

## The Leading Enterprise Internet of Things Solution

### Gen 3 Wireless Control

#### General Description

IoTMSS Gen 3 wireless control units contain two separate relay switches allowing for individual control through the IoTMSS online sensors portal. The Gen 3 control unit relays can be switched on/ off manually through the software or automatically by any wireless sensor notification assigned to a single sensor or group of sensors when a specified condition is detected.

#### Principle of Operation

The Gen 3 control unit has two separate relays that can be toggled on/off at will by either: (a) the IoTMSS.com web portal; (b) any device that triggers a

notification on the same network.

Four LED indicators let the user know if the device is powered on, communicating with the online system and the status of each relay.

The user can manually turn a relay on or off through the IoTMSS software. Manual changes are either: (a) temporary based on a set duration (ex. activate the relay for 10 minutes then return to the default state); (b) perpetuated indefinitely until overridden.

Each of the units two relays can also be controlled automatically by any wireless sensor or group of sensors. Automatic relay switching can be triggered by setting the control parameters in a sensor notification from the system. The user can set the default state of each relay to on or off and user defined messages from sensors will cause the relay unit to switch to the non-default state. The relay switches back to its default state when the condition

is no longer met.

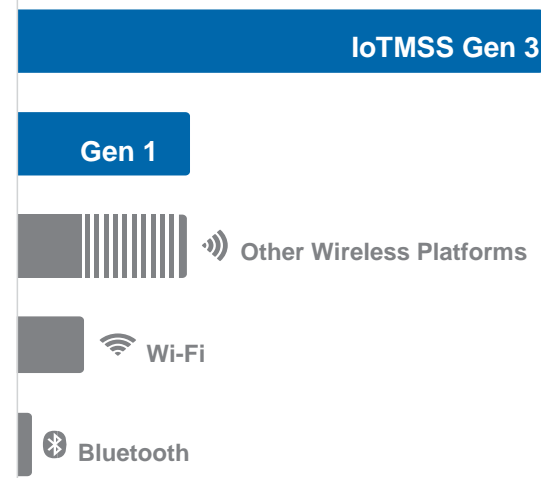
**Example Use:** If a water sensor detects water at a certain level in a sump pit, the relay will switch ON, activating the pump. When water is no longer detected, the relay will switch OFF, deactivating the pump motor.

#### Gen 3 Wireless Control Features

- Wireless range of 1,000+ feet through 12-14 walls \*
- 900 MHz Frequency Hopping Spread Spectrum (FHSS )
- 868 and 433 MHz Frequency Agile
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- 16,000 sensor message memory
- Over the air updates (future proof)
- Allows for automated control.
- 10-amp or 30-amp units available.
- Two separate relays per unit.
- Can be triggered by any Web ID wireless sensor manually through the WebID software.
- AC powered, always on for immediate response from paired sensors.

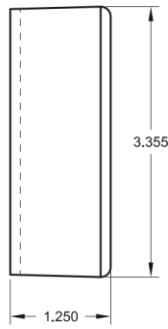
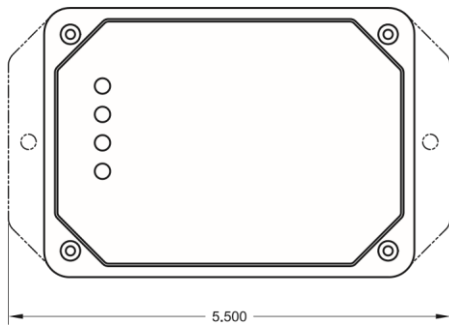
\*Actual range may vary depending on environment.

#### Wireless Range Comparison




is no longer met.

## Applications



- Facilities / Building Operations
- Automated Systems
- Smart Buildings
- Manufacturing Processes
- Machine Control
- Lighting Control
- Sump and Water Evacuation
- Agriculture and Greenhouses

### IoTMSS Wireless Control Unit Specifications

Control Unit Relays	10-Amp Units	30-Amp Units
Initial Contact Resistance	Max. 100 mΩ	Max. 50 mΩ
Max Switching Power (resistive load)	2500VA 150W (NO) 1662VA 150W (NC)	8310VA (30A 277VAC)
Max Switching Voltage	250 VAC, 100 VDC (0.5A)	277 VAC
Max Switching Current	10A (AC), 5A (DC)	30A
Nominal Operating Power	360 mW	Approx 800 mW
Operate Time (at nominal voltage / 20°C)	Max 10 ms	Max 20 ms
Release Time (at nominal voltage / 20°C)	Max 10 ms	Max 10 ms
Max Operating Speed	20 times/min (at nominal switching capacity)	20 times/min (at nominal switching capacity)
Number of Relays	2 (individually controlled)	
Control Activation	- Automatic based on sensor notification settings - Manual through IoTMSS online software	
Input Power	5.5 VDC @ 900 mA	
Antenna	Connector: SMA Gain (dBi): 3.0	
Indicator Lights	Four LED indicators - Power - Radio (RF) communication - Relay 1 status (On/Off) - Relay 2 status (On/Off)	
Enclosure	ABS Plastic UL94V-0 flame rating	
Dimensions	5.5 x 3.355 x 1.25 in. (139.7 x 85.217 x 31.75 mm)	
Weight	8 ounces	
Wireless Range	1,000+ ft. non-line-of-sight ***	
Security	Encrypt-RF™ (256-bit key exchange and AES-128 CTR)	
Operating Temperature	-40° to +85° C (-40° to +185° F)	
Certifications:	 Industry Canada  900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).	

**Note: IoTMSS control units require a IoTMSS wireless gateway for operation.**

## Commercial Grade Sensors

IoTMESS commercial grade sensors are designed for applications in are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow and splashing water).

- Safe from falling dirt
- Protects against wind-blown dust
- Protects against rain, sleet, snow, splashing water, and hose-directed water
- Increased level of corrosion resistance
- Will remain undamaged by ice formation on the enclosure
- Where there are excessively strong vibrations

Use these products within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality.

## Industrial Grade Sensors | Type 1, 2, 4, 4X, 12 and 13 NEMA Rated Enclosure

IoTMESS's Industrial sensors are enclosed in reliable, weatherproof NEMA-rated enclosures. Our NEMA-rated enclosures are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow, splashing water, and hose-directed water).

- Safe from falling dirt
- Protects against wind-blown dust
- Protects against rain, sleet, snow, splashing water, and hose-directed water
- Increased level of corrosion resistance
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