

## TSW58HS

## hollow through shaft

## Ø 58



Italsensor Quality System certified according to the UNI EN ISO 9001



### Features:

TSW58HS - 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.

- fixing system through antirotation pin or springs;
- resolution up to 10.000 ppr, others on demand;
- shaft diameters changeable through reducing bushes;
- protection degree IP64;
- cable and connector outputs.



### MECHANICAL SPECIFICATIONS/ CARATTERISTICHE MECCANICHE

**Dimensions/ Dimensioni**

Hollow through shaft with collar clamp/ *Albero cavo passante chiusura a collare*

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* 40 N; radial/ *radiale* 60 N  
6.000 RPM (continuous/ *continui*)  
0,025 Nm; \*(1)  
40 g cm<sup>2</sup>  
5 x 10<sup>9</sup> 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

**TSWXXXHS . XXX . XXXXX . XXXXX . X . XX . XXXX . XXnn . XXX-XXXX . Xnnn**  
**a                    b                    c                    d                    e                    f                    g                    h                    i                    j**

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

**TSW580HS** bidirectional / bidirezionale  
**TSW581HS** 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 ±5 %  
**5/28** +5 ÷ 28 V  
**11/30** +11÷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** ∅ 6 mm  
**B080** ∅ 8 mm  
**B952** ∅ 9,52 mm  
**B100** ∅ 10 mm  
**B110** ∅ 11 mm  
**B120** ∅ 12 mm  
**B127** ∅ 12,7 mm  
**B140** ∅ 14 mm  
**15** ∅ 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 ÷ 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 TSW581HS with LD, LD2 electronic output/ L10: solo versione TSW581HS con elettronica LD, LD2

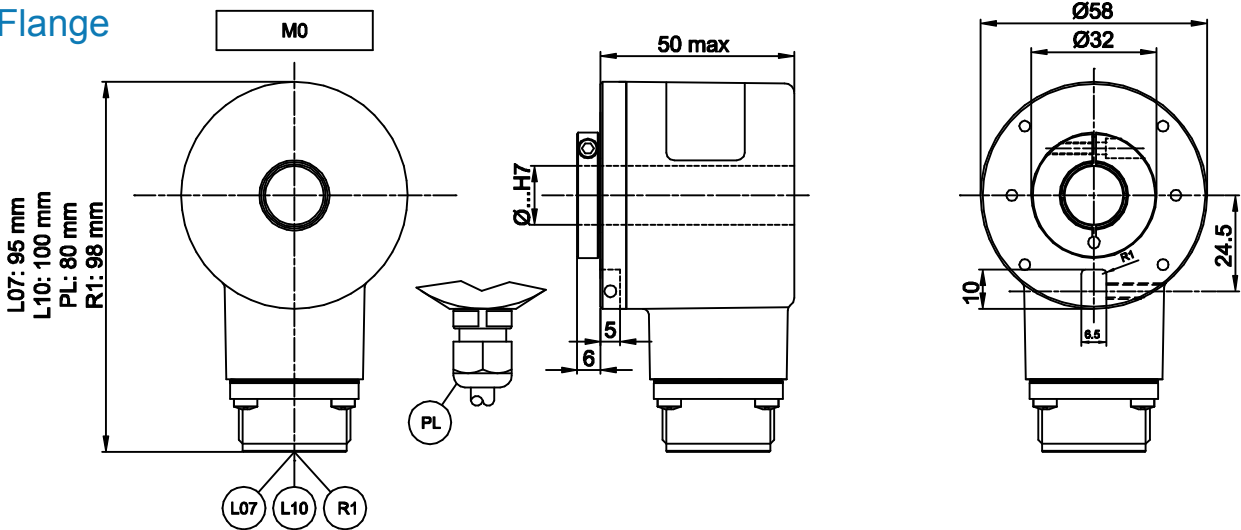
#### **i** OUTPUT CIRCUITS/ CIRCUITI DI USCITA

**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)

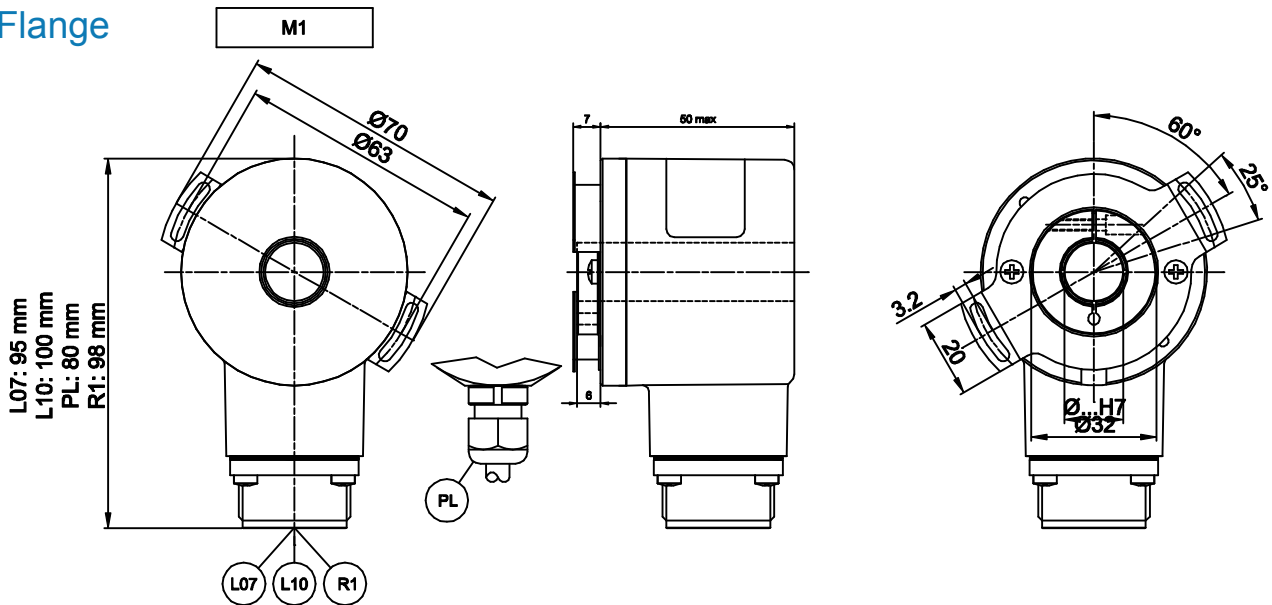
#### **j** CUSTOM

**CUSTOM** custom execution/ esecuzione custom

**M0 Flange**



**M1 Flange**



**M2 Flange**

