

NEW

Encoders

Optical Encoders

Features:

100 to 1024 lines per revolution
 2 channels with gated 90° index pulse

R22i

		VC	LD	
Signal output, square wave		3	3	channels
Supply voltage	V _{CC}	4,5 ... 5,5	4,5 ... 5,5	V DC
Current consumption, typical	I _{DD}	56	108	mA
Current output, per channel	I _{out}	4	20	mA
Pulse width	P	180 ± 40	180 ± 40	°e
Phase shift, channel A to B	Φ	90 ± 45	90 ± 45	°e
Logic state width	S	90 ± 45	90 ± 45	°e
Cycle	C	360 ± 5,5	360 ± 5,5	°e
Signal rise/fall time, typical (C _{LOAD} = 25 pF)	tr/tf	200 / 60	200 / 60	nS
Frequency range ¹⁾	f	up to 300	up to 300	kHz
Inertia of code disc	J	0,063	0,063	gcm ²
Operating temperature range		- 30 ... + 115	- 30 ... + 115	°C

¹⁾ Velocity (rpm) = f (Hz) x 60/N (N = lines per revolution)

Ordering information

Encoder	number of channels	lines per revolution	for combination with DC-Micromotors series:
R22i-256-VC	3	256	} 2224...SRF47 2232...SRF47 } 2342...CR
R22i-512-VC	3	512	
R22i-1024-VC	3	1 024	
R22i-256-LD	3	256	
R22i-512-LD	3	512	
R22i-1024-LD	3	1 024	

VC = Single ended models come with open collector with 2k Ohm pull-ups

LD = line driver, other resolutions and options available upon request

Suffix -A for optional axial exit connector orientation 11-Pin JAE FI-TWA11P-VFR1-SUM

Features

These incremental shaft encoders in combination with the Faulhaber DC-Micromotors are designed for indication and control of both shaft velocity and direction of rotation as well as for positioning.

A high performance rotary optical transmissive encoder with ASIC combines options for open ended, line driver, and commutation outputs. The line driver is a standard TIAM26C31 chip. Use 26LS32 receiver or equivalent.

The supply voltage for the encoder is separate from the DC-Micromotor and is interfaced with an optional cable for connection to an 11-pin JAE FI-WA11P-HFE connector. Order optional 305 mm (12 in) cable CA-316701 with connectors on both ends. Cables not included.

Output signals / Circuit diagram / Connector information / Single output

Output signals

with clockwise rotation as seen from the shaft end

CABLE OPTIONAL

Pin	Color	Function
1	Black	Channel U
2	White	Channel V
3	Red	Channel W
4	Yellow	Channel A
5	Purple	Channel A-
6	Blue	Channel B
7	Brown	Channel B-
8	Green	Index
9	Gray	Index-
10	Orange	+Vcc
11	Pink	GND

Connector:
JAE FI-W11P-HFE
Pitch 1.25mm

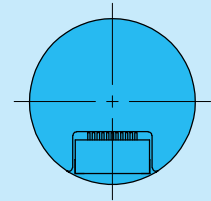
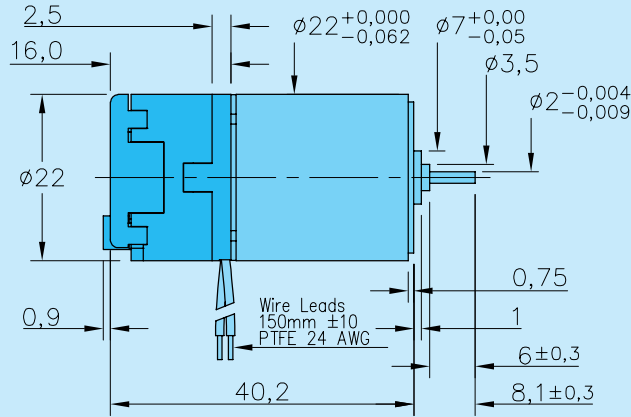
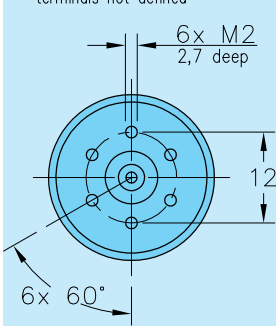
Wire:
30 AWG 7/38 PTFE

