

# WhisperShade® IQ®2 Electronic Drive Unit Specification Submittal

## Models

WhisperShade® IQ®2 Intelligent Electronic Drive Unit

Stock no.: P5X7 0634 -- S2      6Nm, 34rpm, 120VAC  
P5X7 1234 -- S2      12Nm, 34rpm, 120VAC

*Other torque variations up to 50Nm are available upon request. (-- denotes connector options)*



## Features

- Intelligent, encoded tubular motor with an internal communication and control card
- Internal electronics eliminate the component mounting, wiring and installation costs associated with a separate controller
- Quiet operation over a wide range of torque variations, (6Nm, 12Nm, through 50Nm)
- Provides repeatable and precise positioning of roller shades up to  $\pm 1/16$  in. ( $\pm 0.16$ cm)
- 104 available alignment points, including three(3) user-programmable presets (intermediate stop positions)
- Two inherent methods of control:
  - a. Cost-effective, low voltage, dry contact control for local switch or 3<sup>rd</sup> party control operation
  - b. Two-way, communication network to support whole-building, low voltage control and integration
- Scalable, flexible and industry-proven network architecture
- Cost effective power wiring permits the daisy chaining of three-conductor power from motor-to-motor
- Uniform Mode setting to maintain at all times the architect's design intent with a controlled and precisely aligned window wall
- The IQ System, including the WhisperShade IQ2 Intelligent Electronic Drive Unit, meets the reliability and safety standards of UL325, CSA 22.2 No. 427-92 and CE.

## Description

The WhisperShade IQ2 intelligent electronic drive unit represents the pinnacle of roller-shade control functionality. The product's internal microprocessor-based controls enable it to connect directly to the MechoSystems' MechoNet network without any external controllers. This bidirectional communication network offers flexibility, reliability, and scalability to whole building control. A variety of configuration options ensure that the motor offers unprecedented functionality including specialized solar-shade and room-darkening operating modes, random delay and simultaneous start motor configurations, as well as differentiated automation and override positioning. Nine (9) internal control addresses support complex, overlapping, multilevel (individual, group, master, etc.) control requirements. PC-based tools support field configurations and programming of the motor from anywhere on the control network without having to climb ladders to configure or reconfigure. A variety of accessories are available including interfaces to third party equipment such as audio-visual, lighting and BMS (building management systems). Integration can be accomplished using dry contacts, RS-232 and Ethernet to support the ultimate in comfort, convenience, functionality and energy efficiency.



# WhisperShade™ I-Con® Intelligent Motor Specification Submittal

## Specifications

### Model 506, 120VAC

#### ELECTRICAL

Input: 120VAC,  $\pm 10\%$ , 60Hz, 0.9A max.  
Switch: 15-24VDC, 10mA max. per switch contact  
DC Supply: 12-18VDC, 1W total  
Net:  $\pm 13V$  Max unloaded  
MechoSystems MechoNet protocol  
DC Supply: 12-18VDC, 1W total (IN1)

#### MECHANICAL

Torque: 53 in.-lb (6Nm)  
Lift Capacity: 42.2 lbs (19.18 kg) - 2.5 in. (6.4cm) tube  
Speed: 34 rpm  
Maximum number of rotations: 170  
Motor weight: 5.4 lbs (2.45kg)

#### ENVIRONMENTAL – IP44 rated

Temperature: 32° to 131° F (0° to 55° C)  
Humidity: less than 90%, non-condensing

### Model 512, 120VAC

#### ELECTRICAL

Input: 120VAC,  $\pm 10\%$ , 60Hz, 1.8A max.  
Switch: 15-24VDC, 10mA max. per switch contact  
DC Supply: 12-18VDC, 1W total  
Net:  $\pm 13V$  Max unloaded  
MechoSystems MechoNet protocol  
DC Supply: 12-18VDC, 1W total (IN1)

#### MECHANICAL

Torque: 105 in.-lb (12Nm)  
Lift Capacity: 84.8 lbs (38.36 kg) - 2.5 in. (6.4cm) tube  
Speed: 34 rpm  
Maximum number of rotations: 170  
Motor weight: 6.6 lbs (3kg)

