

## Rotor Drive Shutters

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Rotor Drive actuator technology is incorporated into a new generation of shutters which may be customized for any application requiring a small space envelope and unprecedented reliability, even under severe operating conditions. Rotor Drive actuator technology has a design life of several million cycles, and its open architecture is easily configurable for custom packages and requirements. Rotor Drive shutters are available in both single- and multi-blade formats.

- Easily customized for new and existing configurations.
- Designed for extreme temperature conditions (– 40°C to + 70°C).
- Consumes power only while moving the blades (bi-stable).
- Extremely lightweight with few moving parts.
- Reliably operates for several million cycles.
- Resists high shock and vibration during operation.

#### Rotor Drive Shutters

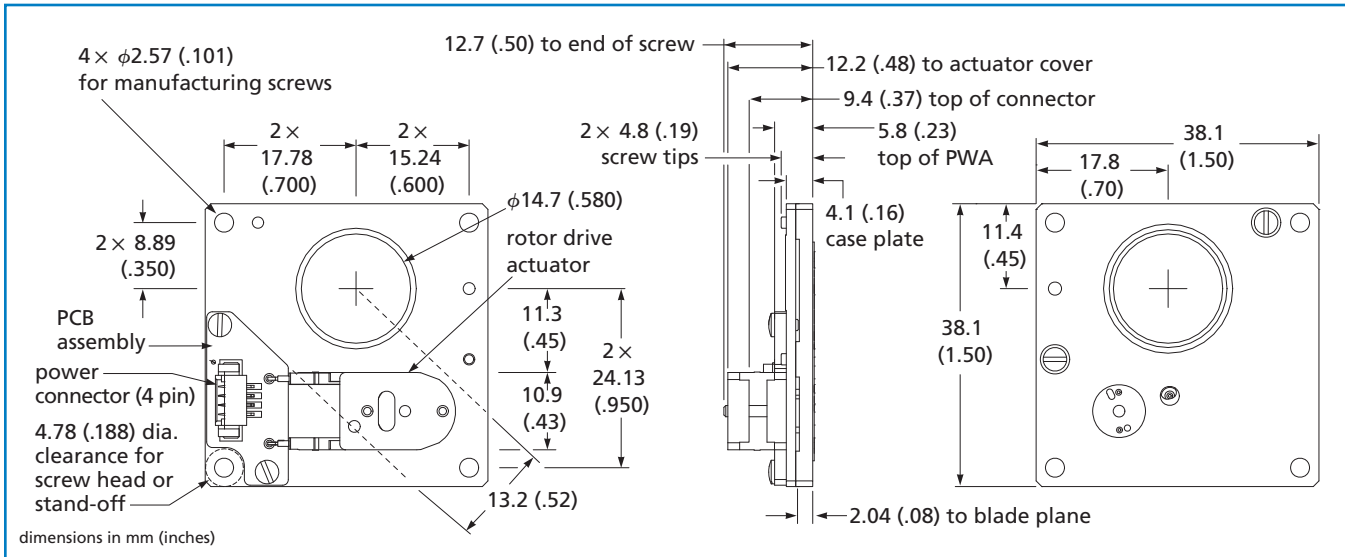
Clear Aperture (mm)	Required Drive Current (mA)	Drive Voltage <sup>3</sup> (Vdc)	Holding current (mA)	Actuation Speed <sup>4</sup> (msec)	Resistance <sup>3</sup> (Ω)	Inductance <sup>3</sup> (mH)	Number of Blades	PART NUMBER
φ14.7	± 225	9	0 (not required)	20	40	20	1	04 RDS 001
