



## Remote Control Cut Off Switch NEFA20 Plus F1

### Installation Guide

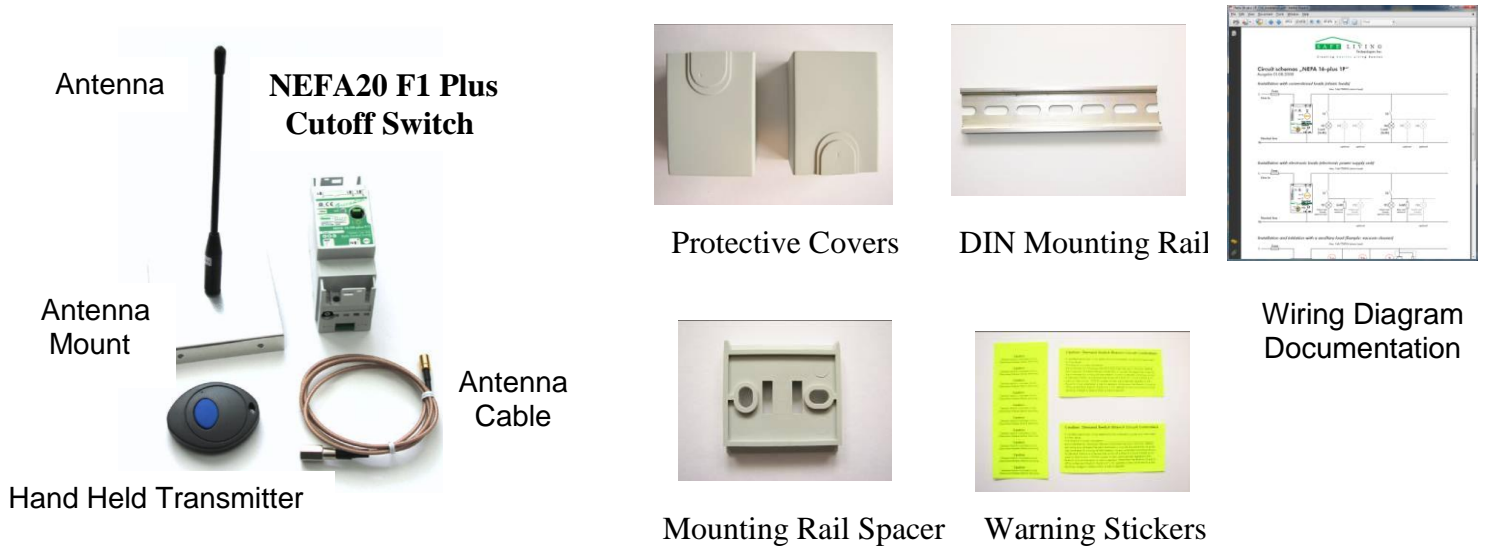


**Please read this entire guide before beginning the installation!**





## Supplied Parts



### Additional Parts - Supplied by your installer

- 10"x10" Electrical Enclosure "D" Type
- Conduit to Main Electrical Panel
- Mounting Hardware

### Accessories - Supplied by Safe Living Technologies

- **Multi Port Contactor** – Allows for multiple branch circuit control with 1 Cut Off Switch
- **Additional Hand Held Transmitter** – Control Cut Off Switches from multiple locations with an extra transmitter (Specify "A" or "B" )



**Typical Installation:**  
Assembled View

## Theory of Operation:

AC Electric Fields are produced by the presence of electricity. Their strength is determined by voltage; the higher the voltage, the stronger the field. AC Electric Fields are radiated from live electrical wires and generally travel 6-8 feet from the source, but in some cases further. An electric field will exist even when a device is not in use (turned off). In other words, these sources produce a continual emission. AC Electric Fields have a natural attraction to ground and are considered low frequency electromagnetic radiation. (5 Hz – 400,000 Hz).

