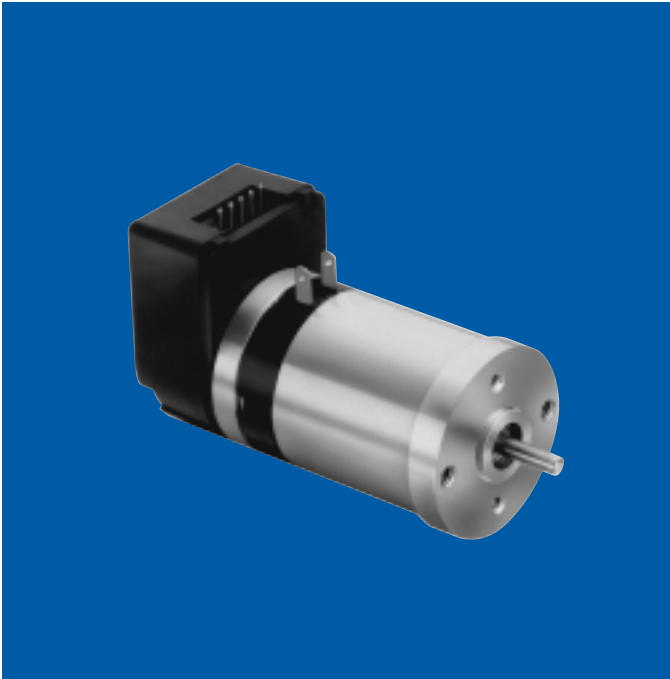


IM-13 MOTORS W/OPTICAL ENCODER

DC Ceramic Permanent Magnet Motors

E-2120



general design specifications: Designed to accept HP HEDS-5500 series dual channel encoders

power rating: To .005 hp (3.7 W)

voltage: 12 or 24 VDC

inertia: See table, opposite page

electrical time constant: 1.0 millisecond max

mechanical time constant: 30.0 milliseconds max

typical no load torque: 0.5 oz. in.

shaft: Precision-ground and hardened stainless steel. Options: length, flats, pinions, gears. Shaft material may change depending upon options selected

magnets: Ceramic. These tolerate high-pulse current without demagnetizing

ball bearings: Pre-loaded to withstand high side load and low end play

cover: Steel housing, zinc plate

end bells: Die-cast zinc

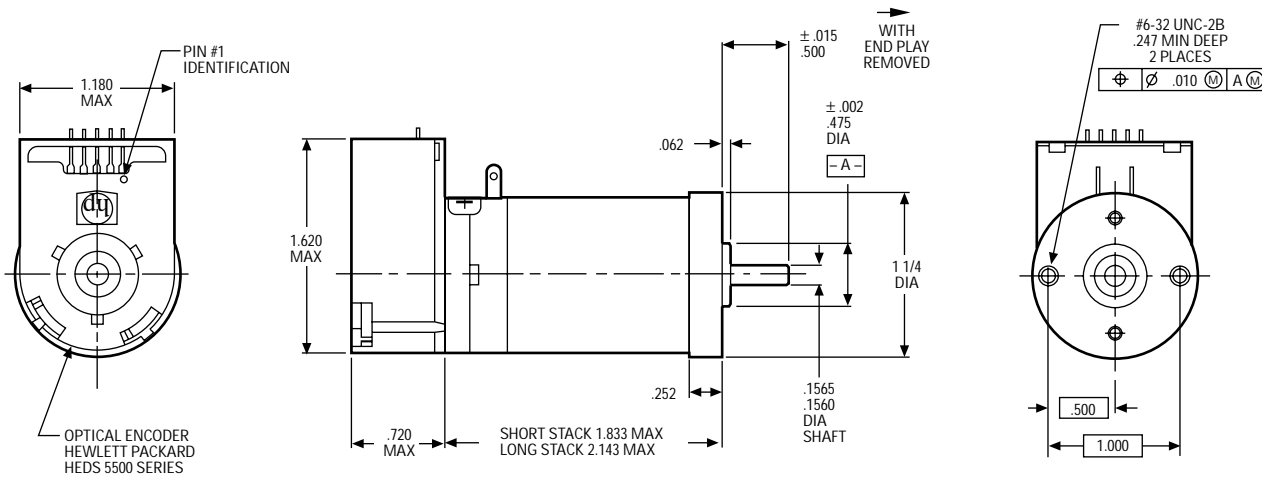
winding temperature rise: **See table, opposite page

winding insulation rating: 180°C

options available:

- Planetary gear trains
- Spur gear trains
- Leads
- EMI suppression

Dimensions



ROTATION (VIEWED FROM SHAFT END)
CCW - POSITIVE VOLTAGE TO (+), NEGATIVE VOLTAGE TO (-)
CW - REVERSE POLARITY

NOTE: Consult factory prior to preparing spec control prints. Dimensions are for reference only

Standard Part Numbers and Motor Data

VOLTAGE (VDC)	SPEED ±10% NO LOAD (rpm)	CURRENT NO LOAD (max amps)	RATED TORQUE (oz. in)	CURRENT AT RATED TORQUE (max amps)	INERTIA (oz. in. sec ² x 10 ⁻⁴) REF.	TEMP** RISE (°C/watt)	TORQUE CONSTANT (oz. in./ amp)	RESISTANCE (ohms) REF.	MOTOR ONLY PART NUMBER*
12	5,200	.200	1.50	.80	1.5	15	2.90	7.3	405A273-2
24	5,200	.125	1.50	.40	1.5	15	5.60	30.0	405A273-3

* Part number for Motor/Encoder Assembly will be assigned at time of order

**Winding temperature rise measured when mounted to 8.00" x 8.00" x .25" aluminum plate. Multiply by 1.4 when mounted to a heat insulator

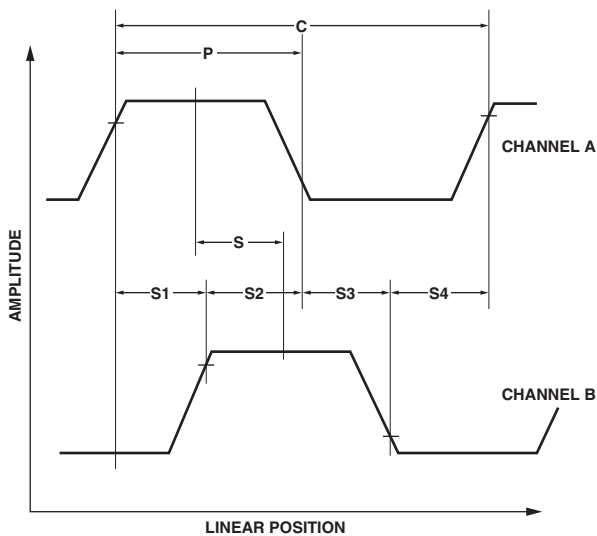
Encoder Resolution Selection Data

A = 500 CPR+ C = 100 CPR D = 192 CPR	E = 200 CPR F = 256 CPR G = 360 CPR	H = 400 CPR I = 512 CPR K = 96 CPR
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+ CPR = cycles per revolution

NOTE: Higher resolutions, index and line driver options are available.
Contact factory for details.

Output Waveforms



Block Diagrams

