

Solarity™ Motorized Shades



- Bring balance to your space by controlling light and temperature without sacrificing your view
- Choose from 12V Battery Radio Motorized Shade, 24V DC Quiet Radio Motorized Shade, or 110V AC Radio Motorized Shade Options
- Radio Motorized Shades can be operated with a wireless hand held remote or wireless wall mount switch
- Operate Radio Motorized Shades individually or as a group

IPC.475/REV.1

Solarity™ Motorized Shades

Suggested Specification

SECTION 122413 - ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Motor-operated roller shades with single or double rollers

A. IQM-ACR ROLLER WINDOW SHADES 110V AC Quiet Radio Motorized Shade System (UL Listed)

B. IQM-DCR 24V DC Quiet Radio Motorized Shade System

C. BAT-R 12V Battery Radio Motorized Shade System

B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting roller shades and accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for roller shades.

B. Shop Drawings: Show fabrication and installation details for roller shades, including fabric panel materials, their orientation to rollers, and their seam and batten locations.

1. Motor-Operated Shades: Include details of installation and diagrams for power, signal, and control wiring.

C. Samples: For each exposed product and for each color and texture specified, 5 inches (127 mm) long.

D. Samples for Initial Selection: For each type and color of fabric panel material.

1. Include Samples of accessories involving color selection.

E. Samples for Verification: For each type of roller shade.

1. Fabric Panel Material: Not less than 8"x 5". Mark inside face of material if applicable.

F. Roller-Shade Schedule: Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each type of fabric panel material, signed by product manufacturer.

C. Product Test Reports: For each type of fabric panel material, for tests performed by manufacturer and witnessed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roller shades to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Roller Shades: Full-size units equal to 5 percent of quantity installed for each size, color, and fabric panel material indicated, but no fewer than one unit per size.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of products.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 Section 016000 "Product Requirements."
"MANUFACTURERS"

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Solarity™ by InPro Corporation

B. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 Motorized Shades - IQM-ACR ROLLER WINDOW SHADES 110V AC Quiet Radio Motorized Shade System (UL Listed)

A. Motorized Operating System: Provide factory-assembled, shade-operator system of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor and factory-prewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

B. UL Listed System Motors are provided with a 10' SJT Rated cable and will include a UL Listed label on the roller tube

1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2. Electric Motor: IQM-ACR tubular motor, enclosed in roller.

a. Electrical Characteristics: Single phase 110 V, 60 Hz, 1.1 AMP

3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for surface, recessed or flush mounting. Provide the following for remote-control activation of shades:

a. Wireless Control: System consisting of a concealed wireless 433 MHz radio receiver built into motor with no external components. Provide [wireless wall switches] [or] [handheld remote transmitters] for individual shades or groups of shades, to open and close shades simultaneously, and to stop shade movement.

4. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.

5. Operating Features:

a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.

b. Capable of interface with audiovisual control system.

c. Capable of accepting input from building automation control system.

2.3 Motorized Shades - IQM-DCR 24V DC Quiet Radio Motorized Shade System

A. Motorized Operating System: Provide factory-assembled, shade-operator system of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor and factory-prewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2. Electric Motor: IQM-DCR tubular motor, enclosed in roller.

a. Electrical Characteristics: 24 Volt DC Motor with imbedded RF Receiver (1.8 Amps)

b. Sound level 44 dBA

c. Motor Run Speed 6 – 28 RPM (programmable)

d. Torque 17.7 in. lbs.

e. Regulated Power Supply Required

3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for surface, recessed or flush mounting. Provide the following for remote-control activation of shades:

a. Wireless Control: System consisting of a concealed wireless 433 MHz radio receiver built into motor with no external components. Provide [wireless wall switches] [or] [handheld remote transmitters] for individual shades or groups of shades, to open and close shades simultaneously, and to stop shade movement.

4. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.

5. Operating Features:

a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.

b. Capable of interface with audiovisual control system.

c. Capable of accepting input from building automation control system.

