PSI REPAIR SERVICES, INC.

08-00065-000 RUGGED MAGNETIC ENCODER

PSI Repair's 08-00065-000 Encoder is designed for applications where performance is critical. Rugged and reliable, this thin, thru-bore encoder incorporates advanced noise immunity features and is ideal for motor and drive applications requiring a NEMA 56C face mount.

- Magnetic Through Hollow Shaft Encoder - 128 mm (5 in.)
- Hollow Shaft: Ø 12.7 mm to 31.75 mm (Ø 1/2 in. to 1-1/4 in.)
- IP 67 (~Nema 6) Environmental Protection; fully encapsulated electronics
- Superior resistance to electrical and magnetic noise
- Diagnostic LED and Alarm Outputs

TECHNICAL SPECIFICATIONS

ELECTRICAL

Code	Incremental
Resolution	See Table 1
Supply Voltage*	9 VDC min. to VDC max.
Current	60 mA max. (no load)
Output Voltage	Low: 500 mV max. at 10 mA High: (Vsup - 0.6V) at -10mA (Vsup - 1.3V) at -20 mA
Output Current*	30 mA max. load per output
Frequency Response*	150 kHz max. with TSM
Output Format	Two channels (A,B) in quadrature Index (Z); and complementary outputs (A-, B-, Z-)
Output Phase Sense	A leads B clockwise (CW)
Index	Gated with Channel A high
Outputs	iC-DL Differential Line Driver
Electrical Protection	Outputs are short circuit, reverse polarity, miswiring and trasient surge protected(TSM)
Noise Immunity	Tested to EN61000-6-2 : 2005 and EN61000-6-3 : 2007
Output Terminations	See Table 2

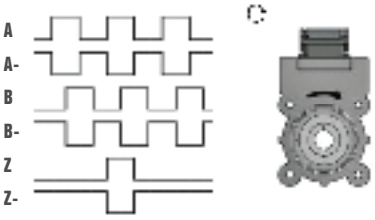
*It is recommended user not combine max. values for all 3 paramaters

MECHANICAL

Material	Housing: Aluminum Hub: Aluminum Wheel: Aluminum
Weight	Aluminum: ~ 1008 gr (35.6 oz.)
Shaft Speed	6,000 rpm continuous (max.)
Acceleration	10,000 rpm/sec.
Mass Moment of Inertia	750 g-cm^2 (10.6 x 10^{-3} oz-in-sec^2)

OUTPUT WAVEFORM

Clockwise seen from the back of the encoder looking at the non-drive end of the motor



Channel Tolerance 180 e˚ +/- 36 e˚
Phase Difference Tolerance 90 e˚+/- 25 e˚
Z Channel Tolerance 180 e˚+/- 36 e˚

MECHANICAL

Operating Temp.	-40˚to +105˚C
Storage Temp.	-40˚to +120˚C
Shock	100 G @ 11 ms
Vibration	10 G @ 10-2000 Hz
Bump	10 G @ 16 ms (1000 x 3 axis)
Humidity	Meets IEC 60721-3-3 3K6: 10% to 100% condensing humidity requirements; relative humidity of 5% non-condensing to 100% condensing
Enclosure Rating	IP 67 / Nema 6 (approx.)

OUTPUT WAVEFORM

LED Indicator	Alarm Output	Fault
Green	High	Unit is ok - no faults
Blinking "Orange"	Constant Low	Rotor (wheel) misaligned
Red	Constant Low	Fatal Error

TABLE 1. DISK RESOLUTION*

Pulses per Revolution			
512	1024	2048	
Other resolutions may be requested			

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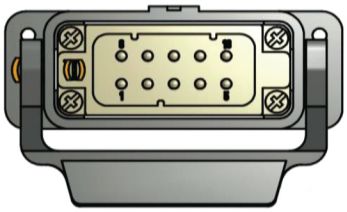
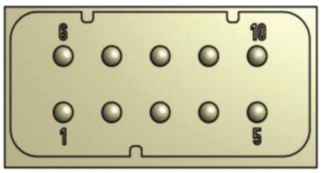
OUTPUT TERMINATIONS

TABLE 2. OUTPUT TERMINATIONS

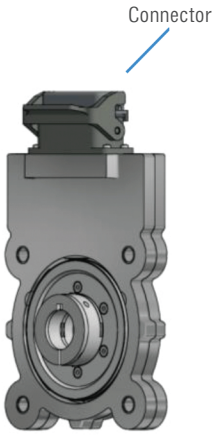
	Connector
	Differential Output
Pin	**Channel**
1	GND
2	Ch. A
3	Ch. B
4	Ch. Z
5	Vsup (for alarm)
6	Vsup
7	Ch. A -
8	Ch. B -
9	Ch. Z -
10	Alarm Output (open collector NPN)

