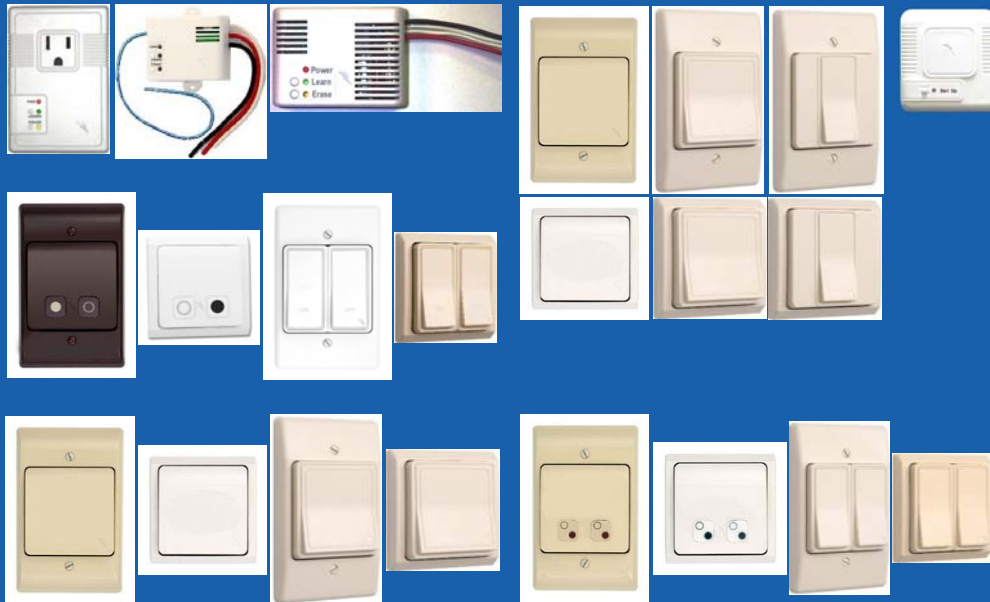


Lightning Switch[®]

Technical Data Sheets For LightningSwitch[®] Products



V.06-22-11

Technical Data

Lightning Switch[®]

Transmitter

Toggle (All Models)

Long Range



Continental Product #s

TTXAC1-WH (Small Plate, White)
 TTXAC1-LA (Small Plate, Lt. Almond)
 TTXAC1-VY (Small Plate, Ivory)
 TTXAC1-BR (Small Plate, Brown)
 TTXAC1-CL (Small Plate, Clear)

TTXLC1-WH (Large Plate, White)
 TTXLC1-LA (Large Plate, Lt. Almond)
 TTXLC1-VY (Large Plate, Ivory)
 TTXLC1-BR (Large Plate, Brown)
 TTXLC1-CL (Large Plate, Clear)

Decorative Product #s (Wide Button)

TTXAD1W-WH (Small Plate, White)
 TTXAD1W-LA (Small Plate, Lt. Almond)
 TTXAD1W-VY (Small Plate, Ivory)

TTXLD1W-WH (Large Plate, White)
 TTXLD1W-LA (Large Plate, Lt. Almond)
 TTXLD1W-VY (Large Plate, Ivory)

Decorative Product #s (Narrow Button)

TTXAD1N-WH (Small Plate, White)
 TTXAD1N-LA (Small Plate, Lt. Almond)
 TTXAD1N-VY (Small Plate, Ivory)

TTXLD1N-WH (Large Plate, White)
 TTXLD1N-LA (Large Plate, Lt. Almond)
 TTXLD1N-VY (Large Plate, Ivory)

