

SURE WAVE™ BY CAMDEN *Touchless Switches*

A Practical Guide for Equipment Specifiers and Installers

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CAMDEN DOOR CONTROLS

1. INTRODUCTION

The SureWave™ family of touchless switches by Camden Door Controls lead the industry in performance, quality, and value – with a range of features that are unmatched by any other touchless switches on the market.

Exclusive Features

The only touchless switches:

- with a 2-year battery life (using low-cost alkaline batteries)
- with 2 relays and built-in door sequencing
- that offers 1 inch to 6 feet detection range in full auto mode
- that offers selectable motion or presence sensor activation
- with the option for a light ring with selectable colours, and switch or remote activation.

This applications guide has been created specifically to inform installers of the many application solutions that SureWave™ has been specifically developed to support.

2. MODEL NUMBER CONFIGURATION

The SureWave™ family of touchless switches includes 6 switch models and each of these models is supported by a range of faceplates, graphics, and battery and light ring options. You can define the specific SureWave™ switch you need from the following list of models and options, in sequence:

	Switch Series Model	
	CM-330	Battery-Powered, Wireless Touchless Switch (CM-TX99 not required)
	CM-331	Wired Touchless Switch, 1 Relay (option for CM-TX99 wireless transmitter and/or light ring)
	CM-332	Wired Touchless Switch, 2 Relays (option for CM-TX99 wireless transmitter and/or light ring)
	CM-333	Battery-Powered Touchless Switch, 1 Relay, (option for CM-TX99 wireless transmitter)
	CM-325	Wired 'Short Range' Touchless Switch, 1 Relay
	CM-324	Wired Touchless Switch, 1 Relay

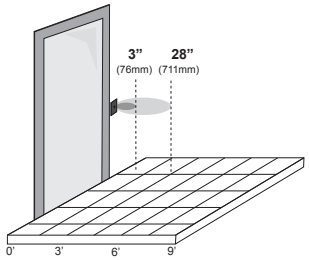
	Faceplate Graphic Option	
	40	Hand Icon
	41, 41F	Hand Icon and 'Wave to Open'
	42, 42F	Hand Icon, 'Wave to Open' text, Wheelchair Symbol
	43, 43F	Hand Icon and 'Wave to Lock'
	Faceplate Material	
	S	- Stainless Steel Faceplate - No Character for Polycarbonate Faceplate
	Faceplate Size	
	N	- Narrow Faceplate - No Character for Single Gang Faceplate
	W	Double Gang Faceplate
	Battery Option	
	L1	- Lithium Batteries - No Character for Alkaline Batteries - CM-330 and CM-333 Series Only
	Light Ring Option	
	SGLR	- 3-colour (Green/Red/Blue) Light Ring - Single and Double Gang SS Only - CM-331 and CM-332 Series Only

3. FEATURES AND APPLICATIONS

SureWave™ switches have been designed for use in a wide range of door control applications, including ADA compliant activation of automatic door operators, as a 'Request To Exit' switch in access control systems, or in other life safety or service applications. This section explains the specifications and features of the 6 different SureWave™ switch models, with examples of their typical application.

1. Sensor Range

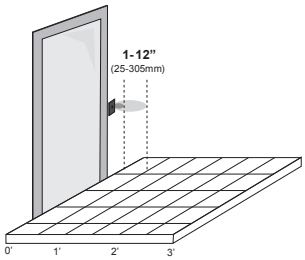
There are 3 ranges of sensor activation supported by SureWave™ switches to select the perfect switch for any application:



a. Standard Range

An adjustable 3 inch to 28-inch detection range is supported by SureWave™ line powered, wired switches, including CM-324, CM-331, and CM-332 series.

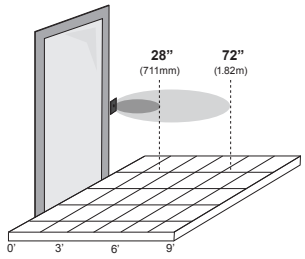
Applications: Standard range models are used for most door control applications, including where a 'knowing act' device is required.



b. Short Range

An adjustable 1 inch to 12-inch detection range is supported by SureWave™ CM-325, CM-330 and CM-333 series switches.