GND = Circuit Ground
Shield is attached to the connector housing



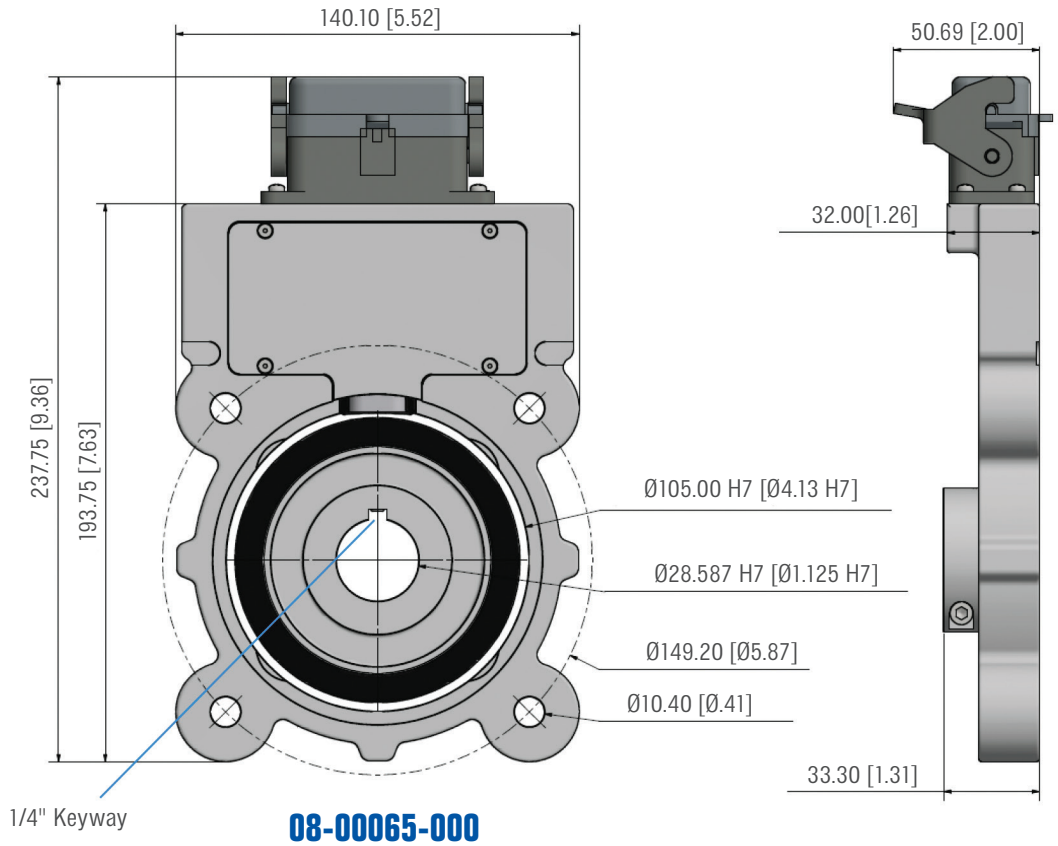


Harling or Han A Size 10 A Compatible



TECHNICAL DRAWINGS

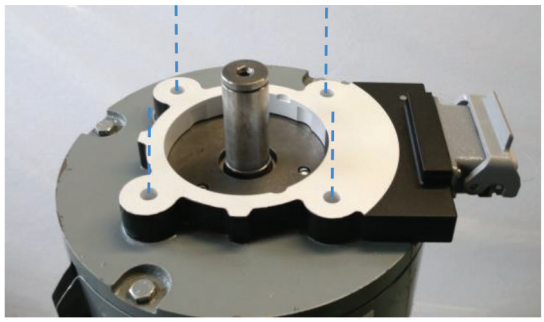
mm (iches)



