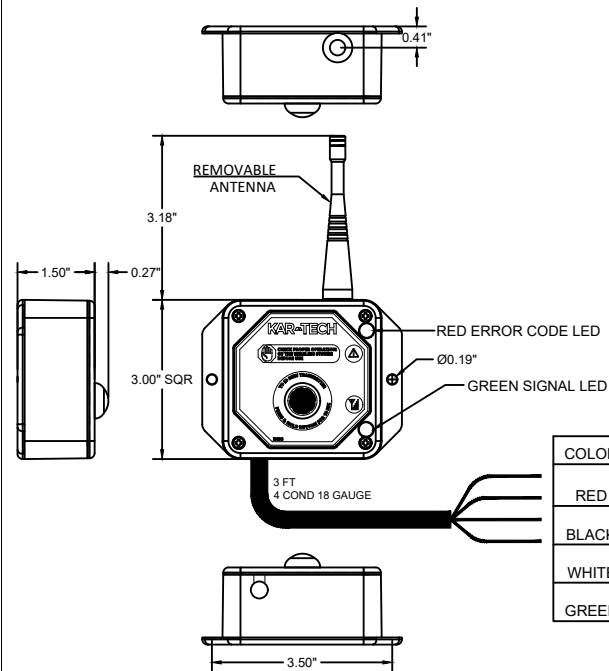




P/N: 3A5633C
RECEIVER, WIRELESS E-STOP
900 MHz

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

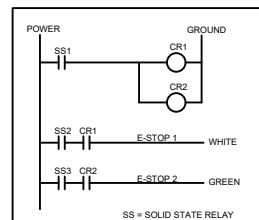
FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:-Reorient or relocate the receiving antenna. -Increase the separation between the equipment and receiver. -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

For more information, visit: <http://kar-tech.com/certification>



RECEIVER INTERNAL DIAGRAM

COLOR	DESCRIPTION
RED	POWER (9-30 VDC)
BLACK	GROUND
WHITE	E-STOP OUTPUT 1
GREEN	E-STOP OUTPUT 2

OPERATION:

Up to 6 modules (transmitters or receivers) can communicate with each other simultaneously. For example, there could be 3 transmitters and 3 receivers communicating with each other simultaneously, 5 transmitters and 1 receiver, 5 receivers and 1 transmitter, 2 transmitters and 3 receivers, 2 transmitters and 2 receivers, or more combinations. Under normal conditions, the receiver outputs are ON (shorted to power). When any transmitter's E-Stop is pressed or a transmitter or a receiver loses communication, both outputs will turn OFF.

The receiver is designed with three solid-state outputs that control two relays. Two output/relays are for the outputs. The third output provides redundancy, where two outputs or relays need to fail in the ON state in order to have false outputs. Output one turns on when all transmitters have their E-Stop switches released and all receivers are normally communicating with the leader. Output two turns on after power is cycled to the receiver and all transmitters' E-Stop switches are released and all receivers are normally communicating with the leader. Output two is less permissive than output one. When properly installed, output two is used for additional safety to ensure the equipment will not turn on without cycling power at the receiver.

Note: If multiple transmitters or receivers are taught to the leader, and any transmitter or receiver is not present, the receiver will be in an E-Stop condition. If a transmitter or receiver is lost, misplaced or damaged, and you intend to safely operate with fewer transmitters or receivers, you must re-teach the remaining transmitters or receivers to the receiver to normally operate.

For additional redundancy, the transmitter's E-stop switch includes two normally closed contacts, along with the additional output redundancies on the receiver side.

TRANSMITTER SLEEP MODE:

The transmitter will go to sleep (turn off) after 15 minutes if the leader receiver is off to save battery.

Leader: The leader module is the unit that controls the communication and makes the E-Stop mode decisions. The key thing to remember when deciding which module will be the leader, is that the leader must be in RF range of all other modules in the system. Note that all the different ways to set up the 3A563 are changeable. If one configuration does not work ideally, you can always try a different one. The leader receiver is the one used for synchronizing below.

