

TSW58

hollow shaft

Ø 58



Italsensor Quality System certified according to the UNI EN ISO 9001



Features:

TSW58 - an economic incremental optical encoder suitable for different industrial applications.

Thanks to its versatility and reliability, this model allows to reduce costs of production and maximize functionality; guarantees completely controlled manufacturing process significantly reducing downtime – a very important factor for continuous production process.

- **economic and reliable encoder for various applications;**
- **resolution up to 10.000 ppr, others on demand;**
- **wide range of shaft diameter;**
- **protection degree IP64;**
- **cable and connector outputs.**



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 inertia/ Momento di inerzia

Bearing life/ Vita dei cuscinetti

Weight/ Peso

see drawings/ vedi disegni
stainless steel/ acciaio inossidabile
axial/ assiale 40 N; radial/ radiale 60 N
6.000 RPM (continuous/ continui)
0,025 Nm; *(1)
40 g cm²
5 x 10⁹ rev. min/ giri (minimo)
~ 0,25 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

10.000 ppr; others on demand/ 10.000 ppr; altri a richiesta
5 V; 5÷28 V; 11÷30 V
up to 300 kHz/ fino a 300 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, 5/28 V) - available on demand/
contro il cortocircuito (solo elettronica LD2 e PP2);
contro inversione di polarità (escluso 5V, 5/28V) - disponibile su richiesta;

MATERIALS/ MATERIALI UTILIZZATI

Flange/ Flangia

Housing/ Corpo

Shaft/ Albero

aluminum 11S/ in alluminio 11S
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 ÷ +85 °C
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)

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

ORDER CODE

TSWXXX. XXX . XXXXX . XXXXX . X . XX . XXXX . XXnn . XXX-XXXX . Xnnn

a b c d e f g h i j

a MODEL/ MODELLO

TSW580 bidirectional / bidirezionale
 TSW581 bidirectional + index/ bidirezionale + zero

b ASSEMBLY/ MONTAGGIO

M0 Without spring/ senza molla
 M1 With spring type M1/ Con molla M1
 M2 With spring type M2/ Con molla M2

c PULSE RATE/ IMPULSI GIRO

4 - 25 - 50 - 60 - 100 - 140 - 150 - 200 - 250 - 300 - 360 - 400 - 500 - 600 -
 625 - 635 - 720 - 1000 - 1024 - 1200 - 1250 - 1440 - 1500 - 1600 - 1800 -
 2000 - 2048 - 2500 - 3600 - 4096 - 5000 - 9000 - 10.000

other values on demand/ altri valori a richiesta

d POWER SUPPLY/ ALIMENTAZIONE

5 +5 V $\pm 5\%$
 5/28 +5 \div 28 V
 11/30 +11 \div 30 V

e OUTPUT FREQUENCY/ FREQUENZA IN USCITA

S from 0 a - up to 100 kHz / da 0 a 100 kHz
 V from 0 a - up to 300 kHz / da 0 a 300 kHz

f PROTECTION DEGREE/ GRADO DI PROTEZIONE

K4 IP 64 (EN60529)

g SHAFT/ ALBERO

B060 Ø 6 mm
 B080 Ø 8 mm
 B952 Ø 9,52 mm
 B100 Ø 10 mm
 B110 Ø 11 mm
 B120 Ø 12 mm
 B127 Ø 12,7 mm
 B140 Ø 14 mm
 15 Ø 15 mm

Clamp with collar/ Chiusura tramite collare
 Reduction bushing for shaft diameter less than 15 mm/
 Boccole di riduzione per diametro inferiore a 15 mm

h ELECTRICAL CONNECTIONS/ CONNESSIONI ELETTRICHE

OUTPUT S ; P ; OC ; OP ; PP2 ; LD ; LD2

PLnn radial cable gland with cable 1 \div 6 m long /pressacavo radiale con cavo da 1 a 6 m;
 L07 on 7 pins radial MIL connector /conn. circolare militare radiale a 7 poli (TYPE "A", "B")
 L10 on 10 pins radial MIL connector /conn. circolare militare radiale a 10 poli (TYPE "C")
 R1 on 12 pins radial "contact" connector /conn. circolare radiale antiorario a 12 poli (TYPE "D" CCW)

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

Note: L10: only for TSW581 with LD, LD2 electronic output/ L10: solo versione TSW581 con elettronica LD, LD2

