

The R22i Modular is a high performance rotary optical encoder that incorporates a custom ASIC. The R22i combines brushless motor commutation pulses and incremental position feedback in a small package that can fit brushless servo motors down to 22mm (0.866") in diameter. This high performance encoder is perfectly suited to light automation and office automation applications. The innovative gapping mechanism makes installation simple. The encoder is easily centered with motor pilot or optional mounting plate.

Features:

- Small size 22mm [.866 inch]
- Line count up to 1024
- 2 data channels in quadrature
- Once around index pulse
- 3 commutation channels (optional)
- Opto-Asic technology
- 300 KHz min frequency response

Environmental:

Operating Temp	-30° to 115°C
Excursion Limits:	
Storage Temp	-40° to 125°C
Humidity	85%/85°C non-condensing
IP Rating	IP40 with closed cover

Mechanical:

Moment of Inertia	0.063g-cm ² [8.97 x 10 ⁻⁷ oz in sec ²]
Weight	20 encoders with tray = 10 oz.
Base Material	PET 530
Cover Material	PET 530
Disc Material	Metal 0.05 THK TYP
Hub Material	Aluminum
Shaft Max End Play	±0.254mm [± 0.01]
Shaft Run Out	0.025mm [.001"] TIR
Mounting Hardware	
	M1 & M4 supplied with 2 each #2-56
	M2 supplied with mounting plate and 2 each #2-56
	M3 supplied with mounting plate and 4 each M1.6

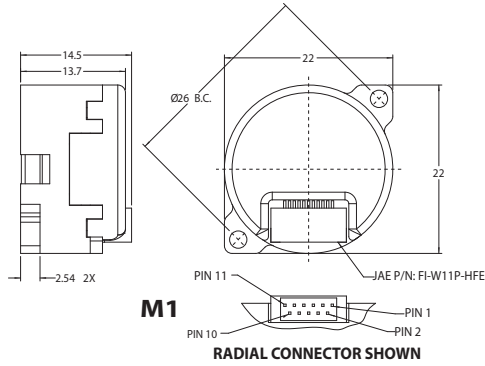
Electrical:

Signals	Incremental with optional commutation
Input Voltage	5.0 VDC ± 10% Single Supply
Current	See Pin Functions Table on Page 2
Output Format	A/B in phase quadrature. INDEX width & location gated with respect to data
Output Type	LD = AM26C31 20 mA Source or Sink Max. VO = Open Collector 4 mA Sink Max. VC = Open Collector w/ 2K Ohm pull-ups 4mA Sink Max.
Output Logic Levels	Logic 0 = 0.5 V Max, Logic 1 = 2.5 V Min.
Operating Frequency	To 300 KHz

Resolution:

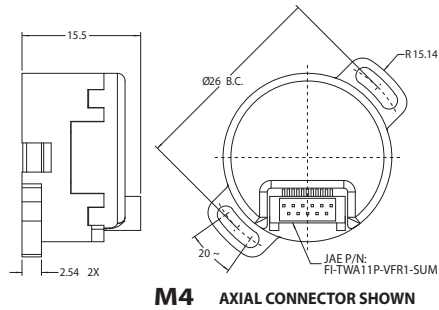
Line Count	100, 200, 250, 256, 400, 500, 512, 800, 1000, 1024
Commutation	0, 2, 3, 4
Index Gating	6 = Index Gated with A- & B-, Index width 90° ±45°

