

MODEL 58TF - INCREMENTAL THRU-BORE ENCODER



FEATURES

58 mm thru-bore or blind hollow bore encoder Standard and metric thru-bore sizes up to 5/8" and 15 mm Resolutions from 1 to 65,536 CPR Flexible mounting options Multiple connector options Sealing to IP67

The Model 58TF 58 mm Accu-Coder[®] thru-bore encoder offers the high performance and advantages of the programmable Model 58TP, but in a fixed resolution version. The versatile Model 58TF offers 6 output types, 32 different waveforms, and any resolution from 1 to 65,536 CPR (262,144 counts using 4x quadrature counting). This encoder is also highly mechanically configurable. Specifically designed for the challenges of industrial environments, the Model 58TF can take on your demanding applications.

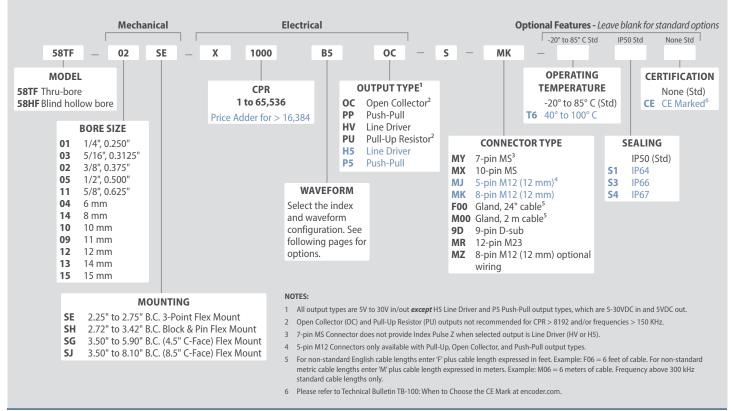
Ø58 mm

COMMON APPLICATIONS

Motor Control, Conveyors, Elevator Controls, Machine Control, Food Processing, Process Control, Robotics, Material Handling, Textile Machines, and all types of motion feedback.

MODEL 58TP ORDERING GUIDE

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.





MODEL 58TF - INCREMENTAL THRU-BORE ENCODER

MODEL 58TF SPECIFICATIONS

Electrical	
Input Voltage	4.75 to 30 VDC max. See Output Types for limitations
Input Current	100 mA max with no output load (65 mA typical)
Output Format	Incremental, Programmable. See Waveforms on following page for options.
Output Types	
Line Driver* (HV)	20 mA max per channel, max freq 1.0 MHz, 5 VDC max at 100° C or 24 VDC max at 85° C.
Line Driver* (H5)	5-30 VDC in/5 VDC out, 20 mA max per channel, max freq 2.7 MHz, 5 VDC max at 100° C.
Push-Pull (PP)	20 mA max per channel, max frequency 1.0 MHz, 5 VDC max at 100° C or 24 VDC max at 85° C.
Push-Pull (P5)	5-30 VDC in/5 VDC out, 20 mA max per channel, max frequency 2.7 MHz, 5 VDC max at 100° C.
Open Collector (OC)	100 mA max per channel, 200 KHz max freq recommended.
Pull-Up (PU)	2.2K ohm internal resistors, 100 mA max per channel, 150 KHz max freq recommended, max temp 85° C at > 24 VDC.
*Meets RS 422 at 5 VD	IC supply
Index	Once per revolution, programmable. EPC standard is 180° gated to output A (waveform B5). See Waveform Diagrams for additional options.
Max Frequency	2.7 MHz subject to RPM restrictions for high resolution (CPR): 5000 RPM max for CPR 16385 to 32768 and 2500
	RPM max for CPR 32769 to 65536
NOTE: Use 5 VDC Line D	Driver (H5 or HV output type) to obtain high frequencies.
Electrical Protection	Overvoltage, reverse voltage, and output short circuit protected. NOTE: Sustained over or reverse voltage may result in permanent damage.
CE/EMC	Immunity tested per EN 61000-6-2:2005 Emission tested per EN 61000-6-4:2007 + A1: 2011
Rise Time	Less than 1 microsecond
Accuracy	Better than 0.015° or 54 arc-sec from true position

Mechanical

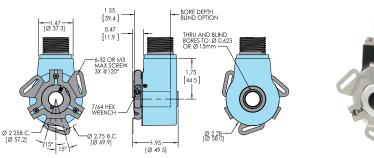
Max Shaft Speed6000 RPM. Higher shaft speeds may be achievable, contact Customer Service.	
Shaft Material 303 Stainless Steel	
Shaft RotationBi-directional	
Bore Tolerance0.0000"/+0.001"	
User Shaft Tolerances	
Radial Runout0.005" max	
Axial Endplay±0.030 max	
Starting TorqueIP50 sealing: 3.0 oz-in typical IP64 sealing: 4.0 oz-in typical IP66 or IP67 sealing: 7.0 oz-in typical	
Moment of Inertia 5.5 x 10 ⁻⁴ oz-in-sec ²	
HousingBlack noncorrosive finish	
Weight 10 oz.	

