

Energy Manager Duplex-Receptacle

SafePlug Model 1203

The SafePlug 1203 is a user-installable duplex-receptacle that lets you remotely control appliances and monitor power consumption through each receptacle independently. Basic SafePlug 1203 functions can be remotely accessed from a ZigBee HA coordinator (gateway, thermostat) with required command clusters.

Reduce Energy Bills – Remotely monitor and control energy use. Reduce energy waste by turning off phantom loads when equipment not needed.

Improve Home Security – Randomly cycle lamp and TV loads during evening hours to appear present.

Protect Electronics – Absorb electrical line surges and isolate equipment from high and low line voltage. Staggers power turn-on after a power failure.

Prevent Fires – Detect bad premise wire junctions and overloaded appliances before they overheat wires.

Prevent Toddler Shocks – Empty sockets automatically switch to “off” state.

Easy Installation – Plugs into and attaches (with screws) to an existing outlet.



Features:

- Independent 15 Amp on-off control and energy measurements for each receptacle
- Remote control commands via ZigBee Home Automation (HA) radio communication
 - Turn each receptacle On or Off
 - Measure energy consumed (kWhr, Voltage, Amperes)
 - Identify the plug load*
 - Detect faults (overload, high/low line voltage)
- Fire Safety:
 - Bad wire junction and open-neutral fault protection
 - Overload protection turns off electricity to overloaded appliances
 - Supplementary branch circuit overload protection
- Electronics Protection:
 - Surge absorption
 - Abnormal line voltage isolation
 - Appliance overload protection
 - Safe black-out recovery

Accessories Included

- User guide
- 3 mounting screws (to wall outlet cover plate holes)
- Mounting screw caps

Optional Accessories

- Vandal-resistant installation kit.

Regulatory Approvals



230670

FCC S9C-1200, S9C-3064

Industry Canada 5850A-1200, 5850A-3065



* Feature requires RightPlug encoded tag affixed to load plug.

Specifications

BASIC OPERATION

Nominal Operation: 106-127 VAC, 15 A, 60 Hz

Maximum Operating Range: 30 VAC to 240 VAC without damage to SafePlug

Status Indicators (LEDs):

- Valid line voltage at outlet (green LED)
- Power On at receptacle (green :LED)
- Overload fault detected (red LED)
- Low/high line voltage fault detected (red LED)
- ZigBee radio active.(amber LED)

All LED indicators shine through the plastic cover

PROTECTION

Appliance Overload Protection Levels:

0.33A, 0.50A, 0.88A, 1.33A, 2.0A, 3.0A, 4.0A, 5.3A, 6.3A, 8.0A, 10.5A, 13.0A, 15.0A (level determined by plug tag)

Appliance Overload Trip:

After 4 s overload above tag level (avoids nuisance trips from inrush current)

Supplemental Outlet Overload Protection:

Trips at >16A for >4s from sum of both receptacle current

Conditions for Appliance Isolation from Line:

Disconnects load from line under following conditions:

- Trips within 16 s: < 100 VAC
- Trips within 5 s: < 90 VAC or > 138 VAC
- Trips within 66 ms: > 154 VAC

Staggered Power-On: 15s to 30s delay plus 2s delay between receptacles after line voltage returns to AND stays within >100 VAC and <138 VAC

Surge Absorption (combination surge defined by UL, CSA and IEC) with Continued Uninterrupted Load Operation (no upset):

- 4,000 V, 2,000 Amps, 20 hits typical
- 2,000 V, 1,000 Amps, 100 hits typical

Surge Absorption (combination surge defined by UL, CSA and IEC) but Interrupted Load Operation:

- 6,000 V, 3,000 Amps

Surge Protection Failure

If surge protection circuitry fails (end of life), relays isolate both receptacle loads from the line and damage hazards.

LOAD IDENTIFICATION

Plug Tag: Complies with RightPlug Standard (see www.rightplug.org), retrofits onto NEMA 5-15 or 1-15 plug face (self-adhesive)

Unique Load Identification: 64 bit unique readable tag number (RightPlug UID value)

RightPlug Tag Reader: One at each receptacle

RightPlug Read Range: 1 cm from receptacle face

REMOTE CONTROL

Communication: ZigBee Home Automation 1.0, certified against ZigBee standard

ZigBee Command Clusters:

- Basic (identification of SafePlug, model)
- Groups
- Scenes
- On-Off
- Simple Metering (kW-hr measurements)
- EFCI (line voltage measurement, receptacle current measurements (2), overload faults, high/low line voltage faults)
- RightPlug (plug tag data including unique ID, manufacturer ID, product ID, mfg lot #, lifetime load device kW-hr total)

ZigBee Radio Strength:

TX: +5.7 dBm

RX: -96 dBm sensitivity (1% PER)

PHYSICAL

Environmental range:

- 0 to 40 degrees C operating
- -40 to 70 degrees C storage (non powered)

Receptacle Format: Two NEMA 5-15 receptacles, one NEMA 5-15 line plug

Dimensions: 8 cm wide x 12.5 cm high x 3.3 cm deep

Weight: 0.2 kg

STANDARDS COMPLIANCE

Safety:

UL 498A (USA)

CSA 22.2 No. 42 (Canada)

RF Emissions and Susceptibility (class B device):

FCC Part 15 (USA)

Industry Canada ICES-003, RSS-210 (Canada)

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