Power Supply:	Lightning® Piezo Element <i>Element Never Needs Replacing – Battery-less Operation</i>	
Transmitter Frequency:	434MHz	
Transmitter Commands Emitted:	Toggle (Change State) <i>Contained in Unique 32-bit Code</i>	
Transmission Range*:	60 to 75 feet (18 to 23 meters) through Obstructions in 95% of Installations / Actuations	
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference	
Transmitter Operating Temperature:	-40°F to 150°F (-40°C to 65°C)	
Transmitter Durability:	100,000+ Repetitions (27+ Years @ 10 Pushes a Day)	
Transmitter Color Options:	Continental:	White, Light Almond, Ivory, Brown, Clear
	Decorative:	White, Light Almond, Ivory
Transmitter Weight:	Small Plate: 2.7oz (76.5g) • Large Plate: 3.1oz (87.9g)	
Transmitter Dimensions (Small Plate):	H: 3.27"	83 mm
	W: 3.27"	83 mm
	D: 0.83" (base to top of button)	22 mm
	D: 0.54" (base to top of Plate)	14 mm
Transmitter Dimensions (Large Plate):	H: 5.14"	130 mm
	W: 3.27"	83 mm
	D: 0.83" (base to top of button)	22 mm
	D: 0.54" (base to top of Plate)	14 mm
Mounting Options:	Affixed to Most Near-flat Surfaces with: Screws (Provided) <i>or</i> Double-stick Tape (Provided) <i>or</i> Screwed onto US-Type Switch Box (Large Plate Only) <i>or</i> Hand-held	
Regulatory Approval:	FCC (United States)	CE (Europe)
	IC (Canada)	SABS / ICASA (South Africa)

* **Comments on Transmitter Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Transmitter

Master (On/Off)

Long Range



Continental Product #s

TMXAC1-WH (Small Plate, White)
TMXAC1-LA (Small Plate, Lt. Almond)
TMXAC1-VY (Small Plate, Ivory)
TMXAC1-BR (Small Plate, Brown)

TMXLC1-WH (Large Plate, White)
TMXLC1-LA (Large Plate, Lt. Almond)
TMXLC1-VY (Large Plate, Ivory)
TMXLC1-BR (Large Plate, Brown)

Decorative Product #s

TMXAD1-WH (Small Plate, White)
TMXAD1-LA (Small Plate, Lt. Almond)
TMXAD1-VY (Small Plate, Ivory)

TMXLD1-WH (Large Plate, White)
TMXLD1-LA (Large Plate, Lt. Almond)
TMXLD1-VY (Large Plate, Ivory)

Power Supply:	Lightning® Piezo Element <i>Element Never Needs Replacing – Battery-less Operation</i>
Transmitter Frequency:	434MHz
Transmitter Commands Emitted:	Off (Pushing the Right Function Button) On (Pushing Anyplace other than the Right Function Button) <i>Contained in Unique 32-bit Code</i>
Transmission Range*:	60 to 75 feet (18 to 23 meters) through Obstructions in 95% of Installations / Actuations
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Transmitter Operating Temperature:	-40°F to 150°F (-40°C to 65°C)
Transmitter Durability:	100,000+ Repetitions (27+ Years @ 10 Pushes a Day)
Transmitter Color Options:	Continental: White, Light Almond, Ivory, Brown Decorative: White, Light Almond, Ivory
Transmitter Weight:	Small Plate: 2.7oz (76.5 g) • Large Plate: 3.1oz (87.9 g)
Transmitter Dimensions (Small Plate):	H: 3.27" 83 mm W: 3.27" 83 mm D: 0.83" (base to top of button) 22 mm D: 0.54" (base to top of Plate) 14 mm
Transmitter Dimensions (Large Plate):	H: 5.14" 130 mm W: 3.27" 83 mm D: 0.83" (base to top of button) 22 mm D: 0.54" (base to top of Plate) 14 mm
Mounting Options:	Affixed to Most flat Surfaces with: Screws (Provided) <i>or</i> Double-stick Tape (Provided) <i>or</i> Screwed onto US-Type Switch Box (Large Plate Only) <i>or</i> Hand-held
Regulatory Approval:	FCC (United States) CE (Europe) IC (Canada) SABS / ICASA (South Africa)

* Comments on Transmitter Range:

The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning Switch®

Transmitter

Double Toggle Long Range



Continental Product #s

T2XAC1-WH (Small Plate, White)
T2XAC1-LA (Small Plate, Lt. Almond)
T2XAC1-VY (Small Plate, Ivory)
T2XAC1-BR (Small Plate, Brown)