φ18	± 450 <sup>1</sup> /± 225 <sup>2</sup>	9 <sup>1</sup> /18 <sup>2</sup>	0 (not required)	20	20 <sup>1</sup> /80 <sup>2</sup>	10 <sup>1</sup> /40 <sup>2</sup>	2	04 RDS 302
φ18	± 660 <sup>1</sup> /± 330 <sup>2</sup>	3 <sup>1</sup> /6 <sup>2</sup>	0 (not required)	20	5 <sup>1</sup> /20 <sup>2</sup>	2.6 <sup>1</sup> /10 <sup>2</sup>	2	04 RDS 332
φ26.7	± 450 <sup>1</sup> /± 225 <sup>2</sup>	9 <sup>1</sup> /18 <sup>2</sup>	0 (not required)	20	20 <sup>1</sup> /80 <sup>2</sup>	10 <sup>1</sup> /40 <sup>2</sup>	2	04 RDS 002
φ26.7	± 660 <sup>1</sup> /± 330 <sup>2</sup>	3 <sup>1</sup> /6 <sup>2</sup>	0 (not required)	20	5 <sup>1</sup> /20 <sup>2</sup>	2.6 <sup>1</sup> /10 <sup>2</sup>	2	04 RDS 032
φ35	± 280 <sup>1</sup> /± 140 <sup>2</sup>	5.6 <sup>1</sup> /11.2 <sup>2</sup>	0 (not required)	35	20 <sup>1</sup> /80 <sup>2</sup>	10 <sup>1</sup> /40 <sup>2</sup>	4	04 RDS 004
φ58	± 1120 <sup>1</sup>	9 <sup>1</sup>	0 (not required)	30	8 <sup>1</sup>	10 <sup>1</sup>	5	04 RDS 005
15.3 x 12.6	± 225	9	0 (not required)	20	40	20	1	04 RDS 701
15.3 x 12.6	± 330	3	0 (not required)	20	10	3	1	04 RDS 731
19 x 15	± 225	9	0 (not required)	20	40	20	1	04 RDS 501
19 x 15	± 330	3	0 (not required)	20	10	3	1	04 RDS 531

