

# Kübler by TURCK Incremental Encoders

## 2.5" (T8.5800) Incremental Shaft Encoder Part Number Key



**T8.** **5800.** **X X X X.** **XXXX** **PXX** **XX**

### Flange

- 1 = Clamping flange Ø58 mm
- 2 = Servo flange Ø58
- M = 2.5" Square flange (Ø63.5 mm)
- P = 2.5" Servo flange (Ø63.5 mm)
- S = 2.62" Servo flange (Ø66.5 mm)
- Z = 2.5" Square flange (63.5 mm) w/shaft seal

### Shaft

- 1 = Ø6 mm x 10 mm
- 2 = Ø10 mm x 20 mm
- B = Ø1/4" x 7/8"
- P = Ø3/8" x 7/8"
- W = Ø8 mm x 20.5

### Input/Output Circuit

- 4 = 5 VDC / TTL (26C31)
- 5 = 10-30 VDC / TTL (26C31)
- 9 = 5-30 VDC / Push-pull (IC-WE)
- R = 5-30 VDC / Open Collector (7273)
- T = 5-30 VDC / Line Driver (7272)
- Y = 5-30 VDC / TTL (26C31)

### Special Connector Wiring Formats

See page E11

### Special Output Signal Formats

See page A7

### Pulse Rate (PPR)

See below

### Connection Type

- 1 = Axial cable (PUR, 1 meter)
- 2 = Radial cable (PUR, 1 meter)
- 3 = Axial 12-pin, M23 (*multifast*<sup>®</sup>)
- 5 = Radial 12-pin, M23 (*multifast*)
- D = Axial MS, 10-pin (MS 3102R18-1P)
- G = Radial M12, 8-pin, (*eurofast*<sup>®</sup>)
- T = Axial M12, 8-pin, (*eurofast*)
- W = Radial MS, 7-pin (MS 3102R165-1P)
- Y = Radial MS, 10-pin (MS 3102R18-1P)
- Z = Axial MS, 7-pin (MS 3102R165-1P)

## 2.5" (T8.5820) Incremental Hollow Shaft Encoder Part Number Key



**T8.** **5820.** **X X X X.** **XXXX** **PXX** **XX**

### Flange

- 1 = Hollow Shaft with short torque stop
- 2 = Blind hub shaft with short torque stop (depth ≤ 30 mm)
- 3 = Hollow Shaft with flexmount
- 4 = Blind hub shaft with flexmount (depth ≤ 30 mm)

### Bore

- 1 = Ø6 mm
- 2 = Ø6 mm with shaft seal
- 3 = Ø8 mm
- 4 = Ø8 mm with shaft seal
- 5 = Ø10 mm
- 6 = Ø10 mm with shaft seal
- 7 = Ø12 mm
- 8 = Ø12 mm with shaft seal
- A = Ø1/2"
- B = Ø1/4"
- K = Ø3/8" with seal
- R = Ø3/8"
- S = Ø1/4" with seal
- U = Ø1/2" with seal

### Input/Output Circuit

- 1 = 5 VDC / TTL
- 4 = 10-30 VDC / TTL
- 6 = 5-30 VDC / Push-pull
- 7 = 5-30 VDC / TTL
- B = 5-30 VDC / Open Collector (7273)
- C = 5-30 VDC / Line Driver (7272)

### Special Connector Wiring Formats

See page E11

### Special Output Signal Formats

See page A7

### Pulse Rate (PPR)

See below

### Connection Type

- 1 = Radial cable (PVC, 1 meter)
- 2 = Radial 12-pin, M23 (*multifast*)
- C = Radial 8-pin, M12 (*eurofast*)

### Pulse Rates (PPR):

- 1, 5, 10, 15, 20, 25, 30, 36, 50, 60, 64, 100, 120, 125, 127, 150, 176, 180, 200, 216, 240, 250, 254, 256, 270, 300, 314, 360, 375, 377, 400, 500, 512, 600, 625, 700, 720, 745, 750, 762, 800, 900, 927, 1000, 1024, 1200, 1250, 1256, 1270, 1400, 1500, 1800, 2000, 2048, 2250, 2400, 2500, 3000, 3600, 4000, 4096, 5000

