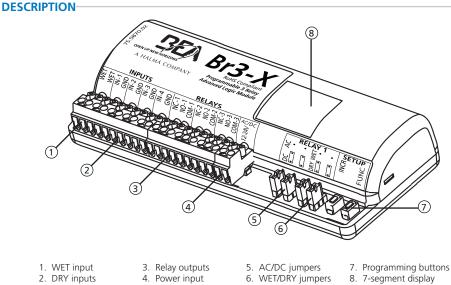
ENGLISH



Programmable, 3-Relay, Advanced Logic Module & Restroom Controller (US version)



- 2. DRY inputs
- 6. WET/DRY jumpers
- 8. 7-segment display

ACCESSORIES

10RESTROOMKIT: Restroom Control Kit

COMPONENT DESCRIPTION		PART NUMBER
Logic module	Br3-X restroom controller	10BR3X
Door position switch	NO/NC magnetic door position switch	10SWITCH1084
Occupied indicator	lock status indicator with LED and sounder	10LEDSOUNDER
"PUSH TO LOCK" button	door lock actuator with LED	10PTLBUTTON

10EMERGENCYKIT: Emergency Add-On Kit

COMPONENT	DESCRIPTION	PART NUMBER
Assistance Required signal	corridor LED with sounder	10ARS
Emergency signage	emergency instruction signage	70.5675
"PUSH FOR EMERGENCY ASSISTANCE" button	emergency assistance request button with LED and sounder	10BUTTONCOMBO

PRECAUTIONS



- Shut off all power going to header before attempting any wiring procedures.
- Maintain a clean & 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 П 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 (i.e. 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:
 - 1. May jeopardize personal safety and may expose one to the risk of electrical shock.
 - 2. May adversely affect the safe and reliable performance of the product resulting in a voided warranty.

JUMPERS

PRECAUTIONS TO OBSERVE WHEN USING A 'WET' OUTPUT

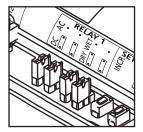
- Never change the jumper settings when the module has power connected to it or when a load is applied.
- Never allow 2 different voltage sources to be connected to the load (electric strike for example) at the same time. This can result in serious damage to equipment.
- Always move both jumpers when changing a jumper set.
- □ If an EL device is being powered by a separate power source, DO NOT select the 'WET' output option on the Br3-X. If 'WET' is selected, the next activation of the module will send a voltage to the load and if there is already a voltage being applied from another source, the Br3-X and possibly the load will be permanently damaged.
- □ When using the 'WET' output option on the Br3-X, set all desired switch positions ('WET' 'DRY' and AC DC) before the module is powered and before any loads are applied.
- □ When DC 'WET' output is selected, COM terminal is positive(+) and the ground(-) is switched between NO and NC.
- Ensure there is no other voltage connected to the load. Whatever the Input voltage is at the Br3-X, the output will correspond. The following can also be observed:
 - 1. If voltage Input at the Br3-X is AC, then output selection can be AC or DC.
 - If voltage Input at the Br3-X is DC, then output selection can only be DC.
 - 3. The maximum load applied to Relay 1 should never exceed 1A. If more than one device is to be connected, add the consumption values together for a total value. If current is excessive, damage to equipment can result.
 - 4. On the Br3-X, the 'WET' output is only available at Relay 1.
- When supplying Br3-X with AC input voltage and selecting Relay 1 output for 'WET' and DC OUTPUT VOLTAGE, note that the resulting DC output will be the rectified AC input voltage and therefore, about 40% higher than the AC input voltage (rms).

CAUTION: Relay 1 'WET' OPTION IS ACTIVE FOR ALL FUNCTIONS!

RELAY 1 OUTPUT	DRY/WET JUMPER ²	AC OUTPUT VOLTAGE ³	DC OUTPUT VOLTAGE ⁴
DRY	both jumpers set to DRY	N/A	N/A
WET1	both jumpers set to WET	both jumpers set to AC	both jumpers set to DC

NOTES

- 1. "WET output" allows the Br3-X to supply a voltage output of up to 1 A on relay 1 for powering maglocks or electric strikes directly from the Br3-X. Rating of power supply which powers the Br3-Xmust be at least 1 A.
- 2. Default jumper settings make relay 1 DRY.
- 3. AC voltage only available if Br3-Xis powered by AC voltage.
- 4. DC voltage available if Br3-Xis powered by AC or DC voltage.



WIRING-

Each Br3-X function is wired differently. Please review and follow the appropriate wiring diagram shown for each function.