<sup>1</sup> For a parallel-wired shutter

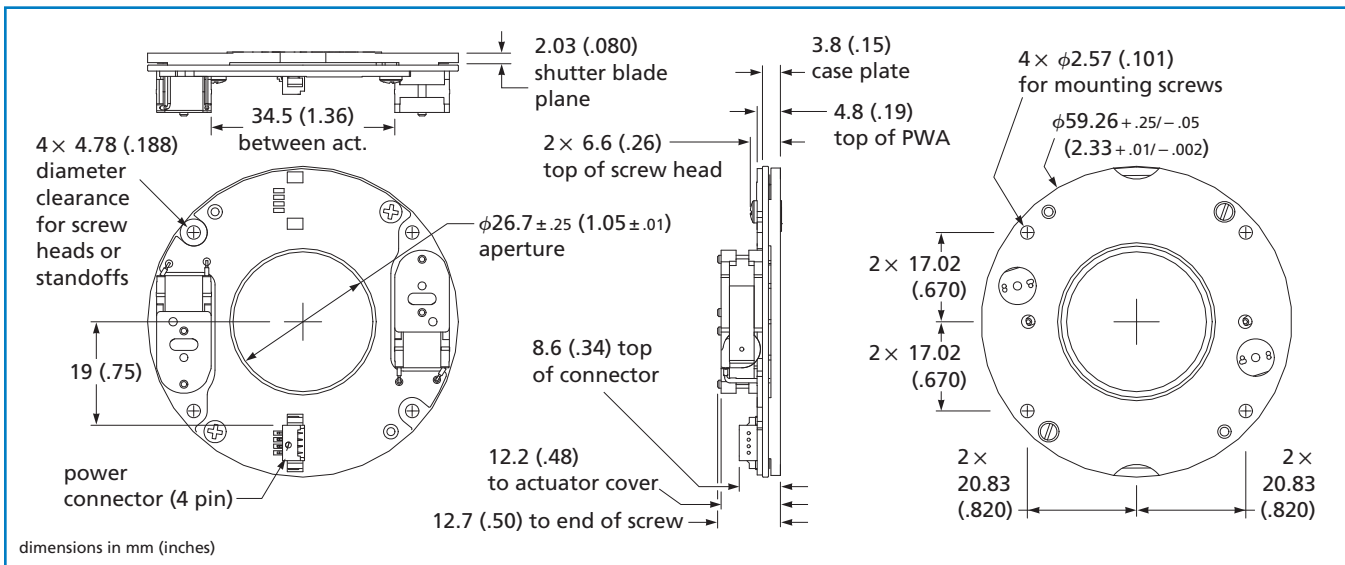
<sup>2</sup> For a series-wired shutter

<sup>3</sup> Nominal @ 20 deg. C

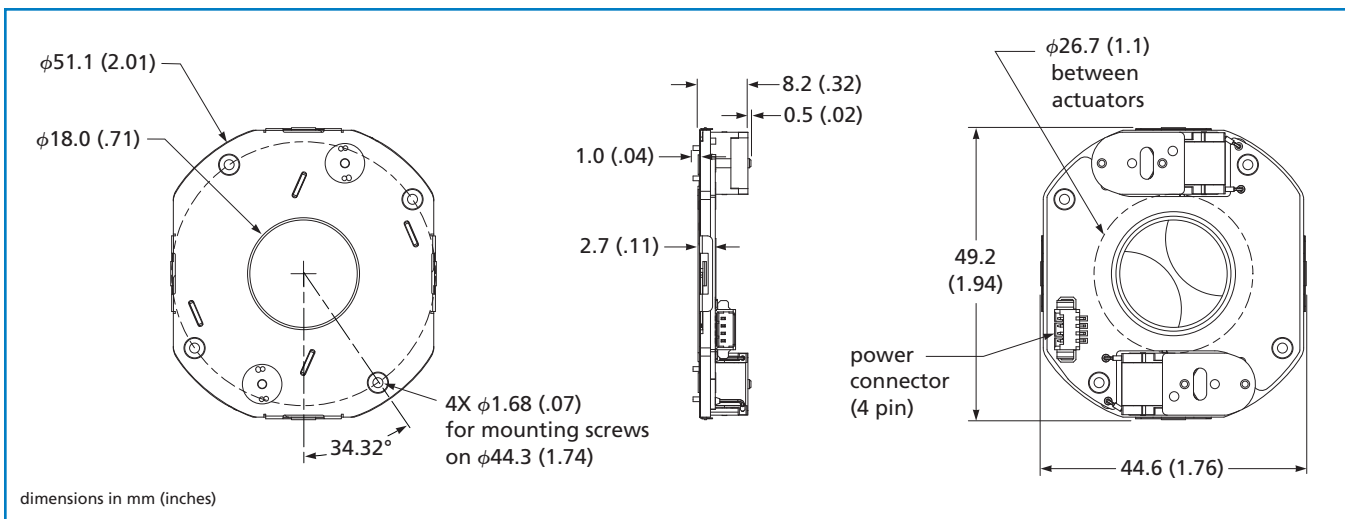
<sup>4</sup> Typical, excluding bounce settling time (10-40 ms depending on the pulse drive power and wave form)



