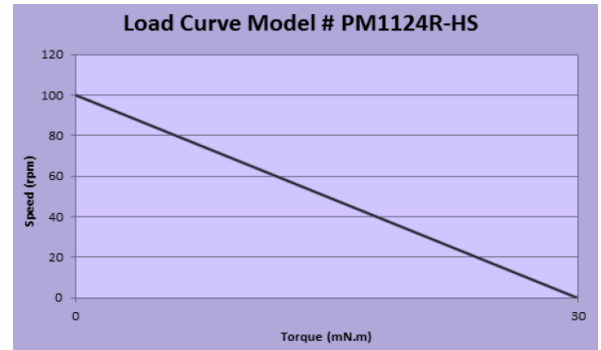
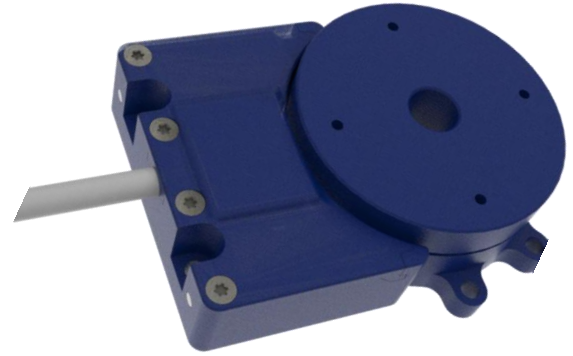


Technical Data Sheet

Motor Specifications

Mode of Operation	Stepping & Continuous
Maximum Torque	≥30 mN.m
Self-braking Torque	≥40 mN.m
Maximum Speed	≥100 rpm
Minimum Angular Step	<10 arc sec (50 μrads)
Dynamic Range	4 kHz
Supply Voltage for Driver	12 VDC
Operating Temperature	-20° to 80°C
Reponse Time	20 μs - 30 μs
Operating Current @ max speed	350 mA (customizable to as low as 100 mA)*
Motor Weight	68 g
Motor Dimensions (mm)	66.2 x 51.8 x 19.5 mm
Driver PCB Dimensions (mm)	40 X 62 mm
Encoder	Optional*