#### AGENCY APPROVALS

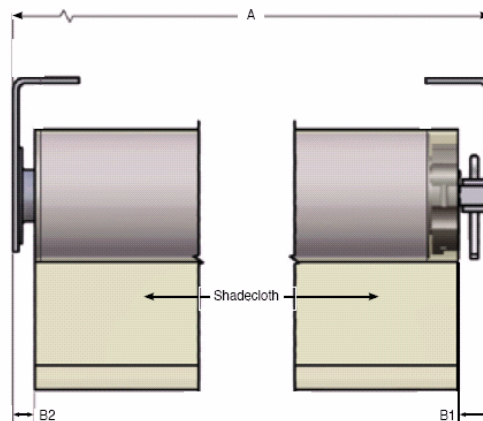
- ETL Listed to UL325, CSA 22.2 No. 427-92

## Dimensions and mounting

- Power and communication cable feed through the motor head located at either the right side for right-drive motors or left side for left-drive motors
- Motor mounted inside the shade tube

Note: The deductions shown are only for shades with a 2.5 in. (6.4cm) tube, or larger, utilizing MechoSystems' recessed idle-end plug.

Additional deducts may be required. Please contact your local representative for more information.



I-Con® Motor model no.	MechoShade Systems' part no.	A Minimum opening width with reduced idle-end plug	B1 Standard drive fabric deduct with recessed idle-end plug	B2 Standard idle fabric deduct width with recessed idle-end plug	Total fabric deduct with recessed idle-end plug
506	P5X7 0634 -- S2	26.5 in. (69.3cm)	0.75 in. (1.9cm)	0.5 in. (1.3cm)	1.25 in. (3.2cm)
512	P5X7 1234 -- S2	30 in. (76.2cm)	0.75 in. (1.9cm)	0.5 in. (1.3cm)	1.25 in. (3.2cm)

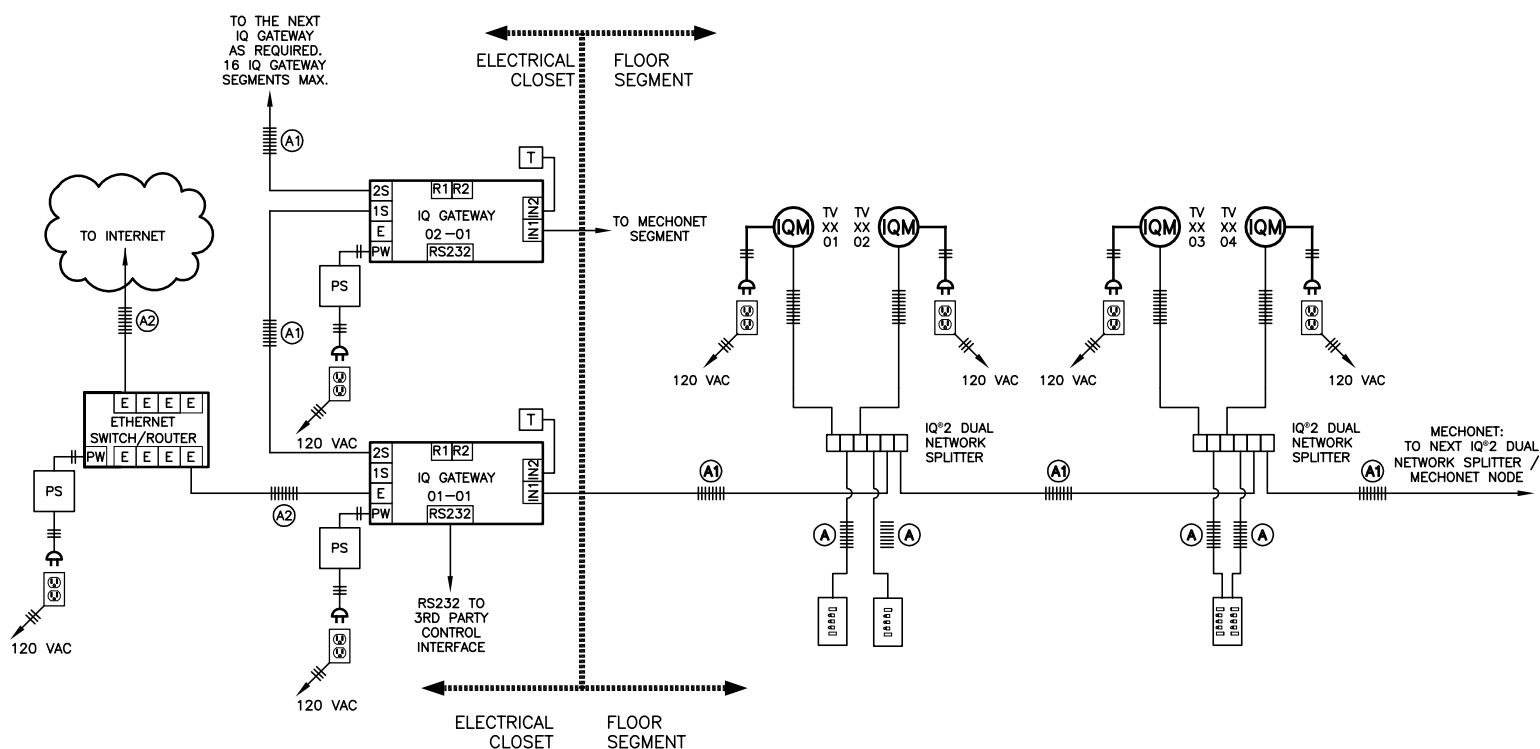
MechoShade Systems, Inc.  
Corporate Headquarters  
42-03 35th Street  
Long Island City, NY 11101