**2.5" (T8.5800 / T8.5820 / T8.5826) Specifications**

**Mechanical:**

Protection Rating . . . . .	IP 65, IP 66 with shaft seal
Speed . . . . .	Up to 12,000 RPM (3,000 RPM with shaft seals)
Continuous Operation Speed . . . . .	3000 RPM
Operating Temperature . . . . .	-20°C to +90°C (-4°F to +194°F)
Shock/Vibration . . . . .	Shaft: 1000 m/s <sup>2</sup> , (6 ms) per DIN-IEC 68-2-27 / 100 m/s <sup>2</sup> (10-2000 Hz) per IEC 68-2-6 Hollow Shaft: 2000 m/s <sup>2</sup> , (6 ms) per DIN-IEC 68-2-27 / 100 m/s <sup>2</sup> (10-2000 Hz) per IEC 68-2-6
Humidity . . . . .	98% relative humidity without condensing
Housing/Shaft . . . . .	T8.5800/T8.5820: Aluminum, with epoxy powder coat/316 stainless T8.5826: 316 Stainless Steel / 316 Stainless Steel
Starting Torque. . . . .	0.14 oz.in. (<0.001 Nm) / 3 oz.in. (<0.02 Nm) with shaft seals
Radial Shaft Load. . . . .	40 lbs.
Axial Shaft Load . . . . .	40 lbs.
Hub Bore Tolerance . . . . .	H7

**Electrical:**

Input/Output . . . . .	<u>5 VDC/TTL (26C31)</u>	<u>10-30 VDC/TTL (26C31)</u>
Power Consumption (no load) . . . . .	90 mA . . . . .	90 mA
Short-circuit Protection (DIN-IEC 68-2-27) . . . . .	Yes <sup>1)</sup> . . . . .	Yes <sup>1)</sup>
Reverse Polarity Protection . . . . .	No . . . . .	Yes
Operating Frequency (max.) . . . . .	300 kHz. . . . .	300 kHz
Permissible Load per Channel . . . . .	±20 mA. . . . .	±20 mA
Signal Level High (min.) . . . . .	2.5 V . . . . .	2.5 V
Signal Level Low (max.) . . . . .	0.5 V . . . . .	0.5 V

Input/Output . . . . .	<u>5-30 VDC/Push-Pull (IC-WE)</u>	<u>5-30 VDC/Open Collector (7273)</u>
Power Consumption (no load) . . . . .	150 mA . . . . .	150 mA
Short-circuit Protection (DIN-IEC 68-2-27) . . . . .	Yes . . . . .	Yes
Reverse Polarity Protection . . . . .	No . . . . .	Yes
Operating Frequency (max.) . . . . .	300 kHz. . . . .	300 kHz
Permissible Load per Channel . . . . .	±30 mA. . . . .	20 mA sink @ 30 VDC
Signal Level High (min.) . . . . .	+V -2.5 V. . . . .	N/A
Signal Level Low (max.) . . . . .	2 V . . . . .	N/A

Input/Output . . . . .	<u>5-30 VDC/Line Driver (7272)</u>	<u>5-30 VDC/TTL (26C31)</u>
Power Consumption (no load) . . . . .	150 mA . . . . .	90 mA
Short-circuit Protection (DIN-IEC 68-2-27) . . . . .	Yes . . . . .	Yes <sup>1)</sup>
Reverse Polarity Protection . . . . .	Yes . . . . .	Yes
Operating Frequency (max.) . . . . .	300 kHz. . . . .	300 kHz
Permissible Load per Channel . . . . .	±20 mA. . . . .	±20 mA
Signal Level High (min.) . . . . .	+V -1.5 V. . . . .	2.5 V
Signal Level Low (max.) . . . . .	0.5 V . . . . .	0.5 V

<sup>1)</sup> Only one channel at a time. When +V = 5 VDC, short-circuit to common or +V is permitted, when +V = 10-30 VDC, short-circuit to common is permitted.

2.5" (T8.58XX) Incremental Encoder Wiring Configurations

Cable direction for right angle M12 cordset is parallel to Hollow Shaft.



