

BU-xH1R Base Unit Family

Features

- ✓ DSSS Technology 900MHz @ 10mW, 2.4GHz @ 100mW
- ✓ One Form C Relay
- ✓ Up to Five Form A (SPST) Relay Outputs Standard Operation
- ✓ Single Connector for Wiring Ease
- ✓ Diagnostic LEDs
- ✓ CAN bus Capable
- ✓ Weatherproof Case



The SmaRT BU-2H1R5 and BU-9H1R5 base units feature one Form C relay output and five Form A relay outputs. CAN bus capable base units — BU-2H1R3 and BU-9H1R3 — have one Form C and three Form A relay outputs. The BU-xH1R family of base units accepts a broad range of operating input power with model dependent operating voltages of 7-32VDC, 7-28VAC, and 100-240VAC. All connections are made using the single 12-wire cable harness that fits to the base unit keyed connector to guard against cross connection.

SmaRT base units feature seamless association to a SmaRT hand-held unit without the need to open the case. Using Direct Sequence Spread Spectrum (DSSS) wireless technology at 900MHz or 2.4GHz, the base unit provides a robust link with a SmaRT hand-held remote in congested radio environments with a line-of-sight communications range of up to 1000' for 900MHz and 300' for 2.4GHz. BU-9H1R3 and BU-2H1R3 CAN units provide a CAN bus interface for applications requiring wired connectivity.

The rugged weatherproof enclosure allows the unit to operate worry-free in harsh weather conditions.

Specifications

Power

Operating V_{in} See Product Family Listing Table below

Outputs

Form C Relay (1); Form A Relay (3–5, model dependent)

7A max switching @ 45°C

100mA min @ 5VDC

42mA max total output

Enclosure

Dimensions 119 x 133 x 36mm (5.24" x 4.69" x 1.42")

Durability High Impact Polymer

Mounting 7.4mm (0.29") dia. holes
102mm (4.0") center-to-center

Environment

Operating Temp -25°C to 60°C (-4°F to 131°F)

Storage Temp -40°C to 85°C (-40°F to 185°F)

Humidity 0 to 100%

Radio

Frequency 906-924MHz or 2405-2480MHz

RF Power See Product Family Listing Table below

License None required, license free

Modulation DSSS

Antenna Internal or external by device

Range 1000' (hardware option dependent)

Communications

CAN Bus SAE J1939

Indicators (model dependent)

