



INSTALLATION INSTRUCTIONS

OPTICAL KIT ENCODERS WITH INCREMENTAL INTERFACE

General Information

This leaflet is provided for Optical Encoder Kits with type key **VCD-5xx0-xxxx-0xDD-x POx**, with x as placeholder.

The VCD-5 series rotary kit encoder has a rugged glass-filled polymer enclosure with 10-pin latching connector. This optical incremental encoder is designed to easily mount to and dismount from an existing motor shaft to provide digital feedback information. The internal components consist of a mylar disk mounted to a precision machined aluminum hub and an encoder module. The module contains a highly collimated solid state light source and monolithic phased array sensor, which together provide a system extremely tolerant to mechanical misalignments. Attachment of the base to a surface may be accomplished by utilizing one of several machine screw bolt circle options. Positioning of the base to the centerline of a shaft is ensured by use of a centering tool (sold separately). The cover is securely attached to the base with two 4-40 flat head screws to provide a resilient package protecting the internal components.

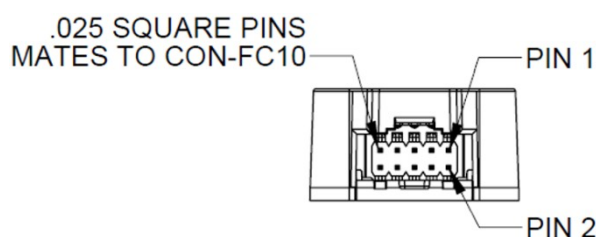
Kit encoder is a sub-assembly and not considered to be an independent system, therefore compliance with CE requirements has to be ensured by the integrator for the overall set-up.

Safety

- The encoder must be installed by qualified personnel only, exhibiting knowledge in electronics and mechanics.
- Consider all safety and accident regulations valid for your country.
- Switch off the supply voltage of all devices connected to the encoder before installation.
- Avoid an electrical supply voltage while connecting the encoder.
- Avoid exerting shocks on motor shaft and mounting flange to prevent the encoder from being mechanically damaged.
- Rotary machine shafts may catch hair and cloths and cause injury.
- Mount the encoder in an ESD-conform fashion, avoid high voltages, e.g. static electricity discharged from a human body.
- Consider the specifications of the encoder. The device must be operated in the specified range.

Encoder Installation VCD-5xx0-xxxx-0xDD-P POx

Drawing



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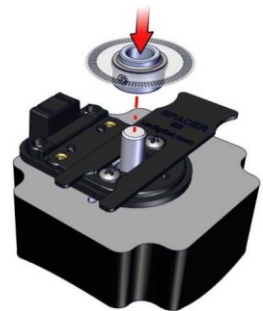
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Assembly Instructions

Step 1: Place encoder base onto mounting surface. Slip centering tool over the shaft and into the center hole of the base. While holding pressure on the centering tool, tighten mounting screws. Remove centering tool.



Step 2: Place spacer tool around shaft. Slip hubdisk assembly onto shaft and slide down until it bottoms out against spacer tool.



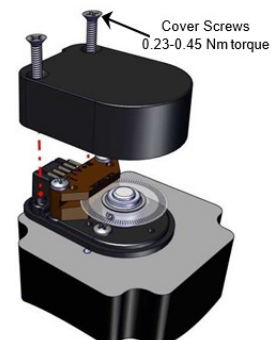
Step 3: Tighten set screw with provided hex wrench while pressing down on hub. Remove spacer tool.



Step 4: Slip optical module into position until the two alignment pins slip into holes of module (thick side of module towards bottom). Secure with two 4-40 x 1/2" screws (supplied).



Step 5: Place cover over assembly and secure with two 4-40 x 5/8" pan head screws (supplied).



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Electrical

Specifications apply over entire operating temperature range.
Typical values are specified at Vcc = 5.0Vdc and 25 C.

Parameter	Min.	Typ.	Max.	Units	Conditions
Output Rise Time		110	15	nS	CPR < 2000
Output Fall Time		100	15	nS	CPR < 2000

Torque Specifications

Parameter	Torque
Hub Set Screw to Shaft	0,226 – 0,339 Nm
Cover (4-40 screws through cover into base)	0,226 – 0,452 Nm
Base to Mounting Surface	0,452 – 0,678 Nm
Base to Mounting Adapter Plate	0,452 – 0,678 Nm
Adapter Plate to Mounting Surface (4-40 screws)	0,452 – 0,678 Nm

Pin-Out

Pin	Differential (R-Option)	Differential (L-Option)
1	Ground	No Connection
2	Ground	+5VDC power
3	Z-	Ground
4	Z+	No connection
5	A- channel	A- channel
6	A+ channel	A+ channel
7	+5VDC power	B- channel
8	+5VDC power	B+ channel
9	B- channel	Z-
10	B+ channel	Z+

Note connector: A polarized latching connector shell (Molex# 15-04-5104) and two IDC 5-pin inserts (Molex# 14-60-0058) for 24 AWG wires. The crimper module is Molex# 62100-0700, the pistol-grip hand tool is Molex# 636000478.

 For more detailed information please refer to the data sheet available on the website.