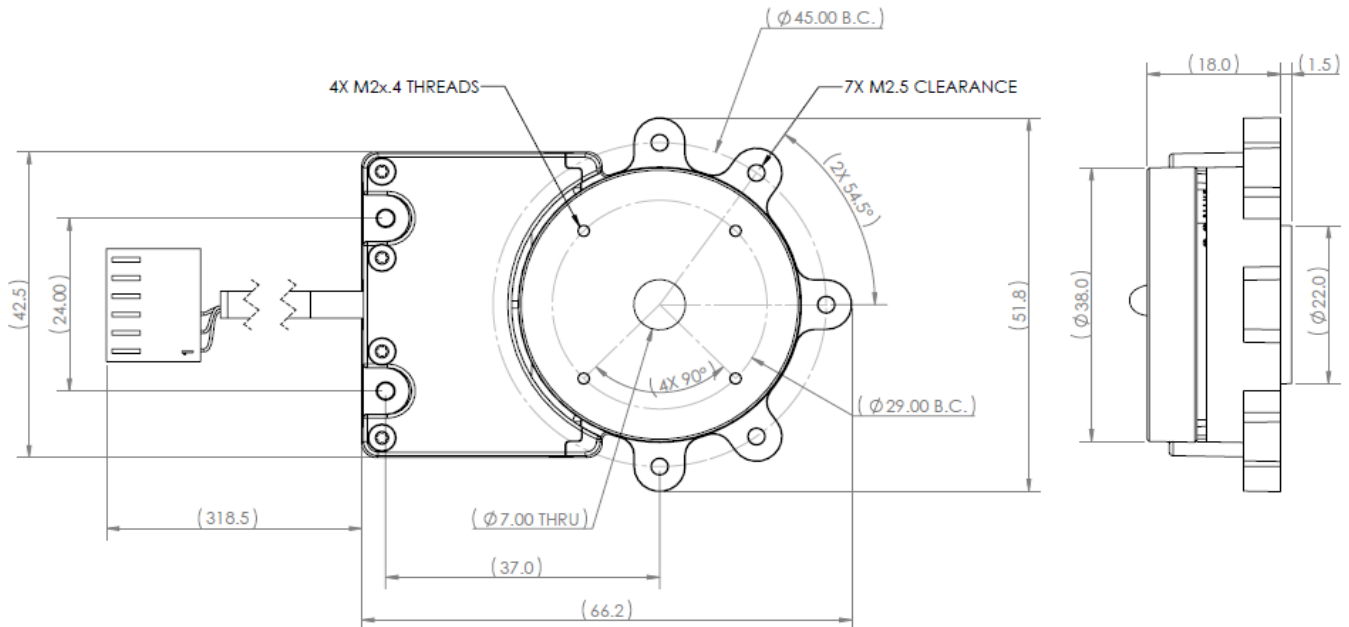
*Contact DTI for further information



Description

The PM-1124R rotary piezo motor represents a quantum leap in design of small size high-performance DC motors. Injection-molded using extremely durable, but light weight engineered reinforced thermoplastics, the PM-1124R provides low cost with superior precision and ultrafast response/start-stop characteristics. Highly energy efficient, the PM-1124R consumes zero power in hold position while still providing significant torque. Available in a variety of configurations (including non-magnetic) the PM-1124R is the ideal choice for high volume demanding OEM applications where superior performance and economical unit cost are important factors.

Dimensional Drawing



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Performance & Key Benefits vs. EM Motors

- **Lower Cost:** Modern reinforced thermoplastics design enables competitive OEM pricing.
- **Better Performance:** >1000 x's resolution, >100 x's reaction time, >10 x's specific power stall torque.
- **Energy & Cost Saving:** Increased energy efficiency with zero energy consumption in hold mode.
- **Unique Properties:** Available as non-magnetic, immune from EM interference (EMI/RFI) for use in specialized applications (e.g. medical MRI)

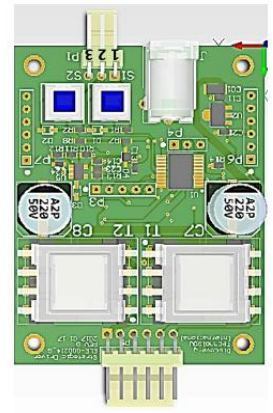


Principle of Operation

DTI's rotary piezomotors work on a patented principal of excitation of ultrasonic standing wave (s) within a angular piezoelectric resonator. The resulting superposition of two orthogonal ultrasonic waves causes rotary movement of the motor (for more details visit www.dtimotors.com).

Driver Electronics

Control of piezo motor motion is straightforward and achieved using either, DTI's optional electronic driver PCB, or by incorporation of DTI's driver electronics into customer's own control electronics. Using DTI's driver board, motion is triggered via external signal source applied through three pins located on the driver board. Control is then achieved by a train of electrical pulses supplied by a digitally controlled AC voltage source directly to the piezoelement. Motor speed is altered by varying either the repetition rate of the pulses or duration of each individual pulse (i.e. PWM). Modulation of the excitation voltage source enables the piezomotor to rotate (CW/CCW) continuously or in a precise stepping mode. The driver board also includes two buttons for manual control.



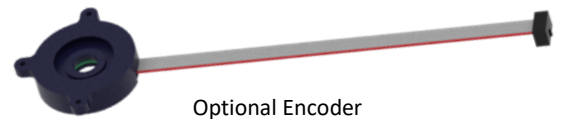
DTI Driver PCB

Encoder Configurations

Contact DTI for information on encoder options

Ordering Information

Description	Part No.
Evaluation kit (Incl. motor, driver PCB, cables, 12 VDC adapter)	C25-4RHS-EK
Evaluation kit with Encoder	C25-4RHS-EK-E
Non-Magnetic Evaluation kit	C25-4RHS-EK
Non-Magnetic Evaluation kit w/Encoder	C25-4RHS-EK-E-S
OEM Motor w/Connector	C25-4RHS-C
OEM Motor w/Wire	C25-4RHS-W
OEM Motor with Encoder with Connector	C25-4RHS-C-E
OEM Motor with Encoder w/wire	C25-4RHS-W-E
OEM Non-Magnetic Motor w/Connector	C25-4RHS-C-S
OEM Non-Magnetic Motor w/Wire	C25-4RHS-W-S
OEM Non-Magnetic Motor w/Encoder w/Connector	C25-4RHS-C-E-S
OEM Non-Magnetic Motor w/Encoder w/Wire	C25-4RHS-W-E-S
Electronic driver PCB OEM	C26-SDA
Electronic driver PCB w/Encoder daughter board OEM	C26-SDA-E
Electronic driver PCB Enclosure	C26-SDA-B
Electronic driver PCB w/Encoder daughter board w/Enclosure	C26-SDA-E-B



Optional Encoder



Wire Terminal



Connector

Contact Information

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Tel. 941-907-4444 Email. info@dtimotors.com