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2.4 Motorized Shades - BAT-R 12 Volt Battery Radio Motorized Shade System

- A. Motorized Operating System: Provide factory-assembled, shade-operator system of size and capacity and with features, characteristics, and accessories suitable for conditions indicated, complete with electric motor and factory-prewired motor controls, power disconnect switch, enclosures protecting controls and operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate operator wiring requirements and electrical characteristics with building electrical system.
1. Electrical Components: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 2. Electric Motor: BAT-R tubular motor, enclosed in roller.
 - a. Electrical Characteristics: 12 V Battery Motor w/ imbedded RF Receiver
 - b. Power provided by plug-in 18" battery wand w/ 8 AA Lithium Batteries
 3. Remote Control: Electric controls with NEMA ICS 6, Type 1 enclosure for surface, recessed or flush mounting. Provide the following for remote-control activation of shades:
 - a. Wireless Control: System consisting of a concealed wireless 433 MHz radio receiver built into motor with no external components. Provide [wireless wall switches] [or] [handheld remote transmitters] for individual shades or groups of shades, to open and close shades simultaneously, and to stop shade movement.
 4. Limit Switches: Adjustable switches interlocked with motor controls and set to stop shades automatically at fully raised and fully lowered positions.
 5. Operating Features:
 - a. Group switching with integrated switch control; single faceplate for multiple switch cutouts.
 - b. Capable of interface with audiovisual control system.
 - c. Capable of accepting input from building automation control system.

2.5 FABRIC PANEL MATERIALS

- A. Fabric Panel Material Flame-Resistance Rating: Comply with NFPA 701. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- B. Fabric: As indicated on Drawings.
1. Basis-of-Design Product: Solarity™ by InPro Corporation
 2. Opacity: As indicated on Drawings.
 3. Composition: As indicated on Drawings.
- C. Fabric Panels:
1. Fabric Panel Material: [Light-filtering fabric] [Light-blocking fabric].
 2. Fabric Panel Bottom (Hem) Bar: Enclosed in hem pocket of fabric panel material, thermally sealed, not sewn.
 - a. Bottom (Sill) Channel: With light seals and designed to eliminate light gaps at bottoms of shades when shades are closed.
 - b. Color and Finish: As selected by Architect from manufacturer's full range.
- D. Installation Accessories:
1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.

- a. Shape: [L-shaped] [Curved] [Cassette]
- b. Height: Manufacturer's standard height required to conceal roller and fabric panel when shade is fully open, but not less than 3 inches (76 mm).
- c. Color options below apply only to L-shaped fascia.
 - 1) Color: [Bronze] [Black] [White] [Clear anodized] [Vanilla].
- d. Color options below apply only to curved and cassette fascia.
 - 1) Color: [Fabric-wrapped] [Black] [White].
 2. Exposed Headbox: Rectangular, extruded-aluminum enclosure including front fascia, top and back covers and endcaps.
- a. Height: Manufacturer's standard height required to enclose roller and fabric panel when shade is fully open, but not less than height indicated on Drawings.
3. Endcap Covers: To cover exposed endcaps.
4. Recessed Shade Pocket: Rectangular, extruded aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
 - a. Height: Manufacturer's standard height required to enclose roller and fabric panel when shade is fully open, but not less than height indicated on Drawings.
 - b. Provide pocket with lip at lower edge to support acoustical ceiling panel.
5. Access Flap and Hanger: Removable aluminum panel designed for installation at bottom of site-constructed Solarity™ Shades ceiling recess or pocket.
 - a. Closure-Panel Width: As indicated on Drawings.
6. Side Channels: Designed to eliminate light gaps at sides of shades as shades are drawn down.
7. Bottom (Sill) Channel: With light seals and designed to eliminate light gaps at bottoms of shades when shades are closed.
8. Installation Accessories Color and Finish: As selected from manufacturer's full range.

2.6 ROLLER-SHADE FABRICATION

- A. Product Safety Standard: Fabricate roller shades to comply with WDMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 degree F (23 degree C):
1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade is installed less 1/4 inch (6 mm) per side or 1/2-inch (13-mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill or -floor dimension of opening in which shade is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).
 2. Outside of Jamb Installation: Width and length as indicated, with terminations between shades of end to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Fabric Panel Fabrication: Fabricate fabric panels without battens or seams to extent possible except as follows:
1. Vertical Shades: Where width-to-length ratio of fabric panel is equal to or greater than 1:4, provide battens and seams at uniform spacing along fabric panel length to ensure fabric panel tracking and alignment through its full range of movement without distortion of the material.
 2. Railroaded Materials: Railroad material where material roll width is less than the required width of fabric panel and where indicated. Provide seams as required

by railroaded material to produce fabric panels with full roll-width panel(s) plus, if required, one partial roll width panel located at top of fabric panel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ROLLER-SHADE INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions.

3.3 ADJUSTING

- A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

- A. Clean roller-shade surfaces after installation, according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer that ensure that roller shades are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.