Applications: Short range models are used in confined spaces (ie. inside a restroom) or where mirrored surfaces (ie. chrome equipment in hospital application) can cause standard range models to false activate.



c. Extended Range

With a range of up to 6 feet, CM-331 and CM-332 automatically detect the horizontal range available and adjusts to that distance.

Applications: The extended range feature allows SureWave™ switches to be used as a door activation motion detector, in applications such as across a hallway.

2. Wired/Wireless

SureWave™ offers the largest selection of touchless switch models to make installation easy in any application.

a. Power (line or battery)



SureWave™ 12V/24, AC/DC powered switches include CM-324, CM-325, CM-331, and CM-332 series switches.

Applications: Line powered switches are used for most door control applications and line power must be used if the switch has light ring illumination.



SureWave™ battery powered ('AA' alkaline or lithium) switches include CM-330 (wireless) and CM-333 (hybrid) series switches, which provide over 2 years of battery life (with 100 operations per day).

Applications: Installing battery powered wireless switches is typically half the cost of installing line powered, wired, switches.

NOTE: Optional lithium batteries (CM-LP1) are recommended for (outdoor) winter environments, below 32F/0C, and more than double the battery life of the switch, and reduce maintenance costs.

b. Signal (wired or wireless)



SureWave™ offers a range of hardwired models with Form C relay outputs, including CM-324, CM-325, CM- 331 and CM-333 (1 relay), and CM-332 (2 relays) series.



CM-331, CM-332, and CM-333 series switches have hardwired contacts and also give you the option to install a plug-in wireless transmitter, so you can activate multiple hardwired and wireless circuits with 1 switch.

NOTE: CM-330 series switches and CM-TX99 plug-in transmitters are 915Mhz. spread spectrum wireless devices that require a compatible CM-RX90 (1 relay) or CM-RX92 (2 relays) receiver.

c. Hybrid (battery powered, wire)



CM-333 (hybrid) series switches support retrofit applications by providing battery power for the switch (sensor) and use the (2) existing wires for the signal. This design enables the replacement of a non-powered push button with a touchless switch in minutes!

3. Activation Inputs

SureWave™ touchless switches offer a number of exclusive switch activation features that are not available elsewhere. These features enable SureWave™ switches to be used in more applications than simply as a stand-alone activation switch.

a. Switch Activation Modes

SureWave™ touchless switches are unique in providing the option for different device operations, depending on how it is programmed.



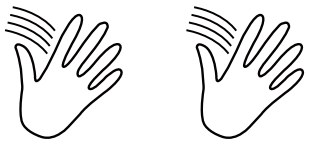
Momentary Wave
All SureWave™ Series: A wave of the hand in front of faceplate activates the relay.

Applications: Ideal for most door control applications.



Momentary Wave with Alarm
CM-330, 331, 332 & 333 Series: Switch alarm will sound if hand or object is held in front of the switch for more than 30 seconds.

Applications: Ideal for security doors that are to remain closed.



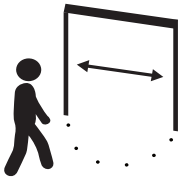
Toggle Wave (Maintained)
All SureWave™ Series: A 1st wave of the hand in front of faceplate activates the relay. A 2nd wave of the hand deactivates the relay.

Applications: Ideal for occupancy sensing and control of equipment or building systems, such as lighting.



Held Presence (Maintained)
CM-331 & 332: A hand or object held in front of the faceplate will maintain the relay as long as the hand or object is detected.

Applications: Ideal for healthcare applications where hospital beds or equipment need the doors held open for longer periods of time.



Extended Range Mode
CM-331 & 332 Series: The switch will automatically sense range up to 6 ft. and adjust to detect 'momentary wave' motion within that range.

Applications: Ideal for door control across hallways.

b. 'Request To Exit' Input



(CM-RQE70 shown)

SureWave™ CM-330, 331, 332 & 333 Series switches have a REX input for use with access control systems.

