

## SmaRT BU-xH16R Base Unit

### Features

- ✓ 900MHz or 2.4GHz Direct Sequence Spread Spectrum Technology
- ✓ Sixteen Form A Relay Outputs
- ✓ Weatherproof compact design
- ✓ Optional J1939 CAN interface
- ✓ Diagnostic LED outputs
- ✓ Optional external antenna
- ✓ Dual cable connectors



The SmaRT Base Unit BU-xH16R features sixteen Form A relay outputs, divided into two banks of eight, with a separate internal relay contact to control the common power to each bank. This allows the power to each bank to be turned off in the event that a control contact sticks or welds.

The standard BU-xH16R operates using 110/230 volts AC or DC. It is also available for low-voltage DC or AC power input. All connections are made with dual 12-wire cables using uniquely keyed connectors to guard against cross connection. The rugged weatherproof enclosure allows the unit to operate worry free in harsh weather conditions.

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.

### Specifications

#### V<sub>in</sub>

<b>BU-xH16R-INT-HVU</b>	100–240 VAC @ 47– 440Hz or +120+340VDC
<b>BU-xH16R-EXT-HVU</b>	100–240 VAC @ 47– 440Hz or +120+340VDC
<b>BU-xH16R-INT-LVD</b>	+7 – +32VDC
<b>BU-xH16R-EXT-LVD</b>	+7 – +32VDC
<b>BU-xH16R-INT-LVA</b>	7 – 28VAC
<b>BU-xH16R-EXT-LVA</b>	7 – 28VAC
<b>Operating Power</b>	5W max.

#### Enclosure

<b>Dimensions</b>	mm: 133 x 118 x 36 inch: 5.24 x 4.65 x 1.42
<b>Weight</b>	340g (0.75 lbs.)
<b>Durability</b>	High Impact Polymer

#### Outputs

<b>Sixteen</b>	Relays, Form A (SPST)
<b>Current</b>	Resistive: 5 A at 250 VAC or 30 VDC Inductive: 2 A at 250 VAC or 30 VDC 7.5A max per bank with CAN 15A max per bank without CAN
<b>Bank A</b>	Relays K1 - K8
<b>Bank B</b>	Relays K9 – K16

#### Radio

<b>Frequency</b>	906–924MHz; 2405–2480MHz
<b>RF Power</b>	10mW @ 900MHz; 100mW @ 2.4.GHz
<b>License</b>	None required
<b>Modulation</b>	DSSS
<b>Antenna</b>	Internal or external

#### LEDs

<b>CAN TX/RX</b>	Green – Receive Red – Transmit
<b>Out</b>	Green – Active Output
<b>Health</b>	Green/sec – OK
<b>RF TX/RX</b>	Green – Receive Red – Transmit
<b>Power</b>	Amber – OK Red/Green – Fault

