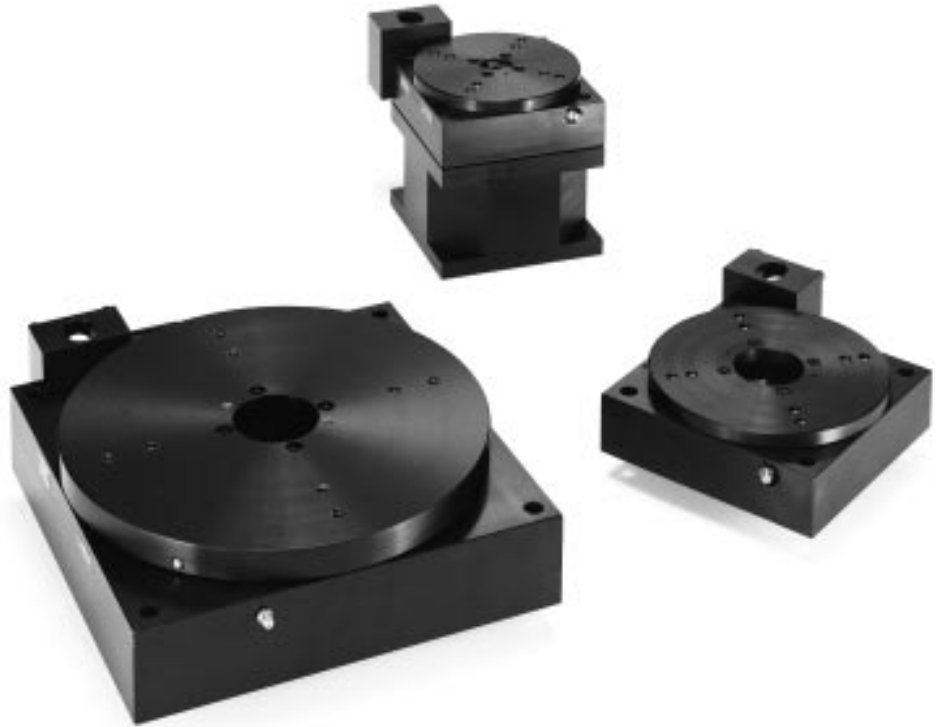


20000RT Series

Rotary positioning tables are designed for precise motor-driven rotary positioning and indexing. The low profile design and light-weight construction make them ideal for applications such as skew adjustment, part scanning, azimuth/elevation units and part indexing.

Variety of Table Diameters and Gear Ratios

Tables are available in 5, 6, 8, 10 and 12 inch diameters and four gear ratios, making it possible to match size and speed requirements. All sizes are available in either Imperial or metric mounting styles.

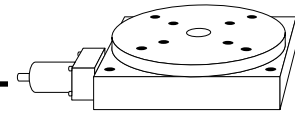


20000RT

		20500RT			20600RT		
Diameter – in (mm)		5 (127,0)			6 (152,4)		
Gear Ratio		180:1	90:1	36:1	180:1	90:1	45:1
Runout – x 0.001 in (µm)	Standard Grade	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)
	Precision Grade	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)
Concentricity – x 0.001 in (µm)	Standard Grade	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)
	Precision Grade	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)
Wobble – arc sec	Standard Grade	60	60	60	60	60	60
	Precision Grade	30	30	30	30	30	30
Accuracy – arc min	Standard Grade	10	10	12	10	10	12
	Precision Grade	3	3	5	3	3	5
Uni-directional Repeatability – arc min	Standard Grade	0.5	0.5	0.5	0.5	0.5	0.5
	Precision Grade	0.2	0.2	0.2	0.2	0.2	0.2
Maximum Input Speed – RPS		15	15	15	15	15	15
Duty Cycle – % of motion to dwell cycle		50	50	50	50	50	50
Direct Loading* – lbs (kgf)	Normal/Inverted	25 (11)	25 (11)	25 (11)	150 (68)	150 (68)	150 (68)
Output Torque – in-lbs (N-m)		25 (2,8)	25 (2,8)	25 (2,8)	40 (4,5)	40 (4,5)	40 (4,5)
Input Inertia – 10 ⁻³ oz-in-sec ² (10 ⁻⁶ kg-m-sec ²)		0.14 (0,102)	0.15 (0,112)	0.24 (0,173)	0.16 (0,112)	0.19 (0,132)	0.28 (0,204)
Maximum Running Torque – oz-in (N-m)		15 (0,11)	15 (0,11)	20 (0,13)	15 (0,11)	15 (0,11)	20 (0,13)
Maximum Breakaway Torque – oz-in (N-m)		17 (0,12)	17 (0,12)	22 (0,16)	17 (0,12)	17 (0,12)	22 (0,16)
Table Weight - lbs (kgf)		6 (2,7)	6 (2,7)	6 (2,7)	8 (3,6)	8 (3,6)	8 (3,6)

