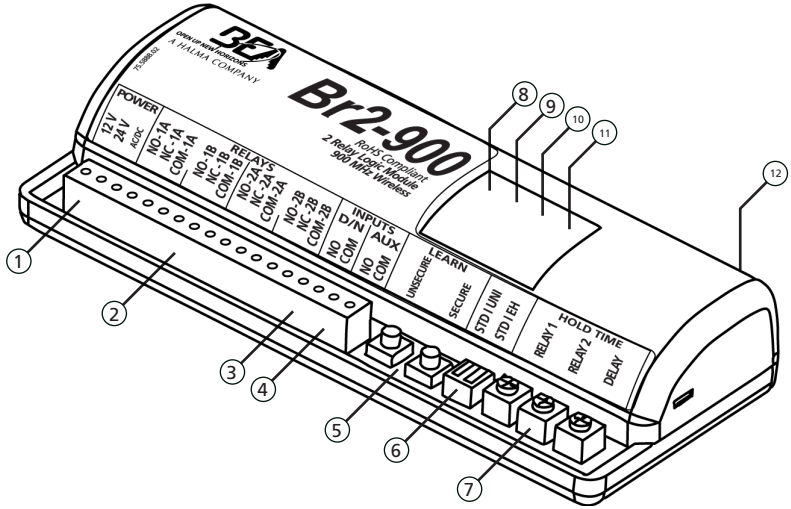
BR2-900

2 Relay Logic Module with Built-In 900 MHz Wireless Technology

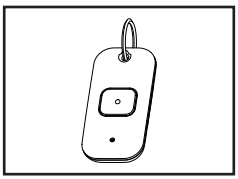
(US version)

DESCRIPTION

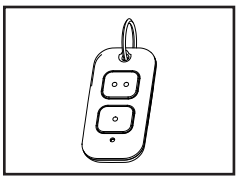


1. Power input
2. Relay outputs
3. Day/Night input
4. AUX input
5. Learn buttons
6. DIP-switches
7. Potentiometers
8. Radio frequency LED (red)
9. Relay 2 LED (white)
10. Relay 1 LED (blue)
11. Tri-color signal strength LED
12. Antenna