LED INDICATORS (LIGHTS):

TRANSMITTER:

- Green blinking fast - normal condition.
- Green blinking slow - the transmitter is not talking to the leader or the leader is not talking to all the transmitters and receivers that were synced to it.
- Green off - E-stop pressed and transmitter is off or battery is discharged.
- Red blinking - Low battery.
- Red solid - E-stop pressed on another transmitter or loss of communication

RECEIVER:

- Green blinking fast - normal condition.
 - 4 times per second - leader receiver is talking to a transmitter or receiver that was synced to it
 - 8 times per second - receiver is talking to the leader
- Green off - the receiver is not talking to the leader or the leader is not talking to all the transmitters and receivers that were synced to it.
- Red blinking
 - Solid - E-stop is pressed on the transmitter (assuming synchronized) or loss of communication
 - 1 time - No communication with leader or not synced after ID changed.
 - 2 times and a pause: E-stop pressed at-least once on a transmitter or loss of communication
 - 3 times and a pause: Low voltage at the receiver.

SYNCHRONIZING TRANSMITTER(S) AND RECEIVER(S):

Transmitter(s) and receiver(s) are synchronized together at the factory. Total of 6 modules (transmitters or receivers) can be synced together. If a new transmitter or receiver is needed, synchronizing is required. Use the following procedure(s) for each transmitter(s) or receiver(s) synchronization:

Synchronize one transmitter to one receiver:

- Apply power to the receiver.
- Press and hold the receiver's push button switch for more than 10 seconds, then release. Both red and green LEDs will start flashing.
- For E-stop systems, twist and release the transmitters E-Stop switch to turn it on.
- For Deadman systems, press and hold the transmitters deadman switch to turn it on.
- Both red and green LEDs will start flashing and when transmitter's red and green LEDs stop flashing (approx. 5 seconds), synchronization is complete.
- Cycle power to the receiver before normal operation.

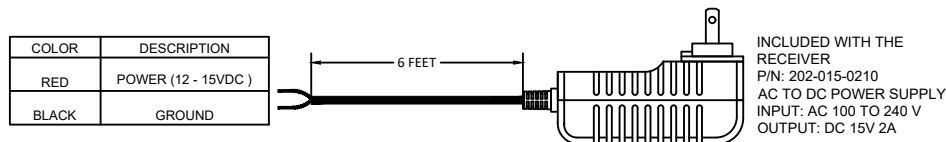
Synchronize multiple transmitter(s) and receiver(s):

- Apply power to a receiver. This will be the leader. All other E-stop transmitters (no power applied) and receivers must be off.
- Press and hold receiver's push button switch for more than 10 seconds then release (this is the leader receiver). Both red and green LEDs will start flashing. If syncing any receiver(s) continue if syncing just transmitter(s) go to step 7.
- Apply power to the receiver that is to be synchronized
- Wait until the green and red LEDs stop flashing together on the receiver that is being synchronized. If this does not occur, start over from the beginning and go slow.
- If more than one receiver is to be synchronized, apply power to each receiver one at a time, wait 5 seconds between each receiver
- If only syncing receivers then go to step 10 otherwise continue
- Twist and release the transmitters E-Stop switch that is to be synchronized
- Wait until the green and red LEDs stop flashing together on the transmitter. If this does not occur, start over from the beginning and go slow.
- If more than one transmitter is to be synchronized, apply power to each transmitter one at a time, wait 5 seconds between each transmitter.
- Teach complete
- Cycle power off to each receiver before normal operation.