04 RDS 0x1 Rotor Drive Shutter Drawing

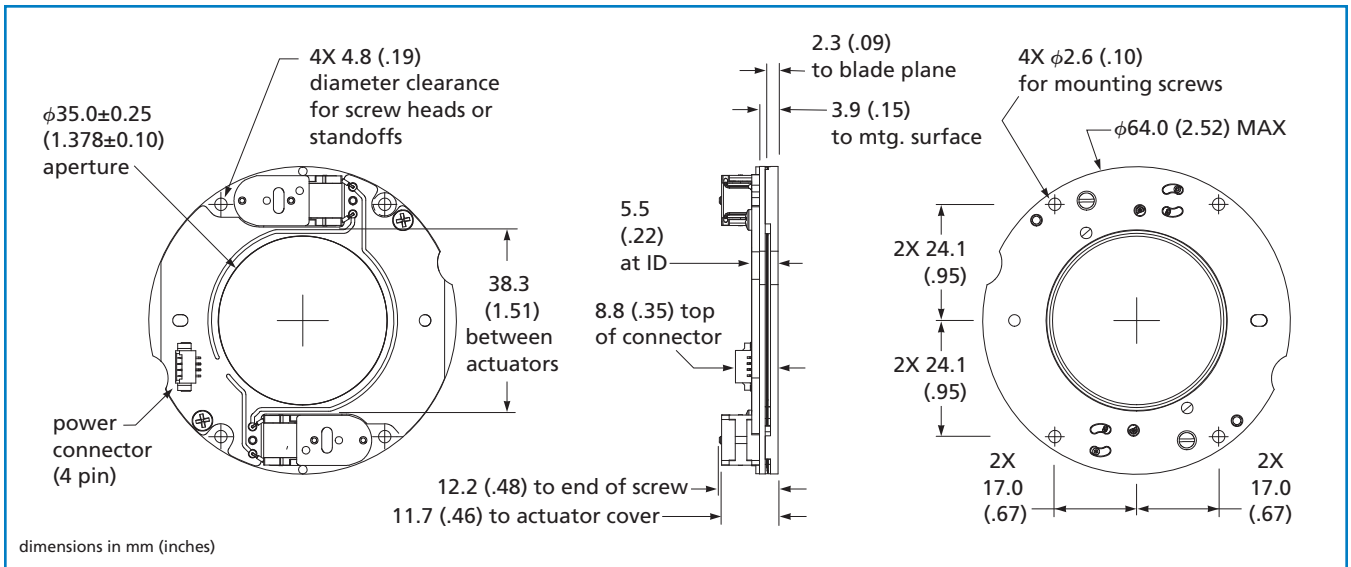


04 RDS 0x2 Rotor Drive Shutter Drawing

