

Series E15 with Integral Coupling



This product has been discontinued.
Please contact Dynapar for assistance.
1-800-873-8731
www.dynapar.com

- **Standard Mounting on NEMA Size 23 and 34 Motors**
- **Direct Replacements for Compumotor –E Option for Stepper Motors/ Drives**

Compumotor Equivalent Models:
For Size 23 Stepper Motor: E15-1000-A863
For Size 34 Stepper Motor: E15-1000-C863

The E15 with Integral Shaft Coupling is designed for convenient motor installation. It mounts on industry standard bolt circle patterns and is available to accommodate a choice of shaft sizes.

The Series E15 includes precision bearings and an O-ring seal and accommodates a 1/4" or 3/8" diameter stainless steel shaft.

Series E15 incorporates the latest in micro-electronic packaging, LED light sources, and matched sensors. Outputs are designed to be compatible with most 5V TTL circuits with options for higher voltage 12 and 15 VDC. Shielded cable is standard. Line drivers with complementary outputs are available for longer cable runs and/or higher ambient electrical noise immunity.

Typical Applications

- Motor-mounted feedback
- Industrial equipment
- Assembly machinery
- Robotics

Mechanical and Environmental Features

- Durable metal housing
- O-ring housing seal
- Accommodates rugged 1/4" or 3/8" diameter stainless steel shafts
- Up to 5000 RPM

Electrical Features

- Up to 1024 pulses per revolution including an optional marker pulse
- Higher electronic operating speed up to 100 kHz (index to 50 kHz)
- LED light source and matched sensors
- Choice of 5, 12, or 15 VDC units
- Shielded cable and line driver available for higher electrical noise immunity

SPECIFICATIONS

Electrical

Code: Incremental

Resolution: 100 to 1024 PPR (pulses/revolution)

Format: Two channel quadrature (AB) with optional Index (Z) outputs

Phase Sense: A leads B for CW shaft rotation as viewed from the shaft end of the encoder; Reverse phasing available, see Ordering Information

Accuracy: $\pm 3 \times (360^\circ \div \text{PPR})$ or ± 2.5 arc-min worst case pulse to any other pulse, whichever is less

Quadrature Phasing: $90^\circ \pm 36^\circ$ electrical

Symmetry: $180^\circ \pm 18^\circ$ electrical

Index: $360^\circ \pm 90^\circ$ electrical

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

Input Power:

TTL: 5 VDC $\pm 5\%$ at 135 mA max.;

Line Driver: 5 VDC $\pm 5\%$ at 210 mA max.;

CMOS: 12 or 15 VDC $\pm 10\%$ at 100 mA max.; not including output loads

Outputs:

5 VDC TTL:

Logic "1" V_{OH} : 2.5 V min. at 10 TTL gate load or 10 mA source;

Logic "0" V_{OL} : 0.4 V max. at 20 mA sink

5 VDC Line Driver: 75158 or equivalent, 40 mA sink and source

12 or 15 VDC CMOS:

Logic "1" V_{OH} : $V_{CC} - 1.5V$ min. at 200 Ω load or 10 mA source;

Logic "0" V_{OL} : 0.4 V max. at 20 mA sink

Frequency Response: 100 kHz min. data channels; 50 kHz min. Index channel

Mechanical

Bearing Life: $(16 \times 10^6 \div \text{RPM})$ hours min.

Shaft Speed: 5,000 RPM max.

Starting Torque: 0.1 oz-in max. at 25 °C

Running Torque: 0.8 oz-in max. at 25 °C

Moment of Inertia: 4.5×10^{-5} oz-in-sec²

Weight: 3.0 oz. max.