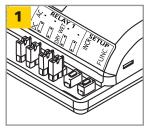
FUNCTIONS-

FUNCTION	DESCRIPTION	LOGIC
ID	timer	 activation of relay 1 via trigger of input 1 reverse logic available
11	ratchet / latching	ratchet/latching of relay 1 via trigger of input 1
22	2-relay sequencer + inhibitor	 sequence of relay 1 and relay 2 with inhibiting of input 1 until input 2, input 3, or WET input is triggered activation of input 4 reinhibits input 1
28	2-relay sequencer + door position	 sequence of relay 1 and relay 2 via trigger of input 1 or WET input input 2 allows delay to run when open but not when closed
29	deactivation timer	 sequence of relay 1 and relay 2 via trigger of input 1 or WET input input 2, once opened after sequence, allows relay 1 to deactivate input 2 allows delay to run when open but not when closed input 3 disables sequence, reverse logic available
36	3-relay sequencer + '1-shot'	 sequence of relay 1 and relay 2 and relay 3 via trigger of input 1 or WET input relay 1, relay 2, and relay 3 can be maintained or '1-shot'
ЭЛ	3-relay sequence with 'independent relay'	 sequence of relay 1 and relay 2 and relay 3 via trigger of input 1 or WET input relay 1, relay 2, and relay 3 can be 'independent' or sequenced
50	interlock timer	• interlock of relay 1 and relay 2 via trigger of input 1 and input 2, respectively
55	interlock ratchet / latching	• interlock ratchet of relay 1 and relay 2 via trigger of input 1 and input 2 , respectively
65	2-way 2-relay sequence	 sequence of relay 1 and relay 2 via trigger of input 1 sequence of relay 2 and relay 1 via trigger of input 2 input 3 triggers relay 1 individually, input 4 triggers relay 2 individually
nL	normally locked restroom	 sequence of relay 1 (lock), relay 2 (door), and relay 3 (occupied indicators) for normally locked, single occupancy restrooms
۸U	normally unlocked restroom	 sequence of relay 1 (lock), relay 2 (door), and relay 3 (occupied indicators) for normally unlocked, single occupancy restrooms
dn	3-relay sequencer + 'day / night mode'	 sequence of relay 1 and relay 2 and relay 3 via trigger of input 1 or WET input input 2 operation dependent upon input 4 ('day / night mode')
00	disable	 Br3-X disabled OD is the default setting and has no assigned function

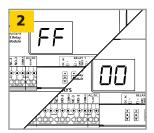
PARAMETERS-

PARAMETER	DESCRIPTION	LOGIC	
ьI	relay 1 hold time	ወወ - 6ወ seconds countdown begins AFTER release of input 1 or WET input	
h2	relay 2 hold time	םם - 6ם seconds countdown begins AFTER d ו (delay between relay 1 & relay 2) expires	
hЭ	relay 3 hold time	ወ - 60 seconds countdown begins AFTER dਟ (delay between relay 1 & relay 3) expires	
d I	delay between relay 1 & relay 2	□□ - 5□, _ 1 (1/4), _ 2 (1/2), _3 (3/4) seconds delay begins AT activation of input 1 or WET input	
d2	delay between relay 1 & relay 3	□□ - 5□, _ I (1/4), _ 2 (1/2), _∃ (3/4) seconds delay begins AT activation of input 1 or WET input	
rL	reverse logic	III = normal logic input 1 trigger must be NO and close its contact to trigger	I = reverse logic input 1 trigger must be NC and open its contact to trigger
nP	no parameters	no parameters available for selected function	

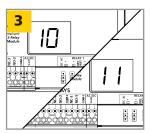
PROGRAMMING



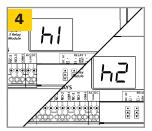
Press and hold INCR + FUNC for 3 seconds.



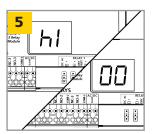
Display will toggle between *FF* and *DD* for 5 seconds.^{1,2}



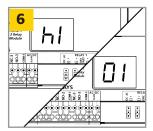
While *FF* / DD is displayed, press INCR to cycle through functions.



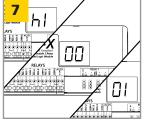
Once desired function is selected, press FUNC to cycle through parameters.



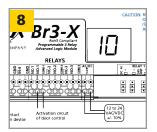
Display will toggle between parameter and its current value for 5 seconds.



Press³ INCR to cycle through parameter's values.



Repeat steps 4-7 until all function parameters are set.



Wait 5 seconds for Br3-X to save and display function.