The Remote Control Cut Off Switches' purpose is to de-energize a circuit at the main electrical panel, similar to the automatic demand switch, however the remote control switch is a manual switch, not automatic. It is typically used for use on circuits that have electronic devices that constantly require electricity to operate even, when switched off, for example, TV, stereo, clock radio and some GFI (ground

fault interruption) circuits. The automatic demand switch is not designed for these types of electronic devices which draw a phantom load.

To initiate the remote control switch, one physically needs to press a push-button on a hand-held remote control transmitter, to energize or de-energize a circuit. This type of remote control is similar to one used to lock and unlock a car door. Pushing the button on the hand held unit simply toggles the remote control switch on and off. As the switch toggles on and off it energizes and de-energizes the circuit it controls supplying 120VAC or removing it. Each demand switch controls a single branch circuit or single circuit breaker and switches the hot/black wire on and off. This Remote Control Switch is not load or current dependent. The switch is rated for 20 Amps AC and is compatible with standard and arc fault circuit breakers.

It is possible to control multiple circuits by using a multi-pole contactor/relay. The Cut Off Switch is used as the trigger for the multi-pole contactor and energizes or de-energizes all of the controlled circuits simultaneously.

There are 3 versions of remote control switch, version “A”, version “B” and version “C”. The switches operate on different frequencies and will not interfere with each other. This allows for the installation of 3 different control units in one location. One can also use 2 identical versions in one location but both would turn off when either remote control is pressed.

When the push button on the transmitter is pressed, a momentary analog radio frequency control signal is transmitted at a frequency of 916.5 MHz.

## Installation Procedure:

**Warning: To be installed by a Licensed Electrician and must conform to local electrical code!**

- 1] Attach electrical enclosure to the breaker panel with conduit
- 2] Mount electrical enclosure onto the wall / backing board with 4 screws which may require the drilling of holes
- 3] Attach the mounting rail to the electrical box with 2 screws which may require the drilling of Holes



- 4] Ensure enclosure is properly grounded
- 5] Remove the Remote Cut Off Switch from its packaging
- 6] Preparing the switch for wiring by removing its protective covers (Already removed and in box)
- 7] Prepare the switch for mounting by **gently** removing the mounting rail spacer with a slot screw driver. The tab is spring loaded and will release the spacer when pressure is applied. (Already removed and in box)
- 8] To attach the cut off switch to the mounting rail hook the top of the demand switch onto the mounting rail and gently push the bottom of the switch onto the mounting rail until a click is heard. This indicates the switch is secured to the rail.
- 9] To remove a cut off switch for maintenance purposes, a slot screw driver is required. Insert the screw

driver into the spring loaded tab on the bottom of the switch and apply a **gentle** upward pressure with the screw driver forcing the spring latch to open. This will unlock the switch from the rail for removal.



10] If required, prepare the protective cover for protecting the wires by cutting or drilling out the end to allow wires to pass through



Drill an antenna cable access hole in the panel Box and attach the antenna to the bottom of the Demand Switch. Be sure to comply with local electrical codes.



Attach and mount antenna in an open area.



