

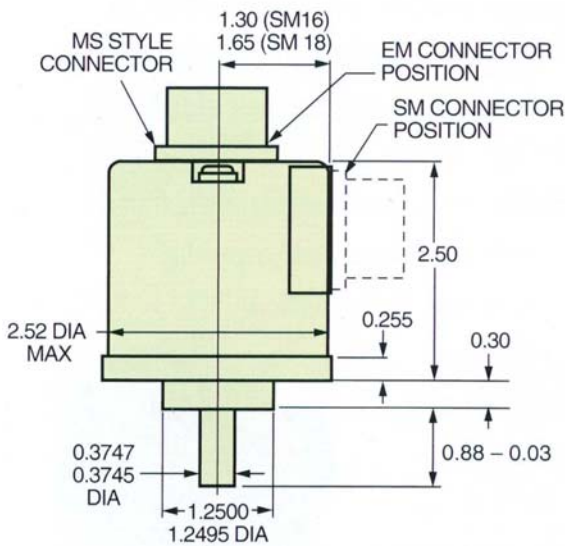
INCREMENTAL ENCODERS, H25 RANGE



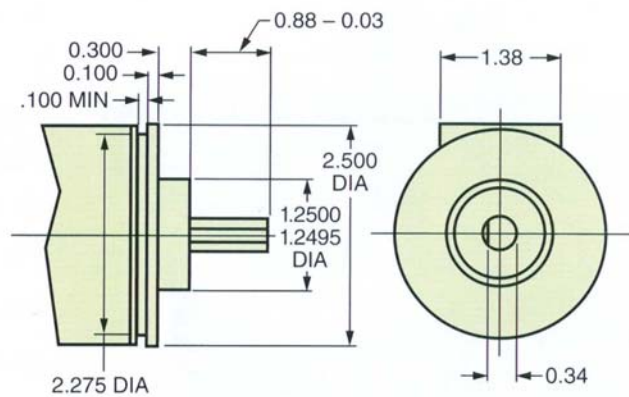
The H25 is the flagship of the BEI Industrial Encoder Division product line. It was designed from the ground up for the industrial machine tool marketplace. The H25 offers features such as EMI shielding, 40 lb. ABEC 7 bearings, matched thermal coefficients on critical components, and custom high-efficiency optics. The encoder meets NEMA 4 and 13 requirements when ordered with the shaft seal. Typical applications include machine control, process control, the wood processing industry, oil well logging, industrial weighing, agricultural machinery, textile equipment, web process control, robotics, and food processing.



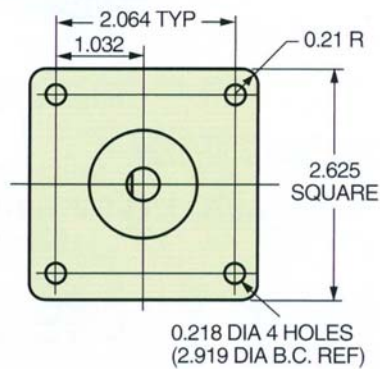
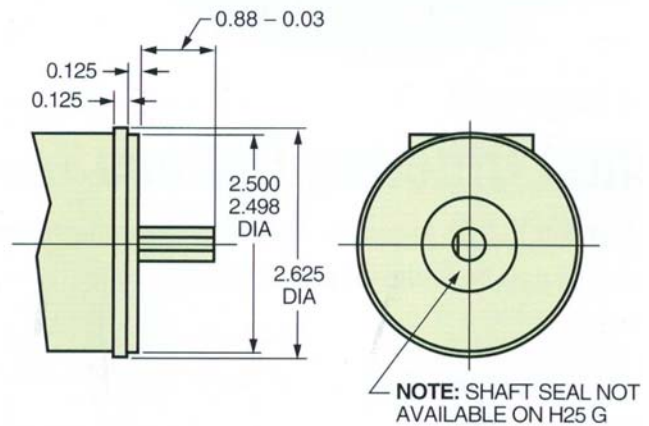
H25D - Square Flange



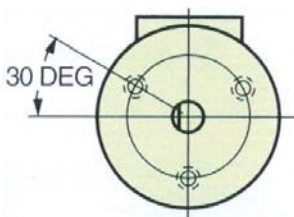
H25E - 2.50 Servo Mount



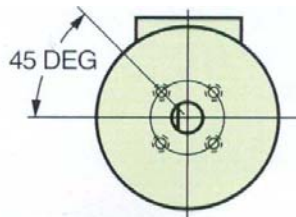
H25G - 2.62 Dia Servo Mount



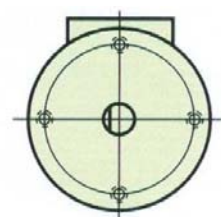
TOLERANCES: .XX = ± 0.01, .XXX = ± 0.005



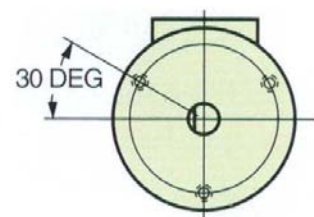
F1
 10-32 UNF-2B
 0.188 Min. Deep
 3 places equally spaced
 on a 1.875 Dia. bolt circle.