T: +1 (718) 729-2020  
F: +1 (718) 729-2941  
techsales@mechoshade.com  
MechoShadeSystems.com



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## Typical System Wiring Diagram



## LOW VOLTAGE CABLE LEGEND

<p><b>A</b></p> <p>CAT5/6E – FOR LOW VOLTAGE DRY CONTACT CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) OLYMPIC WIRE AND CABLE (www.olympicwire.com 1-800-526-2269) PART No. 3078M5FH. TERMINATION: RJ-45 MODULAR PLUG CRIMPED (USOC) ON BOTH ENDS</p> <p>CAT5/6E – FOR LOW VOLTAGE DRY CONTACT CONNECTIONS IN PLENUM AREAS 24AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR) OLYMPIC WIRE AND CABLE (www.olympicwire.com 1-800-526-2269) PART No. 3604M55 SOLID CONDUCTOR RJ-45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS DISTANCE LIMITATION: 400' CUMULATIVE (FURNISHED &amp; INSTALLED BY OTHERS)</p>	<p><b>A2</b></p> <p>CAT5/6E – CABLE FOR ETHERNET CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUGS CRIMPED (EIA568A) ON BOTH ENDS DISTANCE LIMITATION: 325' (FURNISHED &amp; INSTALLED BY OTHERS)</p> <p><b>A4</b></p> <p>CAT5/6E – CABLE FOR RS-232 CONNECTIONS 24 AWG 3UTP (6-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-12 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS CONNECTED TO DB-9/RJ-12 ADAPTOR (BY OTHERS) DISTANCE LIMITATION: 25' CUMULATIVE (FURNISHED &amp; INSTALLED BY OTHERS)</p>
<p><b>A1</b></p> <p>CAT5/6E – CABLE FOR RS-485 CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS. DISTANCE LIMITATION: 4000' CUMULATIVE (FURNISHED &amp; INSTALLED BY OTHERS)</p>	<p><b>NOTES</b></p> <ol style="list-style-type: none"><li>1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS.</li><li>2. ADDRESS SCHEDULES REQUIRED.</li><li>3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.</li></ol>