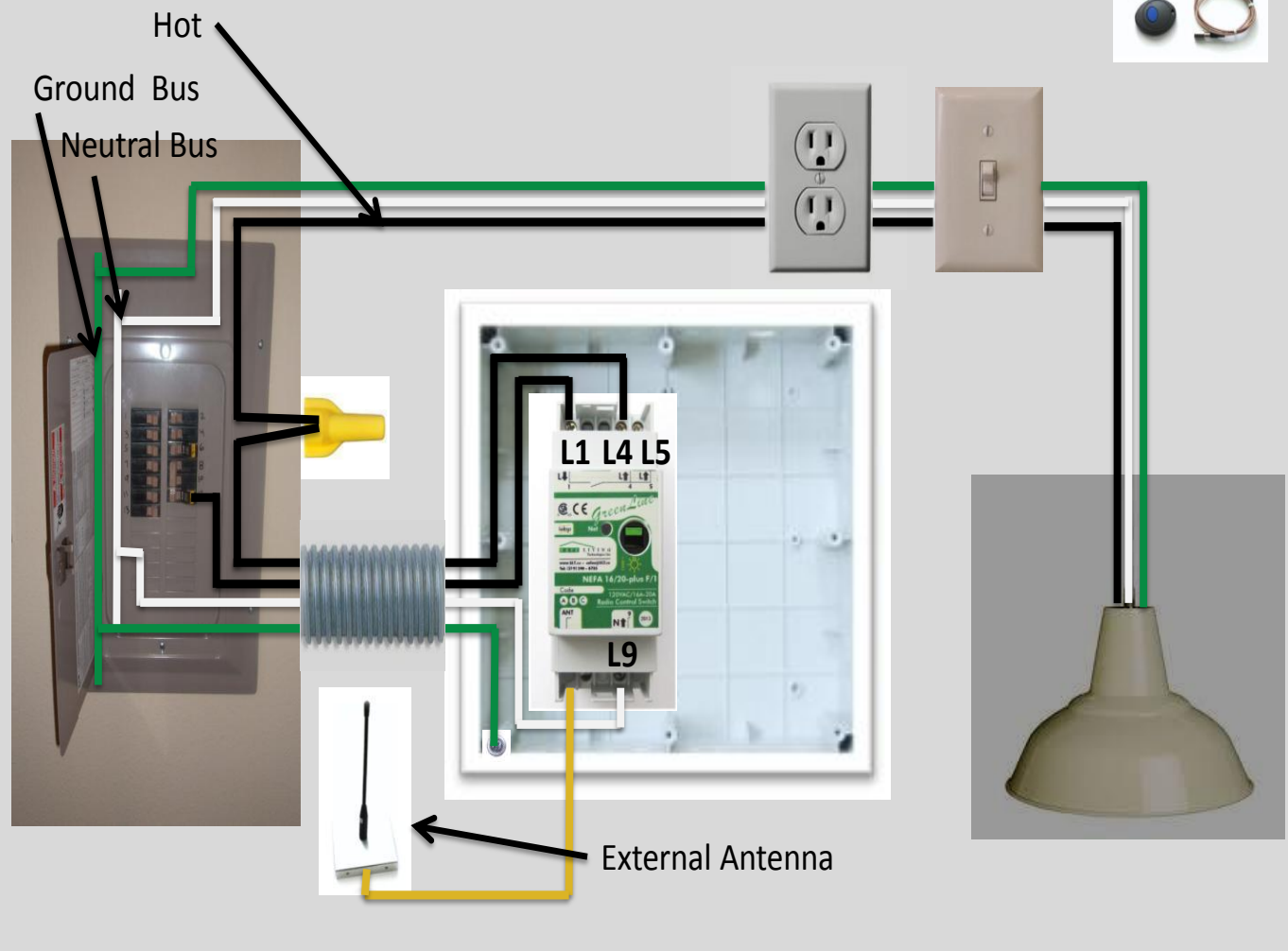
## Remote Control Cut Off Switch – Single Circuit Connection

### Wiring Connections

Connect pole **L1** of the Remote Control Cut Off Switch to the breaker of the controlled branch circuit (Hot Input). Connect pole **L4** or **L5** of the Remote Control Cut Off Switch to the controlled branch circuit (Hot Output). Note, L4 and L5 are the same point and are connected together internally inside the switch. Connect the neutral wire to pole **L9**.

**Note:** The Remote Control Cut Off Switch simply interrupts the hot wire and switches it off and on. This switching is **NOT** load dependent. It is activated by physically pressing the button on a Remote Control Transmitter, similar to that of an automobile.

