

R35i High Current Modular



The R35i High Current Modular uses OPTO-ASIC technology to provide our highest level of performance in a modular encoder. This innovative technology minimizes components to increase product reliability in the smallest possible package. The R35i provides the highest resolution data channels available in the industry. The enhanced slide lock mechanism automatically centers and gaps the encoder thus making installation simpler than ever before.

Features:

- Small size 35mm [1.38 inch]
- Patented slide lock for easy installation
- Line count up to 10,000
- 2 data channels in quadrature with index
- High current operation
- High voltage optional
- CMOS ASIC technology
- Up to 500 KHz frequency response

Environmental:

Operating Temp	-30° to 115°C
Excursion Limits:	
Storage Temp	-40° to 125°C
Shock	100 G's for 6mS duration
Vibration	25 to 2000 Hz @ 20 G's
Humidity	85%/85°C non-condensing
IP Rating	IP40 with closed cover

Mechanical:

Moment of Inertia	2.0g-cm ² [2.9 x 10 ⁻⁵ oz in sec ²] for 8mm hub with metal disk 2.625g-cm ² [3.7 x 10 ⁻⁵ oz in sec ²] for 8mm hub with glass disk
Weight	10 encoders with tray = 10 oz.
Base Material	PET 530
Cover Material	PET 530
Disc Material	Metal 0.05mm THK TYP for 100-5000 resolutions Glass .7mm THK TYP for resolutions 8000 & above
Hub Material	Stainless Steel
Shaft Max End Play	±0.254mm [± 0.010]
Shaft Run Out	0.025mm [.001"] TIR
Mounting Hardware	
C or H:	2 x M2.5 (#2-56 UNC screws w/captive washer optional)
C4 or H4:	#4-40 UNC screws
CR or HR:	No hardware provided

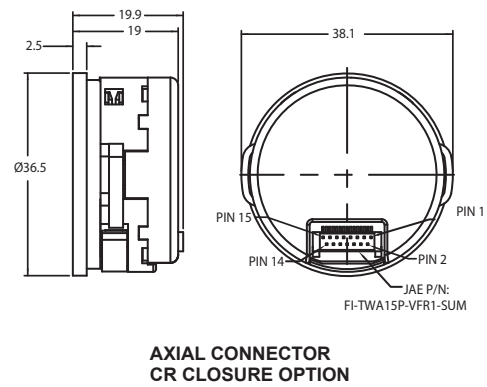
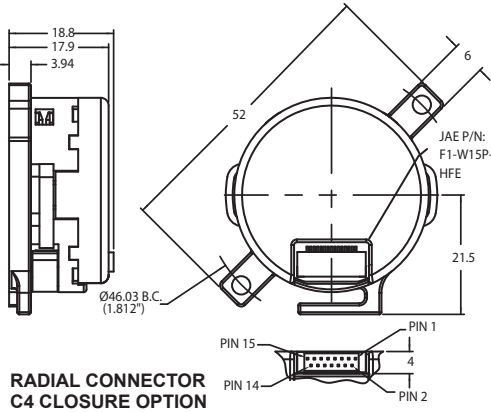
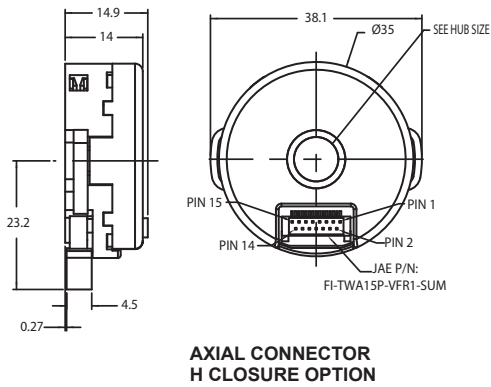
Electrical:

Signals	Incremental
Input Voltage	5 = 5 VDC ± 10% or 24 = 10.8 → 26.4 VDC
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	PP = Source or Sink 30mA Max. (24V only) VO = Open Collector 40mA Sink Max.
Output Logic Levels	Logic 0 = 2.0 V Max, Logic 1 = V _{CC} - 4.0V Min. for 24V
Operating Frequency	To 500 KHz