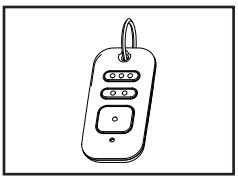
HAND-HELD TRANSMITTERS



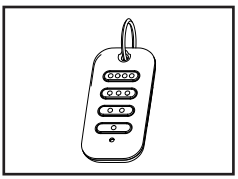
10TD900HH1: 1-button transmitter



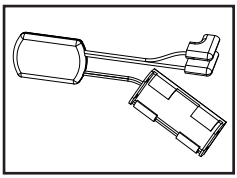
10TD900HH2: 2-button transmitter



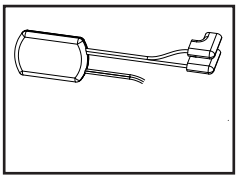
10TD900HH3: 3-button transmitter



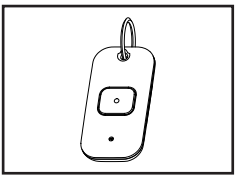
10TD900HH4: 4-button transmitter



10TD900PB: Push Plate transmitter



10TD900TR: Touchless Retrofit transmitter



10TD900HH1U: 1-button Universal transmitter

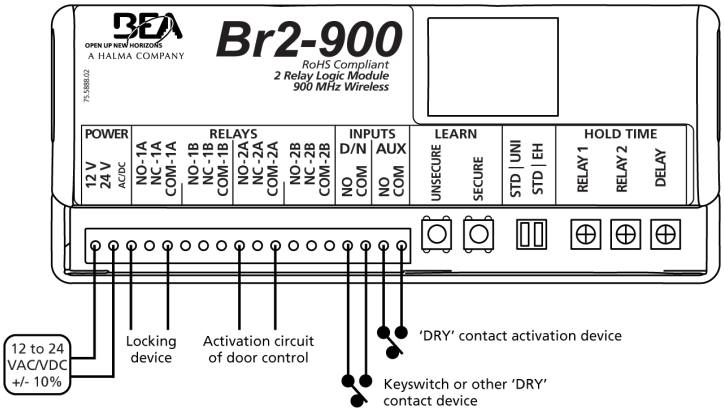
PRECAUTIONS

CAUTION

- Shut off all power going to header before attempting any wiring procedures.
- Maintain a clean and safe environment when working in public areas.
- Constantly be aware of pedestrian traffic around the door area.
- Always stop pedestrian traffic through the doorway when performing tests that may result in unexpected reactions by the door.
- ESD (electrostatic discharge): Circuit boards are vulnerable to damage by electrostatic discharge. Before handling any board, ensure you dissipate your body's ESD charge.
- Always check placement of all wiring before powering up to ensure that moving door parts will not catch any wires and cause damage to equipment.
- Ensure compliance with all applicable safety standards (e.g. ANSI A156.10) upon completion of installation.
- DO NOT attempt any internal repair of the components. All repairs and/or component replacements must be performed by BEA, Inc. Unauthorized disassembly or repair may:
  1. jeopardize personal safety and may expose one to the risk of electrical shock.
  2. adversely affect the safe and reliable performance of the product resulting in a voided warranty.

INSTALLATION

Wiring



Relays 1 and 2 are DPDT: relays **1A and 1B** fire simultaneously and relays **2A and 2B** fire simultaneously.

Relays **1B and 2B** are commonly used in applications with two (2) locking devices and/or with two (2) independent door controls.

INPUT D/N (DAY/NIGHT mode)
when open, allows transmitters learned in both SECURE mode and UNSECURE mode to function
when closed, only allows transmitters learned in UNSECURE mode to function

INPUT AUX functions regardless of learn, DIP switch, or potentiometer settings.

USER INTERFACE

DIP-Switches

DIP switches can be set to achieve desired functionality based upon specific application requirements.

DIP	STATUS	FUNCTION	DESCRIPTION
1	STD	standard mode	allows only learned/programmed transmitters to function
	UNI[1]	universal mode[2]	allows learned/programmed and "universal transmitters" to function
2	STD	standard mode	pressing/holding or pressing/releasing transmitter activates and holds relay according to HOLD TIME POTs (single shot)
	EH	extended hold	pressing/holding transmitter holds relay as long as transmitter is pressed/held – once released, relay acts according to HOLD TIME POTs

NOTES:

1. Day/Night mode does not function when DIP-switch 1 is set to UNI.
2. See Universal Mode in SET-UP section (page 5).

Learn Buttons

900 MHz wireless transmitters can be programmed (or "learned") as either UNSECURE or SECURE transmitters. Any combination of up to 75 transmitters may be programmed.

BUTTON	FUNCTION	DESCRIPTION
UNSECURE	unsecure transmitters	learned transmitter functions when INPUT D/N is open or closed
SECURE	secure transmitters	learned transmitter only functions when INPUT D/N is open

Potentiometers

Potentiometers control output relay functionality.

POT	FUNCTION	DESCRIPTION
HOLD 1	relay 1 hold time	0.5 – 10 seconds
HOLD 2	relay 2 hold time	0.5 – 10 seconds
DELAY	delay between relay 1 and relay 2	0 – 30 seconds

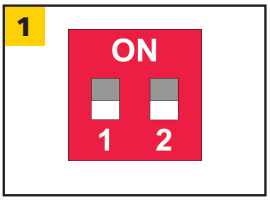
Signal Strength Indicator

Pressing and holding transmitter button for three (3) seconds activates signal strength LED on Br2-900.

