Encoders

Magnetic Encoders

Features:
10,12,15 or 16 Lines per revolution
2 Channels
Digital output

HEAM 1524

		15 mm technology	
Signal output (quadrature)		2	channels
Supply voltage	V_{cc}	3.0 to 15.0	V DC
Current consumption, typical (V_{cc} = 5 V DC)	I_{cc}	5[1)]	mA
Pulse width	P	180 ± 45	°e
Phase shift, channel A to B	Φ	90 ± 45	°e
Logic state width	S	90 ± 45	°e
Cycle	C	360 ± 30	°e
Signal rise/fall time, typical	tr/tf	5 / 0.2	µs
Frequency range	f	up to 7.2	khz
Inertia of code disc	J	$2.832 \cdot 10^{-6}$	oz-in-sec^2
Operating temperature range		–40 to +85 (–40 to +185)[2)]	°C (°F)

[1)] current consumption for 1 ppr encoder = 11mA (typical at Vcc = 5 V DC)
[2)] operating temperature range for 1 ppr encoder is -30 to 85°C (-22 to 185°F)

Encoder type	number of channels	Lines per revolution per channel	in combination with Arsape two phase Stepper motors
HEAM 1524	2	1, 10, 12, 15, 16	AM1524

Phase Relationship (with clockwise motor shaft rotation as seen from the shaft end)

HEM1016 thru HEM12.. with 10 or 12 CPR	**Channel A leads channel B**
HEM1319 thru HEM35.. with 15 CPR	**Channel A leads channel B**
HEM1319 thru HEM35.. with 1, 10, 12 or 16 CPR	**Channel B leads channel A**

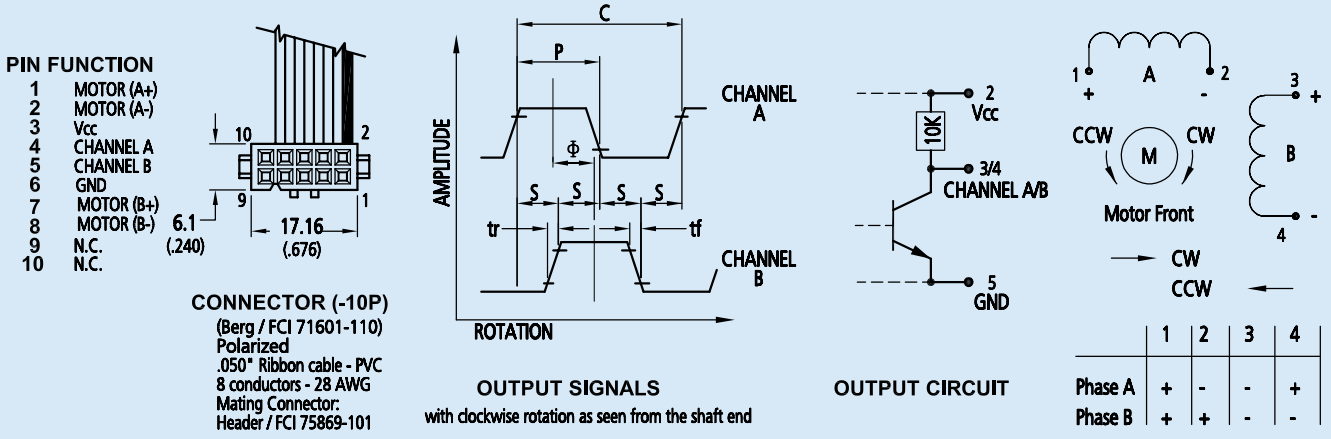
These incremental shaft encoders in combination with the PRECIstep® two phase stepper motors are designed for step verification as well as positioning. There are 12 pulses/revolution per channel is recommended since the motor has 12 poles.

Solid state Hall sensors and a low inertia magnetic disc provide two channels with 90° phase shift.

The supply voltage for the encoder, stepper motor as well as the two channel output signals are interfaced with a ribbon cable to a 6-pin connector on motors ≤ 22mm in diameter.
Motors ≥ 23mm in diameter the motor voltage is supplied separately.

Details for the Stepper motors and suitable reduction gearboxes are on separate catalog pages.

Please note: Velocity (rpm) = f (Hz) x 60/N



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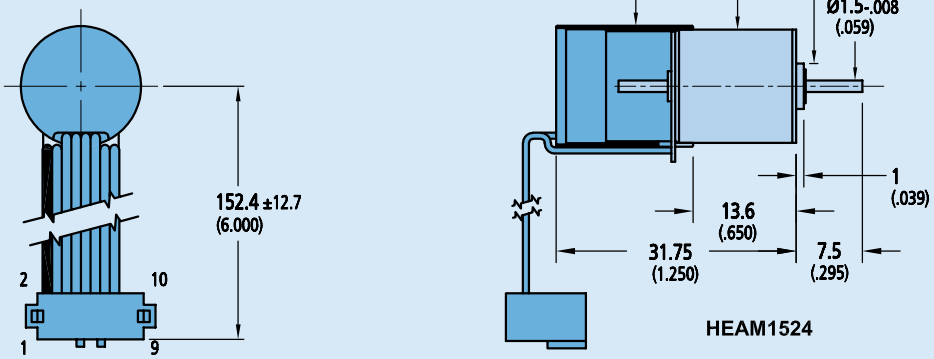
Ø16 ±.05
(.630)
Ø15 +.00 -.07
(.591)
Ø6 +.00 -.02
(.236)
Ø1.5 -.004 -.008
(.059)
152.4 ±12.7
(6.000)
2
10
1
9
1
(.039)
13.6
(.650)
31.75
(1.250)
7.5
(.295)
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