosivo*  
 Aluminum painted with inhibiting treatment 180 °C/  
 Alluminio verniciato con trattamento termico a 180 °C  
 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 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)

### ORDER CODE

**TKC50. XX . XXXXXXXX . XXXXX . XXXXX . XX . XXXX . XXnn . XX . XXXX . Xnnn**

**a      b      c      d      e      f      g      h      i      j      k**

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

TKC50

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

F Square flange / flangia quadra  
SG Servo-clip / servo-graffe

#### **c** STEPS/ PASSI PER GIRO

16	16 steps/turn G;B	16 passi/giro G;B
18	18 steps/turn G;B	18 passi/giro G;B
32	32 steps/turn G;B	32 passi/giro G;B
36	36 steps/turn G;B	36 passi/giro G;B
64	64 steps/turn G;B	64 passi/giro G;B
90	90 steps/turn G;B	90 passi/giro G;B
100	100 steps/turn G;B	100 passi/giro G;B
128	128 steps/turn G;B	128 passi/giro G;B
180	180 steps/turn G;B	180 passi/giro G;B
200	200 steps/turn G;B	200 passi/giro G;B
250	250 steps/turn G;B	250 passi/giro G;B
256	256 steps/turn G;B	256 passi/giro G;B
360	360 steps/turn G;B	360 passi/giro G;B
400	400 steps/turn G;B	400 passi/giro G;B
500	500 steps/turn G;B	500 passi/giro G;B
512	512 steps/turn G;B	512 passi/giro G;B
720	720 steps/turn G;B	720 passi/giro G;B
900	900 steps/turn G;B	900 passi/giro G;B
1000	1000 steps/turn G;B	1000 passi/giro G;B
1024	1024 steps/turn G;B	1024 passi/giro G;B
1440	1440 steps/turn G;B	1440 passi/giro G;B
2000	2000 steps/turn G;B	2000 passi/giro G;B
2048	2048 steps/turn G;B	2048 passi/giro G;B
18	18 steps/turn G/7;B/7	18 passi/giro G/7;B/7
36	36 steps/turn G/14;B/14	36 passi/giro G/14;B/14
72	72 steps/turn G/28;B/28	72 passi/giro G/28;B/28
90	90 steps/turn G/19;B/19	90 passi/giro G/19;B/19
180	180 steps/turn G/38;B/38	180 passi/giro G/38;B/38
360	360 steps/turn G/76;B/76	360 passi/giro G/76;B/76
720	720 steps/turn G/152;B/152	720 passi/giro G/152;B/152
1440	1440 steps/turn G/304;B/304	1440 passi/giro G/304;B/304
90	90 steps/turn G/0;B/0	90 passi/giro G/0;B/0
180	180 steps/turn G/0;B/0	180 passi/giro G/0;B/0
250	250 steps/turn G/0;B/0	250 passi/giro G/0;B/0
360	360 steps/turn G/0;B/0	360 passi/giro G/0;B/0
500	500 steps/turn G/0;B/0	500 passi/giro G/0;B/0
720	720 steps/turn G/0;B/0	720 passi/giro G/0;B/0
1000	1000 steps/turn G/0;B/0	1000 passi/giro G/0;B/0
1440	1440 steps/turn G/0;B/0	1440 passi/giro G/0;B/0
100	100 steps/turn E;D	100 passi/giro E;D
250	250 steps/turn E;D	250 passi/giro E;D
360	360 steps/turn E;D	360 passi/giro E;D
400	400 steps/turn E;D	400 passi/giro E;D
500	500 steps/turn E;D	500 passi/giro E;D
720	720 steps/turn E;D	720 passi/giro E;D
900	900 steps/turn E;D	900 passi/giro E;D
1000	1000 steps/turn E;D	1000 passi/giro E;D
1440	1440 steps/turn E;D	1440 passi/giro E;D
2000	2000 steps/turn E;D	2000 passi/giro E;D
1024/360	1024 steps/passi 360° (analog output only/ solo uscita analogica)	
512/180	512 steps/passi 180° (analog output only/ solo uscita analogica)	
256/90	256 steps/passi 90° (analog output only/ solo uscita analogica)	
128/45	128 steps/passi 45° (analog output only/ solo uscita analogica)	