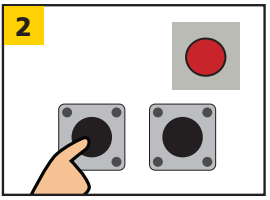
LED COLOR	DESCRIPTION
GREEN	**strong** wireless signal
YELLOW	**moderate** wireless signal
RED	**weak** wireless signal

SET-UP

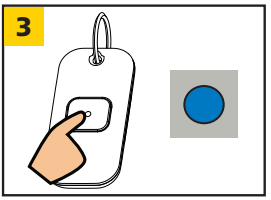
Hand-Held Configuration



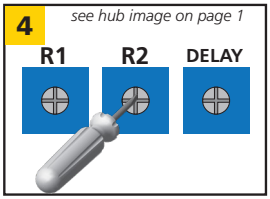
Set DIP-switches as desired.
For DIP-switch settings, please refer to table on page 3.



Press and release desired Learn button (red LED on Br2-900 will illuminate).

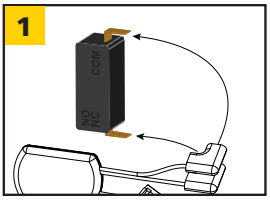


Press transmitter twice (white and blue LEDs on receiver will illuminate).

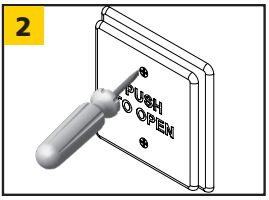


Adjust POTs as desired.
See page 3 for descriptions.

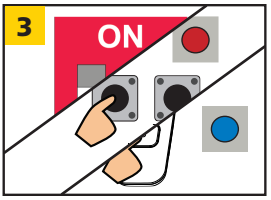
Push Plate Configuration



Connect transmitter[1] to push plate (NO and COM) and insert into box.



Install push plate.



Follow steps 1 – 4 in *Hand-Held Configuration* above.

NOTES:
1. 10TD900PB required for push plates.

Universal Mode

Universal transmitters (10TD900HH1U) do not need programmed (or "learned") to the Br2-900. Their unique serial number is automatically recognized by the Br2-900.

During the Hand-Held Configuration or the Push Plate Configuration steps (above), standard transmitters must be programmed/learned as either "Secure" or "Unsecure" transmitters. When set to Universal, learned, standard transmitters will function as programmed/learned.

SET-UP (CONT.)

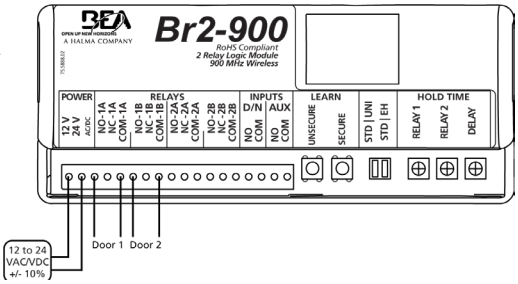
Vestibule Configuration

Vestibule applications may be installed and programmed so that either door 1 and door 2 **open simultaneously** or door 1 opens **first** and door 2 **opens after a delay** (set by HOLD TIME potentiometers).

For 2-way traffic, two (2) Br2-900 modules are required.

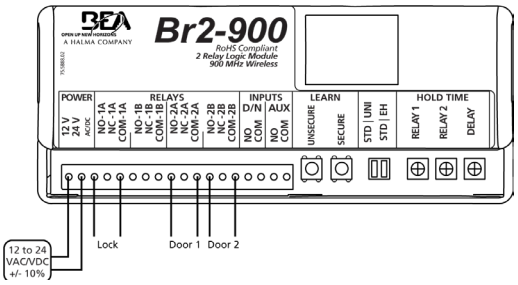
1-Way Traffic (simultaneous)

Door 1 and Door 2 will open simultaneously.