* Refer to Page B86 for moment load graphs

Rotary Positioning Tables



Standard or Precision Grade

The 200000RT series is offered in both standard and precision grade models to meet your accuracy requirements.

Quality Design

At the heart of these tables is a main center angular contact bearing design for high load capacity and smooth, flat rotary motion. The drive is a precision worm gear assembly which is preloaded to remove backlash. The top and base are constructed of high quality aluminum with an attractive black anodized finish. The top and bottom mounting surfaces are precision ground to assure flatness and all mounting holes are fitted with locking steel threaded inserts to prevent mounting bolts from working loose.

Options:

Home switch

The Home sensor provides a fixed reference point to which the table can always return. This is a mechanical reed switch which is mounted to the body of the rotary table and is activated by a magnet in the table top. Refer to page B87 for Limit and Home switch assembly details.

Motor Couplings

A wide range of coupling styles and bores are available from which to match your motor requirements. Bellows-style couplings are required for all precision grade tables and offer the lowest radial wind up, while the aluminum and stainless steel helix couplers offer good wind up characteristics and high durability at a lower cost.

Motor Mounts

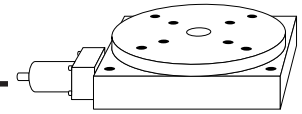
The motor mount is designed for an industry standard NEMA 23 motor flange with shaft lengths between 0.65 to 0.85 inches long.

Rotary Encoders Option

High resolution, high accuracy rotary encoders can be mounted to the base of the rotary table. The encoder input shaft is then coupled directly to the rotary table top, supplying positional feedback of the table top directly, with no errors from the drive train assembly. Three resolutions are available: 0.01, 0.005 and 0.002 degrees. They can be supplied with a base which encloses the encoder and acts as the mounting base of the rotary table or without the base, in which case clearance for the encoder is required when mounting. Refer to page B88 for encoder details.

20800RT			21000RT			21200RT		
8 (203,2)			10 (254,0)			12 (304,8)		
180:1	90:1	36:1	180:1	90:1	45:1	180:1	90:1	45:1
±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)	±3 (±75)
±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)
±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)	±5 (±127)
±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)	±1 (±2,5)
60	60	60	60	60	60	60	60	60
30	30	30	30	30	30	30	30	30
10	10	12	10	10	12	10	10	12
3	3	5	3	3	5	3	3	5
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
15	15	15	15	15	15	15	15	15
50	50	50	50	50	50	50	50	50
75 (34)	75 (34)	75 (34)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
40 (4,5)	40 (4,5)	40 (4,5)	190 (21,5)	190 (21,5)	190 (21,5)	190 (21,5)	190 (21,5)	190 (21,5)
0.23 (0,163)	0.65 (0,459)	0.89 (0,642)	0.74 (0,53)	1.02 (0,734)	2.13 (1,53)	0.99 (0,713)	1.59 (1,12)	3.83 (2,75)
20 (0,13)	20 (0,13)	25 (0,18)	25 (0,18)	25 (0,18)	30 (0,21)	25 (0,18)	25 (0,18)	30 (0,21)
22 (0,16)	22 (0,16)	28 (0,19)	28 (0,19)	28 (0,19)	33 (0,223)	28 (0,19)	28 (0,19)	33 (0,23)
15 (6,8)	15 (6,8)	15 (6,8)	29 (13,1)	29 (13,1)	29 (13,1)	32 (14,5)	32 (14,5)	32 (14,5)

Rotary Positioning Tables



20000RT Dimensions

in (mm)