T2XLC1-WH (Large Plate, White)
T2XLC1-LA (Large Plate, Lt. Almond)
T2XLC1-VY (Large Plate, Ivory)
T2XLC1-BR (Large Plate, Brown)

Decorative Product #s

T2XAD1-WH (Small Plate, White)
T2XAD1-LA (Small Plate, Lt. Almond)
T2XAD1-VY (Small Plate, Ivory)

T2XLD1-WH (Large Plate, White)
T2XLD1-LA (Large Plate, Lt. Almond)
T2XLD1-VY (Large Plate, Ivory)

Power Supply:	Lightning® Piezo Element <i>Element Never Needs Replacing – Battery-less Operation</i>
Transmitter Frequency:	434MHz
Transmitter Commands Emitted:	Receiver #1: Toggle (Change State) (Pushing the Right Function Button) Receiver #2: Toggle (Change State) (Pushing Anyplace but Right Function Button) <i>Contained in Unique 32-bit Code</i>
Transmission Range*:	60 to 75 feet (18 to 23 meters) through Obstructions in 95% of Installations / Actuations
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Transmitter Operating Temperature:	-40°F to 150°F (-40°C to 65°C)
Transmitter Durability:	100,000+ Repetitions (27+ Years @ 10 Pushes a Day)
Transmitter Color Options:	Continental: White, Light Almond, Ivory, Brown Decorative: White, Light Almond, Ivory
Transmitter Weight:	Small Plate: 2.7oz (76.5g) • Large Plate: 3.1oz (87.9g)
Transmitter Dimensions (Small Plate):	H: 3.27" 83 mm W: 3.27" 83 mm D: 0.83" (base to top of button) 22 mm D: 0.54" (base to top of Plate) 14 mm
Transmitter Dimensions (Large Plate):	H: 5.14" 130 mm W: 3.27" 83 mm D: 0.83" (base to top of button) 22 mm D: 0.54" (base to top of Plate) 14 mm
Mounting Options:	Affixed to Most flat Surfaces with: Screws (Provided) <i>or</i> Double-stick Tape (Provided) <i>or</i> Screwed onto US-Type Switch Box (Large Plate Only) <i>or</i> Hand-held
Regulatory Approval:	FCC (United States) CE (Europe) IC (Canada) SABS / ICASA (South Africa)

* **Comments on Transmitter Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning Switch®

Transmitter

On Call (All Models)
Long Range



Continental Product #s

TNXAC2-WH (Small Plate, White)
TNXAC2-LA (Small Plate, Lt. Almond)
TNXAC2-VY (Small Plate, Ivory)
TNXAC2-BR (Small Plate, Brown)

TNXAC2-CL (Small Plate, Clear)

TNXLC2-WH (Large Plate, White)
TNXLC2-LA (Large Plate, Lt. Almond)
TNXLC2-VY (Large Plate, Ivory)
TNXLC2-BR (Large Plate, Brown)
TNXLC2-RD (Large Plate, Red)
TNXLC2-CL (Large Plate, Clear)

Decorative Product #s

TNXAD2W-WH (Small Plate, White)
TNXAD2W-LA (Small Plate, Lt. Almond)
TNXAD2W-VY (Small Plate, Ivory)

TNXLD2W-WH (Large Plate, White)
TNXLD2W-LA (Large Plate, Lt. Almond)
TNXLD2W-VY (Large Plate, Ivory)

Power Supply:

Lightning® Piezo Element
Element Never Needs Replacing – Battery-less Operation

Transmitter Frequency:

434MHz

Transmitter Commands Emitted:

On (can also be factory programmed for "Off")
Contained in Unique 32-bit Code

Transmission Range*:

60 to 75 feet (18 to 23 meters) through Obstructions
in 95% of Installations / Actuations

Transmission Range Limiting Factors*:

Metal Walls, Structures & Appliances
Line Noise, Severe Radio Frequency Interference

Transmitter Operating Temperature:

-40°F to 150°F (-40°C to 65°C)

Transmitter Durability:

100,000+ Repetitions (27+ Years @ 10 Pushes a Day)

Transmitter Color Options:

Continental: White, Light Almond, Ivory, Brown, Clear,
Red (Large Plate only)
Decorative: White, Light Almond, Ivory

Transmitter Weight:

Small Plate: 2.7oz (76.5g) • Large Plate: 3.1oz (87.9g)

Transmitter Dimensions (Small Plate):

H: 3.27" 83 mm
W: 3.27" 83 mm
D: 0.83" (base to top of button) 22 mm
D: 0.54" (base to top of Plate) 14 mm

Transmitter Dimensions (Large Plate):

H: 5.14" 130 mm
W: 3.27" 83 mm
D: 0.83" (base to top of button) 22 mm
D: 0.54" (base to top of Plate) 14 mm

Mounting Options:

Affixed to Most Near-flat Surfaces with:
Screws (Provided) *or* Double-stick Tape (Provided) *or*
Screwed onto US-Type Switch Box (Large Plate Only) *or*
Hand-held

Regulatory Approval:

FCC (United States) CE (Europe)
IC (Canada) SABS / ICASA (South Africa)

* **Comments on Transmitter Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning  Switch®



Receiver

Plug-In – Toggle/Master
120V/1800W – Pro Grade

Product #
RMP120P4-WH (White)

Power Supply:	110V to 120V AC
Power Rating:	1800 Watts (15 Amps)
Operating Frequency:	434MHz
Transmitter Commands Obeyed:	Toggle, On, Off <i>Contained in Unique 32-bit Code</i>
Maximum Transmitters Obeyed:	40 Different Lightning Transmitters per Receiver
Transmission Range*:	
Used with Long Range Transmitters	60 to 75 feet (23 meters) Through Obstructions in 95% of Installations / Actuations
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Receiver Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Receiver Color Options:	White
Receiver Weight:	4.1 oz (116.5 g)
Receiver Dimensions:	H: 3.61" 91.7 mm W: 2.42" 61.5 mm D: 1.34" 34 mm
Mounting:	Plugged into 110V/120V Outlet
Regulatory Approval/Safety Certification:	FCC (United States); IC (Canada)

Power & Current Draw

Voltage	Power (On)	Current (On)	Power (Off)	Current (Off)
120V/60Hz	1.2W	30mA	0.55W	20mA

*** Comments on Transmission Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning  Switch®



Receiver

Wire-In – Toggle/Master (On/Off)

120V/1800 W – Professional Grade

Product #
RMW120P4

Power Supply:	110V to 120V AC
Power Rating:	1800 watts (15 Amps)
Operating Frequency:	434MHz
Transmitter Commands Obeyed:	Toggle, On, Off <i>Contained in Unique 32-bit Code</i>
Maximum Transmitters Obeyed:	40 Different Lightning Transmitters per Receiver
Transmission Range*: Used with Long Range Transmitters	60 to 75 feet (23 meters) Through Obstructions in 95% of Installations / Actuations 100 feet (30 meters) through Light Obstructions Up to 150–250 feet (45–75 meters) through Air
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Receiver Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Receiver Color Options:	White
Receiver Weight:	2.29 oz (64.8 g)
Receiver Dimensions:	H: 1.8" 45.5 mm W: 2.2" 55.4 mm D: 1.1" 28.5 mm
Mounting:	Wired into 110V/120V Electrical Junction Box
Regulatory Approval/Safety Certification:	FCC / UL (United States); IC / UL (Canada)

Power & Current Draw

Voltage	Power (On)	Current (On)	Power (Off)	Current (Off)
120V/60Hz	1.2W	30mA	0.55W	20mA

* Comments on Transmitter Range:

The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning Switch®



Receiver

Wire-In – Toggle/Master (On/Off)
12V/84W – Professional Grade

Product #

RMW12P1

This Receiver is powered by 12V DC and acts as a normally-open “Dry Switch”.

It can switch any line “on” or “off”.