Environmental

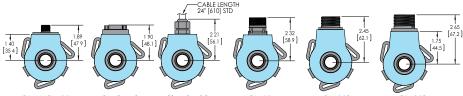
Operating Temp	20° to 85° C for standard models -40° to 100° C for extended temp option
NOTE: For IP66 or IP67 for every 1000 RPM ab	sealing derate max temperature of 100° C by 4° C ove 2000 RPM.
Humidity	.95% RH non-condensing
Vibration	.10 to 2000 Hz A 20g (International Standard IEC 60068-2-6)
Shock	.80g @ 6 ms Duration (International Standard IEC 60068-2-27)
Sealing	IP50 standard; IP64, IP66 or IP67 optional

All dimensions are in inches with a tolerance of ± 0.005 " or $\pm 0.01''$ unless otherwise specified. Metric dimensions are given in brackets [mm].

MODEL 58TF/HF 3-POINT FLEX MOUNT

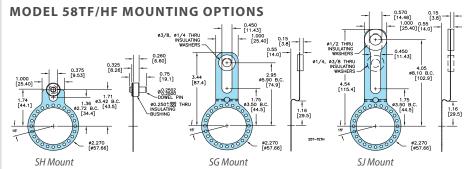


MODEL 58TF/HF CONNECTOR OPTIONS



5-Pin, 8-Pin M12 9-Pin D-sub

Gland cable 12-Pin M23 7-Pin MS 10-Pin MS



WIRING TABLE

For EPC-supplied mating cables, refer to wiring table provided with cable. Trim back and insulate unused wires. Note: Color chart is for Gland Cables only

Function	5-pin M12*	8-pin M12*	10-pin MS	7-pin MS HV, H5	7-pin MS PU, PP, OC, P5	9-pin D-sub	12-pin M23	8-pin M12 optional wiring*	Gland Cable** Wire Color
Com	3	7	F	F	F	9	10	1	Black
+VDC	1	2	D	D	D	1	12	2	Red
A	4	1	A	А	A	2	5	3	White
A'		3	Н	С		3	6	4	Brown
В	2	4	В	В	В	4	8	5	Blue
Β'		5	1	E		5	1	6	Violet
Z	5	6	С		С	6	3	7	Orange
Ζ'		8	J			7	4	8	Yellow
Case			G	G	G	8	9		Green
Shield									Bare***
+VDC							2		
Sense							۷		
Com Sense							11		

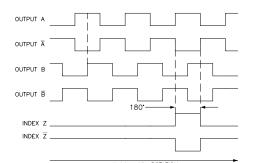
*CE Option: Use cable cord set with shield connected to M12 connector coupling nut. **Standard cable is 24 AWG conductors with foil and braid shield. *** CE Option: Cable shield (bare wire) is connected to internal case.



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WAVEFORMS

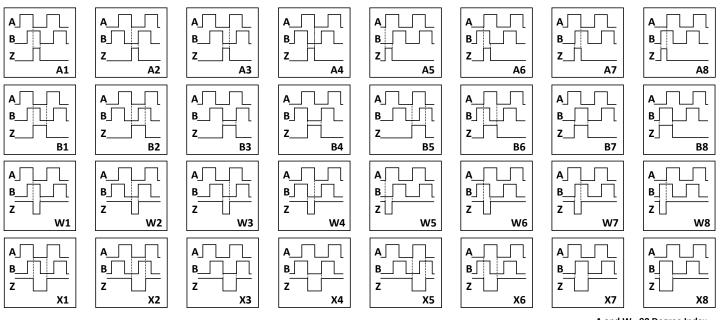
EPC standard waveform (B5). Additional waveforms available. See diagram below.



CLOCKWISE ROTATION AS VIEWED FROM THE MOUNTING FACE NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES. Complementary signals \overline{A} , \overline{B} , \overline{Z} apply to Line Driver (HV, H5) outputs only.



An EPC Thru-Bore Encoder in a common application, mounted on a motor with an SJ Flex Mount



Odd numbers - A leads B Even numbers - B leads A

A and B - High Going Index W and X - Low Going Index A and W - 90 Degree Index B and X - 180 Degree Index

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