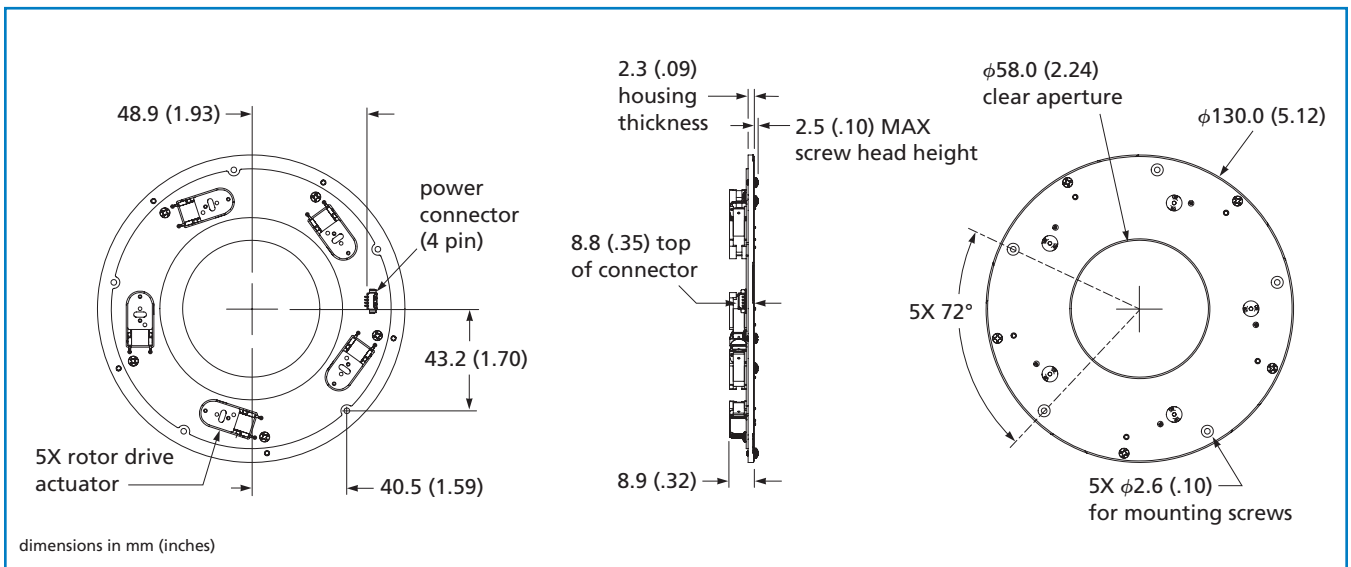


04 RDS 3x2 Rotor Drive Shutter Drawing

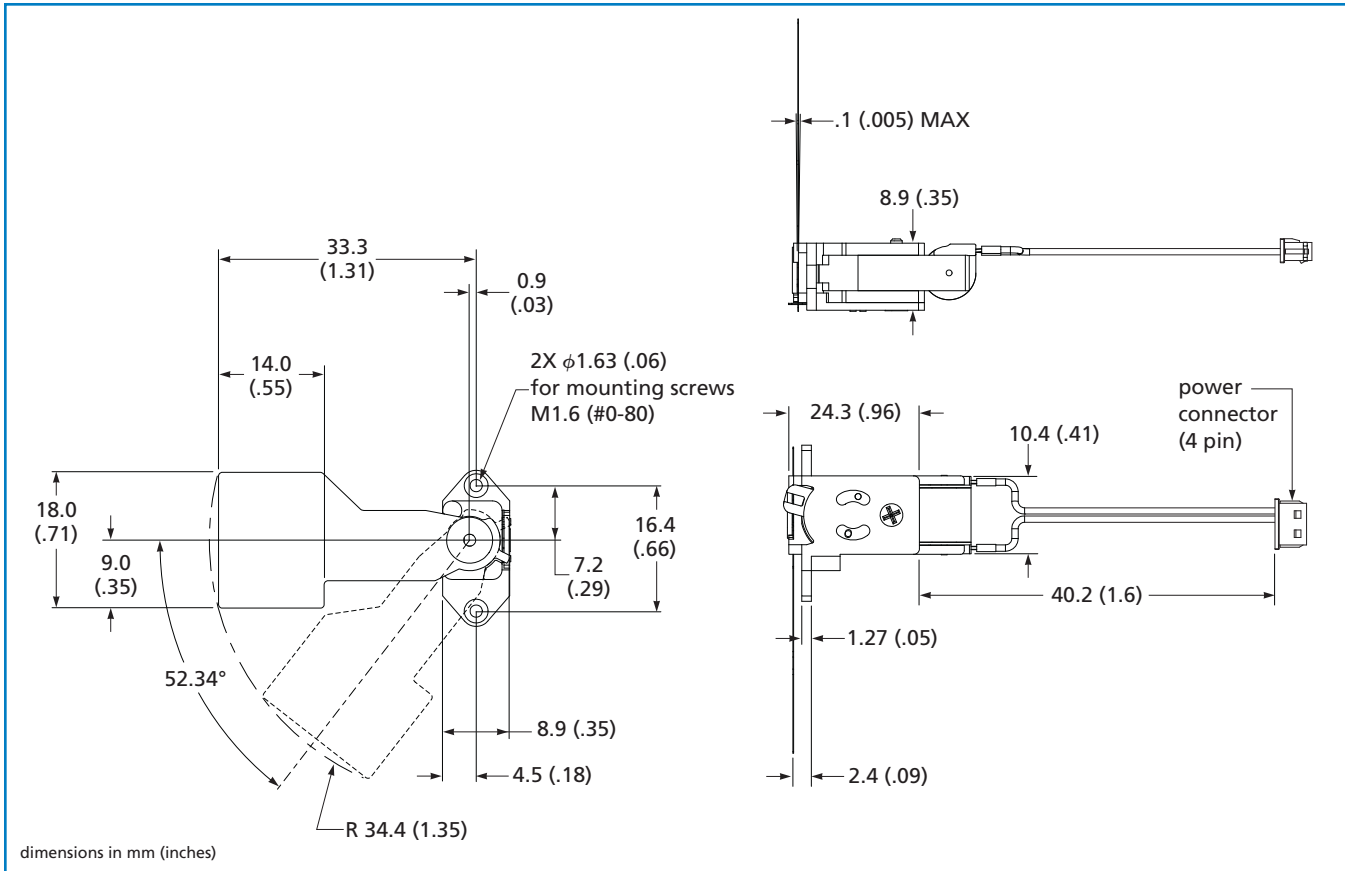
