



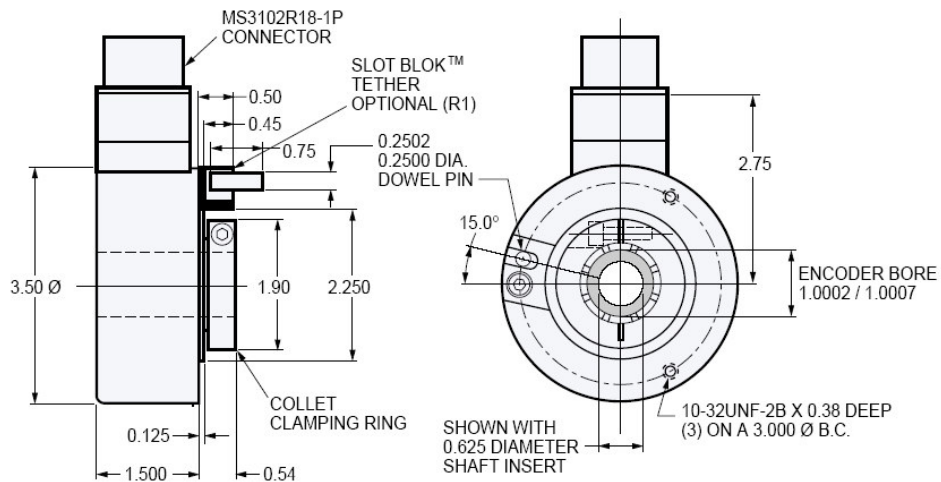
INCREMENTAL ENCODERS, HS35 RANGE

The HS35 combines the rugged, heavy-duty features usually associated with shafted encoders into a hollow-shaft style. Its design includes dual bearings and shaft seals for NEMA 4, 13 and IP65 environmental ratings, a rugged metal housing and a sealed connector, or cable gland. The HS35 accommodates shafts up to 1" in diameter. With optional insulating inserts, it can be mounted on smaller diameter shafts. It can be mounted on a through shaft or a blind shaft with a closed cover to maintain its environmental rating. Applications include motor feedback and vector control, printing industries, robotic control, oil service industries, and web process control.

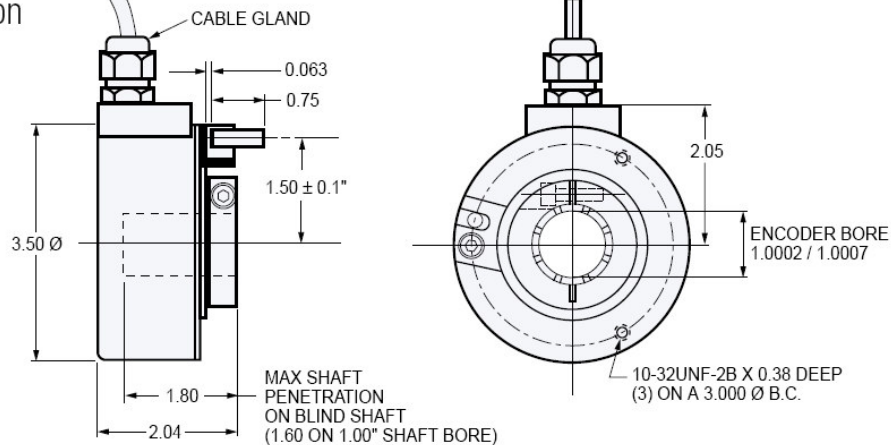


MS Connector Termination

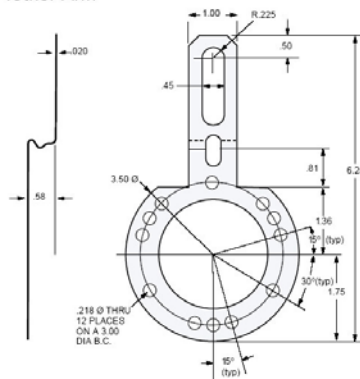
TOLERANCES: .XX = ±0.01, .XXX = ±0.005



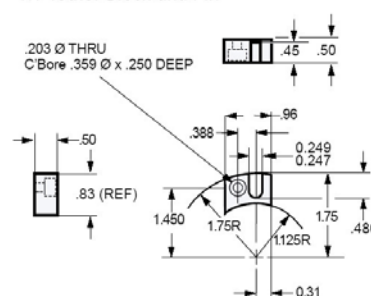
Cable Termination



R2 Tether Arm



R1 Tether Block and Pin



INCREMENTAL ENCODERS, HS35 RANGE



SPECIFICATIONS

Shaft Bore: 1.00'', 0.875'', 0.750'', 0.625'', 0.500''. Diameters under 0.875 are supplied with insulating sleeves

Allowable Misalignment: 0.005'' T.I.R. on mating shaft 0.75'' from shaft end

Bore Runout: 0.001'' T.I.R. maximum

Starting Torque at 25°C: Through shaft version (SS) = 7 in-oz (max); blind shaft version (BS) = 4 in-oz

Bearings: 52100 SAE High carbon steel

Shaft Material: 416 stainless steel

Bearing Housing: Die cast aluminium with iridite finish

Cover: Die cast aluminium with iridite finish

Bearing Life: 7.5 x 10⁹ revs (50,000 hrs at 2500RPM)
Maximum RPM: 6,000RPM (see Frequency Response)

Moment of Inertia: 0.019 oz-in-sec²

Weight: 18 oz typical

Code: Incremental

Output Format: 2 channels in quadrature, 1/2 cycle index gated with negative B channel

Cycles Per Shaft Turn: 1 to 10,000, for resolution above 5000 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: 150kHz to 5000cpt,300kHz above 5000cpt

Output Terminations: See Table 1

Note: Consult factory for other electrical options

Enclosure Rating: NEMA 4 & 13 (IP65) 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 up to 105°C available; Storage, -25° to 90°C unless extended temperature option called out

Shock: 50g's for 11 msec duration

Vibration: 5 to 2000Hz @ 20's

Humidity: 98% RH without condensation

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/

ORDERING REFERENCE (Interpolation option available: x2, consult us, Special features: consult us)

Type	Housing	Shaft bore	Tether	Shaft Seal	Cycles per Turn	Channels / Complements		Output IC	Termination
HS35	F = standard	100 = 1.00'' 87 = 0.875'' 75 = 0.75'' 62 = 0.625'' etc	R1 = Tether block and Pin R2 = Tether arm Blank = none	SS = Dual shaft seals BS = Blind Shaft with single seal and cover	Max 10 000	A = single channel AB = Dual quad ABZ = Dual with index AZ = single with index	C = complementary output Blank = None	4469: multi-voltage line driver 100mA, 5 to 15Vdc 7272: multi-voltage line -driver 100mA, 5 to 24Vdc 7273: Open collector current sink of 80mA	SCS = Shielded, jacketed cable with length in inch (SCS18 = 18 inches) SM18 = 10 Pin MS3102F18S-1P TB = Terminal Box
HS35	F	62	R1	SS	1024	ABZ	C	4469	SCS18



EN55011
EN 61000-6-2



CENELEC EEX ia IIB T4
and EEX ia IIC T4



U.S. Standards Class I, Group A,
B,C&D ; Class II, Group E,F,G



Canadian Standards Class I,
Zone 0, Group IIB & C