08-00065-000

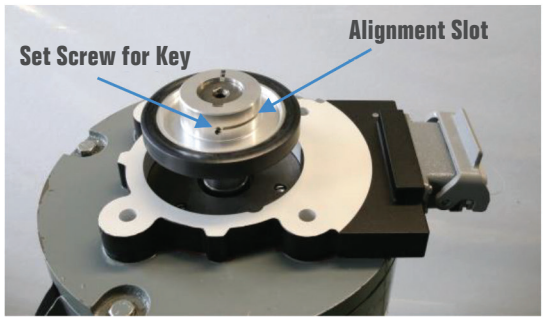
NEMA 56C Face Mounting

08-00065-000 MOUNTING INSTRUCTIONS



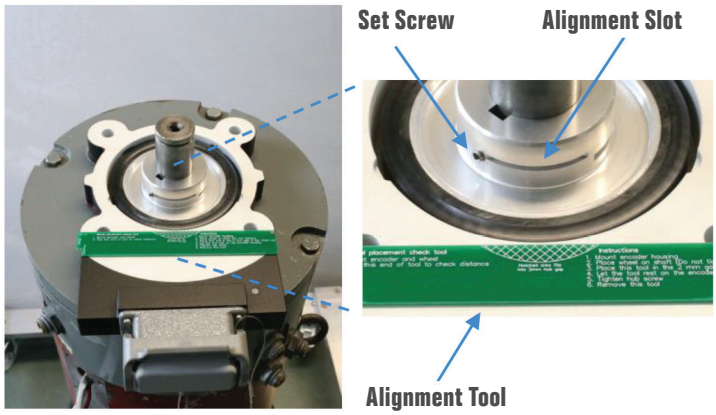
Step 1.

Place the encoder housing on the motor and align the encoder bolt holes with those on the motor. Insert bolts and attach the housing to the motor.



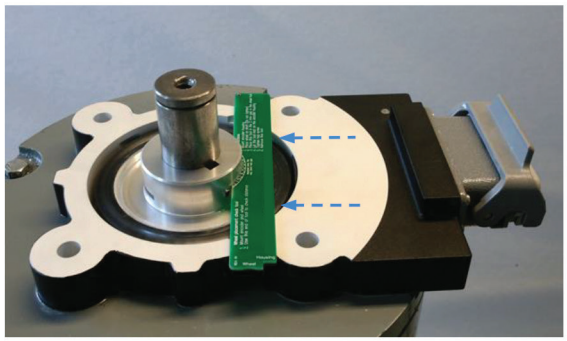
Step 2.

Insert a key into the shaft keyway. Align the keyway in the rotor with the shaft keyway. Slide the rotor along the shaft as shown until the rotor is flat against the motor hub.



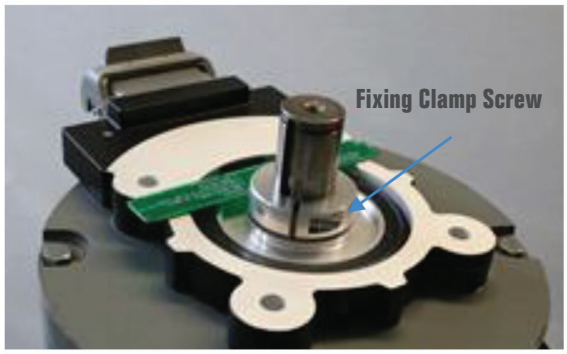
Step 3.

Place the alignment tool flat along encoder housing. Be sure the instructions are on the upper side (as shown). Check that the set screw for the key does not block insertion of the tool. If it does, screw it down until it is flush with the housing.



Step 4.

Slide the alignment tool into the alignment slot. Move the rotor as needed to ensure the alignment tool remains flat on the housing surface so the rotor is aligned properly.



Step 5.

Tighten the rotor fixing clamp screw:

Torque: 31.86 in-lbs (3.6 Nm)

Tighten the key set screw:

Torque: 29.21 in-lbs (3.3 Nm)

Remove the alignment tool.

DESIGN & CUSTOMER SERVICE SOLUTIONS

CURRENT SUPPLIER - FIELD FAILURE ISSUES	ELIMINATED
Missing Signal Counts	☑
Sensitivity to Brake Noise	☑
Rotor Wobble / Loosening	☑
Gap Collapse / Sensor Damage	☑
Demagnetization	☑

CURRENT SUPPLIER - CUSTOMER SERVICE ISSUES	ELIMINATED
Damaged Encoders / Improper Packaging	☑
Lack of Technical Support	☑
Poor Service Response Time	☑
Poor Local Sales / Technical Support	☑

ORDER CODE

Example: 08-00065-000 - 1024 - MW - 02 - 00 - 67 - H10

[ ]	-	MW	-	[ ]	-	00	-	67	-	H10
1		2		3a		3b		4		5

1. Resolution
See Table 1.
Other resolutions may be requested.

2. Output
iC - DL 9.0 to 30V.....**MW**
Miswiring protected

3. Hollow Shaft diameter **3a** **3b**
1 inch.....**01 - 00**
1 1/8 inch (1.125").....**02 - 00**
15/16 inch (.9375").....**03 - 00**
Other diameter may be requested

4. IP Rating
IP 67 (~ Nema 6).....**67**

5. Connector
10 - pin.....**H10**
Harting or Han A size 10 A compatible

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ISO 9001:2008
CAGE CODE 5N884

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