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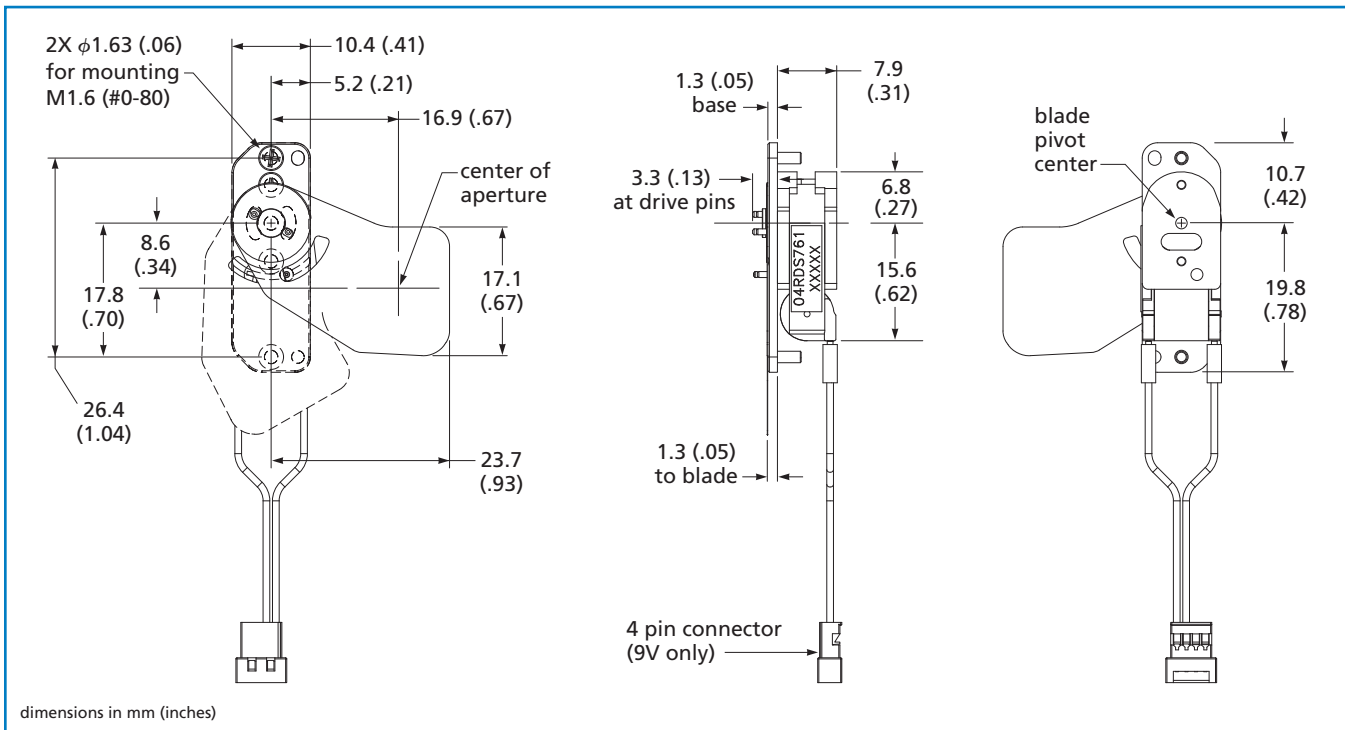
04 RDS 004 Rotor Drive Shutter Drawing



