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 1,000 feet. 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
15A 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 55°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)

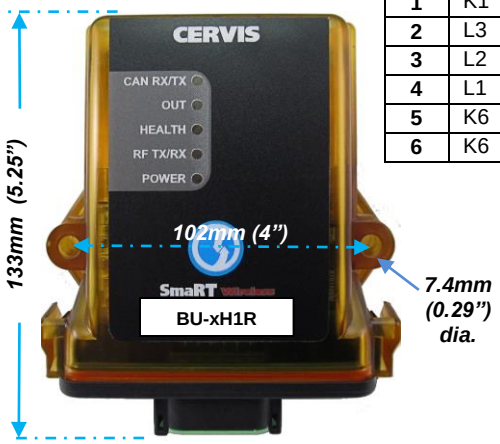
Communications

CAN Bus	SAE J1939

Indicators (model dependent)

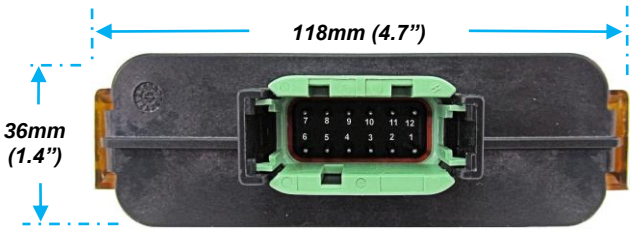
1 (CAN)	Indicates CAN traffic
2 (OUT)	Indicates activated relay
3 (HLTH)	ON – OK
4 (TX/RX)	Indicates RF traffic
5 (PWR)	ON – Normal Operation
6 Unused	

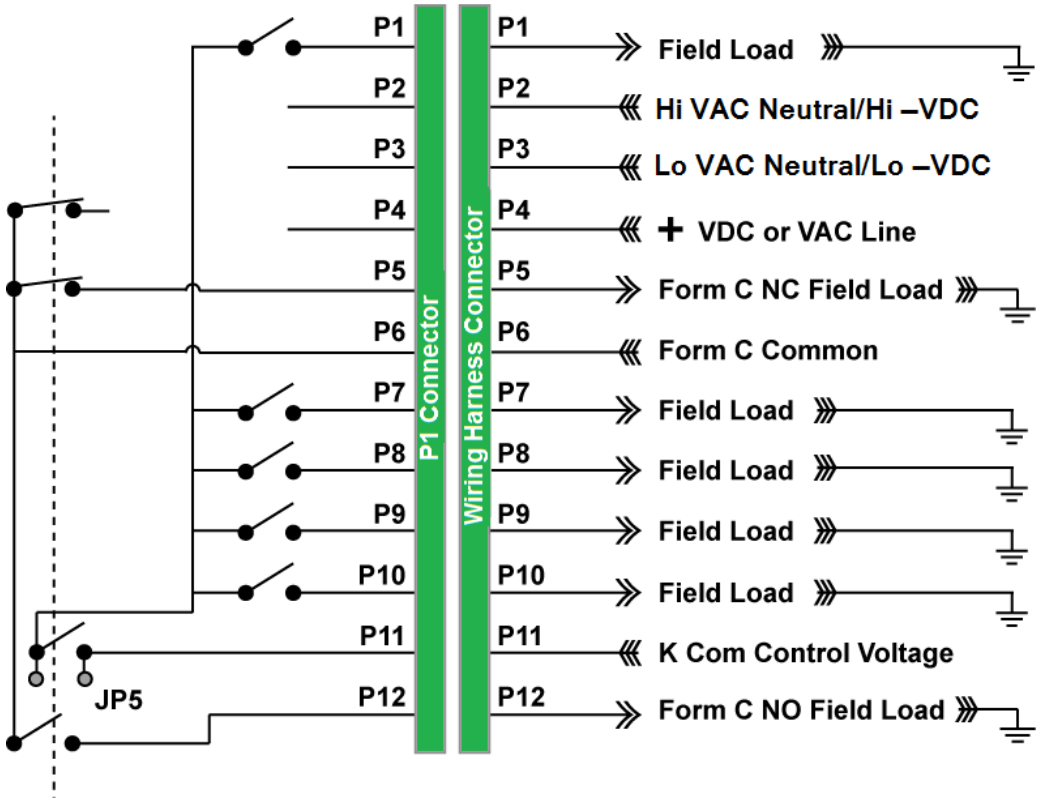
Mounting and Wiring



Pin	Name	Description
1	K1	Form A Relay
2	L3	Hi VAC Neutral/Hi –VDC
3	L2	Lo VAC Neutral/Lo –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.*

✓***Note:*** *BU-xH1R-CAN units are internally terminated at 4.3kΩ. Termination can be removed at the factory.*

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
BU-2H1R3-EXT-LVD-NOS-CAN	2.4GHz	100mW	4	Form C, 3 Form A	7-32VDC	External	CAN	No

Model Name	Freq.	RF Power	# of CH	Channel Type	Input Power	Antenna Style	Serial Port Style	AC Suppression
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

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