### Remote Cut Off Switch Installation Single Circuit Hookup

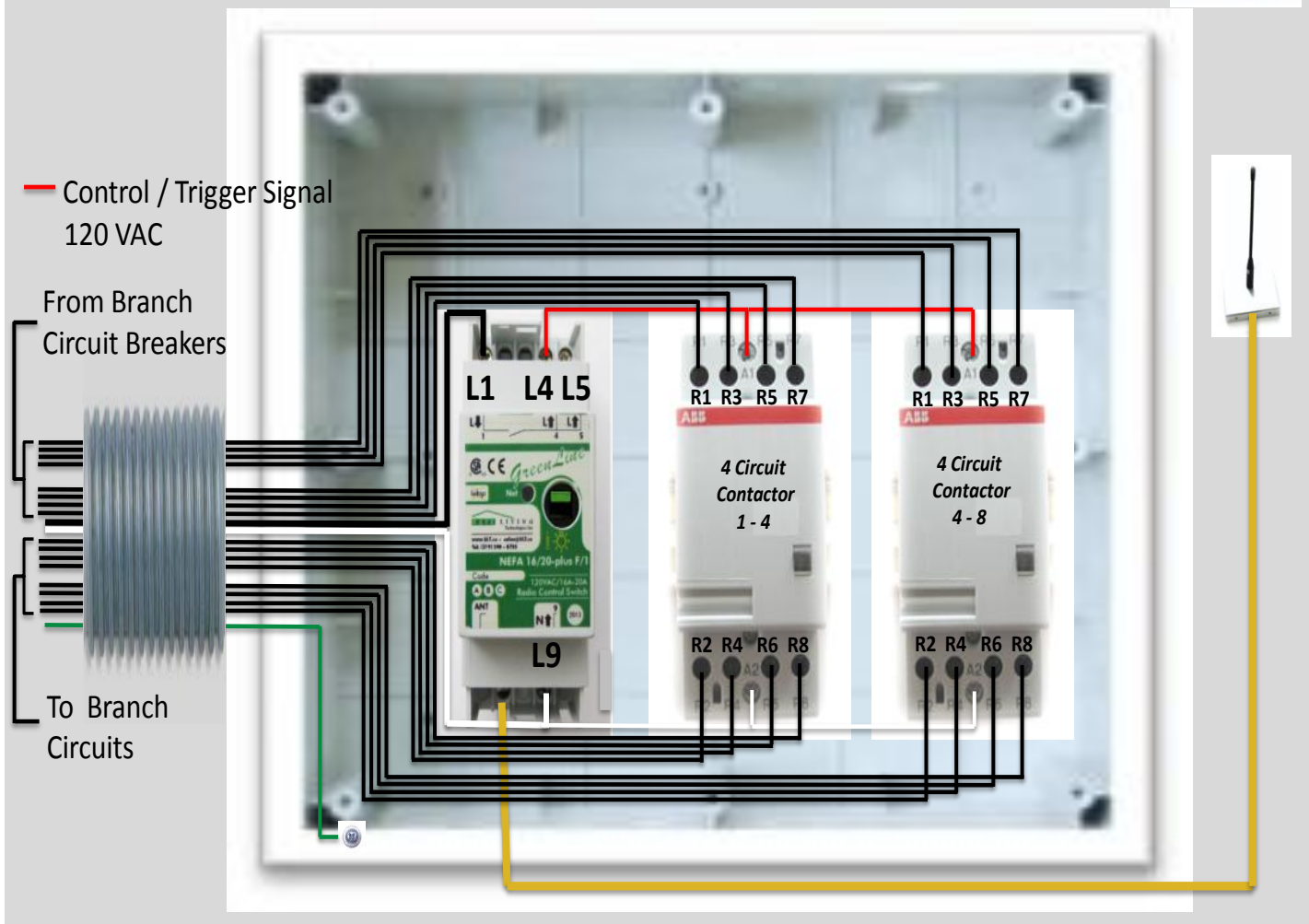


