Encoders

Optical Incremental Encoders

Features:
32 to 1250 cycles per revolution
2 or 3 Channels
TTL Digital output

Series E2

		E2	E2...I	
Cycles per revolution	N	32 - 1 250	50 - 1 250	
Signal output, square wave		2	2+1 index	channels
Supply voltage	V_{cc}	4,5 to 5,5		V DC
Current consumption, typical (V_{cc} = 5 V DC)	I_{cc}	<500 (CPR) = 33 max. ≥500 (CPR) = 57 max.		mA
Pulse width	P	180 ± 45		°e
Index pulse width	P_o	90 ± 30		°e
Phase shift, channel A to B	Φ	90 ± 30		°e
Cycle	C	360 ± 5,5		°e
Signal rise/fall time, typical	tr/tf	110 / 35		ns
Frequency range [1]	f	up to 300		kHz
Inertia of code disc	J	0,6		gcm^2
Operating temperature range		– 40 to +100		°C

[1] Velocity (rpm) = f (Hz) x 60/N

Encoder type	Cycles per revolution (CPR) for all motors	for combination with:
2 Channel		**DC Micro Motor series**
E2-XXXX	32* 50, 96, 100, 192, 200	2230, 2233, 2237, 2342, 2642, 2657
	250, 256, 360, 400, 500, 512	3242, 3257, 3272, 3557, 3863
	540, 720, 900, 1000, 1024, 1250	
3 Channel		**Brushless DC-Servomotors series**
E2-XXXX...		2036, 2057, 2444
		3056, 3564
		4490

*32 CPR not available with index
Note: XXXX = number of cycles per revolution

These incremental shaft encoders in combination with the FAULHABER DC micro motors are designed for indication and control of both, shaft velocity and direction of rotation as well as for positioning.

A LED source and lens system transmits collimated light through a low inertia mylar disc with machined aluminum hub, to give two channels with 90° phase shift.

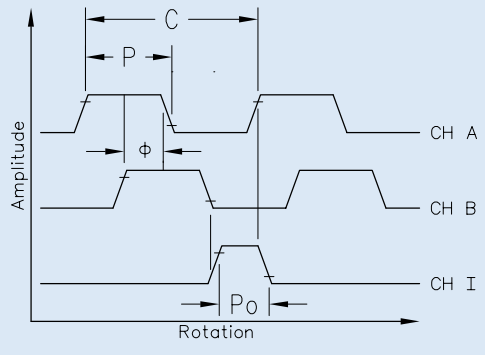
A body adapter is available to set orientation ± 15° some models available with thru shaft option.

The single 5 volt supply and the two or three channel digital output signals are interfaced with a 5-pin connector or 5-pin locking connector (sold separately).

Base and cover constructed of rugged 20% glass filled polycarbonate.

Ball bearings are recommended for continuous operation at low and high speeds and for elevated radial shaft load.

Details for the DC micro motors and suitable reduction gearheads are on separate catalog pages.



Output signals

PINOUT
1 GND
2 CH I
3 CH A
4 Vcc
5 CH B