SPECIFICATIONS:

RF: 900 MHz ± 1 W
Transmitter battery: 2 X 2600mAh Li-Ion Life before charge: 34 hours of operation
Transmitter Battery Charge: +960mA. The red LED on the transmitter will be on during charging and when charging is complete the green LED will be on
Receiver Supply: 9-30 VDC
Receiver Current: +30mA standby at 13.8V, +60mA active at 13.8V.
Output Rating: 5A maximum each (sourcing) through relays
Environmental: Transmitter: -20C to +60C Receiver: -40C to +85C
Vibration: 3G to 200Hz

KAR-TECH Delafield, WI 53018				IMPLIED TOLERANCE	
TITLE WIRELESS E-STOP SYSTEM 900MHz				XX	± .1
				XXC	± .06
				XXXC	± .015
				FRACTIONAL	± .00
COMPANY/IDN KAR-TECH				ANGULAR	± 0.5 deg
CAD DRAWING DO NOT REVISE MANUALLY					
SCALE FULL	DRAWN BG	DATE 11-25-25	CHECKED	APPROVED	DRAWING NO. 3A-563-1-C-3



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Kar-Tech will void the user's authority to operate the equipment.

For more information, visit: <http://kar-tech.com/certification>

OPERATION:

Up to 6 modules (transmitters or receivers) can communicate with each other simultaneously. For example, there could be 3 transmitters and 3 receivers communicating with each other simultaneously, 5 transmitters and 1 receiver, 5 receivers and 1 transmitter, 2 transmitters and 3 receivers, 2 transmitters and 2 receivers, or more combinations. Under normal conditions, the receiver outputs are ON (shorted to power). When any transmitter's E-Stop is pressed or a transmitter or a receiver loses communication, both outputs will turn OFF.

The receiver is designed with three solid-state outputs that control two relays. Two output/relays are for the outputs. The third output provides redundancy, where two outputs or relays need to fail in the ON state in order to have failed outputs. Output one turns on when all transmitters have their E-Stop switches released and all receivers are normally communicating with the leader. Output two turns on after power is cycled to the receiver and all transmitters' E-Stop switches are released and all receivers are normally communicating with the leader. Output two is less permissive than output one. When properly installed, output two is used for additional safety to ensure the equipment will not turn on without cycling power at the receiver.

Note: If multiple transmitters or receivers are taught to the leader, and any transmitter or receiver is not present, the receiver will be in an E-Stop condition. If a transmitter or receiver is lost, misplaced or damaged, and you intend to safely operate with fewer transmitters or receivers, you must re-teach the remaining transmitters or receivers to the receiver to normally operate.

For additional redundancy, the transmitter's E-stop switch includes two normally closed contacts, along with the additional output redundancies on the receiver side.

TRANSMITTER SLEEP MODE:

The transmitter will go to sleep (turn off) after 15 minutes if the leader receiver is off to save battery.

Leader: The leader module is the unit that controls the communication and makes the E-Stop mode decisions. The key thing to remember when deciding which module will be the leader, is that the leader must be in RF range of all other modules in the system. Note that all the different ways to set up the 3A563 are changeable. If one configuration does not work ideally, you can always try a different one. The leader receiver is the one used for synchronizing below.

LED INDICATORS (LIGHTS):

TRANSMITTER:

1. Green blinking fast - normal condition.
2. Green blinking slow - the transmitter is not talking to the leader or the leader is not talking to all the transmitters and receivers that were synced to it.
3. Green off - E-stop pressed and transmitter is off or battery is discharged.
4. Red blinking - Low battery.
5. Red solid- E-stop pressed on another transmitter or loss of communication

RECEIVER:

1. Green blinking fast - normal condition.
 - 4 times per second - leader receiver is talking to a transmitter or receiver that was synced to it
 - 8 times per second - receiver is talking to the leader
2. Green off - the receiver is not talking to the leader or the leader is not talking to all the transmitters and receivers that were synced to it.
3. Red blinking
 - Solid - E-stop is pressed on the transmitter (assuming synchronized) or loss of communication
 - 1 time - No communication with leader or not synced after ID changed.
 - 2 times and a pause: E-stop pressed at-least once on a transmitter or loss of communication
 - 3 times and a pause: Low voltage at the receiver.