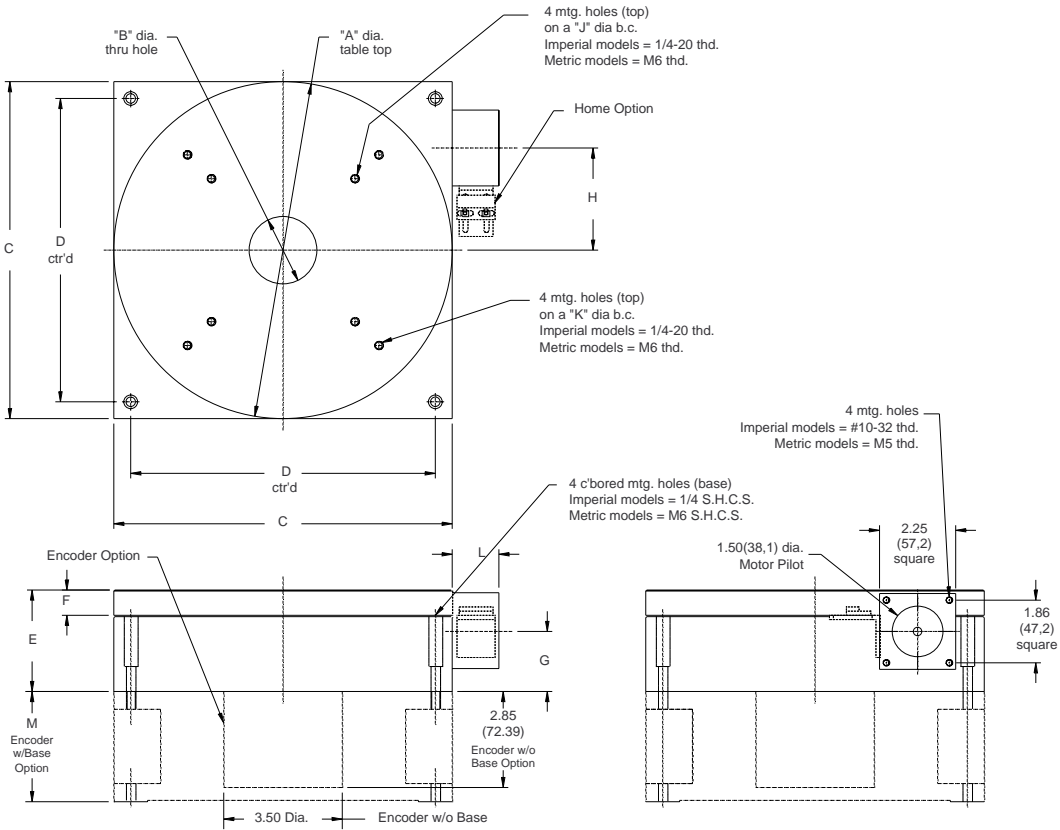


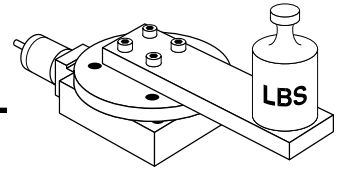
Table Diameter	A	B	C	D	E	F	G	H	J	K	L
Imperial	5.0 in	1.0 in	5.0 in	4.0 in	1.8 in	0.38 in	1.11 in	1.66 in	3.0 in	4.0 in	1.38 in
	6.0 in	1.75 in	6.0 in	5.0 in	2.0 in	0.38 in	1.23 in	2.04 in	4.0 in	5.0 in	1.38 in
	8.0 in	1.75* in	8.0 in	6.0 in	2.5 in	0.50 in	1.57 in	2.04 in	4.0 in	6.0 in	1.38 in
	10.0 in	2.0 in	10.0 in	9.0 in	3.0 in	0.75 in	1.81 in	3.03 in	6.0 in	8.0 in	1.38 in
	12.0 in	2.0 in	10.0 in	9.0 in	3.0 in	0.75 in	1.81 in	3.03 in	8.0 in	10.0 in	2.38 in

* This dimension is 1.0" on 8" diameter table with 36:1 gear ratio.