Mechanical Dimensions M1 & M4



M1

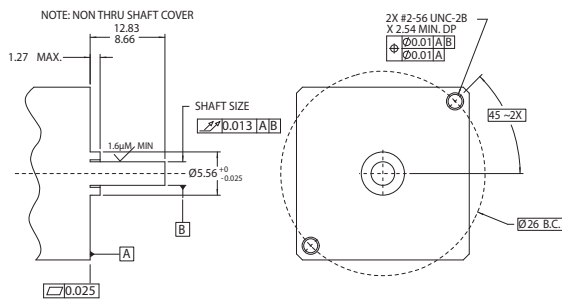
RADIAL CONNECTOR SHOWN



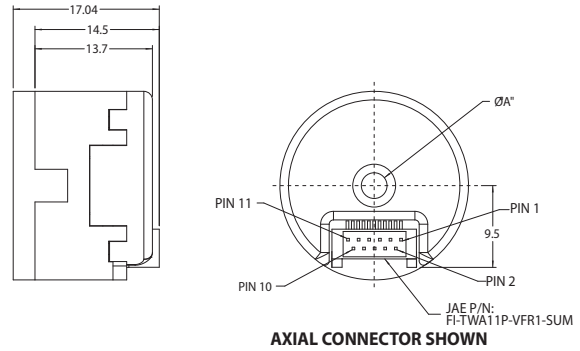
M4

AXIAL CONNECTOR SHOWN

Mounting Requirements M1 & M4

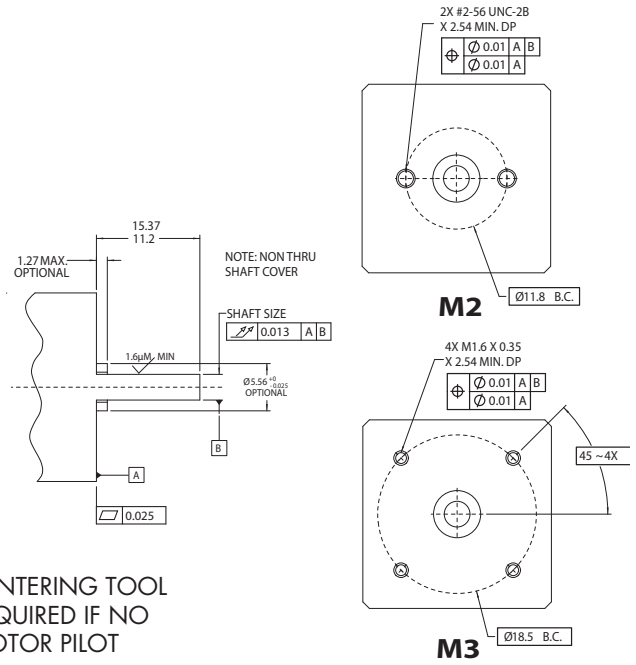


Mechanical Dimensions M2 & M3



AXIAL CONNECTOR SHOWN

Mounting Requirements M2 & M3



M2

M3

CENTERING TOOL
REQUIRED IF NO
MOTOR PILOT

Pin Functions

PIN NO.	FUNCTION			
	LD/VO, LD/VC	VO/VO, VC/VC	VO or VC/0	LD/0
1	U	U	---	---
2	V	V	---	---
3	W	W	---	---
4	A	A	A	A
5	A-	---	---	A-
6	B	B	B	B
7	B-	---	---	B-
8	Z	Z	Z	Z
9	Z-	---	---	Z-
10	+5V	+5V	+5V	+5V
11	GND	GND	GND	GND
CURRENT (mA)	116	64	56	108

Hub Size

SPECIFY	HUB SIZE +0.01 -0	SHAFT SIZE +0 -0.013	CENTERING TOOL M2 & M3 ONLY
2mm	2	1.997	377871-01
2.5mm	2.5	2.497	377871-02
3mm	3	2.997	377871-03
1/8	3.17	3.167	377871-05
1/8+	3.178	3.175	377871-07
5/32	3.965	3.962	377871-06
4mm	4	3.997	377871-04

Output Format

DATA/COMM.
LD/VO, LD/VC
LD/0
VO/VO, VC/VC
VO/0, VC/0

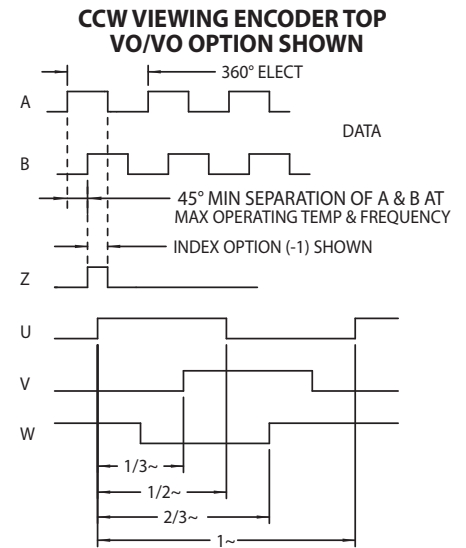
Closure Option

C = CLOSED
COVER
H = COVER
WITH HOLE

Connector

A = Axial R = Radial

Phase Quadrature



Ordering Information

R22i - _____ / _____ - _____ / _____ - 5 - 6 - _____ - _____ - M _____
 RESOLUTION See Front Page COMMUTATION See Front Page HUB SIZE OUTPUT FORMAT VOLTAGE See Front Page GATING OPTION See Front Page CONNECTOR CLOSURE OPTION MOUNTING OPTION
 Commutation not recommended for M1, M2 & M3 mounting