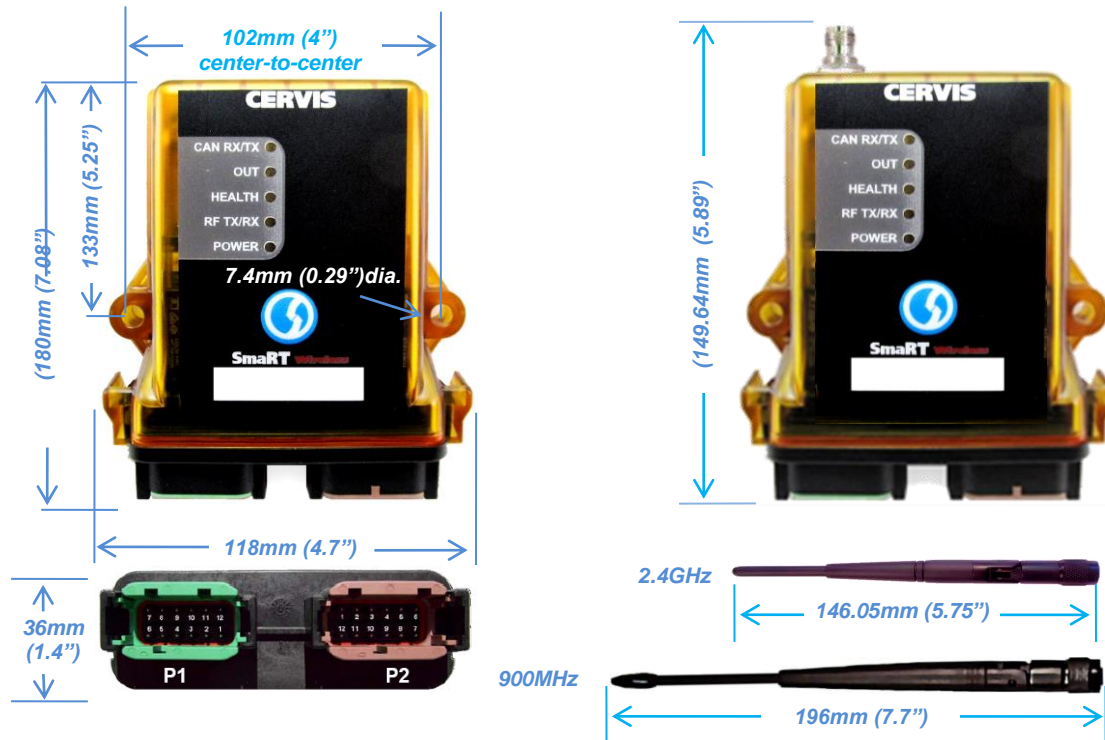
#### Environment

<b>Operating Temp</b>	-25°C to 60°C (-13°F to 140°F)
<b>Storage Temp</b>	-40°C to 85°C (-40°F to 185°F)
<b>Humidity</b>	0 to 100%
<b>Vibration/Shock</b>	IEC60068-2-6 10Hz to 150Hz @ 1.0g peak acceleration 10.0g peak shock acceleration

#### CAN Option

<b>Protocol</b>	SAE J1939
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## Cable Wiring and Connection



P1 Pin	Assignment	P1 Pin	Assignment
P1:1	Bank A Common	P1:7	K1
P1:2	Bank A or CANL or RS-232 RX	P1:8	K2
P1:3	K6	P1:9	K3
P1:4	K8	P1:10	K4
P1:5	K7	P1:11	K5
P1:6	CAN common	P1:12	K15
P2 Pin	Assignment	P2 Pin	Assignment
P2:1	K11	P2:7	Neutral/LV AC or DC
P2:2	K12	P2:8	+LV AC or DC
P2:3	K13	P2:9	HV AC or DC
P2:4	K14	P2:10	K16
P2:5	K10	P2:11	Bank B or CANH or RS-232 TX
P2:6	K9	P2:12	Bank B Common

## BU-xH16R Hardware Options

Model	Frequency	RF Pwr.	Input Pwr.	Antenna	Serial Port	AC Sup.
BU-9H16R-INT-LVD	900MHz	10mW	7-32VDC	Internal	No	Yes
BU-9H16R-INT-LVD-CAN✓	900MHz	10mW	7-32VDC	Internal	CAN	Yes
BU-9H16R-INT-LVD-NOS	900MHz	10mW	7-32VDC	Internal	No	No
BU-9H16R-INT-LVD-NOS-CAN✓	900MHz	10mW	7-32VDC	Internal	CAN	No
BU-9H16R-INT-LVA	900MHz	10mW	7-28VAC	Internal	No	Yes
BU-9H16R-INT-LVA-CAN✓	900MHz	10mW	7-28VAC	Internal	CAN	Yes
BU-9H16R-INT-LVA-NOS	900MHz	10mW	7-28VAC	Internal	No	No
BU-9H16R-INT-LVA-NOS-CAN✓	900MHz	10mW	7-28VAC	Internal	CAN	No