#### **d** CODE/ CODICE

A	Analog output/ Uscita analogica ( 1024/360° - 180° - 90° - 45°)
B	Natural Binary code/ codice Binario naturale
B/0	Binary code centrally cutted/ codice Binario troncato centr.
B/7	Binary code - exc (18)/ codice Binario - eccesso (18)
B/14	Binary code - exc (36)/ codice Binario - eccesso (36)
B/19	Binary code - exc (90)/ codice Binario - eccesso (90)
B/28	Binary code - exc (72)/ codice Binario - eccesso (72)
B/38	Binary code - exc (180)/ codice Binario - eccesso (180)
B/76	Binary code - exc (360)/ codice Binario - eccesso (360)
B/152	Binary code - exc (720)/ codice Binario - eccesso (720)
B/304	Binary code - exc (1440)/ codice Binario - eccesso (1440)
D	BCD code (100÷2000)/ codice BCD (100÷2000)
E	Excess 3 Gray code (100÷2000)/ codice Gray exc. 3 (100÷2000)
G	Natural Gray code/ codice Gray naturale
G/0	Gray code centrally cutted/ codice Gray troncato centr.
G/7	Gray code - exc (18)/ codice Gray - eccesso (18)
G/14	Gray code - exc (36)/ codice Gray - eccesso (36)
G/19	Gray code - exc (90)/ codice Gray - eccesso (90)
G/28	Gray code - exc (72)/ codice Gray - eccesso (72)
G/38	Gray code - exc (180)/ codice Gray - eccesso (180)
G/76	Gray code - exc (360)/ codice Gray - eccesso (360)
G/152	Gray code - exc (720)/ codice Gray - eccesso (720)
G/304	Gray code - exc (1440)/ codice Gray - eccesso (1440)

#### **e** POWER SUPPLY/ ALIMENTAZIONE

5	+5 V ±5 %
11/30	+11÷30 V
18/30	+18÷30 V only analog/ solo con uscita analogica

#### **f** PROTECTION DEGREE/ GRADO DI PROTEZIONE

K1	IP 55 (EN60529) only with D25 / solo con D25
K4	IP 64 (EN60529) only with S13D / solo con S13D
K5	IP 65 (EN60529)
K6	IP 66 (EN60529)
For S13D only K4 / con S13D solo K4	

#### **g** SHAFT/ ALBERO

6	Ø 6 mm
8	Ø 8 mm
9,52	Ø 9,52 mm
10	Ø 10 mm

#### **h** ELECTRICAL CONNECTIONS/ CONNESSIONI ELETTRICHE

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
S10	on 10 pins axial MIL connector /conn. circolare militare assiale a 10 poli
S26	on 26 pins axial MIL connector /conn. circolare militare assiale a 26 poli
D25	on 25 pins axial DB25 connector /conn. circolare submin assiale a 25 poli
SL07	on 7 pins radial MIL connector /conn. circolare militare radiale a 7 poli
SL10	on 10 pins radial MIL connector /conn. circolare militare radiale a 10 poli
SL26	on 26 pins radial MIL connector /conn. circolare militare radiale a 26 poli
nn	cable length/ lunghezza cavo (es. PL10 = 1 m ... PL60 = 6 m)