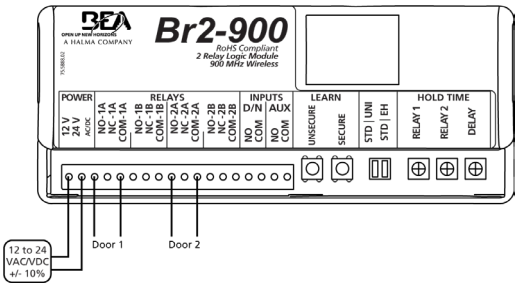
1-Way Traffic (lock + simultaneous)

Lock(s) will unlock and then Door 1 and Door 2 will open simultaneously.

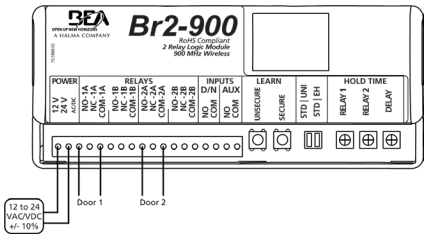


1-Way Traffic (sequence)

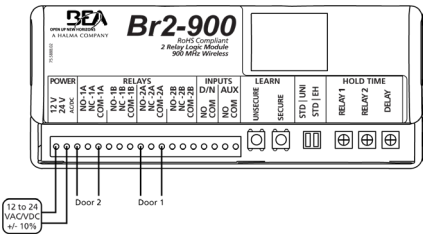
Door 1 will open and then Door 2 will open after a delay set by DELAY POT.



2-Way Traffic



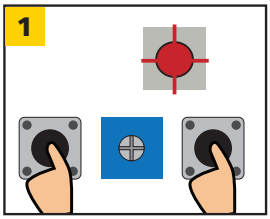
Door 1 will open and then Door 2 will open after a delay set by DELAY POT.



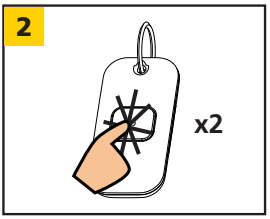
Door 2 will open and then Door 1 will open after a delay set by DELAY POT.

REMOVING TRANSMITTERS

Single Transmitter

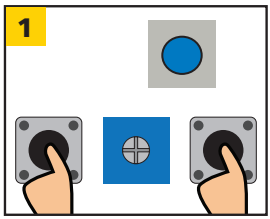


Press BOTH learn buttons until red LED flashes once (~2 s).



Press transmitter TWICE within 10 seconds.

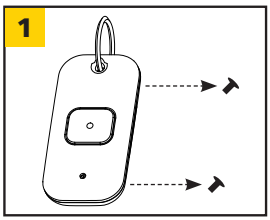
All Transmitters



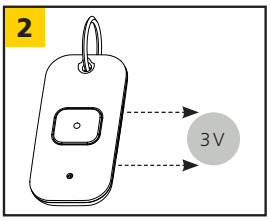
Press BOTH Learn buttons until blue LED illuminates (~10 s).

BATTERY REPLACEMENT

Hand-held (TD900HHx)

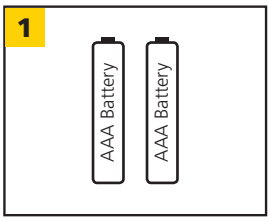


Remove back screws and disassemble.



Replace 3 volt (CR2032) battery observing polarity and reassemble.

Push Plate (TD900PB)



Replace 2 AAA batteries observing polarity.

Low Battery Indicator: After transmitter button is pressed, low battery is indicated by three (3) transmitter red LED blinks.