04 RDS 005 Rotor Drive Shutter Drawing

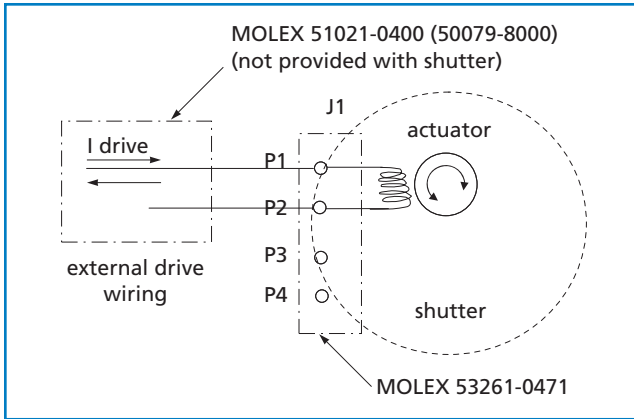


04 RDS 5x1 Flag Shutter Drawing

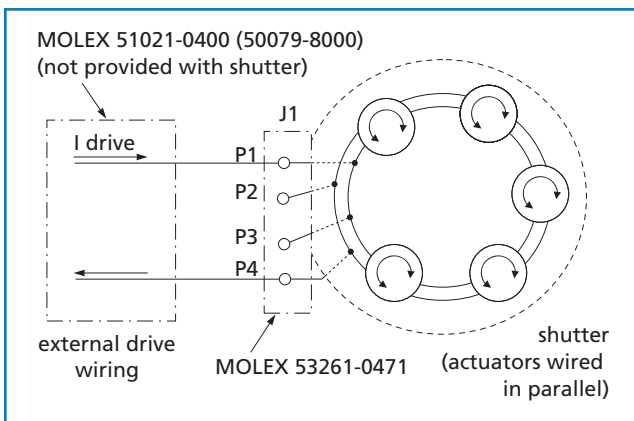


04 RDS 7x1 Paddle Shutter Drawing

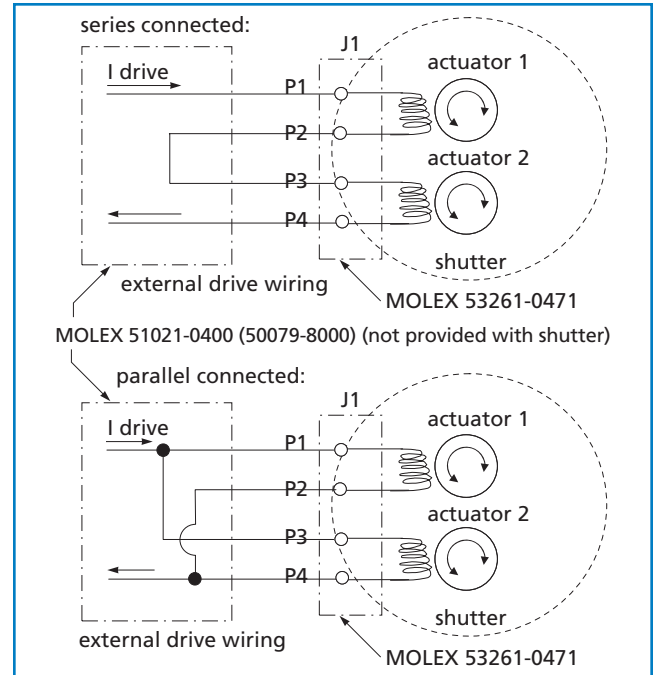
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04 RDS 001 Wiring Diagram



04 RDS 005 Wiring Diagram



04 RDS 0x2, 04 RDS 3x2, and 04 RDS 0x4 Wiring Diagram

**APPLICATION NOTE****Rotor Drive Circuit Requirements**

The Rotor Drive shutter is bi-stable which means electrical power to move the shutter blade position is only applied during motion. A short pulse from a constant-current drive circuit supplies the current indicated in the table. The voltage requirement will increase as the temperature of the actuator winding increases. Drive electronics should have the ability to automatically adjust to fluctuating winding temperatures. A CVI Melles Griot integrated drive circuit is recommended.