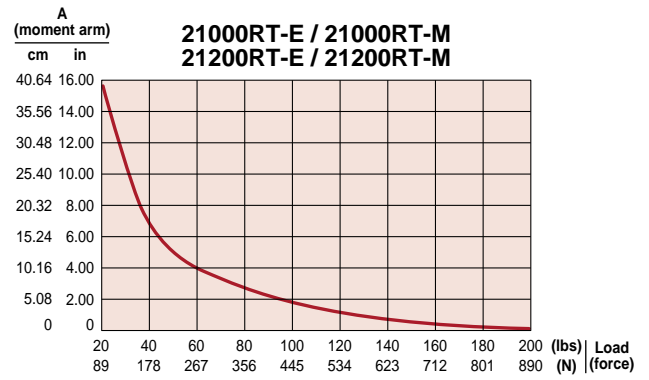
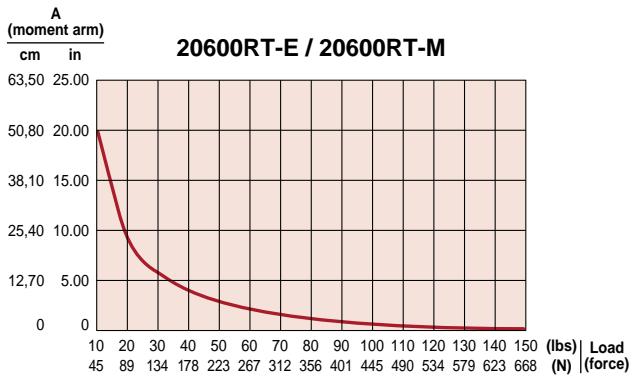
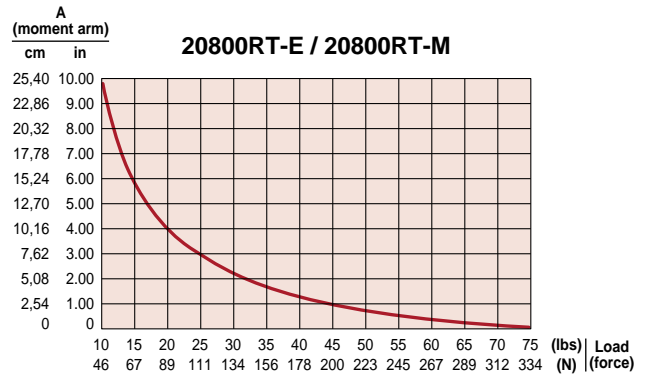
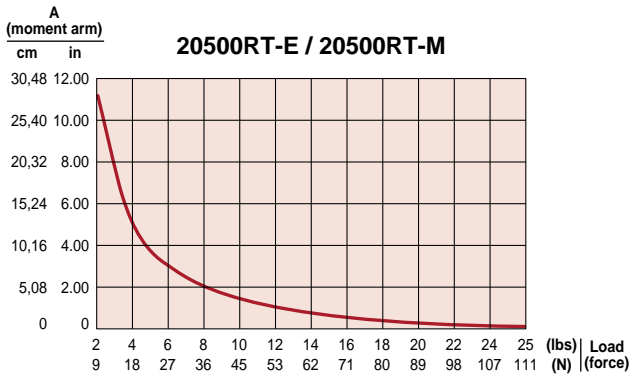
Metric	127,0 mm	25,4 mm	127,0 mm	100 mm	46,0 mm	9,6 mm	28,1 mm	42,1 mm	75 mm	100 mm	35 mm
	152,4 mm	44,5 mm	152,4 mm	125 mm	50,4 mm	9,6 mm	31,4 mm	51,8 mm	100 mm	125 mm	35 mm
	203,2 mm	44,5* mm	203,2 mm	175 mm	63,5 mm	12,7 mm	39,8 mm	51,8 mm	100 mm	150 mm	35 mm
	254,0 mm	50,8 mm	254,0 mm	225 mm	76,2 mm	19,0 mm	45,9 mm	76,9 mm	150 mm	200 mm	35 mm
	304,8 mm	50,8 mm	254,0 mm	225 mm	76,2 mm	19,0 mm	45,9 mm	76,9 mm	200 mm	250 mm	60,4 mm

* This dimension is 25,4 mm on 203,2 mm diameter table with 36:1 gear ratio.