Relay hold time(s) and delay time(s) MUST be set for any relay that is to be utilized.
 Ex: For function 36, if using only relay 1, h1 must be set...if using relay 1 and relay 2, h1, h2, and d1 must be set.

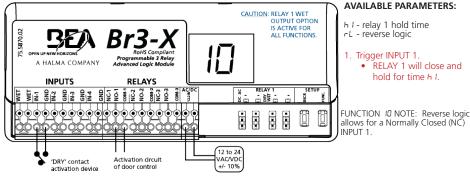
NOTES:

- 1. Function 00 disables the Br3-X.
- 2. "nP" means no parameters are applicable for the selected function.
- 3. Pressing and holding INCR will rapid cycle.

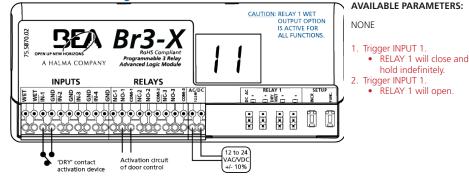
PROGRAMMING PARAMETERS

* see page 3 for specific parameter details *

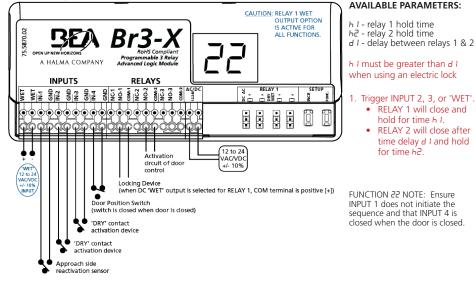
ID – timer



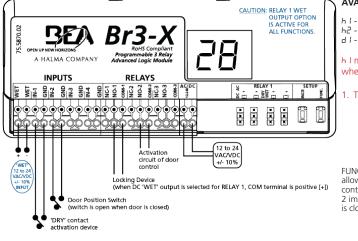
11 - ratchet / latching



22 - 2-relay sequencer + inhibitor



28 – 2-relay sequencer + door position



AVAILABLE PARAMETERS:

h I - relay 1 hold time h2 - relay 2 hold time d I - delay between relays 1 & 2

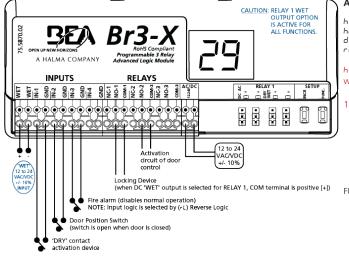
h I must be greater than d I when using an electric lock

1. Trigger INPUT 1 or 'WET'.

- RELAY 1 will close and hold for time h I.
- RELAY 2 will close after time delay d I and hold for time h2.

FUNCTION 28 NOTE: INPUT 2 allows the delay to run when the contact is open but triggers RELAY 2 immediately when the contact is closed

29 – deactivation timer



AVAILABLE PARAMETERS:

- h l relay 1 hold time h2 relay 2 hold time
- d I delay between relays 1 & 2
- -L reverse logic

h I must be greater than d I when using an electric lock

1. Trigger INPUT 1 or 'WET'.

- RELAY 1 will close and • hold for time h I.
- **RELAY 2 will close after** time delay d I and hold for time h_{e}^2 .

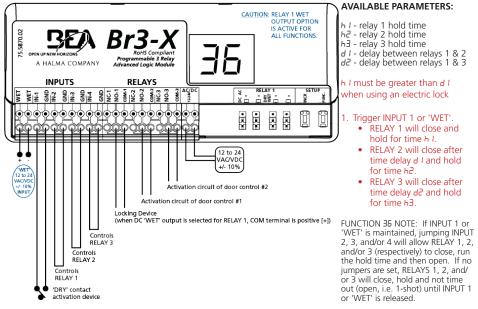
FUNCTION 29 NOTE:

INPUT 2 deactivates RELAY 1 once INPUT 2 is opened (and after the sequence has run).

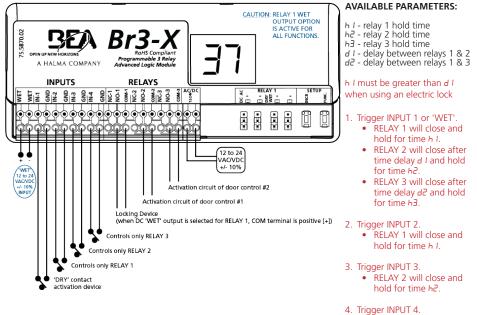
INPUT 2 allows the delay to run when the contact is open, but triggers RELAY 2 immediately when the contact is closed.

INPUT 3 disables the sequence.

