



ASPIRE RF™ Specification Submittal

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

PART 1 – GENERAL

1.01 SUMMARY

- A. Scope: Includes ASPIRE RF switches, dimmers and related devices as specified herein for the areas indicated on the drawings, specifications, and load schedules.
- B. Related Sections: Section 16570 (Dimming Controls).

1.02 REFERENCES

- A. UL 6B28
- B. NOM
- C. ANSI
- D. FCC Part 15, Class B
- E. Z-Wave Certified

1.03 SYSTEM DESCRIPTION AND OPERATION

- A. Permanently installed, wallbox mounted switches, dimmers and accessories (remote units)
- B. Permanently installed, wallbox mounted fan-speed controls
- C. Permanently installed, wallbox mounted receptacles
- D. Screwless wallplates

1.04 SUBMITTALS

- A. Submit manufacturer's standard catalog data giving all product, application, wiring, and installation information on all basic components and wallplate kits. Provide test data and/or samples as required to demonstrate conformance with PART TWO of this specification.

1.05 QUALITY ASSURANCE

- A. Manufacturer shall have a minimum of 15 years continuous experience in manufacturing wallbox dimming products.
- B. Dimmers, switches and Fan-speed controls shall be cULus listed and NOM approved specifically for each required load (i.e., tungsten, halogen, incandescent, electronic low voltage transformer, magnetic low voltage transformer, and fluorescent). Manufacturer shall provide file card or certificate upon request. Universal load-type dimmers shall not be acceptable.
- C. To assure compatibility, all dimming controls shall be obtained from a single source with complete responsibility over all lighting controls, including accessory products.

1.06 WARRANTY

- A. All devices shall be covered by a minimum five-year warranty.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Cooper Wiring Devices
- B. Unless otherwise noted, all basic components (dimmer, fan-speed control, switch, accessory units, receptacle, and communication outlets) shall be provided by one manufacturer.

2.02 EQUIPMENT

A. ASPIRE RF Lighting Controls

1. Performance

- a. Dimmers shall provide full-range, continuously variable control of light intensity.
- b. Wall controls shall fit a decorator wallplate opening with a paddle switch.
- c. Controls shall have a two-tone color and/or finish (gloss or matte).
- d. Controls shall provide single-pole/multi-location with choice of accessory devices.
- e. Matching RF Dimmer Remote (RF9542-Z) shall provide an amber LED On/Off indicator and blue LED Brightness display and shall provide multi-location control for up to 5 additional locations. Matching Remote shall require neutral connection.
- f. Non-RF matching Dimmer Remote (RF9542) shall provide amber LED On/Off indicator and blue LED Brightness display and shall provide multi-location control for up to 3 additional locations. Matching Remote shall not require a neutral connection.
- g. Controls shall provide air gap switch to totally disconnect power from load during OFF condition. Air gap switch shall be concealed during normal operation and shall be accessible without removing wallplate.
- h. Smart Dimmers shall illuminate when one Blue LED indicator when the lights are OFF to facilitate easy access in the dark. The Blue LED shall illuminate at a reduced brightness when the lights are OFF.
- i. Smart Dimmers shall provide a Dim/Bright bar that allows light level to be set by the user. A seven-step blue LED indicator shall be integrated in the push pad to show relative load status. Push Pad with return-to-neutral design shall provide preset ON/OFF control independent of Dim/Bright bar.
- j. Smart Dimmers shall provide a default setting in which Push Pad preset ON switching returns lights to last selected level.
- k. Smart Dimmers shall provide switching from OFF to maximum brightness when Push Pad is pressed and held for two seconds.
- l. Smart Dimmers shall provide a programmable delayed-off OFF of up to 4 minutes and 14 seconds (default is 10 seconds) when Push Pad is pressed and held for two seconds when dimmer is in ON status.
- m. Smart Dimmers shall provide the ability to change the selected brightness level by pressing the Dim/Bright bar while the lights are OFF. LED display shall show selected level at a reduced brightness level when the lights are OFF.
- n. Smart Dimmers shall provide the following configurable parameters: Delayed-off, All On/Off, Panic Time, Power on State, Child Lock, Association and Ramp Time
- o. Within rated capacity, dimmers shall be available for direct control of incandescent, halogen, magnetic low voltage, electronic low voltage, and fluorescent.
- p. Dimmer controls shall be capable of operating at the rated capacity; this includes modified capacities for ganging configurations which require the removal of fins (tabs). Operation at rated capacity shall be possible across the full ambient temperature range, without shortening design lifetime.
- q. To ensure a precise color match between all plastic parts, color variation of any gloss finish control shall not exceed a delta E of 1, CIE L*a*b* color units, as defined in ASTM E 308-99.
- r. Dimmer shall provide a smooth and continuous Square Law dimming curve.
- s. Controls shall meet the applicable requirements of UL 20 and UL 1472 referring to the inclusion of a visible, accessible air-gap off switch and the limited short circuit test.
- t. Controls shall meet ANSI/IEEE Std. C62.41-1980, tested to withstand voltage surges of up to 6000V and current surges of up to 200A without damage.
- u. Dimmers shall be designed to reduce interference with radio, audio, and video equipment.

