

# IM-13 MOTORS

DC Ceramic Permanent Magnet Motors

# E-2100



**power rating:** .005 (3.7 W) short stack  
.009 (6.7 W) long stack

**voltage:** 12 or 24 VDC

**weight:** 4.4 ounces (short stack) 5.5 ounces (long stack)

**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: lengths, flats, diameters, pinions, gears. Shaft material may change depending upon options selected

**magnets:** Ceramic. These tolerate high-pulse currents without demagnetizing

**bearings:**

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

Sleeve: Self-aligning sleeve bearings are life-lubricated and withstand a 2-lb. side load and have .002" to .027" axial end play

**cables/leads:** 8" min. #22 AWG 2 leads UL style 1180. Terminals optional

**cover:** Steel housing, zinc plate

**end bells:** Die-cast zinc

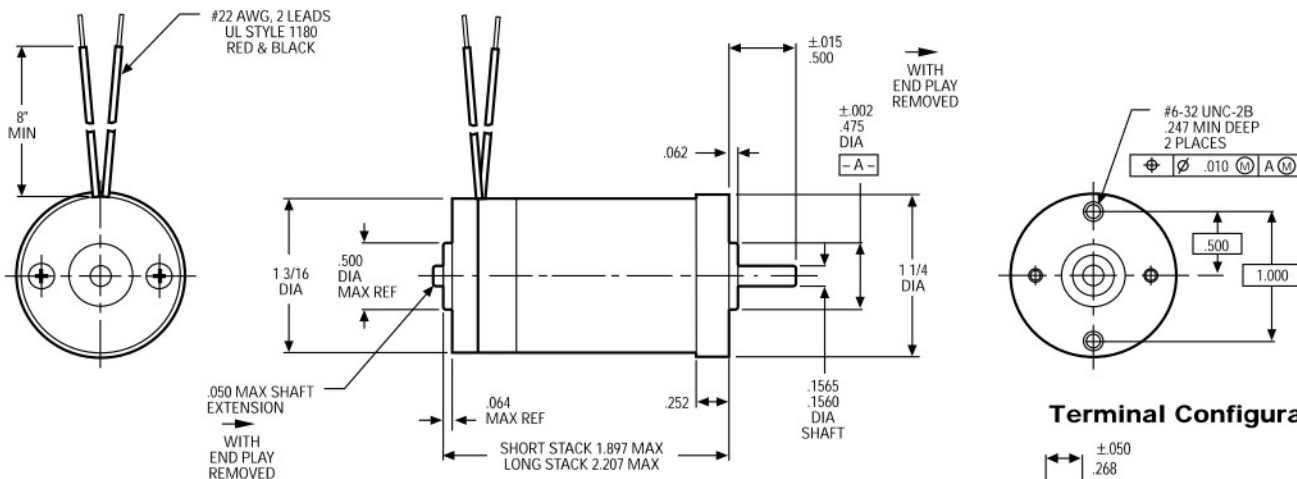
**winding temperature rise:** \*\*See table, opposite page

**winding insulation rating:** 180°C

**options available:**

- Gear train (see Bulletins E2130 and E2135)
- EMI suppression
- Terminals

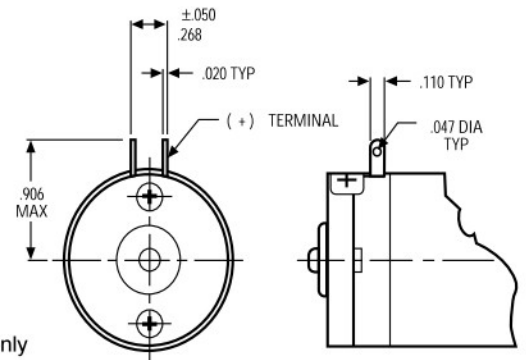
## Dimensions



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

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

## Terminal Configuration



# E-2100

## Standard Part Numbers and 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 <sup>2</sup> x 10 <sup>-4</sup> )	TEMP.** RISE (°C/ watt)	TORQUE CONSTANT (oz. in./ amp)	RESISTANCE (ohms)	STANDARD PART NUMBER*
									WITH LEADS

### Short Stack — Sleeve Bearings

12	5,200	.200	1.50	.80	1.4	15	2.90	7.30	405A6102-2
24	5,200	.125	1.50	.40	1.4	15	5.60	30.00	405A6102-3

### Long Stack — Sleeve Bearings

12	5,200	.185	2.50	1.30	2.1	11	2.90	4.00	405A6103-2
24	5,200	.125	2.50	.65	2.1	11	5.85	15.00	405A6103-3

### Short Stack — Ball Bearings

12	5,200	.200	1.50	.80	1.4	15	2.90	7.30	405A6108-2
24	5,200	.125	1.50	.40	1.4	15	5.60	30.00	405A6108-3

### Long Stack — Ball Bearings

12	5,200	.185	2.50	1.30	2.1	11	2.90	4.00	405A6109-2
24	5,200	.125	2.50	.65	2.1	11	5.85	15.00	405A6109-3

\*\*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

### \*When You Order

Units shown above are standard and may be ordered by part number. Remember to include armature winding dash number, EXAMPLE: 405A6102-2

## Typical Motor Performance

Part Nos.: 405A6102, 6108

Part Nos.: 405A6103, 6109