Cable (Optional)
CA-316701

R22i

DC-Micromotor 2224 U...SR with Encoder R22i

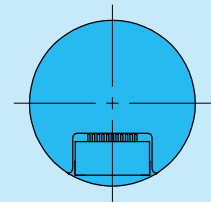
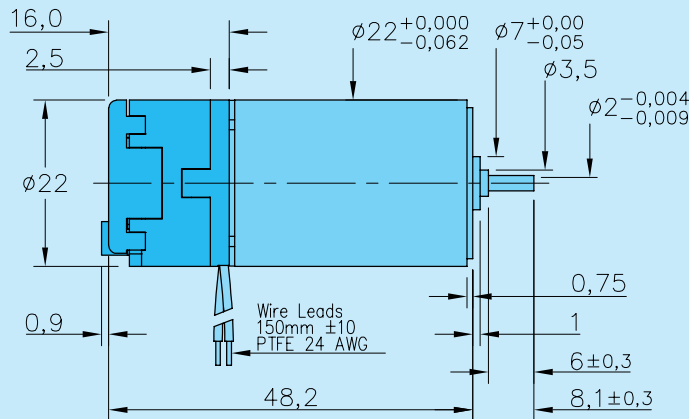
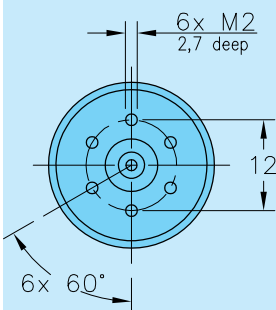
Orientation with respect to motor terminals not defined



2224...SRF47 + R22i

DC-Micromotor 2232 U...SR with Encoder R22i

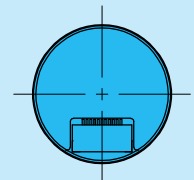
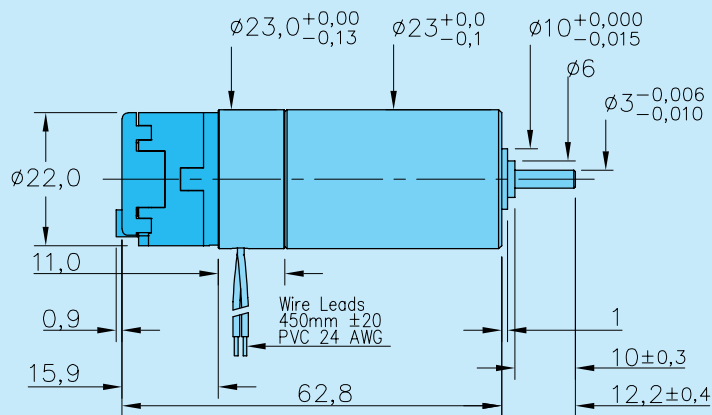
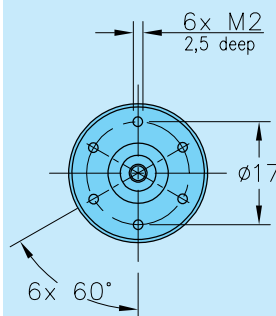
Orientation with respect to motor terminals not defined



2232...SRF47 + R22i

DC-Micromotor 2342 S...CR with Encoder R22i

Orientation with respect to motor terminals not defined



2342 + R22i

How to Order a R22i

Part number	Description	Stocked items
2224 & 2232 motors		
R22i-256-VC	R22i-256/0-1,5mm-VC/0-5-6-R-C-M2-S	yes
R22i-512-VC	R22i-512/0-1,5mm-VC/0-5-6-R-C-M2-S	yes
R22i-1024-VC	R22i-1024/0-1,5mm-VC/0-5-6-R-C-M2-S	yes
R22i-256-LD	R22i-256/0-1,5mm-LD/0-5-6-R-C-M2-S	yes
R22i-512-LD	R22i-512/0-1,5mm-LD/0-5-6-R-C-M2-S	yes
R22i-1024-LD	R22i-1024/0-1,5mm-LD/0-5-6-R-C-M2-S	yes
2342 motors		
R22i-256-VC-4mm	R22i-256/0-4mm-VC/0-5-6-R-C-M2	yes
R22i-512-VC-4mm	R22i-512/0-4mm-VC/0-5-6-R-C-M2	yes
R22i-1024-VC-4mm	R22i-1024/0-4mm-VC/0-5-6-R-C-M2	yes
R22i-256-LD-4mm	R22i-256/0-4mm-LD/0-5-6-R-C-M2	yes
R22i-512-LD-4mm	R22i-512/0-4mm-LD/0-5-6-R-C-M2	yes
R22i-1024-LD-4mm	R22i-1024/0-4mm-LD/0-5-6-R-C-M2	yes
CA-316701	D100•3167•01 305 mm (12 in) cable with 11-pin connectors	yes