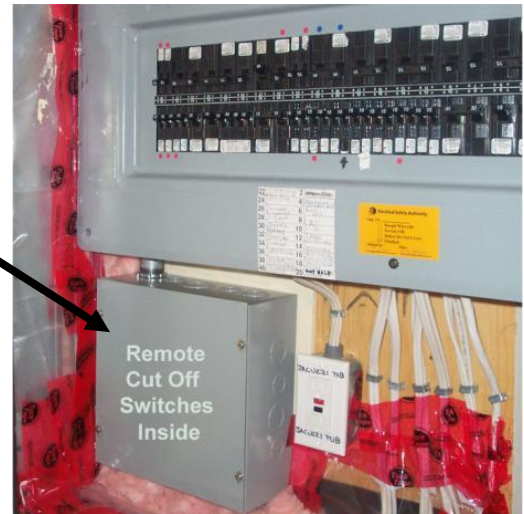
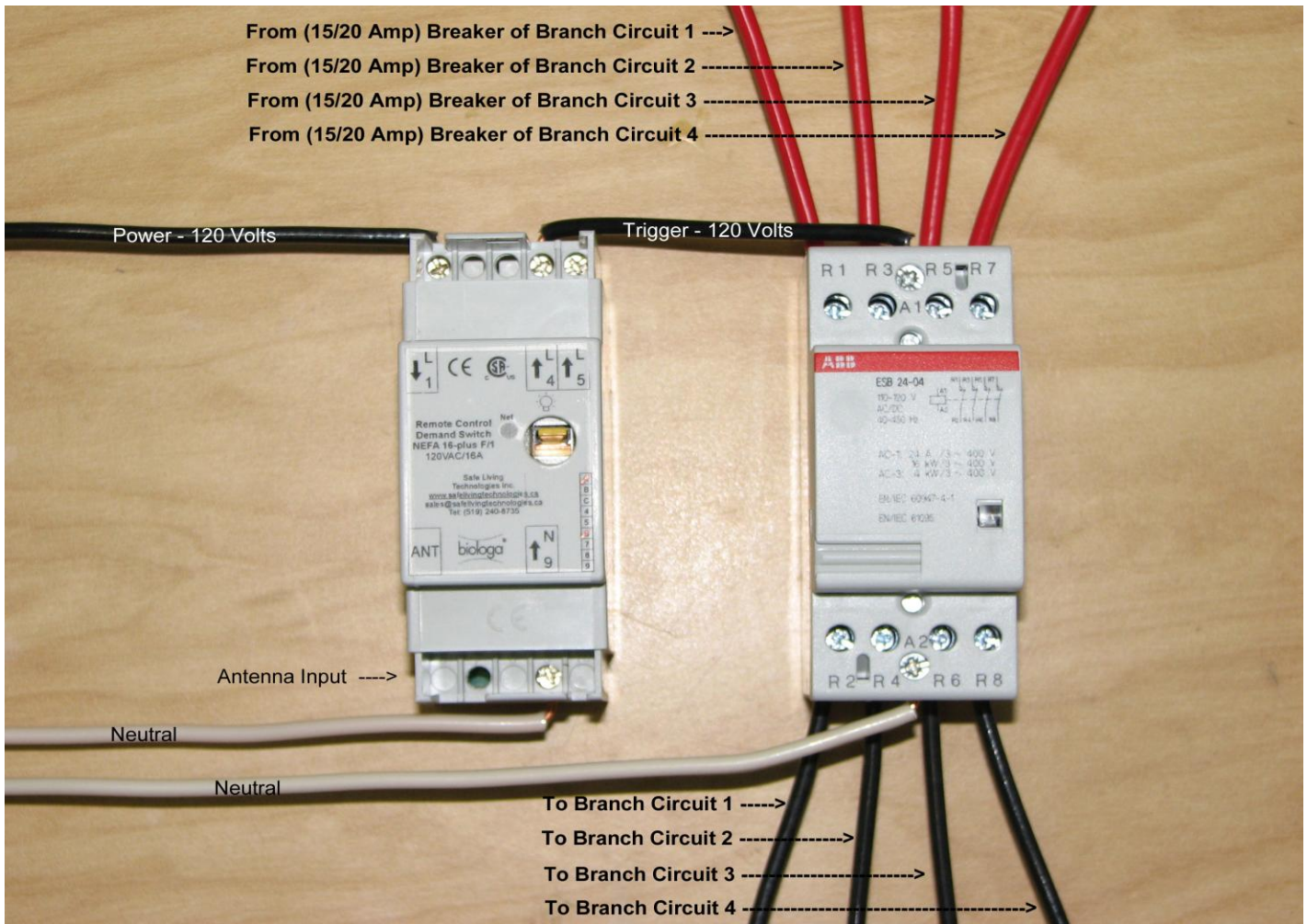
## Remote Control Cut Off Switch – Multi-Circuit Connection