Model	Frequency	RF Pwr.	Input Pwr.	Antenna	Serial Port	AC Sup.
BU-9H16R-INT-HVU	900MHz	10mW	100-240VAC	Internal	No	Yes
BU-9H16R-INT-HVU-CAN✓	900MHz	10mW	100-240VAC	Internal	CAN	Yes
BU-9H16R-INT-HVU-NOS	900MHz	10mW	100-240VAC	Internal	No	No
BU-9H16R-INT-HVU-NOS-CAN✓	900MHz	10mW	100-240VAC	Internal	CAN	No
BU-9H16R-EXT-LVD	900MHz	10mW	7-32VDC	External	No	Yes
BU-9H16R-EXT-LVD-CAN✓	900MHz	10mW	7-32VDC	External	CAN	Yes
BU-9H16R-EXT-LVD-NOS	900MHz	10mW	7-32VDC	External	No	No
BU-9H16R-EXT-LVD-NOS-CAN✓	900MHz	10mW	7-32VDC	External	CAN	No
BU-9H16R-EXT-LVA	900MHz	10mW	7-28VAC	External	No	Yes
BU-9H16R-EXT-LVA-CAN✓	900MHz	10mW	7-28VAC	External	CAN	Yes
BU-9H16R-EXT-LVA-NOS	900MHz	10mW	7-28VAC	External	No	No
BU-9H16R-EXT-LVA-NOS-CAN✓	900MHz	10mW	7-28VAC	External	CAN	No
BU-9H16R-EXT-HVU	900MHz	10mW	100-240VAC	External	No	Yes
BU-9H16R-EXT-HVU-CAN✓	900MHz	10mW	100-240VAC	External	CAN	Yes
BU-9H16R-EXT-HVU-NOS	900MHz	10mW	100-240VAC	External	No	No
BU-9H16R-EXT-HVU-NOS-CAN✓	900MHz	10mW	100-240VAC	External	CAN	No
BU-2H16R-INT-LVD	2.4GHz	100mW	7-32VDC	Internal	No	Yes
BU-2H16R-INT-LVD-CAN✓	2.4GHz	100mW	7-32VDC	Internal	CAN	Yes
BU-2H16R-INT-LVD-NOS	2.4GHz	100mW	7-32VDC	Internal	No	No
BU-2H16R-INT-LVD-NOS-CAN✓	2.4GHz	100mW	7-32VDC	Internal	CAN	No
BU-2H16R-INT-LVA	2.4GHz	100mW	7-28VAC	Internal	No	Yes
BU-2H16R-INT-LVA-CAN✓	2.4GHz	100mW	7-28VAC	Internal	CAN	Yes
BU-2H16R-INT-LVA-NOS	2.4GHz	100mW	7-28VAC	Internal	No	No
BU-2H16R-INT-LVA-NOS-CAN✓	2.4GHz	100mW	7-28VAC	Internal	CAN	No
BU-2H16R-INT-HVU	2.4GHz	100mW	100-240VAC	Internal	No	Yes
BU-2H16R-INT-HVU-CAN✓	2.4GHz	100mW	100-240VAC	Internal	CAN	Yes
BU-2H16R-INT-HVU-NOS	2.4GHz	100mW	100-240VAC	Internal	No	No
BU-2H16R-INT-HVU-NOS-CAN✓	2.4GHz	100mW	100-240VAC	Internal	CAN	No
BU-2H16R-EXT-LVD	2.4GHz	100mW	7-32VDC	External	No	Yes
BU-2H16R-EXT-LVD-CAN✓	2.4GHz	100mW	7-32VDC	External	CAN	Yes
BU-2H16R-EXT-LVD-NOS	2.4GHz	100mW	7-32VDC	External	No	No
BU-2H16R-EXT-LVD-NOS-CAN✓	2.4GHz	100mW	7-32VDC	External	CAN	No
BU-2H16R-EXT-LVA	2.4GHz	100mW	7-28VAC	External	No	Yes
BU-2H16R-EXT-LVA-CAN✓	2.4GHz	100mW	7-28VAC	External	CAN	Yes
BU-2H16R-EXT-LVA-NOS	2.4GHz	100mW	7-28VAC	External	No	No
BU-2H16R-EXT-LVA-NOS-CAN✓	2.4GHz	100mW	7-28VAC	External	CAN	No
BU-2H16R-EXT-HVU	2.4GHz	100mW	100-240VAC	External	No	Yes
BU-2H16R-EXT-HVU-CAN✓	2.4GHz	100mW	100-240VAC	External	CAN	Yes
BU-2H16R-EXT-HVU-NOS	2.4GHz	100mW	100-240VAC	External	No	No
BU-2H16R-EXT-HVU-NOS-CAN✓	2.4GHz	100mW	100-240VAC	External	CAN	No

✓ **Note: BU-xH16R-CAN units are internally terminated at 1.0kΩ.  
Termination can be removed at the factory.**