TROUBLESHOOTING

	Br2-900 will not react to any inputs	Incorrect power	Verify power supply of 12 – 24 VAC/VDC ±10% is wired to correct terminals.
		Not programmed	Ensure a Br2-900 is programmed with wireless transmitter.
		Incorrect wiring	Verify wiring.
		Defective Br2-900	Replace Br2-900.
	Br2-900 has no output	Incorrect output devices	Ensure proper devices are connected to outputs.
		Incorrect wiring	Verify wiring.
		Incorrect settings	Verify programming and potentiometer settings.
		Defective Br2-900	Replace Br2-900.
	Red LED on receiver flickering; unable to program	Push Plate is stuck	Disconnect push plates to determine which one is stuck (LED should go out).
		Faulty transmitter	If LED does not go out, remove transmitter batteries to determine which is faulty, replace transmitter.
	Weak signal	Antenna positioned poorly	Position antenna outside of door header.

TECHNICAL SPECIFICATIONS

Supply voltage:	12 – 24 VAC / VDC ±10%
Current consumption:	45 mA DC 75 mA AC
Frequency:	908 – 918 MHz (frequency hopping)
Emitted radio power:	-25 dBm (TX)
Power consumption:	0.5 – 1.5 W
Transmitter capacity (per receiver): Programmable (standard): Universal:	 75 unlimited
Temperature rating:	-22 – 158 °F (-30 – 70 °C)
Input Day / Night (24hr) AUX	 DRY contact DRY contact
Contact rating: Relay 1 DPDT / Relay 2 DPDT:	 2 A @ 30 VDC or 2 A @ 24 VAC
LEDs:	blue (relay 1 activation) white (relay 2 activation) red (radio frequency / learn) tri-color (signal strength)
Certification:	FCC, IC
Dimensions:	5.2" (W) x 1" (H) x 2.2" (D) (133 mm x 25 mm x 55 mm)
Housing:	ABS (white translucent)

Specifications are subject to change without prior notice.
All values measured in specific conditions.

FCC / IC

"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 BEA Incorporated 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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC ID: 2ABWS-10BR2900	IC: 4680A-10BR2900	MODEL: 10BR2900
FCC ID: 2ABWS-10TD900PB	IC: 4680A-10TD900PB	MODEL: 10TD900PB
FCC ID: 2ABWS-10TD900HH4	IC: 4680A-10TD900HH4	MODEL: 10TD900HH1
FCC ID: 2ABWS-10TD900HH4	IC: 4680A-10TD900HH4	MODEL: 10TD900HH2
FCC ID: 2ABWS-10TD900HH4	IC: 4680A-10TD900HH4	MODEL: 10TD900HH3
FCC ID: 2ABWS-10TD900HH4	IC: 4680A-10TD900HH4	MODEL: 10TD900HH4
FCC ID: 2ABWS-10TD900HH1U	IC: 4680A-10TD900HH1U	MODEL: 10TD900HH1U

PLEASE KEEP FOR FURTHER USE – DESIGNED FOR COLOR PRINTING

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A HALMA COMPANY

BEA INSTALLATION/SERVICE COMPLIANCE EXPECTATIONS

BEA, the sensor manufacturer, cannot be held responsible for incorrect installations or inappropriate adjustments of the sensor/device; therefore, BEA does not guarantee any use of the sensor outside of its intended purpose.

BEA strongly recommends that installation and service technicians be AAADM-certified for pedestrian doors, IDA-certified for doors/gates, and factory-trained for the type of door/gate system.

Installers and service personnel are responsible for executing a risk assessment following each installation/service performed, ensuring that the sensor system installation is compliant with local, national, and international regulations, codes, and standards.

Once installation or service work is complete, a safety inspection of the door/gate shall be performed per the door/gate manufacturer recommendations and/or per AAADM/ANSI/DASMA guidelines (where applicable) for best industry practices. Safety inspections must be performed during each service call – examples of these safety inspections can be found on an AAADM safety information label (e.g. ANSI/DASMA 102, ANSI/DASMA 107, UL 325).

Verify that all appropriate industry signage and warning labels are in place.

Tech Support: 1-800-407-4545 | Customer Service: 1-800-523-2462
General Tech Questions: Tech_Services@beainc.com | Tech Docs: www.BEAinc.com