Applications: In this application, the door is unlocked/opened by either the SureWave™ switch or a REX switch. Using the REX input of SureWave™ switch eliminates the requirement for a REX switch to be wired back to the access control system.

c. Door Contact Input



(CM-MDA shown)

SureWave™ CM-331, 332 Series switches have a door contact input to be able to sense the door position.

Applications: This is typically used for door sequencing, where a second door is allowed to open before the 1st door is closed.

d. External Light Ring Control



(CX-33 shown)

SureWave™ CM-331, 332 Series switches provide the option for an LED light ring with an external control input. The idle and activation illumination of the light ring can be configured 'off', red, green or blue.

Applications: The most common use of external light ring control is for door control in restrooms, where the light ring illuminated is controlled by a CX-33 relay – to indicate a door locked/occupied status of the restroom.

4. Control Outputs

SureWave line powered touchless switches are available with 1 or 2 relay contacts, with some models also providing the option to install a (CM-TX99) plug-in wireless transmitter. CM-333 series switches offer 1 battery powered relay contact. CM-330 is a wireless series, and the installer able to select the operation of the wireless receiver relays to suit their specific project requirements.

a. Relay Operating Modes

There are 4 switch relay operating modes that can be selected by a dip switch.



1 Relay

CM-324, 325, 331, 332 & 333 series touchless switches have 1 relay and the relay can be set for:

- Momentary (Simple) Operation
- Maintained (Toggle) Operation
- Security Mode (Alarm if door held open more than 30 seconds)



2 Relays

CM-332 series touchless switches have 2 relays. The relays can be set as shown above but have the option for additional output settings:

- Security Mode (2nd relay can be used to energize a remote strobe or siren)
- Sequence Mode (1st relay instant, 2nd relay follows door closed input or time setting)

b. Relay Operating Time



CM-324 & 325 Series have an adjustable operating time of 1 – 5 seconds.

CM-331, 332 & 333 Series have an adjustable operating time of 1 – 30 seconds.

c. Fail Safe/Fail Secure Operation



CM-324, 325, 331, 332 & 333 Series touchless switches can be set for fail-safe (circuit open/ de-energized/door unlocked) or fail secure (circuit closed/energized/door locked) operation.

d. Wireless



CM-331, 332 & 333 Series touchless switches have the option of a (CM-TX99) plug-in wireless transmitter. CM-330 series touchless switches are battery operated wireless switches.

SureWave™ switches use Lazerpoint RF™ 915Mhz. spread spectrum wireless technology that is compatible with Camden wireless receivers. Lazerpoint receivers, CM-RX90/91 (single relay) and CM-RX92 (dual relay) mimic the output functions of the 'hardwired' SureWave™ switches.

5. Light Ring Illumination



SureWave™ CM-331, 332 Series switches provide the option for a (-SGLR) plug-in LED light ring with either a single or double gang stainless steel faceplate. The 'idle' and 'active' illumination of the light ring can be configured 'off', red, green or blue.

In addition, the LED light ring illumination can be controlled internally by activating the switch or by dry input from external equipment such as a control relay, door contact or access control system. A dip switch on the circuit board is used to define the 'idle' and 'active' illumination of the light ring.

a. Switch Status Indication

A dip switch setting is used to enable the SureWave™ switch illumination to occu r when the switch is activated.

Applications: The use of this feature will greatly increase the visibility of the switch, in all lighting conditions, and provide additional confirmation of switch operation to building occupants.

b. Door or Lock Status Indication

A dip switch setting is used to enable the SureWave™ switch illumination to occur when an external input circuit is closed.

Applications: The external input control can be a magnetic door contact, indicating a door closed status, or a 'push to lock' switch, indicating that the door is locked.

INSTALLATION SUPPORT

Camden Door Controls supports our line of industry-leading SureWave™ touchless switches with a wide range of support materials, including data sheets, product comparison guides, product manuals, PowerPoint and Video Presentations - available anytime at www.camdencontrols.com.

If you have a complex or difficult application that requires additional support, we invite you to contact our **Technical Support Department at 877-226-3369, ext. 505.**