- An Optional 4 Circuit Multiport 20 - 40 Amp Contactor can be installed
- When choosing a contactor, it is important to select one that is properly rated for the individual branch circuits it will be controlling. Resistive loads and inductive loads must be considered.

### Remote Cut Off Switch Installation

### Multi-Circuit Hookup







## Initial Startup Procedure

- Label each demand switch with the number of the branch circuit it controls
- Attach the enclosed warning stickers to electrical enclosure clearly label the controlled circuits
- Mark the circuit breakers with warning stickers
- Ensure installation and wiring is correct
- Supply power by turning on branch circuit breaker
- Test the operation of the transmitter beside the Cut Off Switch. Ensure the yellow switch on the front of the Cutoff Switch toggles up and down as the hand held transmitter is pressed
- Test the operation of the transmitter in various locations and monitor for functionality
- To comply with local electrical code, an electrical inspection is recommended

## Troubleshooting Remote Cutoff Switch NEFA20 Plus F1:

**1]** If the Remote Control Cut Off Switch does not respond to the hand held transmitter, try replacing its battery. When the button is pushed, a small flashing light will illuminate on the top of the hand held remote control unit. This light indicates the hand held transmitter is trying to communicate with the Cut Off Switch. If the light does not illuminate when the button is pushed the battery may be low or the remote control unit is defective. The battery model is a 2032, 3 V Lithium battery. A new battery usually measures 3.28 volts unloaded and a used battery can start causing problems if its voltage falls below 3.10 volts unloaded.

**2]** If the battery tests okay and the remote control hand held device appears to be transmitting but the switch is still not responding, try removing power from the Cut Off Switch. This will in turn reset the Cut Off Switch. This can be done by turning off the breaker feeding the switch and verified by the Cut Off Switch's green power light turning off. Allow power to be turned off for at least 5 minutes. This may take longer in some circumstances where power to the unit needs to be shut off for an hour or sometimes overnight.

**Typical Cause:** If the power to the Cut Off Switch is turned on/off several times rapidly an error condition may be induced. This condition may occur during the installation process as the controlling breaker may be turned on and off several times to verify operation. This condition occurs because the Cut Off Switch thinks there is a power failure and places itself in a protective, locked state, for safety reasons. Removing the power to the switch for several minutes usually resolves this problem.

**3]** The remote switch can be manually overridden by simply toggling its front facing toggle switch up or down with a small slot screwdriver. Power to the switch must still be supplied in order for this to work.

**4]** If your Remote Control Cut Off Switch is not working very well from far away, you may be experiencing interference from objects near your receivers antenna or the floor above it is blocking the signal. To improve you remote controls range, try the following:

- Mount the antenna in various locations around the area of installation and test
- Ensure that the antenna is mounted vertically
- Mount the antenna above the basement or on the first floor of the building. An antenna extension cable may be necessary – please contact us for details

**5] Caution! If you still suspect a problem with the demand switch, have it tested by a certified electrician.**







Safe Living Technologies Inc.  
7 Clair Road W, PO Box 27051  
Guelph, ON  
N1L 0A6  
Canada  
Tel - 519-240-8735

[support@slt.co](mailto:support@slt.co)  
[www.slt.co](http://www.slt.co)