1 (CAN) Indicates CAN traffic

2 (OUT) Indicates activated relay

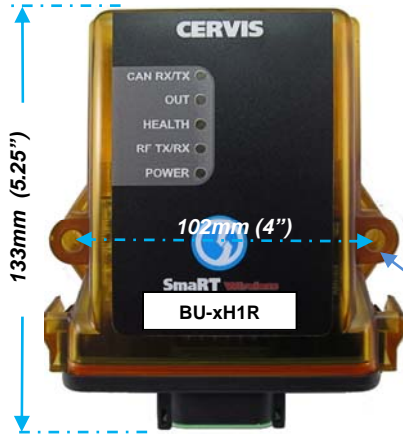
3 (HLTH) ON – OK

4 (TX/RX) Indicates RF traffic

5 (PWR) ON – Normal Operation

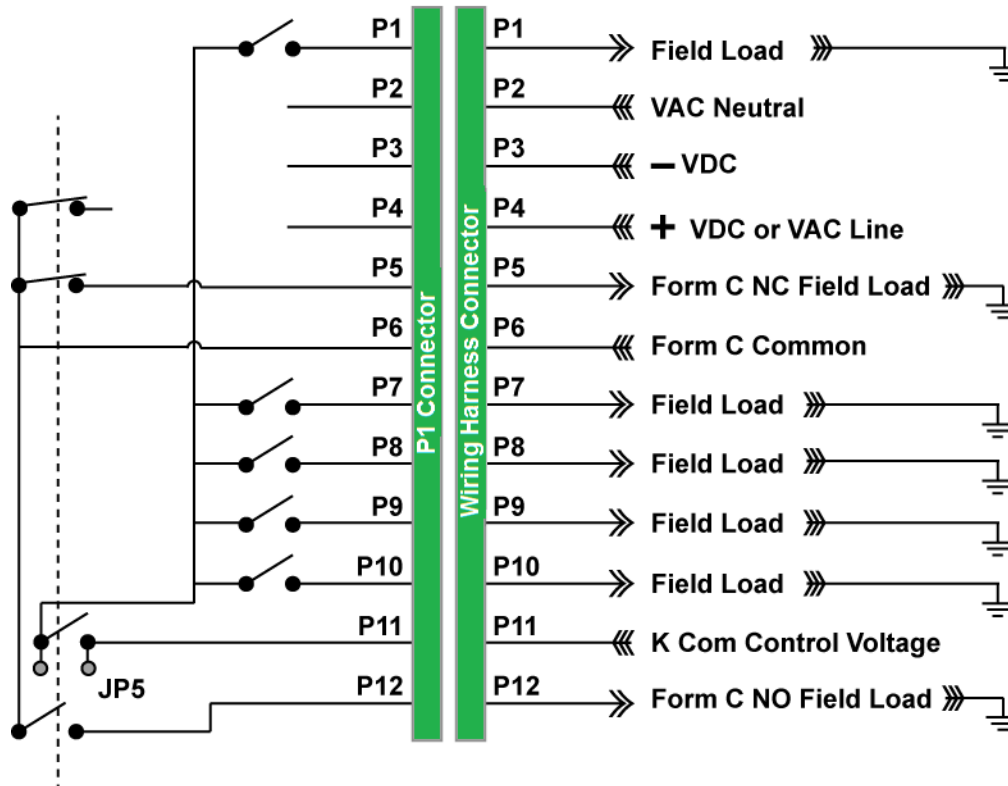
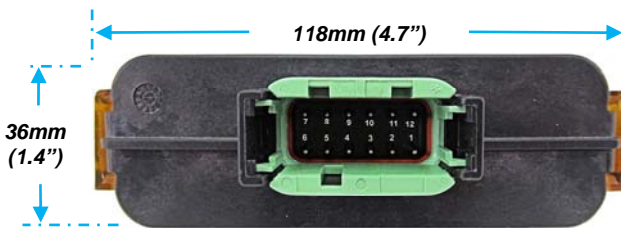
6 Unused

Mounting and Wiring



Pin	Name	Description
1	K1	Form A Relay
2	L3	VAC Neutral
3	L2	-VDC
4	L1	+VDC or VAC Line
5	K6	Form C Relay NC
6	K6	Form C Relay Common

Pin	Name	Description
7	K5	Form A Relay or CANH
8	K4	Form A Relay
9	K3	Form A Relay or CANL
10	K2	Form A Relay
11	KCOM	Control Voltage
12	K6	Form C Relay NO



The wiring configuration shown is for a BU-xH1R5—no CAN connection.
 For CANbus BU-xH1R3, P7 is CANH and P9 is CANL.
 JP5 when installed (factory) isolates the Form A relays from the Form C relay.

✓**Note:** Cable shields should be grounded only at one end of each shield segment to minimize ground loops.