Standard Wiring / Pin Configuration

Output	Case Ground	Common	+V	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	-	-	Com / Sensor	+V Sensor
M23 <i>multifast</i> ®	Coupling Nut	10	12	5	6	8	1	3	4	-	-	11	2
MS 7-pin	G	F	D	A	-	B	-	C	-	-	-	-	E
MS 10-pin	J	F	D	A	G	B	H	C	I	-	-	-	E
M12 <i>euromast</i> ®	Coupling Nut	1	2	3	4	5	6	7	8	-	-	-	-
Cable	Shield / Drain	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY/PK	RD/BU

Special Connector Pin Configuration

		Output	Case Ground	Common	+V	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	-	-
Output Code	07	M12 <i>euromast</i>	Coupling Nut	7	2	1	3	4	5	6	8	-	-
	02	MS 7-pin	G*	F	D	A	C	B	E	-	-	-	-
	03	MS 7-pin	G*	F	D	A	-	B	-	C	-	-	-
	04	MS 7-pin	G	F	D	A	C	B	E	-	-	-	-
	05	MS 7-pin	G	F	D	A	-	B	-	C	-	-	-
	06	MS 10-pin	G	F	D	A	H	B	I	C	J	-	-

\* Shield / case ground.

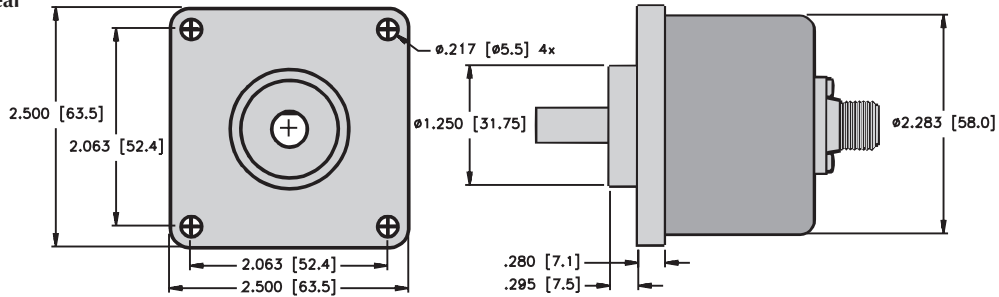
Male Encoder View	Mating Cordset	Male Encoder View	Mating Cordset
<p>M12 Pinout</p>	E-RKC 8T-930-*	<p>MS Pinout (7-Pin)</p>	E-MK 7-930-*
<p>M23 Pinout (12-Pin)</p>	E-CKS 12-931-*	<p>MS Pinout (10-Pin)</p>	E-MK 10-931-*



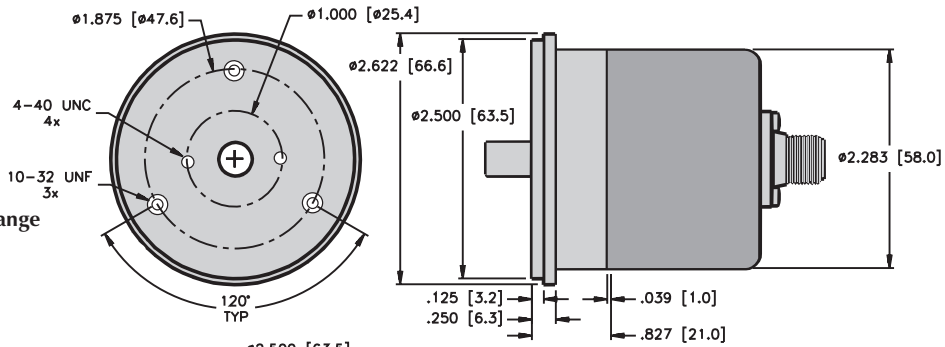
**2.5" (T8.58XX) Incremental Shaft Encoder Flange Options**

Incremental

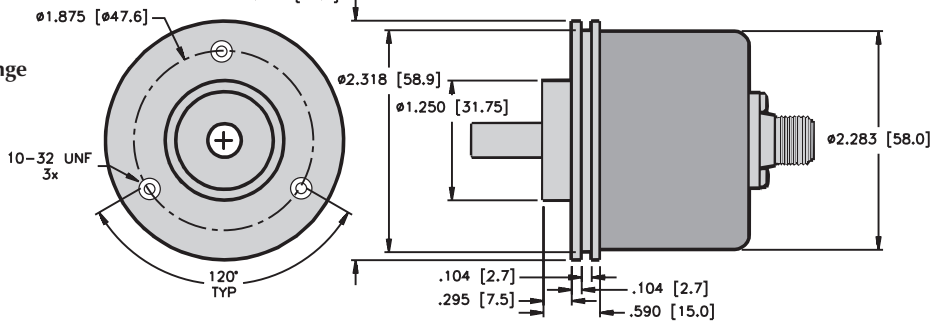
2.5" (63.5 mm) Rectangular Flange w/Shaft Seal