- v. Controls shall incorporate power-failure memory. Should power be interrupted and subsequently returned, the lights or fans will come back on to the same levels set prior to the power interruption. Restoration to some other default level is not acceptable.
 - w. Controls shall not be susceptible to damage or loss of memory due to static discharge.
 - x. Controls shall operate in an ambient temperature range of 0°C (32°F) to 40°C (104°F).
 - y. 3-Way controls shall wire using conventional 3-way and 4-way wire runs.
2. Incandescent & Magnetic Low Voltage (MLV) Transformer Dimmers
 - a. Provide unit operating as single-pole/3-way incandescent/magnetic low voltage dimmers in 600 Watts (RF9534-N) and 1000 Watts (RF9536-N) capacities. Units shall require neutral connection.
 - b. Provide unit operating as single-pole/3-way incandescent dimmers in 600 Watts (RF9534) and 1000 Watts (RF9536) capacities. Eco-saver feature will only allow for a maximum light output of 85%. Units shall not require neutral connection.
 - c. Dimmer shall be capable of being wired as either a single-pole or configured as a 3-way device.
 3. Electronic (Solid State) Low Voltage (ELV) Transformer Dimmers
 - a. Provide ELV dimmers for direct control of up to 600 watts (RF9535-N) and 1000 watts (RF9537-N) of electronic low voltage load. Units shall require a neutral connection.
 - b. Dimmer shall be capable of being wired as either a single-pole or 3-way device.
 - c. Dimmers shall contain circuitry specifically designed to control the input of electronic (solid state) low voltage transformers.
 - d. Dimmers shall be designed to withstand a short, per UL 1472 section 5.10, between load hot and either neutral or ground without damage to the dimmer.
 4. Fluorescent Dimming Ballast Dimmers
 - a. Provide 1000W (RF9537-N) programmable ELV/Fluorescent dimmer for direct control of fluorescent dimming ballasts up to the manufacturers specified rating.
 - b. Dimmer shall be designed to operate the following ballasts:
 - 1) Advance Mark 10® Powerline
 - 2) Advance Ambistar®
 - 3) Tu-Wire™ High Performance Dimming Ballasts (5% 2-wire)
 - c. Dimmer shall be capable of being wired as either a single-pole or configured as a 3-way device.
- B. ASPIRE RF Accessories**
1. ASPIRE RF Switch Components
 - a. Switches shall provide on/off control of any 120 VAC load up to 15A.
 - b. Switches shall be cULus Listed as general-use AC switches
 - c. Switches (RF9501) shall be wired as either a single-pole or configured as /multi-location configuration with up to 5 Accessories (RF9517)
 - d. Non-neutral 8A switch (RF9518) shall be available wired as either a single-pole or in a multi-location configuration with up to 3 Remotes (RF9520).
 - e. Accessory switches shall be available in both RF (RF9517) and Non-RF (RF9520) configurations.
 2. ASPIRE RF Receptacle Components
 - a. All receptacles shall be cULus Listed and NOM approved.
 - b. Receptacles shall be two-pole, three wire ground and rated for 15A at 125VAC. All receptacles shall be NEMA configuration type 5-15R.
 - c. Receptacles shall be available in duplex, single outlet control (RFTR9505-T) models.
 - d. All receptacles shall provide compliance with the 2008 NEC® section 406.11 specification that states all receptacles installed in dwelling units must be tamper resistant.
 3. ASPIRE Telephone Jack and Cable TV Jack Components
 - a. Contractor shall provide an appropriate barrier (partition) to isolate jack from high-voltage wiring when ganged with a dimmer, fan-speed control, switch, or receptacle. This complies with NEC Articles 800-3 and 820-13.

- b. Data jack (9557) shall be designed to mate with standard 8-conductor modular jacks and be compatible with 2, 4, 6, 8 conductor lines.
- c. Telephone jack (9556) shall be designed to mate with standard 4- or 6-conductor modular jacks, and be compatible with 2, 4, or 6 conductor lines. Telephone jacks shall meet FCC Part 68, paragraph F standards to ensure compatibility with U.S. telephone systems.
- d. Cable TV jacks (9555) shall be the coaxial type, designed for use with standard 75-Ohm cables.

C. ASPIRE Screwless Wallplates

- 1. Wallplates shall be manufactured from durable polycarbonate plastic with gloss finish, and shall attach to the basic components without using exposed hardware or screws.
- 2. Multigang wallplates shall provide a continuous, seamless cover for up to six-ganged (9521, 9522, 9523, 9524, 9525, 9526, 9527) decorator-style control and accessory combinations with no exposed hardware or screws.
- 3. Modular communication mid-size wallplates shall provide a seamless cover for up to six ports (9550, 9551, 9552, 9553, 9554) for use with jacks and adapters with no exposed hardware or screws.
- 4. Multigang wallplates shall include an adapter plate for proper device alignment and wallplate attachment.
- 5. Control, accessory and wallplate profiles shall not exceed 0.30 inches from wall surface to faceplate front surface.
- 6. To ensure a precise color match between all plastic parts, color variation of any gloss finish control or wallplate shall not exceed a delta E of 1, CIE L*a*b* color units, as defined in ASTM E 308-99.
- 7. Visible parts of dimmers, switches, standard receptacles, cable jacks or any wallplate shall exhibit ultraviolet stability when tested with multiple actinic light sources as defined in ASTM D4674-89.

2.03 SOURCE QUALITY CONTROL

A. All controls shall be 100% functionally tested at the time of manufacture. Statistical sampling plan shall not be acceptable.

PART 3 — EXECUTION

3.01 INSTALLATION

- A. Contractor shall furnish all devices, labor and other services necessary for the proper installation of the devices as indicated on the drawings and specified herein.
- B. Contractor shall be responsible for de-rating lighting controls capacity in multi-gang installations.
- C. Devices shall be installed utilizing manufacturer's recommended application, wiring and installation instructions.
- D. Contractor shall provide frameless wallplate covers per specification 2.02 for all devices ganged in a common box. Contractor shall provide barriers within the box where required by code.

3.02 FIELD QUALITY CONTROL

- A. Cooper Wiring Devices technical hotline available 8:00AM–6:00PM E.S.T. Monday–Friday: 1-866-853-4293
- B. Supplemental information shall be provided on the Cooper Wiring Device website at www.cooperwiringdevices.com

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