Other values see p.3/ altri valori vedere p.3

### ORDER CODE (see p.2)

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

00	TTL log+ (only/ solo 5 V)
01	TTL log- (only/ solo 5 V)
02	TTL 3-state log+ (only/ solo 5 V)
03	TTL 3-state log- (only/ solo 5 V)
50	TTL log+ Latch (only/ solo 5 V)
51	TTL log- Latch (only/ solo 5 V)
52	TTL 3-state log+ Latch (only/ solo 5 V)
53	TTL 3-state log- Latch (only/ solo 5 V)
10	NPN 40 mA Open Collector log+
11	NPN 40 mA pull-up log+ (only/ solo 11/30V)
12	NPN 40 mA Open Collector log-
13	NPN 40 mA pull-up log- (only/ solo 11/30V)
60	NPN open collector + latch
61	NPN 40 mA pull-up log+ Latch (only/ solo 11/30V)
62	NPN 40 mA Open Collector log-
63	NPN 40 mA pull-up log- Latch (only/ solo 11/30V)
20	PNP 100 mA open collector (positive logic/ logica positiva);
21	PNP 100 mA pull-down (positive logic/ logica positiva) (only/ solo 11/30V);
22	NPN 100 mA open collector (negative logic/ logica negativa);
23	NPN 100 mA pull-up (negative logic/ logica negativa) (only/ solo 11/30V);
30	Push Pull cc protected/ protetto cc (only/ solo 11/30V);
70	PNP 100 mA Open Collector log+ Latch
71	PNP 100 mA pull-down log+ Latch (only/ solo 11/30V)
72	NPN 100 mA Open Collector log Latch
73	NPN 100 mA pull-up log- Latch
80	Push Pull protetto cc Latch (only/ solo 11/30V)
31	Analog output/ Uscita analogica 4÷20 mA (only/ solo 18/30V)
32	Analog output/ Uscita analogica 1÷5 V (only/ solo 18/30V)
33	Analog output/ Uscita analogica 0÷10 V (only / solo 18/30V)
S13D	SSI 13 bit right alignment/ allineamento a destra (only / solo 11/30V)

#### **j** OPTIONS/ OPZIONI

U	Up/Down NPN
D	Up/Down PNP
Z	Zero signal/ Segnale di zero (NO x SSI)
V	Displayed Index signal/ Segnale di index visualizzato (NO x SSI)
E	Even parity/ Parità Even (pari) (NO x SSI)
O	Odd parity/ Parità Odd (dispari) (NO x SSI)
S	Strobe standard (NO x SSI)
S=	Strobe custom
S 200	Strobe 20 µs
S 500	Strobe 50 µs
S 101	Strobe 100 µs
S 201	Strobe 200 µs
S 501	Strobe 500 µs
S 102	Strobe 1 ms
S 202	Strobe 2 ms
S 502	Strobe 5 ms
S 103	Strobe 10 ms
S 203	Strobe 20 ms
S 503	Strobe 50 ms
S 104	Strobe 100 ms
S 204	Strobe 200 ms
I	Strobe inverted/ invertito (NO x SSI)
I 200	Inverted strobe 20 µs/ Strobe invertito 20 µs
I 500	Inverted strobe 50 µs/ Strobe invertito 50 µs
I 101	Inverted strobe 100 µs/ Strobe invertito 100 µs
I 201	Inverted strobe 200 µs/ Strobe invertito 200 µs
I 501	Inverted strobe 500 µs/ Strobe invertito 500 µs
I 102	Inverted strobe 1 ms/ Strobe invertito 1 ms
I 202	Inverted strobe 2 ms/ Strobe invertito 2 ms
I 502	Inverted strobe 5 ms/ Strobe invertito 5 ms
I 103	Inverted strobe 10 ms/ Strobe invertito 10 ms
I 203	Inverted strobe 20 ms/ Strobe invertito 20 ms
I 503	Inverted strobe 50 ms/ Strobe invertito 50 ms
I 104	Inverted strobe 100 ms/ Strobe invertito 100 ms
I 204	Inverted strobe 200 ms/ Strobe invertito 200 ms

#### **k** CUSTOM

CUSTOM custom execution/ esecuzione custom

# Absolute singleturn encoders

TKC50

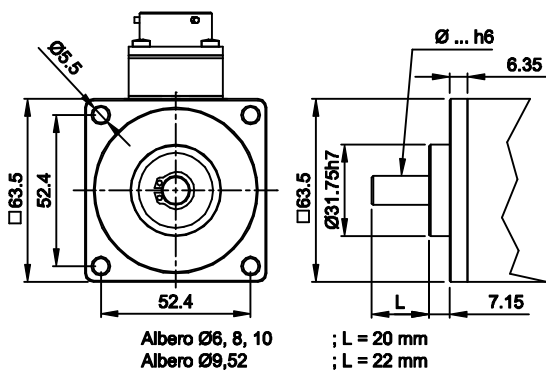
solid shaft

∅ 63,5

## Mechanical assembly/ montaggio meccanico

## Electrical connections/ connessioni elettriche

### F Square Flange



### SG Servo-clip

