

Overview

The MC-21 is a versatile magnet contact switch that has been designed to provide a reliable and simple method to increase energy savings in lighting control and HVAC systems. The MC-21 is a solar powered switch that wirelessly transmits status of a window or door to a receiving controller. The MC-21 can monitor entry doors to aid in passive occupancy detection and patio doors and windows for a HVAC set back or economy mode trigger.

Batteries are not required for everyday operation due to the advanced solar energy harvesting and power management features of the switch. Either natural or artificial light will energize the switch and charge the internal storage capacitor. Upon installation, the switch will operate with exposure to 200 Lux (20 fc) for 6 minutes. The MC-21 is capable of operating over 100 hours in darkness from maximum charge levels.

The MC-21 incorporates our diagnostic and configuration features to ensure reliable communications and solar harvesting capability. The MC-21 supports Range Confirmation® technology whereby simple button press and hold sequences result in LED indication of signal strength. Solar energy harvesting level indication under existing light levels is also provided on demand through LED indication. These built-in features assist the installer to position the switch and be confident of its operation without using separate light meters, signal strength indicators and configuration devices.

The MC-21 also has a user selectable heartbeat and ability to select which interrupt (state transitions) will trigger a transmission (to maximize operation in low light conditions).

Note: Range Confirmation® requires an "F series" Echoflex controller.



Features

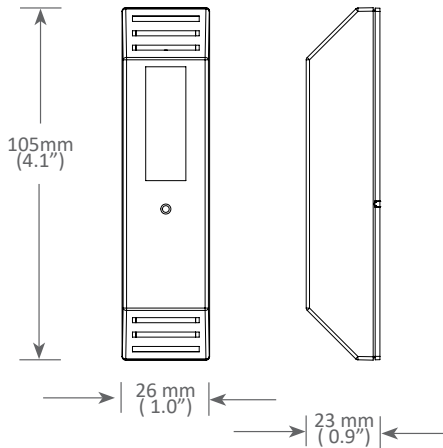
- Solar powered wireless window or door switch
- Works in conjunction with Echoflex Load Controllers and Signal Relays
- Integrated Range Confirmation® via tricolored LED indication
- Integrated Solar Harvesting Light Level LED indication
- User adjustable heartbeat (100 or 1000 seconds)
- Reed test mode and ability to select which state change(s) (close to open or open to close) will trigger a transmission
- Reliable radio reception range of 24 m (80 ft) - commercial office spaces (typical), up to 100m (330 ft) line of sight
- Up to 100 hours operation in complete darkness
- Up to 20 door/window switch sensors per controller
- Available in 902 MHz and 868 MHz frequencies
- Batteries not required, but start assist battery option available

Ordering Information

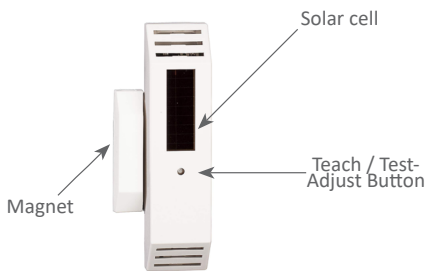
Description	902 MHz Model	902 MHz PN	868 MHz Model	868 MHz PN
Window / Door Switch - 21 series	MC-21U	8188A1153-X-1	MC-21Y	8188A1353-X-1

MC-21

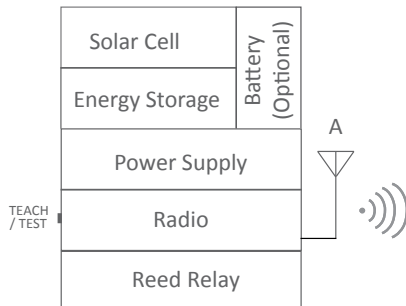
Dimensioned Diagram



Functional Diagram



Block Diagram



Equipment Profile

EEP A5-30-02: Digital Input Window Contact, Single Input

Hardware Specifications

Power Supply	Integrated solar cell
Operational Light Level	30 lux (3 fc) min. - transmitting on heartbeat only 100 lux (10 fc) min. - on open or closed events
Minimum charge time to begin operation	6 minutes @ 200 lux (20 fc)
Maintain charge time	6 hours every 24 hours @ 200 lux (20fc)
Maximum charge time	24 hours @ 500 lux (50 fc)
Operating life at full charge	100 hours in 0 lux
Battery - start assist	CR1632 (optional - not included)
Input	Teach button for assignment to receiver
Output	Test mode LEDs -red, green and amber

Communications

Radio Frequency	902 MHz (U) or 868 MHz(Y)
Antenna	Integrated whip
Transmission Range	24 m (80 ft) - commercial office spaces(typical), up to 100m (330 ft) line of sight
Telegram Transmission	On heart beat and/or open or close event (configurable - default is transmit on all events)
Telegram Heartbeat	1000 seconds (configurable to 100 seconds)

Mechanical Specifications

Operating Temperature	-25°C to 65°C (-13°F to 149°F)
Relative Humidity	5% to 92% RH (non-condensing)
Weight	46 g (1.6 oz)
Dimensions	105 x 26 x 23mm (4.1 x 1.0 x 0.9")
Magnet Dimensions	51 x 11.5 x 15.3mm (2.0 x 0.5 x 0.6")
Mounting	screws or double sided tape (not supplied)

Agency Listing & Compliance

(902 MHz only)

FCC Part 15.231 -Remote Control Transmitter

IC RSS-210



Range Confirmation is an Echoflex Solutions Inc. Patented Technology | Specifications are subject to change without notification