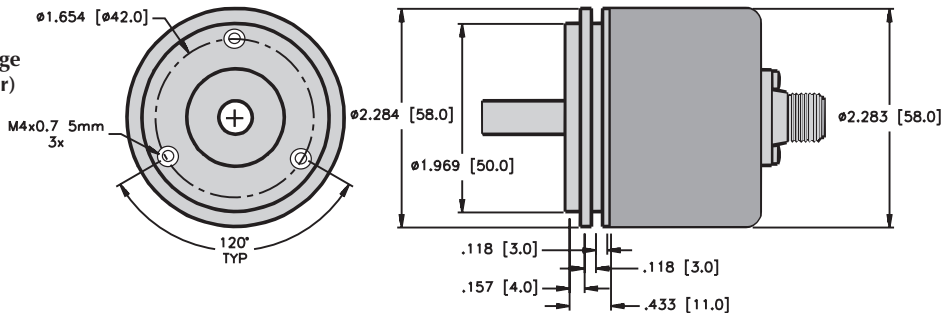
Ø2.62" (66.6 mm) Servo Flange



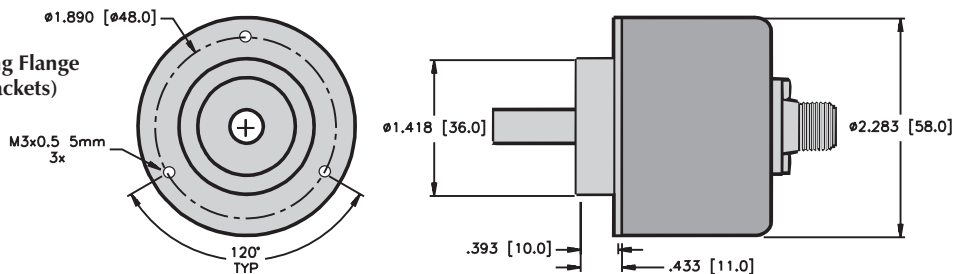
Ø2.5" (63.5 mm) Servo Flange



Ø2.28" (58 mm) Servo Flange  
(Mounts to Top Hat adapter)

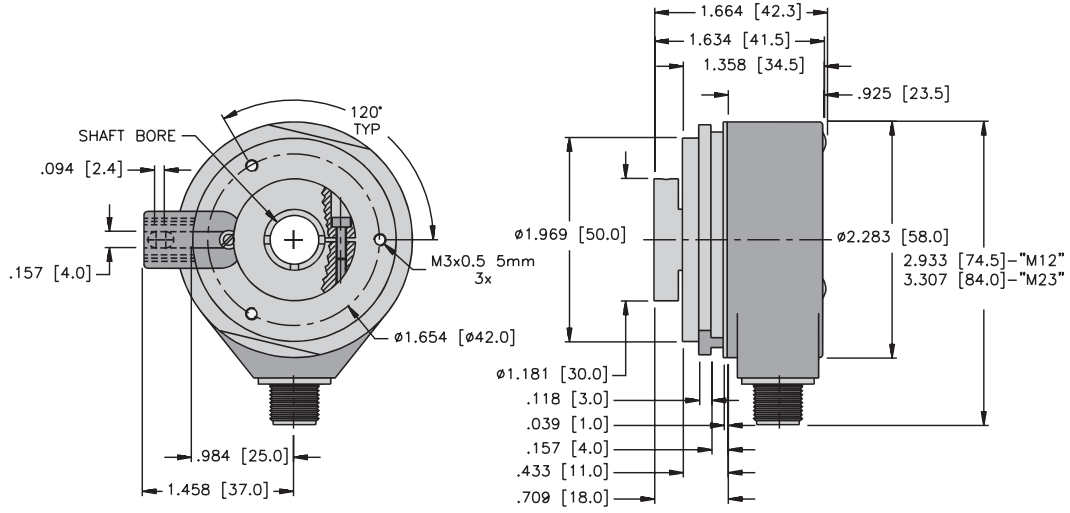


Ø2.28" (58 mm) Clamping Flange  
(Mounts to Adapter Brackets)