SYNCHRONIZING TRANSMITTER(S) AND RECEIVER(S):

Transmitter(s) and receiver(s) are synchronized together at the factory. Total of 6 modules (transmitters or receivers) can be synced together. If a new transmitter or receiver is needed, synchronizing is required. Use the following procedure(s) for each transmitter(s) or receiver(s) synchronization:

Synchronize one transmitter to one receiver:

1. Apply power to the receiver.
2. Press and hold the receiver's push button switch for more than 10 seconds, then release. Both red and green LEDs will start flashing.
3. For E-stop systems, twist and release the transmitters E-stop switch to turn it on.
4. For Deadman systems, press and hold the transmitters deadman switch to turn it on.
5. Both red and green LEDs will start flashing and when transmitter's red and green LEDs stop flashing (approx. 5 seconds), synchronization is complete.
6. Cycle power to the receiver before normal operation.

Synchronize multiple transmitter(s) and receiver(s):

1. Apply power to a receiver. This will be the leader. All other E-stop transmitters (no power applied) and receivers must be off.
2. Press and hold receiver's push button switch for more than 10 seconds then release (this is the leader receiver). Both red and green LEDs will start flashing. If syncing any receiver(s) continue if syncing just transmitter(s) go to step 7.
3. Apply power to the receiver that is to be synchronized
4. Wait until the green and red LEDs stop flashing together on the receiver that is being synchronized. If this does not occur, start over from the beginning and go slow.
5. If more than one receiver is to be synchronized, apply power to each receiver one at a time, wait 5 seconds between each receiver
6. If only syncing receivers then go to step 10 otherwise continue
7. Twist and release the transmitters E-Stop switch that is to be synchronized
8. Wait until the green and red LEDs stop flashing together on the transmitter. If this does not occur, start over from the beginning and go slow.
9. If more than one transmitter is to be synchronized, apply power to each transmitter one at a time, wait 5 seconds between each transmitter.
10. Teach complete
11. Cycle power off to each receiver before normal operation.

SPECIFICATIONS:

RF: 900 MHz, 1 W

Transmitter Battery : 2 X 2600mAh Li-Ion Life before charge: 34 hours of operation

Transmitter Battery Charge: $\approx 960\text{mA}$. The red LED on the transmitter will be on during charging and when charging is complete the green LED will be on

