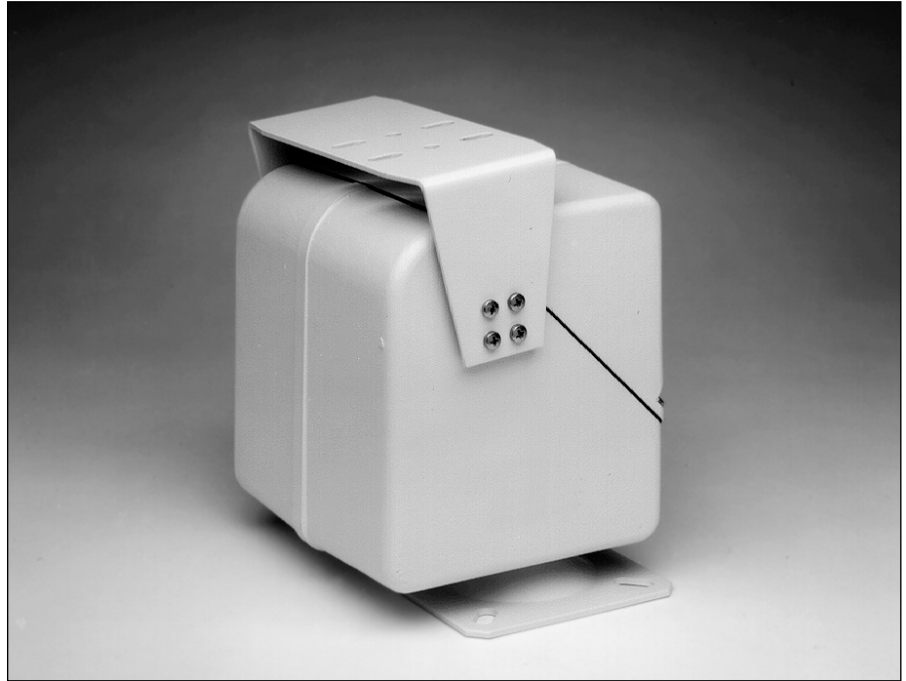# LTC 9409 Series Weatherproof Outdoor Pan/Tilts

- **Low Profile, Compact Size**

- **Economical**

- **100% Duty Cycle Motors**

- **Upright or Inverted Operation**

- **Permanently Lubricated**

- **Pre-Position Models Available**

The LTC 9409 Series Weatherproof Outdoor Pan/Tilts are low profile, economical, compact units constructed with corrosion-resistant hardware. These remote positioning devices are fully system compatible with CCD cameras, lenses, and housing combinations.

The 100% duty cycle motors permit continuous operation on all models. The modular gear-motors allow for "no alignment service". All-metal gearing, hardened steel drive shafts, and direct drive output offer superior

reliability. Use of impedance protected motors, long life limit switches, and permanent lubricated bearings and gears reduce maintenance and provide trouble-free operation.

Recommended Applications

CCD Camera, Lens, and Housing Combinations

Camera Models	Lens Types / Models					
	Fixed All	1/2-inch - 6X TC9948A	1/2-inch - 6X TC1848B	1/2-inch - 10X TC9970A	1/3-inch - 6X TC9938	1/3-inch - 10X TC9958
TC360 Series	2,3,5	3,4,5,6	3,4,5,6	3	---	---
TC380 Series	2,3,5	3,4,5,6	3,4,5,6	3	---	---
TC390 Series	2,3,5	3,4,5,6	3,4,5,6	3	3,5	3
TC350A Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	---	---
TC370 Series	1,2,3,4,5,6	1,2,3,4,5,6	2,3,4,5,6	3	1,2,3,4,5	1,2,3,4,5
TC550A Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	2,3,4,5	2,3,4,5,6
TC590 Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	2,3,4,5	2,3,4,5
TC650B Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	---	---
TC952, TC952X	1,2,3,4,5,6	---	---	---	---	---
TC972, TC972X	1,2,3,4,5,6	---	---	---	---	---

Housing Code:
1. TC9340A   2. TC9385   3. TC9388   4. TC9383   5. TC9358   6. TC9353