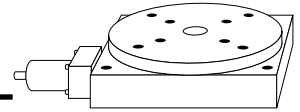
20000RT Series



Moment Curves



Rotary Table Accessories



Rotary Tables Home Switch Option:

The 200000RT series of rotary tables is available with a mechanical reed switch home option. The switch is mounted on the side of the rotary table and is activated by a permanent magnet mounted in the rotary table top. The switch provides an N.O. and N.C. contact, making it compatible with almost any motion control system. Contact rating is 0.25 amp @ 28 VDC, which makes them ideal for use with 5, 12 and 24 VDC control systems. A 10 ft. mating cable is included.

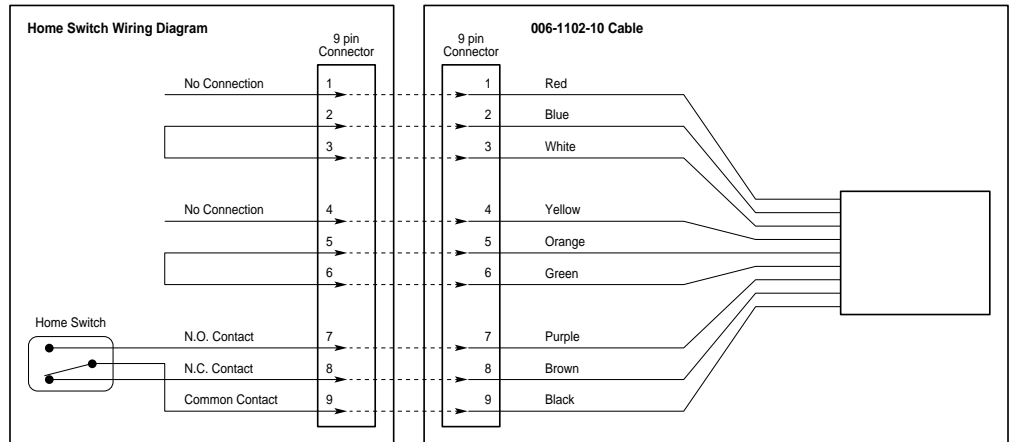
This sensor provides a fixed reference point to which the table can always return. The typical procedure is to send the table to the Home position after power up or at the beginning of a setup.

Mechanical Reed Switch Specifications

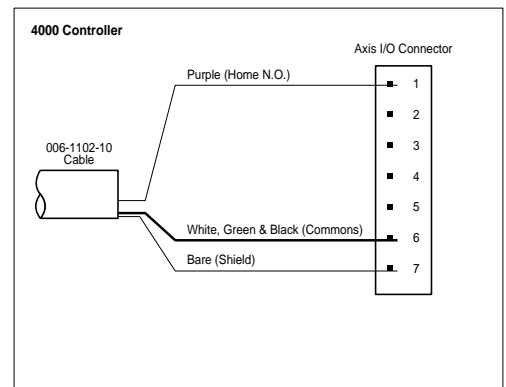
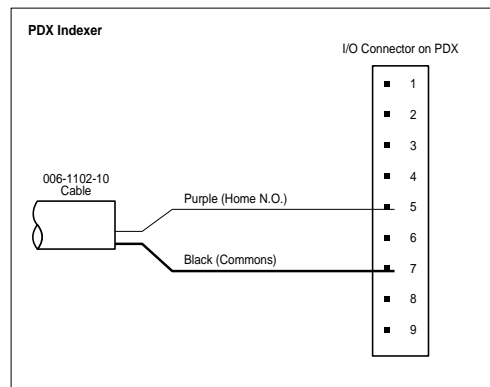
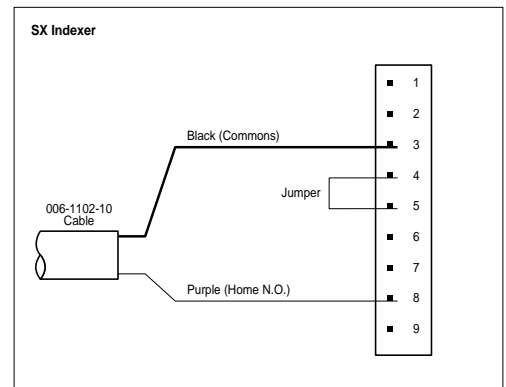
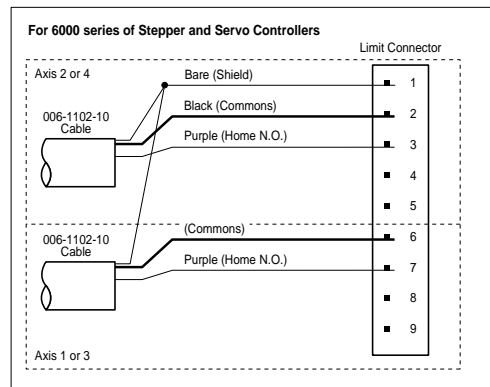
Switch Type: Form C (SPDT)
 Mechanical Reed Switch
 Contact current rating: 0.25 A @ 120 VAC or 0.25 A @ 5 VDC to 28 VDC