Receiver Supply: 9-30 VDC

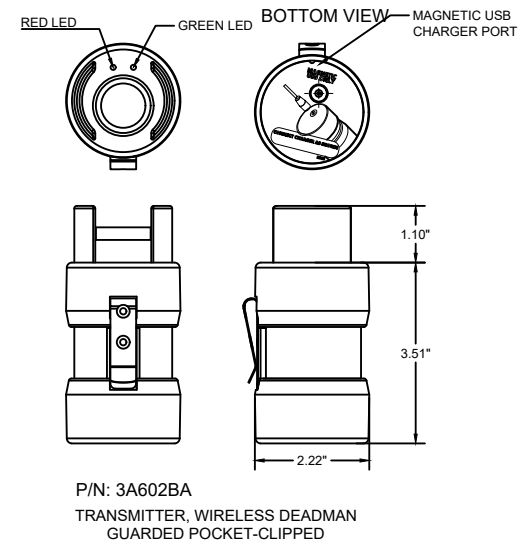
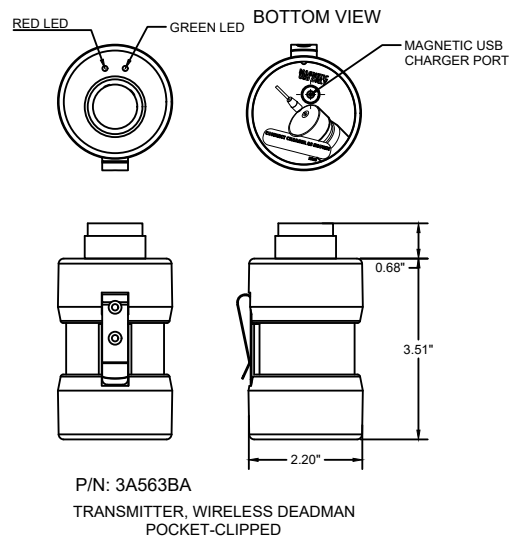
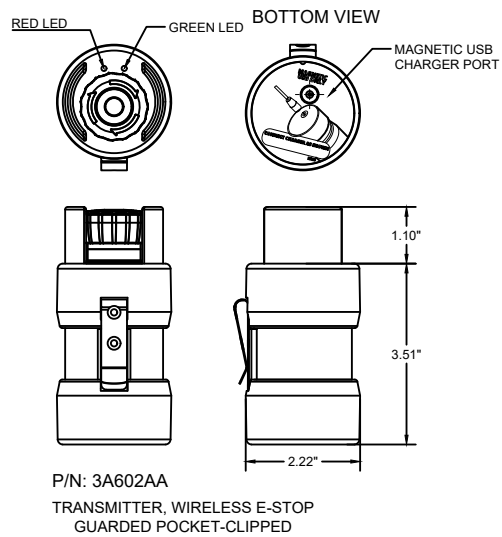
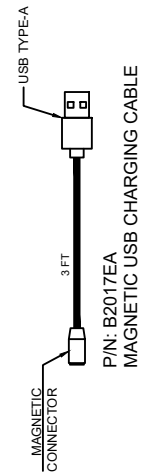
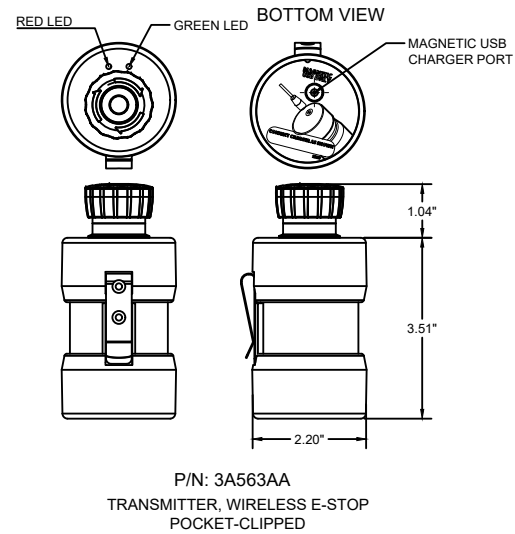
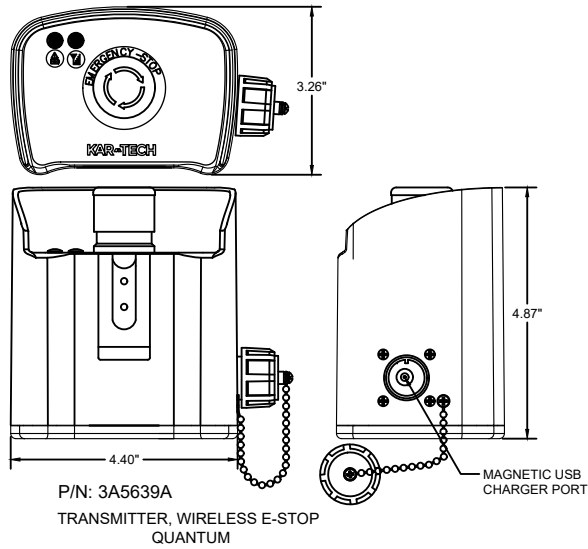
Receiver Current: $\approx 30\text{mA}$ standby at 13.8V, $\approx 60\text{mA}$ active at 13.8V.