36 - 3-relay sequencer + '1-shot'



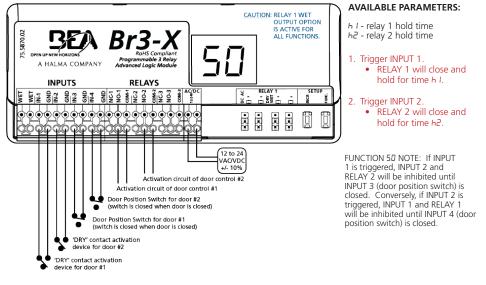
∃7 – **3**-relay sequence with 'independent relay'



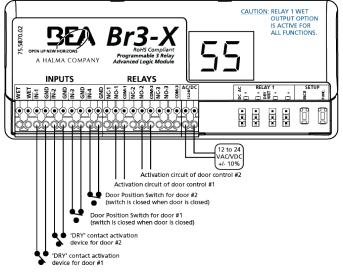
RELAY 3 will close and hold for time h3.

PROGRAMMING PARAMETERS (cont)

50 – interlock timer



55 - interlock ratchet / latching



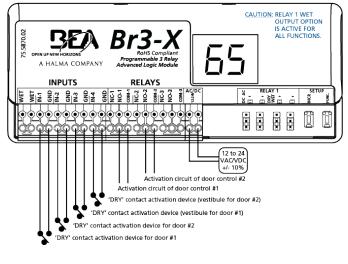
AVAILABLE PARAMETERS:

NONE

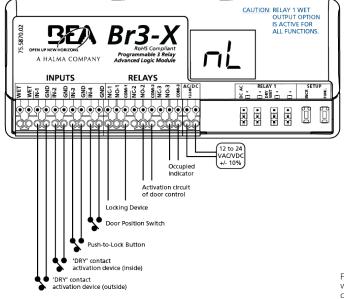
- 1. Trigger INPUT 1.
 - RELAY 1 will close and hold until indefinitely.
- 2. Trigger INPUT 1.
 - RELAY 1 will open.
- 3. Trigger INPUT 2.
 - RELAY 2 will close and hold indefinitely.
- 4. Trigger INPUT 2.
 - RELAY 2 open.

FUNCTION 55 NOTE: If INPUT 1 is triggered, INPUT 2 and RELAY 2 will be inhibited until INPUT 3 (door position switch) is closed. Conversely, if INPUT 2 is triggered, INPUT 1 and RELAY 1 will be inhibited until INPUT 4 (door position switch) is closed.

65 – 2-way 2-relay sequence



nL – normally locked restroom



AVAILABLE PARAMETERS:

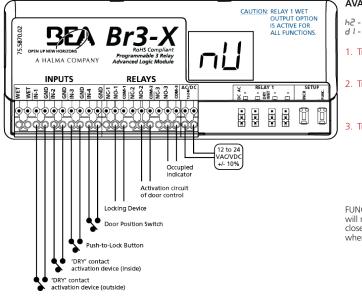
- h I relay 1 hold time
- h2 relay 2 hold time
- d I delay between relays 1 & 2
- d2 delay between relays 2 & 1
- 1. Trigger INPUT 1.
 - RELAY 1 will close and hold for time h I.
 - RELAY 2 will close after time delay d I and hold for time h2.
- 2. Trigger INPUT 2.
 - RELAY 2 will close and hold for time h^2 .
 - RELAY 1 will close after time delay d2 and hold for time h l.
- Trigger INPUT 3.
 - RELAY 1 will close and hold for time h I.
- 4. Trigger INPUT 4.
 - RELAY 2 will close and hold for time h^2

AVAILABLE PARAMETERS:

- h I relay 1 hold time h2 relay 2 hold time
- d I delay between relays 1 & 2
- h I must be greater than d I
- 1. Trigger INPUT 1
 - RELAY 1 will close and hold for time h l.
 - RELAY 2 will close after time delay d I and hold for time h2.
- 2. Trigger INPUT 3
 - RELAY 3 will close and INPUT 1 will be inhibited.
- 3. Trigger INPUT 2.
 - RELAY 1 will close and hold for time h I.
 - RELAY 2 will close after time delay d I and hold for time h2
 - RELAY 3 will open.

FUNCTION nL NOTE: INPUT 3 will not function unless INPUT 4 is closed. INPUT 4 should be closed when door is closed.

nU – normally unlocked restroom



AVAILABLE PARAMETERS:

*h*2 - relay 2 hold time d I - delay between relays 1 & 2

- 1. Trigger INPUT 1.
 - RELAY 2 will close and hold for time h2.