Environmental

Operating Temperature: 0 to +70 °C

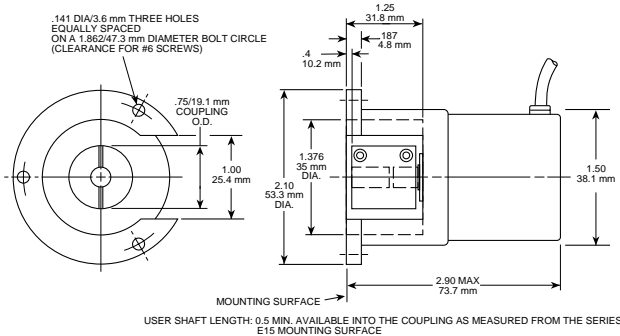
Storage Temperature: -25 to +70 °C

Humidity: to 98% without condensation

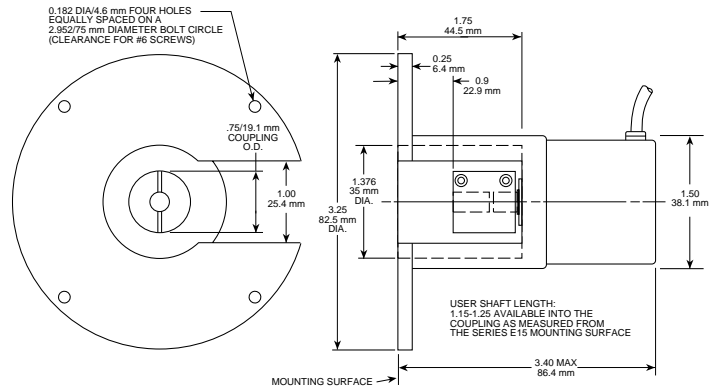
Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

Approximate Dimensions (inches/mm)

E15 for NEMA Size 23 Motors



E15 for NEMA Size 34 Motors



Electrical Connections

Wire Color Code	Function			DB 25 Connector Pin Number
	Standard Outputs 5, 12, or 15 VDC	w/ Line Driver Outputs		
		Unidirectional	Bidirectional	
Red	Power Source	Power Source	Power Source	23
Black	Common	Common	Common	14
White	Signal A	Signal A	Signal A	1
Green	Signal B (if used)	Signal A	Signal B	3
Orange	Signal Z (if used)	No Connection	Signal B	4
Blue	No Connection	No Connection	Signal A	2
Shield	Floating	Floating	Floating	8
White/Black	—	—	Signal Z (if used)	5
Red/Black	—	—	Signal Z (if used)	6

Flange Adapter Ordering Codes

Factory Option Code	Motor Frame Size	Motor Shaft Diameter	Model No. of Coupling Only
A	23	1/4"	CPL01000250
B	23	3/8"	CPL01000250
C	34	3/8"	CPL01000250

Other couplings available; consult factory.

Field Installed Kit:

Field installed kits are available by ordering either Model No. E15-N1 (integral housing and mounting hardware for NEMA size 23 motors) or Model No. E15-N2 (integral housing & mounting hardware for NEMA size 34 motors), and the appropriate coupling listed in the table above.

Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination
E15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E15 Size 15, with Integral Shaft Coupling	0100	A NEMA Size 23 Flange Mount with 1/4" Motor Shaft Coupling	0 Single Ended, Unidirectional	available when Code 4 = 0, 2 or 3: 0 5 VDC 1 12 VDC 2 15 VDC	0 18" Cable
	0200				1 3' Cable
	0250				2 6' Cable
	0360	B NEMA Size 23 Flange Mount with 3/8" Motor Shaft Coupling	3 Single Ended, Bidirectional, with Index	available when Code 4 = 4, 6, 7 or 8: 3 5V Line Driver 6 5 VDC Totem Pole	3 10' Cable
	0500				4 15' Cable
	0600				available when Code 4 = 7 or 8: 5 10' Cable, DB25 Connector
	0625	C NEMA Size 34 Flange Mount with 3/8" Motor Shaft Coupling	4 Differential, Unidirectional	6 5 VDC Totem Pole	6 25' Cable, DB25 Connector
	0635				7 25' Cable, DB25 Connector
	0750				8 Differential, Bidirectional, with Index, Reversed Phasing
	0800				
0900					
1000					
1024					