Power Supply:	11.4V to 14V DC
Power Rating:	84 watts (7 amps)
Operating Frequency:	434MHz
Transmitter Commands Obeyed:	Toggle, On, Off <i>Contained in Unique 32-bit Code</i>
Transmission Range*: Used with Long Range Transmitters	60 to 75 feet (23 meters) Through Obstructions in 95% of Installations / Actuations
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Receiver Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Receiver Color:	White
Receiver Weight:	2.5oz (70.9g)
Receiver Dimensions:	H: 2.25" W: 3.0" D: 1.08" H: 57mm W: 76mm D: 27mm
Mounting:	Wired into 11V DC to 14V DC Power Source
Regulatory Approval/Safety Certification:	FCC (United States) IC (Canada)

Power & Current Draw

Voltage	Power (On)	Current (On)	Power (Off)	Current (Off)
12V DC	0.27W	23mA	0.075W	7mA

*** Comments on Transmitter Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much farther than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference (“noise”) can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning Switch®



Receiver

Wire-In – Toggle/Master (On/Off)
12V/84W – Home Grade

Product #

RMW12H1

This Receiver is powered by 12V DC and switches 12V DC.

Power Supply:	11.4V to 14V DC
Power Rating:	84 watts (7 amps)
Operating Frequency:	434MHz
Transmitter Commands Obeyed:	Toggle, On, Off <i>Contained in Unique 32-bit Code</i>
Transmission Range*:	
Used with Standard Transmitters	40 to 50 feet (14 meters) Through Obstructions in 95% of Installations / Actuations
Used with Long Range Transmitters	60 to 75 feet (23 meters) Through Obstructions in 95% of Installations / Actuations
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Severe Radio Frequency Interference
Receiver Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Receiver Color:	White
Receiver Weight:	2.5oz (70.9g)
Receiver Dimensions:	H: 2.25" W: 3.0" D: 1.08" H: 57mm W: 76mm D: 27mm
Mounting:	Wired into 11.4V to 14V DC Power Source
Regulatory Approval/Safety Certification:	FCC (United States) IC (Canada)

Power & Current Draw

Voltage	Power (On)	Current (On)	Power (Off)	Current (Off)
12V DC	0.27W	23mA	0.075W	7mA

* **Comments on Transmitter Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much farther than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also be a problem requiring the use of a Lightning® Switch System Extender.

V.06-22-11

Technical Data

Lightning Switch®



System Extender

Plug-In
120V Professional Grade

Product #

E-P120P2- WH (White)

Power Supply:	110V to 120V AC
Operating Frequency:	434MHz
Transmitter Commands Retransmitted:	All Lightning Transmissions
Maximum Transmitters:	No Limit
Reception Range from Transmitters*:	75+ feet (23+ meters) through Obstructions 100-150 feet (45-90 meters) through Air
Re-transmission Range to Receivers*:	100+ feet (30+ meters) through Obstructions 150-250 feet (45-75 meters) through Air
Re-transmission Range to Other Extenders*:	150+ feet (30+ meters) through Obstructions 200-400 feet (45-75 meters) through Air
Transmission Range Limiting Factors*:	Metal Walls, Structures & Appliances Line Noise, Severe Radio Frequency Interference
Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Color Options:	White
Weight:	2.5oz (70.9g)
Dimensions:	H: 2.25" W: 3.0" D: 1.08" H: 57mm W: 76mm D: 27mm
Mounting:	Plugged into 110V/120V Electrical Outlet
Regulatory Approval/Safety Certification:	FCC / UL (United States); IC / UL (Canada)

Power & Current Draw

Voltage	Power	Current
110V/60Hz	0.8W	26-27mA
120V/60Hz	0.9-1W	29-30mA

* **Comments on Transmission Range:** The performance of all radio frequency devices is affected by environmental conditions. Lightning® Switch products have been designed to be highly dependable in the great majority of installations. Transmission ranges listed above were achieved in field testing including transmissions through as many as four walls/floors at once, including 16-inch brick walls. Actual transmission ranges achieved during field testing were often much longer than the distances listed. In a small number of installations, the placement of Lightning® Transmitters and Receivers can be critical. If transmissions are attempted through metal walls and/or appliances, transmission range may be greatly reduced. An extraordinary amount of radio frequency interference ("noise") can also diminish transmission range.

V.06-22-11

Technical Data

Lightning  Switch®