Repeatability: 0.0002 inch (50 micron)

Connector: 9-pin AMP circular plactis; Mating connector AMP #206485-1, contact sockets AMP #66504-8, Strain Relief AMP #206062-1
 Mating cable (included) P/N 06-1102-10 (10 ft. long with pigtail end)



Sensor and cable wiring diagram



Wiring diagrams for common controllers

Accessories

Rotary Table Accessories

Rotary Table Encoders

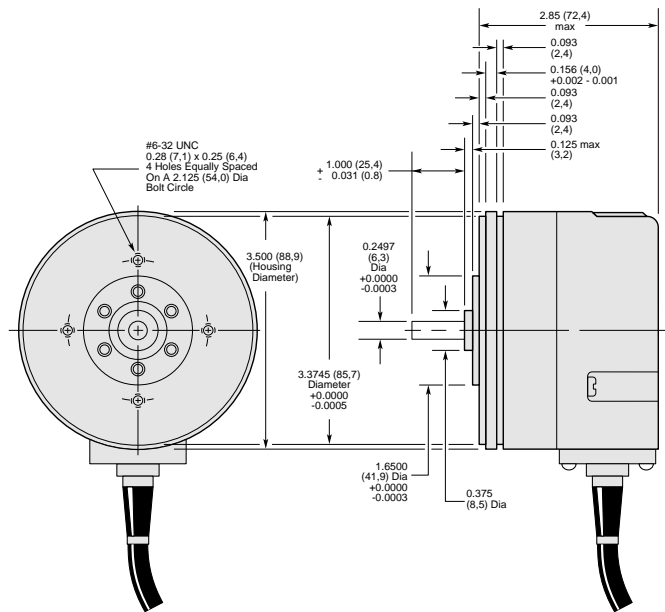
ERH series are high resolution, high accuracy rotary encoders which are compatible with Daedal Rotary tables.

These encoders are mounted to the base of the rotary table and coupled to the rotary table top providing direct feedback of the rotary table position.

Three resolutions options are available 0.01°, 0.005°, or 0.002°. ERH encoders are incremental encoders which output a Differential, TTL compatible square-wave signal on two separate channels forming an A and B channel.

Each Encoder is supplied with a "Z" channel (reference position) which outputs a pulse once per revolution.

Encoders come equipped with a 25 pin "D" male connector.



Wire Color Code

Pin #	Wire Color	Function
1	Orange	Channel A+
2	Green	Channel A-
3	Yellow	Channel B+
4	Blue	Channel B-
5	Brown	Channel Z+
6	Gray	Channel Z-
8	Violet & Bare	Shield
14	Black	Logic Ground
23	Red	+5 VDC

Specifications

	ERH-010	ERH-005	ERH-002
Line count	9000 lines / Rev.	9000 lines / Rev.	9000 lines / Rev.
Internal Multiplication	1 x	2 x	5 x
Post Quadrature Resolution	0.01 degree per pulse	0.005 degree per pulse	0.002 degree per pulse
Non-cumulative Accuracy	±0.0015 degree	±0.0035 degree	±0.0035 degree
Maximum Speed	500 degrees / second	500 degrees / second	500 degrees / second
Supply Voltage	5 VDC @ 460 mA	5 VDC @ 460 mA	5 VDC @ 460 mA
Output Signal	Differential, TTL compatible RS422 line driver output. Maximum sink current 40ma, Max source current -40 ma	Differential, TTL compatible RS422 line driver output. Maximum sink current 40ma, Max source current -40 ma	Differential, TTL compatible RS422 line driver output. Maximum sink current 40ma, Max source current -40 ma