



## INSTALLATION INSTRUCTIONS

### OPTICAL KIT ENCODERS WITH INCREMENTAL INTERFACE

#### General Information

This leaflet is provided for Optical Encoder Kits with type key **VCD-3Tx0-xxxx-0xDD-x POx**, with x as placeholder.

The VCD-3T series rotary kit encoder has a rugged glass-filled polymer enclosure, which utilizes a 5-pin locking. 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. The VCD is normally designed for applications with cable lengths of 3 meters or less. For longer cable lengths, adding a differential line driver is recommended. 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 the use of our centering tool. The cover is securely attached to the base with two 4-40 panhead screws to provide a resilient package protecting the internal components.

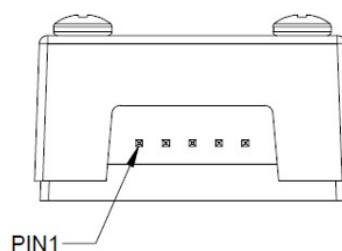
Kit encoder is a sub-assembly and not considered to be an independent system, therefore compliance with CE requirements has to be ensured by the integrator for the overall set-up.

#### 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-3Tx0-xxxx-0xDD-x POx

##### Drawing



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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.



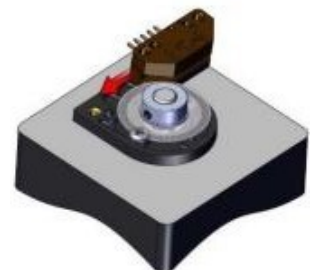
Step 2: Place spacer tool around shaft. Slip hubdisk assembly onto shaft and slide down until it bottoms out against spacer tool. Note: Alternate spacer orientations may be required depending on the base/mounting configuration



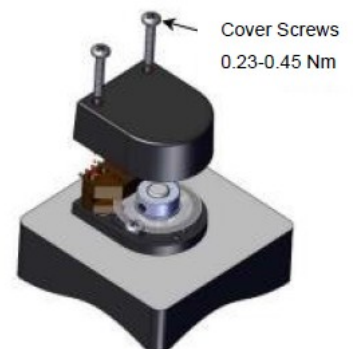
Step 3: Tighten set screw with provided hex wrench while pressing down on hub. Remove spacer tool.



Step 4: Slip optical module into position so the two alignment pins slip into holes of module (thin side of module towards bottom).



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		nS	CPR < 2000
Output Fall Time		100		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	Description
1	Ground
2	Z
3	A channel
4	+5VDC power
5	B channel

Note connector: 5-pin single ended mating connector is either a standard TE Connectivity MTA female connector with five pins for 22-26 AWG wires or a locking connector shell (AMP# 1-87175-2) and 5 pins (AMP# 87165-1) for 22-26 AWG wires.

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