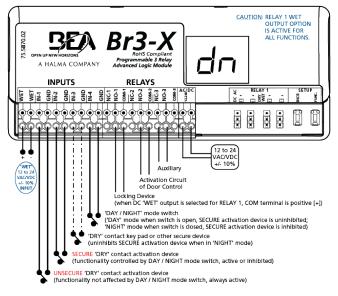
2. Trigger INPUT 3 RELAY 1 and 3 will close and INPUT 1 will be inhibited.

3. Trigger INPUT 2

- RELAY 1 will open.
- RELAY 2 will close after time delay d I and hold for time h2
- RELAY 3 will open.

FUNCTION nu NOTE: INPUT 3 will not function unless INPUT 4 is closed. INPUT 4 should be closed when door is closed.

dn – 3-relay sequence with 'day / night mode'



AVAILABLE PARAMETERS:

- h I relay 1 hold time
- h2 relay 2 hold time h3 relay 3 hold time
- d I delay between relays 1 & 2
- d2 delay between relays 1 & 3

1. Trigger INPUT 1, INPUT 2, or 'WET'.

- RELAY 1 will close and hold for time h l.
- RELAY 2 will close after time delay d I and hold for time h2
- RELAY 3 will close after time delay d2 and hold for time h3.

2. Trigger INPUT 3.

- RELAY 1 will close and hold for time h l.
- INPUT 2 will be uninhibited for 5 seconds.

FUNCTION dn NOTE: INPUT 2 will only function if INPUT 4 is open.

Upon completion of jumper settings, wiring, and programming, test the Br3-X to ensure all function parameters are working correctly and as intended for the specific application.

RELAY STATUS –

STATUS	DESCRIPTION
r 1	relay 1 closed when wired NO or open when wired NC
r 2	relay 2 closed when wired NO or open when wired NC
r٦	relay 3 closed when wired NO or open when wired NC
r=	relay 1 and relay 2 closed when wired NO or open when wired NC
r=	relay 1 and relay 3 closed when wired NO or open when wired NC
r=	relay 1, relay 2, and relay 3 closed when wired NO or open when wired NC

FUNCTION CROSS REFERENCE-

BR3 FUNCTION	BR3-X FUNCTION
21	22
25	28, 29, 36, or 37
35	36 or 37
75	28, 29, 36, or 37

TROUBLESHOOTING -

Br3-X will not react to any inputs	Incorrect power	Verify power supply of 12 to 24 VAC/VDC +/-10% is wired to correct terminals
	Not programmed	Ensure a function is programmed, Br3-X does not show DD, and all 'h' values are set to at least D I
	Incorrect wiring	Verify wiring is applied exactly as described for specific function programmed
	Defective Br3-X	Replace Br3-X
Br3-X has no output	Incorrect output devices	Ensure proper devices are connected to outputs for the specific function programmed
	Not programmed	Ensure a function is programmed, Br3-X does not show DD, and all 'h' values are set to at least D I
	Incorrect wiring	Verify wiring is applied exactly as described for specific function programmed
	Incorrect jumper settings	Ensure all jumpers are configured correctly for specific application
	Defective Br3-X	Replace Br3-X
Br3-X output is con- stant/maintained	One or more of IN-1 through IN-4 have shorted	Resolve respective short
E 1, E2, E3, E4, E5	EEPROM error	Reset Br3-X and reprogram

TECHNICAL SPECIFICATIONS

Supply Voltage	12 – 24 VAC/VDC ±10%
Current Consumption	30 – 130 mA (DRY output)
Temperature Rating	-15 $-$ 150 °F (-26 $-$ 150 °C) If powered by AC voltage and using WET output to convert to DC voltage and current draw of device is greater than 0.9 A, the upper temperature range is 130 °F (54 °C)
Input Input 1, 2, 3, 4 WET input	DRY contact 5-24 VAC/VDC ±10%
Contact Rating Relay 1 (DRY) Relay 1 (WET) Relay 2 Relay 3	3 A @ 24 VAC or 30 VDC 1 A 3 A @ 24 VAC or 30 VDC 1 A @ 24 VAC or 30 VDC
Dimensions	5.2" x 2.2" x 1" (133 mm x 55 mm x 25 mm)
Housing	ABS - white translucent
	Specifications are subject to change without prior notice.

All values measured in specific conditions.

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 regulational 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/ANS/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. ANS/DASMA 102, ANS/DASMA 107). Verify that all appropriate industry signage and warning labels are in place.

DASMA

DHI

IDA



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

(ANSI