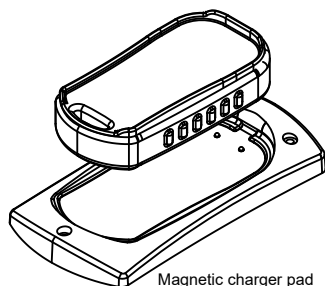
Receiver relays: 6A 250VAC

Environmental: Transmitter: -20C to +60C Receiver: -40C to +85C

Vibration: 3G to 200Hz

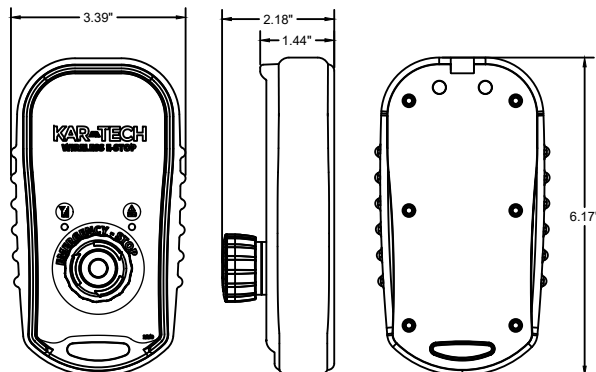
KAR-TECH Delafield, WI 53018						IMPLIED TOLERANCE XXX : .1 XXXX : .06 XXXXX : .045 FRACTIONAL : 1/16 ANGULAR : .05 deg.	
TITLE WIRELESS E-STOP INDUSTRIAL 900 MHZ							
COMPANY/REV KAR-TECH							
CAD DRAWING DO NOT REVISE MANUALLY							
SCALE	DRAWN	DATE	CHECKED	APPROVED	DRAWING NO.		
FULL 1	RG	11-25-75			3A-563-1-C-3		



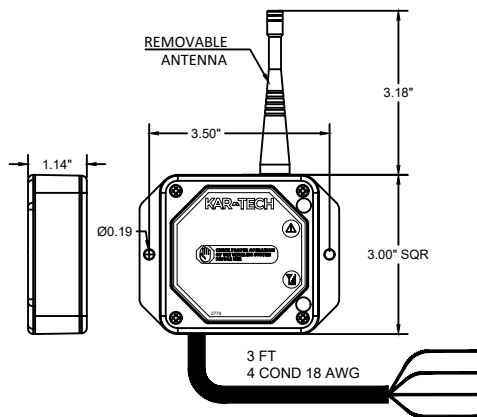
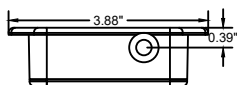


Magnetic charger pad

Only use approved chargers
 MEGA CHARGER PAD/ 110-240VAC (B20223A)
 MEGA CAR CHARGER PAD/ 12-24VDC (B20222A)

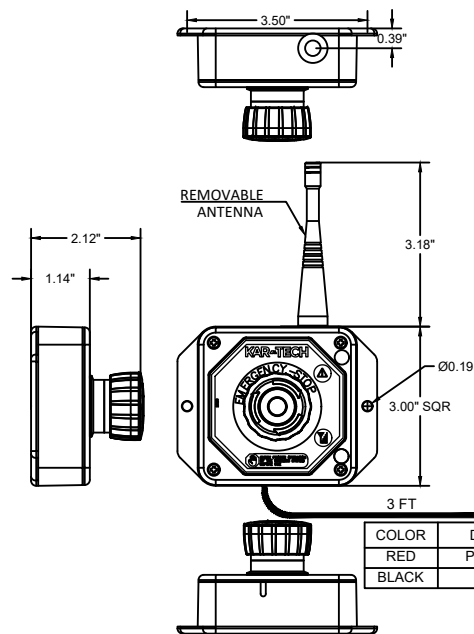


P/N: 3A5632B
 TRANSMITTER, WIRELESS E-STOP
 MEGA



P/N: 3A563QB
 TRANSMITTER, WIRELESS E-STOP
 EXTERNAL INPUT

COLOR	DESCRIPTION
RED	POWER (9-30V)
BLACK	GROUND
WHITE	E-STOP INPUT (3-30V)
GREEN	E-STOP SWITCH SUPPLY (SAME AS POWER)



P/N: 3A563NB
 TRANSMITTER, WIRELESS E-STOP
 WALL MOUNT

COLOR	DESCRIPTION
RED	POWER (9-30V)
BLACK	GROUND

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