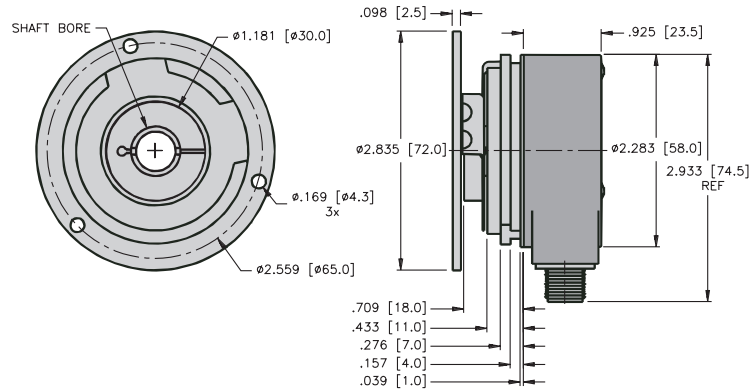
2.5" (T8.58XX) Incremental Hollow Shaft Encoder Dimensions

T8.58XX with Torque Stop

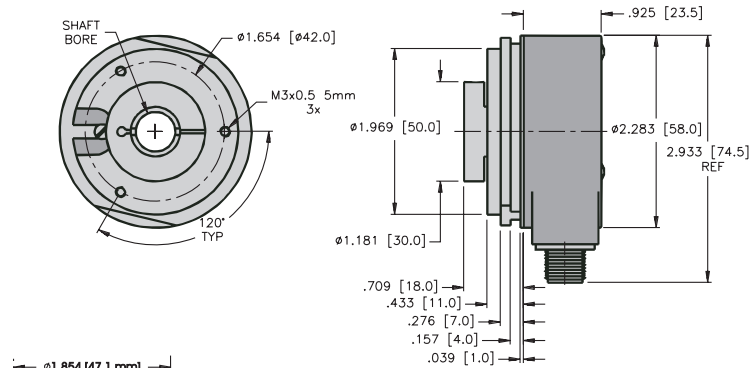


T8.58XX Series Hollow Shaft Flange Options

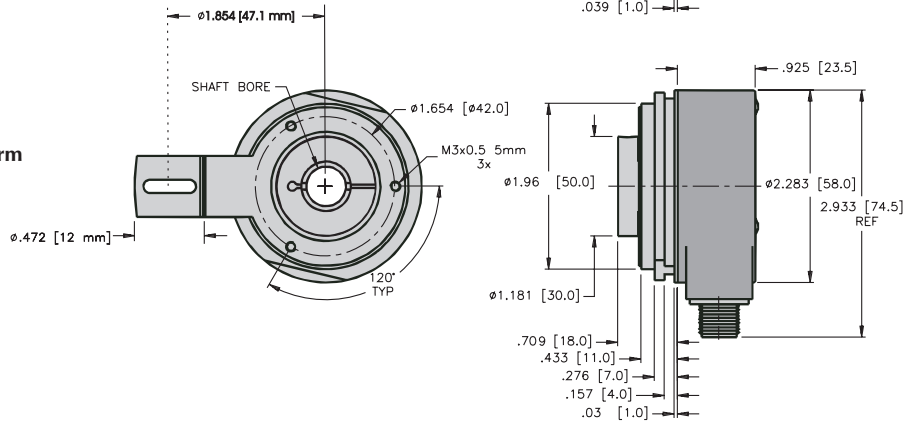
Ø2.83 (72 mm)  
Through Shaft, Flex Mount



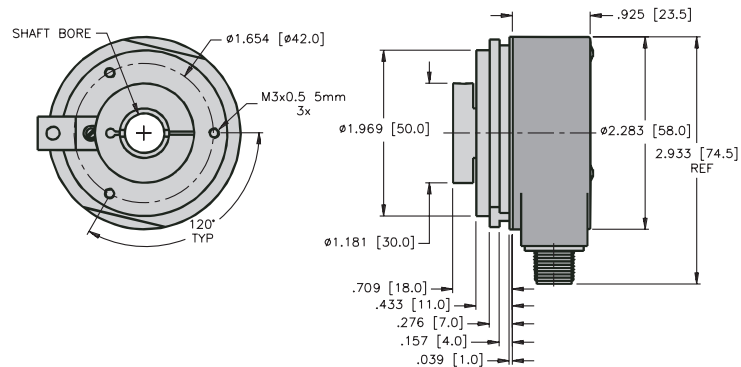
Ø2.28 (58 mm)  
Through Shaft  
(Short Torque Stop)



Tether Arm



Flex Bracket



Incremental