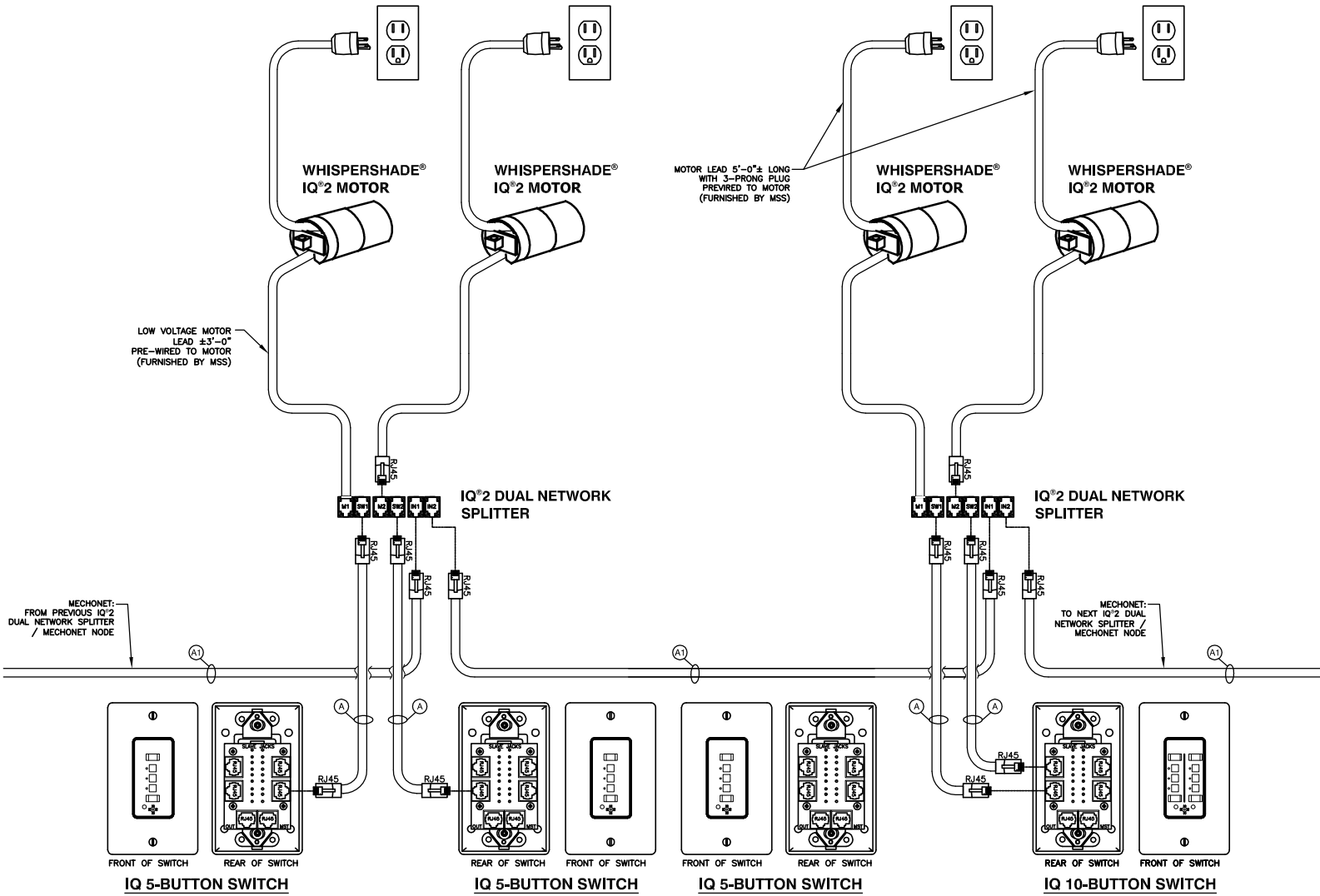
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## Typical Point-to-Point Diagram



## LOW VOLTAGE CABLE LEGEND

A	CATS/6E – FOR LOW VOLTAGE DRY CONTACT CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) OLYMPIC WIRE AND CABLE (www.olympicwire.com 1-800-526-2269) PART No. 3078M5FH. TERMINATION: RJ-45 MODULAR PLUG CRIMPED (USOC) ON BOTH ENDS	A2	CATS/6E – CABLE FOR ETHERNET CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUGS CRIMPED (EIA568A) ON BOTH ENDS DISTANCE LIMITATION: 325' (FURNISHED & INSTALLED BY OTHERS)
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A1	CATS/6E – CABLE FOR RS-485 CONNECTIONS 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR) TERMINATION: RJ-45 MODULAR PLUGS CRIMPED (USOC) ON BOTH ENDS DISTANCE LIMITATION: 4000' CUMULATIVE (FURNISHED & INSTALLED BY OTHERS)	<b>NOTES</b> 1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS. 2. ADDRESS SCHEDULES REQUIRED. 3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.	

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### Five-year warranty

Limited warranty on motors and electronics to be free of manufacturing defects in factory materials or workmanship for five years from the date of shipment.

### Technical support department:

MechoShade Systems, Inc.  
Monday–Friday, 8:30 a.m.–6:00 p.m. EST  
T: +1 (718) 729-2020 x 2006  
techsupport@mechosystems.com  
Technical-wiring diagram assistance is available.

MechoSystems, Inc., reserves the right to make improvements or changes in its products without prior notice. However, every attempt is made to ensure that the information herein is accurate and up to date. Verify with MechoSystems to confirm the product availability, latest specifications, and suitability for your application.