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SPECIFICATIONS

Electrical

Model No.[1]	Rated Motor Voltage	Operational Range	Total Pan Angle (No Fixed Stop)
Standard Models			
LTC 9409/60	115 VAC, 60 Hz	103 to 126	15° to 355°
LTC 9409/20	24 VAC, 60 Hz	21.6 to 26.4	15° to 355°
LTC 9409/10	24 VAC, 50 Hz	21.6 to 26.4	15° to 355°
LTC 9409/50	230 VAC, 50 Hz	198 to 265	15° to 355°
Pre-Position Models			
LTC 9409/61	115 VAC, 60 Hz	103 to 126	15° to 355°
LTC 9409/21	24 VAC, 60 Hz	21.6 to 26.4	15° to 355°
LTC 9409/11	24 VAC, 50 Hz	21.6 to 26.4	15° to 355°
LTC 9409/51	230 VAC, 50 Hz	198 to 265	15° to 355°

1. The total power for all models with both motors running, is 18 W. Single phase power sources only.

Connectors:
Power: Via 7-pin connector on unit.
Positioning: Via 7-pin connector on unit.
Mating connectors provided with unit.

Recommended Maximum Cable Lengths:

Model Voltage	Wire Size mm^2	AWG	Distance Feet	Meters
24 VAC	0.5	20	190	58
	1	18	300	91
	1.5	16	475	145
	2.5	14	775	236
	4	12	1250	381
115 VAC	0.5	20	4600	1402
	1	18	7400	2256
	1.5	16	11600	3537
	2.5	14	18900	5762
	4	12	30000	9146
	6	10	46600	14146
230 VAC	0.5	20	25000	7622
	1	18	39500	12043
	1.5	16	59600	18172
	2.5	14	100700	30701
	4	12	160300	48872

1. Values calculated at 20 °C (68 °F) using stranded copper wire, a single conductor Pan/Tilt common (neutral) wire, and with both PAN and TILT motors operating simultaneously.

Mechanical

Pan/Tilt Speed: 7.5°/sec at 60 Hz (6.3°/sec at 50 Hz).

Tilt: Movement in vertical plane -- +20° to -90° from horizontal.

Maximum Load: 65 kg-cm (56.5 in-lb) torque or 5.0 kg (11 lb) at a distance of 63.5 mm (2.5 in) from the center of mass of the camera/lens/housing assembly to the center of the tilt table.

Construction: Aluminum, with corrosion-resistant hardware.

Finish: Mushroom.

Dimensions: See **Dimensional Outline**.

Weight: 4.8 kg (10.5 lb).

Environmental

Temperature:
Operating: -20 °C to +60 °C (-4 °F to +140 °F).
Storage: -40 °C to +60 °C (-40 °F to +140 °F).
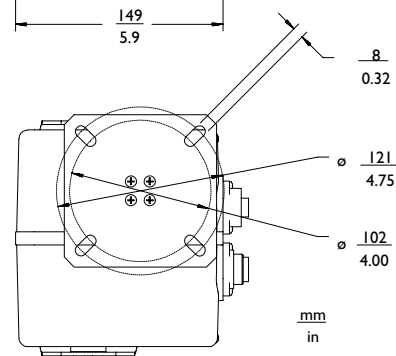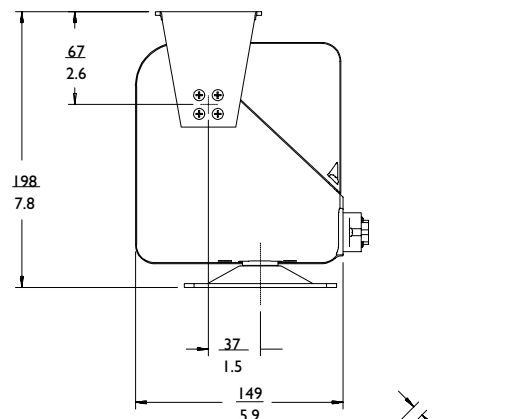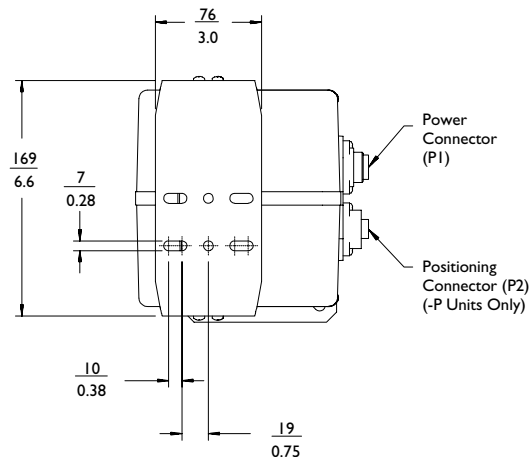
Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Enclosure Protection: Designed to NEMA-4, IP65/UL50, (Watertight) Enclosure Type 4X.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B.

Safety: CE, UL, cUL.

Dimensional Outline

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