F2 (H25G Only)
 4-40 UNC-2B
 0.250 Min. Deep
 4 places equally spaced
 on a 1.272 Dia. bolt circle.
 (0.900 square, Ref.)



F3
 4-40 UNC-2B
 0.250 Min. Deep
 4 places equally spaced
 on a 2.00 Dia. bolt circle.



F4
 6-32 UNC-2B
 0.250 Min. Deep
 3 places equally spaced
 on a 2.00 Dia. bolt circle.

INCREMENTAL ENCODERS, H25 RANGE



SPECIFICATIONS

Shaft Diameter: 3/8" (1/2" as special feature)
Flat On Shaft: 3/8" Shaft: 0.80 long x 0.03" deep;
 1/2" Shaft: 0.80 long x 0.04" deep
Shaft loading: 3/8" shaft: Up to 40 pounds axial and 35 pounds radial; 1/2" shaft: Up to 90 pounds axial and 80 pounds radial
Shaft runout: 0.0005 T.I.R. at midpoint regardless of shaft diameter
Starting torque at 25°C: Without shaft seal 1.0 in-oz (max);
 With shaft seal 2.5 in-oz (max); 1/2" shaft with shaft seal: 3.5 In-oz (max)
Bearings: Class ABEC 7 standard, ABEC, 5 for 1/2" shaft
Shaft material: 416 stainless steel
Bearing Housing: Die cast aluminium with iridite finish
Cover: Die cast aluminium
Bearing Life: 2 x 10⁸ revs (1300 hrs at 2500 RPM)
 At rated load 1 x 10¹⁰ revs (67,000 hrs at 2500 RPM) at 10% of rated load
Maximum RPM: 12,000 RPM, 8000 RPM with 1/2" shaft (see Frequency Response, below) 30,000 RPM Available on units with 3/8" shaft – consult with factory
Moment of inertia: 4.1 x 10⁻⁴ oz-in-sec²; 5.2 x 10⁻⁴ oz-in-sec² with 1/2" shaft
Weight: 13 oz typical, 14.5 oz typical with 1/2" shaft

Output Format: 2 channels in quadrature, 1/2 cycle index gated with negative B channel
Cycles Per Shaft Turn: 1 to 72,000, for resolutions above 3,600 see interpolation options
Supply Voltage: 5 to 24Vdc available
Current requirements: 100mA typical+output load,250mA (max)
Output Device:
 4469: Line Driver, 5-15Vdc, Vout = Vin
 7272: Line Driver, 5-28Vdc, Vout = Vin
 7272: Line Driver, 5-28Vdc, Vout = 5Vdc (special feature)
 7273: Open collector, accepts 5 – 28Vdc
Protection Level: Reverse, overvoltage and output short circuit
Frequency Response: 100kHz
Output Terminations: see table 1
Note: Consult factory for other electrical options

Enclosure Rating: NEMA 4 & 13 (IP66) when ordered with Shaft seal (on units with an MS connector) or a cable gland (on units with cable termination)
Temperature: Operating, 0° to 70°C; extended temperature Testing available; storage, -25°C to 90°C unless extended Temperature option called out
Shock: 50 g's for 11ms duration
Vibration: 5 to 2000 Hz @ 20 g's
Humidity: 98% RH without condensation

Code: Incremental

OUTPUT FUNCTION – TABLE 1

WIRE COLOR 22 AWG	CHANNELS DESIGNATED		
	ABZ	ABC	ABZC
YEL	A	A	A
BLUE	B	B	B
ORN	Z	-	Z
W-Yel	-	A/	A/
W-Blu	-	B/	B/
W-Orn	-	-	Z/
RED	+V (SUPPLY VOLTAGE)		
BLK	0V (CIRCUIT GROUND)		
GRN	CASE GROUND (CG)		
WHITE	SHIELD DRAIN (Shielded cable only)		

M18 CONNECTOR	
PIN	CHANNEL
A	A
B	B
C	Z
D	+V
E	-
F	0V
G	CG
H	A/
I	B/
J	Z/

M16 CONNECTOR		
PIN	CHANNELS	
	ABZ	ABC
A	A	A
B	B	B
C	Z	A/
D	+V (SUPPLY VOLTAGE)	
E	-	B/
F	0V (CIRCUIT GROUND)	
G	CASE GROUND	

ORDERING REFERENCE (Interpolation option available: x2, x4, x5, x10, x20 consult us , Special features: consult us)

Type	Housing	Face mounts	Shaft seal	PPR	Channels / Complements		Output IC	Location	Output termination
H25 H = Heavy duty 25 = 2.5" Dia	D = square flange E = 2.50 Dia Servo mount G = 2.62 Dia Servo mount	F1 F2 F3 F4 Blank = None	SS = Shaft Seal Blank = Shielded bearing	Cycles per Turn Max 72 000	A = single channel AB = Dual quad ABZ = Dual with index AZ = single with index	C = complementary output Blank = None	4469: voltage line driver 100mA, 5 to 15Vdc 7272: multi-voltage line -driver 100mA, 5 to 24Vdc 7273: Open collector current sink of 80mA	E = end S = Side	M16 = MS3102R16S-1P M18 = MS3102R18-1P C = Pigtail cable CS = cable with seal Length in inch (C18=pigtail 18")
Ex: H25	D		SS	2000	ABZ	C	4469	S	M18