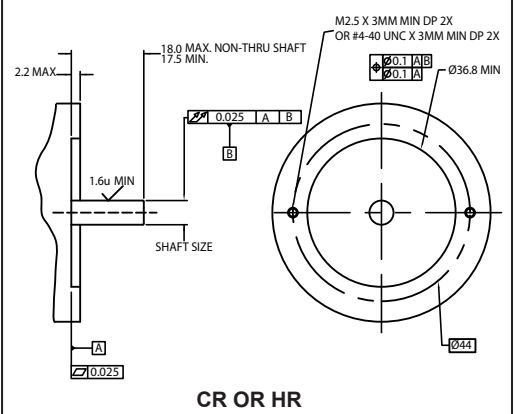
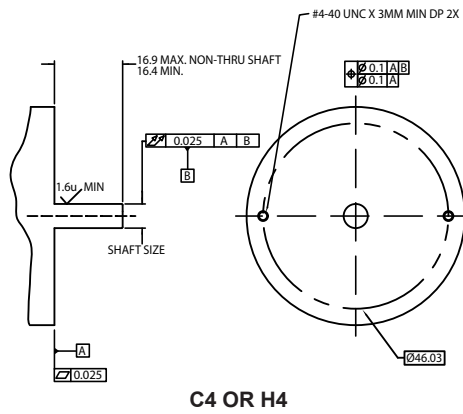
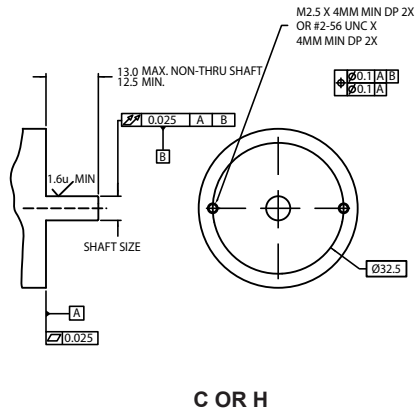
Resolution:

Line Count	100, 200, 250, 256, 400, 500, 512, 625, 800, 1000, 1024, 1250, 2000, 2048, 2500, 4000, 4096, 5000, 8000, 8192, 10000
Index Gating	1 = Index Gated with A & B, Index width 90°e ± 45°e 6 = Index Gated with A- & B-, Index width 90°e ± 45°e 7 = Centered on A & B, Index width 270°e ± 45°e 8 = Centered on A- & B-, Index width 270°e ± 45°e

Mechanical Dimensions



Mounting Requirements



Pin Functions

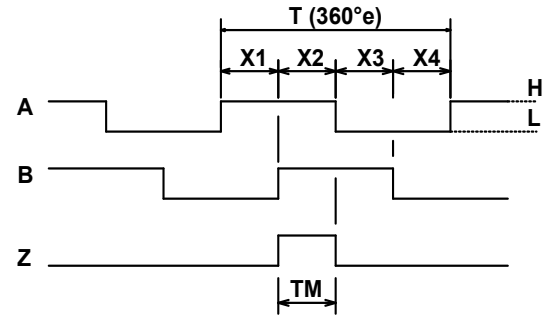
PIN NO.	FUNCTION
1	A
2	
3	B
4	
5	Z
6	
7	
8	
9	
10	
11	
12	
13	+5V
14	GND
15	FGND
CURRENT (mA)	200 Max.

Hub Size

SPECIFY	HUB SIZE +0.01 -0	SHAFT SIZE +0 -0.013
1/8	3.17	3.167
1/8+	3.178	3.175
3/16	4.757	4.754
3/16+	4.765	4.762
1/4	6.345	6.342
1/4+	6.353	6.350
5/16	7.932	7.929
5/16+	7.94	7.937
3/8	9.52	9.517
3/8+	9.528	9.525
4mm	4	3.997
5mm	5	4.997
6mm	6	5.997
8mm	8	7.997

Phase Quadrature

CCW VIEWING ENCODER TOP
-1 GATING OPTION SHOWN



$$X1+X2=0.5T\pm0.2T$$

$$X2+X3=0.5T\pm0.2T$$

$$0.375T \geq Xn \geq 0.125T \quad (n=1, 2, 3, 4)$$

$$TM=0.25T\pm0.125T \quad (=X2)$$

Output Format

VO = Open Collector
PP = Push/Pull

Closure Option

SPECIFY	w/STRAIN RELIEF	CLOSURE OPTION
C	SC	Closed Cover
H	SH	Cover w/Hole
C4	SC4	46.02 Mtg. Closed Cover
H4	SH4	46.02 Mtg. Cover w/Hole
CR	SCR	Resolver Mtg. Closed Cover
HR	SHR	Resolver Mtg. Cover w/Hole

Connector

A = Axial
R = Radial

Ordering Information

R35iHC- _____ /0 - _____ - _____ - _____ - _____ - _____ - _____
RESOLUTION See Front Page HUB SIZE OUTPUT FORMAT VOLTAGE See Front Page GATING OPTION See Front Page CONNECTOR CLOSURE OPTION