WhisperShade® IQ® System
The next generation of window-shade motorization
WhisperShade IQ System

Four main components:

1. IQ2 Electronic Drive Unit—ultra-quiet, robust performance with flexible control options and precise positioning.

2. IQ switch—provides fixed, repeatable stop positions and three customizable intermediate stop positions.

3. IQ/MLC2®—microprocessor based, four-motor controller, with built in MechoNet communication and intermediate positioning for standard motors.

4. MechoNet—integration of various window-covering devices with a variety of switches, accessories, dry-contact devices, or 3rd-party control systems.

This family of advanced motorization products functions as a system to provide:

- Whisper-quiet, powerful motorization.
- Two-way communication over MechoNet facilitating building-wide control.
- Precise shade-band and blind alignment.
- Support of local, group, sub-master, and master control.
- Flexibility in the methods of integration with A/V, lighting, and Building Management Systems (BMS).
- Simplified, cost-effective wiring.
- Option to integrate with SunDialer® or SolarTrac® automated-shading systems.

The WhisperShade IQ System is ideal for the everyday shading needs of personal comfort, whole-building automation shading, and monumental or specialty shading.

**IQ2 Electronic Drive Unit**

- Quiet operation, even at larger lifting capacities.
- Built-in MechoNet, a serial-communication protocol, for two-way communication.
- Built-in dry-contact interface.
- Embedded digital encoder for precise shade-band positions.
- Five shade-band positions, including three customizable intermediate positions.
- Automatic calibration.
- Over a 100 alignment points available.

**High-torque, large lifting capacity**

- A single motor to drive multiple shade bands.
- Multi-banding to reduce the motor count and wiring needs, thus, minimizing costs.
- Variety of configurations including DoubleShades®, monumental, multi-banded, SkyLighter®, and specialty shades.

### Specifications:

**506 Model—2 in. (50mm)**

- 120VAC +/-10%, 60Hz, 0.9A max., 34 r.p.m.
- 230VAC +/-10%, 50Hz, 0.56A max., 26 r.p.m.

**512 Model—2 in. (50mm)**

- 120VAC +/-10%, 60Hz, 1.8A max., 24 r.p.m.

**515 Model—2 in. (50mm)**

- 230VAC +/-10%, 50Hz, 1.1A max., 30 r.p.m.

### Lifting Capacities

<table>
<thead>
<tr>
<th>SnapLoc® Tube</th>
<th>2.2 in. (5.58cm)</th>
<th>2.5 in. (6.35cm)</th>
<th>3.5 in. (8.89cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>506 6 Nm</td>
<td>48.3 lb. (21.9kg)</td>
<td>42.5 lb. (19.3kg)</td>
<td>30.3 lb. (13.8kg)</td>
</tr>
<tr>
<td>512 12 Nm</td>
<td>96.6 lb. (43.8kg)</td>
<td>85.0 lb. (38.5kg)</td>
<td>60.7 lb. (27.5kg)</td>
</tr>
<tr>
<td>515 15 Nm</td>
<td>120.7 lb. (54.7kg)</td>
<td>106 lb. (48.2kg)</td>
<td>75.9 lb. (34.4kg)</td>
</tr>
</tbody>
</table>

Larger capacities available on request. Please check the lead times.

The IQ2 Electronic Drive Unit comes with a five-year non-depreciating warranty.
The IQ switch—
Dry-contact control
More switches, more convenient control, more flexibility.
An IQ switch can directly control a single shade band, a group of shades, or part of a hierarchy of local and master controls, without expensive group controllers.
- Up to 250 motors, 4,000 ft. (1,219.2m) per switch group.
- Direct wiring of the switch to the IQ2 Electronic Drive Unit for cost-effective and simple installation.
- Switches that fit standard Decora® and Claro™ wall plates to serve a wide range of applications.

Two-mode operation:
Normal and Uniform
- Normal mode: Shade-band heights are adjustable to full-up, full-down, and three intermediate positions. Shade-band heights can be stopped at any position or any one of five positions.
- Uniform mode: Shade-band heights are adjustable to only the five positions for a neat facade.

Switch configurations
- 5-button switch offers full operation including intermediate shade-band heights.
- 2-button switch allows full-up or full-down only for blackout shade-band heights.
- The motor can be put into the 1-button switch mode for interfacing with a bedside control in patient rooms in health-care facilities.

IQ switches

Switches are also available with LED indicators. Switchplates are sold separately. Available color: WH = White
**IQ/MLC2® with standard motors**

IQ/MLC2, the next-generation microprocessor-based motor controller or “dumb motor,” can be integrated on MechoNet along with the IQ2 Electronic Drive Unit.

- Control of standard tubular and other motors controls with mechanical limit switches, including for oversized motors, necessary for monumental shades.
- Built-in MechoNet communications.
- Control of motors for other devices such as standard square or round motors for projections screens, venetian blinds, window operators, and exterior-operable louvers.
- See the IQ/MLC2 brochure for the full range of features of the IQ2 motor controller.

**A**
Independent control of four standard line-voltage motors (120VAC or 230VAC, 600W).

**B**
RS232 port for convenient serial interface with A/V, BAS, and lighting systems.

**C**
Two master-control ports for the simultaneous dry-contact control of all internal motors. The master ports can be used to daisy-chain additional IQ/MLC2 units to permit grouping of up to 2,000 motors.

**D**
Local-switch ports for dry-contact control of each motor. Switch ports can be mapped to any motors on the network for creating local groups. The ports also provide dry-contact input from other systems.

**E**
Accessory input port to allow Somfy® IR or RF wireless control, photocell control, or other remote-control options.
**MechoNet**
- RS485-based network.
- Carrier Sense Multiple Access/ Collision Detect (CSMA/CD) robust network.
- A simple RS232-based protocol to make 3rd-party integration easy.
- Industry-standard Cat-5 or Cat-6 cabling with RJ45 terminations.
- Up to 250 MechoNet devices over a maximum of 4,000 ft. (1219.2m) of cabling.

**A/V, lighting, and BMS integration**
- WhisperShade IQ motor works seamlessly with 3rd-party control systems, maximizes flexibility, and makes the installation easy.
- The system can connect to other devices via RS232, RS485, Wi-Fi®, RF, or other wireless control.

- The motor can directly integrate with Somfy® RTS compatible accessories.
- Compatible controls include Control4®, Crestron®, Leviton®, Lutron®, Savant®, and Vantage®.

**Rear of IQ switch**

**IQ Dual Splitter**

![Diagram of IQ Dual Splitter](image)

The wiring-accessory device where there are connections for two IQ motors and two associated IQ switches. There are also connections for daisy-chaining the MechoNet network.
Automation

- Seamless integration with SolarTrac® and SunDialer® automated-shade systems.
- Designed to maximize natural daylight, SolarTrac increases energy efficiency while providing occupants with a comfortable environment and views to the outside.
- SunDialer provides low cost solar-tracking and sky-monitoring features for small-scale and retrofitted projects.
- Use of either system results in a reduction of energy costs.
- BACnet over IP, RS232, and RS485 enable SolarTrac to communicate with lighting, audio-visual, and building automation systems.

Peak solar altitudes during the year on the south elevation of a, 40° north latitude position. The SolarTrac system is preset to five user-defined solar penetration levels. (3 ft. / 91cm shown above.)

Specialized solar radiometers collect real-time sky data. Using this information, SolarTrac creates a sky model of the microclimatic conditions of the moment and also over time. The geographical position of MechoSystems Headquarters in Long Island City, New York, USA, is shown above.