BU-xH1R Product Family Listing

Model Name	Freq.	RF Power	# of CH	Channel Type	Input Power	Antenna Style	Serial Port Style	AC Suppression
BU-9H1R5-INT-LVD	900MHz	10mW	6	Form C, 5 Form A	7-32VDC	Internal	NA	Yes
BU-9H1R3-INT-LVD-CAN	900MHz	10mW	4	Form C, 3 Form A	7-32VDC	Internal	CAN	Yes
BU-9H1R5-INT-LVD-NOS	900MHz	10mW	6	Form C, 5 Form A	7-32VDC	Internal	NA	No
BU-9H1R3-INT-LVD-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	7-32VDC	Internal	CAN	No
BU-9H1R5-INT-LVA	900MHz	10mW	6	Form C, 5 Form A	7-28VAC	Internal	NA	Yes
BU-9H1R3-INT-LVA-CAN	900MHz	10mW	4	Form C, 3 Form A	7-28VAC	Internal	CAN	Yes
BU-9H1R5-INT-LVA-NOS	900MHz	10mW	6	Form C, 5 Form A	7-28VAC	Internal	NA	No
BU-9H1R3-INT-LVA-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	7-28VAC	Internal	CAN	No
BU-9H1R5-INT-HVU	900MHz	10mW	6	Form C, 5 Form A	100-240VAC	Internal	NA	Yes
BU-9H1R3-INT-HVU-CAN	900MHz	10mW	4	Form C, 3 Form A	100-240VAC	Internal	CAN	Yes
BU-9H1R5-INT-HVU-NOS	900MHz	10mW	6	Form C, 5 Form A	100-240VAC	Internal	NA	No
BU-9H1R3-INT-HVU-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	100-240VAC	Internal	CAN	No
BU-9H1R5-EXT-LVD	900MHz	10mW	6	Form C, 5 Form A	7-32VDC	External	NA	Yes
BU-9H1R3-EXT-LVD-CAN	900MHz	10mW	4	Form C, 3 Form A	7-32VDC	External	CAN	Yes
BU-9H1R5-EXT-LVD-NOS	900MHz	10mW	6	Form C, 5 Form A	7-32VDC	External	NA	No
BU-9H1R3-EXT-LVD-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	7-32VDC	External	CAN	No
BU-9H1R5-EXT-LVA	900MHz	10mW	6	Form C, 5 Form A	7-28VAC	External	NA	Yes
BU-9H1R3-EXT-LVA-CAN	900MHz	10mW	4	Form C, 3 Form A	7-28VAC	External	CAN	Yes
BU-9H1R5-EXT-LVA-NOS	900MHz	10mW	6	Form C, 5 Form A	7-28VAC	External	NA	No
BU-9H1R3-EXT-LVA-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	7-28VAC	External	CAN	No
BU-9H1R5-EXT-HVU	900MHz	10mW	6	Form C, 5 Form A	100-240VAC	External	NA	Yes
BU-9H1R3-EXT-HVU-CAN	900MHz	10mW	4	Form C, 3 Form A	100-240VAC	External	CAN	Yes
BU-9H1R5-EXT-HVU-NOS	900MHz	10mW	6	Form C, 5 Form A	100-240VAC	External	NA	No
BU-9H1R3-EXT-HVU-NOS-CAN	900MHz	10mW	4	Form C, 3 Form A	100-240VAC	External	CAN	No
BU-2H1R5-INT-LVD	2.4GHz	100mW	6	Form C, 5 Form A	7-32VDC	Internal	NA	Yes
BU-2H1R3-INT-LVD-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-32VDC	Internal	CAN	Yes
BU-2H1R5-INT-LVD-NOS	2.4GHz	100mW	6	Form C, 5 Form A	7-32VDC	Internal	NA	No
BU-2H1R3-INT-LVD-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-32VDC	Internal	CAN	No
BU-2H1R5-INT-LVA	2.4GHz	100mW	6	Form C, 5 Form A	7-28VAC	Internal	NA	Yes
BU-2H1R3-INT-LVA-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-28VAC	Internal	CAN	Yes
BU-2H1R5-INT-LVA-NOS	2.4GHz	100mW	6	Form C, 5 Form A	7-28VAC	Internal	NA	No
BU-2H1R3-INT-LVA-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-28VAC	Internal	CAN	No
BU-2H1R5-INT-HVU	2.4GHz	100mW	6	Form C, 5 Form A	100-240VAC	Internal	NA	Yes
BU-2H1R3-INT-HVU-CAN	2.4GHz	100mW	4	Form C, 3 Form A	100-240VAC	Internal	CAN	Yes
BU-2H1R5-INT-HVU-NOS	2.4GHz	100mW	6	Form C, 5 Form A	100-240VAC	Internal	NA	No
BU-2H1R3-INT-HVU-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	100-240VAC	Internal	CAN	No
BU-2H1R5-EXT-LVD	2.4GHz	100mW	6	Form C, 5 Form A	7-32VDC	External	NA	Yes
BU-2H1R3-EXT-LVD-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-32VDC	External	CAN	Yes
BU-2H1R5-EXT-LVD-NOS	2.4GHz	100mW	6	Form C, 5 Form A	7-32VDC	External	NA	No

Model Name	Freq.	RF Power	# of CH	Channel Type	Input Power	Antenna Style	Serial Port Style	AC Suppression
BU-2H1R3-EXT-LVD-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-32VDC	External	CAN	No
BU-2H1R5-EXT-LVA	2.4GHz	100mW	6	Form C, 5 Form A	7-28VAC	External	NA	Yes
BU-2H1R3-EXT-LVA-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-28VAC	External	CAN	Yes
BU-2H1R5-EXT-LVA-NOS	2.4GHz	100mW	6	Form C, 5 Form A	7-28VAC	External	NA	No
BU-2H1R3-EXT-LVA-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-28VAC	External	CAN	No
BU-2H1R5-EXT-HVU	2.4GHz	100mW	6	Form C, 5 Form A	100-240VAC	External	NA	Yes
BU-2H1R3-EXT-HVU-CAN	2.4GHz	100mW	4	Form C, 3 Form A	100-240VAC	External	CAN	Yes
BU-2H1R5-EXT-HVU-NOS	2.4GHz	100mW	6	Form C, 5 Form A	100-240VAC	External	NA	No
BU-2H1R3-EXT-HVU-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	100-240VAC	External	CAN	No