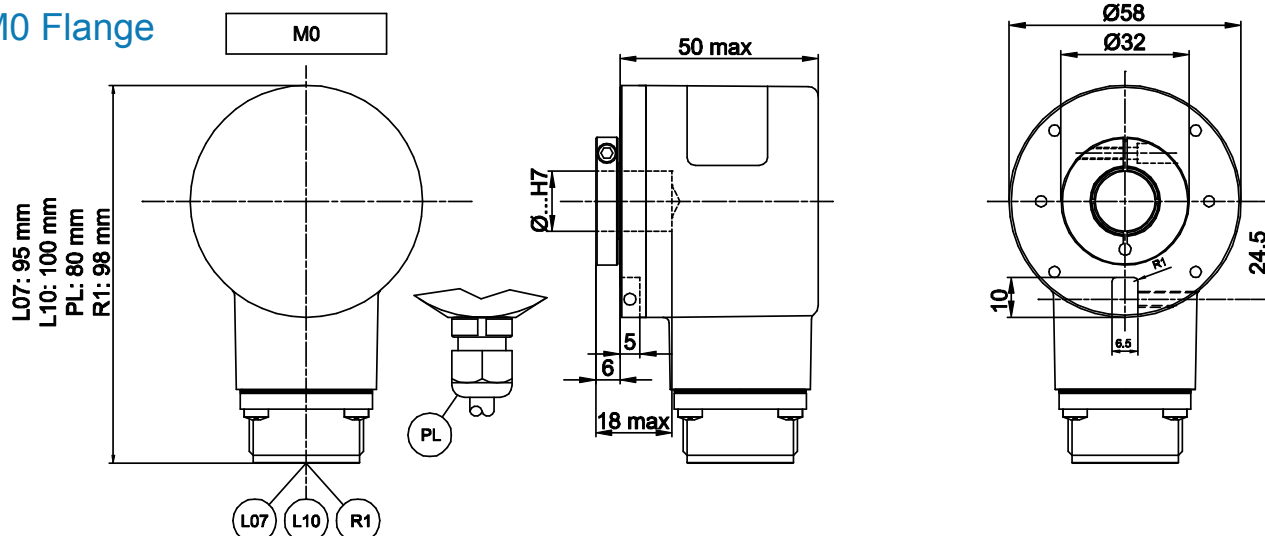
i OUTPUT CIRCUITS/ CIRCUITI DI USCITA

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 - solo 5 V
 PP2-1130 Push-Pull 11/30 Vcc output (only with voltage supply - solo con alimentazione 11/30 V)
 PP2-528 Push-Pull 5/28 Vcc output (only with voltage supply - solo con alimentazione 5/28 V)
 LD Line driver RS422 (26LS31) only - solo 5 V
 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)
 LD2-528 Line driver 5/28 Vcc output (only with voltage supply - solo con alimentazione 5/28 V)

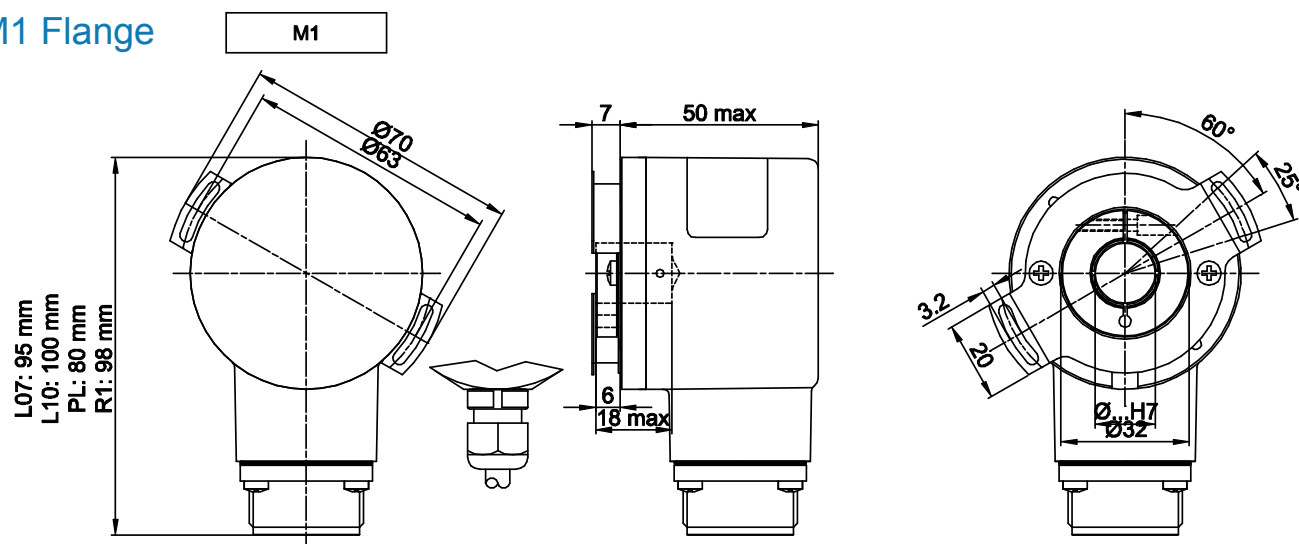
j CUSTOM

CUSTOM custom execution/ esecuzione custom

M0 Flange



M1 Flange



M2 Flange

