

SmaRT BU-xH16R Base Unit

Features

- ✓ 900 MHz or 2.4 GHz 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 with a SmaRT handheld unit without the need to open the case. Using Channel-Hopping Direct Sequence Spread Spectrum (DSSS) wireless technology at 900 MHz or 2.4 GHz, the base unit provides a robust link with a SmaRT handheld remote in congested radio environments.

Specifications

V_{in}

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

Enclosure

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

Outputs

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

Radio

Frequency	906–924 MHz; 2405–2480 MHz
RF Power	10 mW @ 900 MHz; 100mW @ 2.4 GHz
License	None required
Modulation	Channel-Hopping DSSS
Antenna	Internal or external

LEDs

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

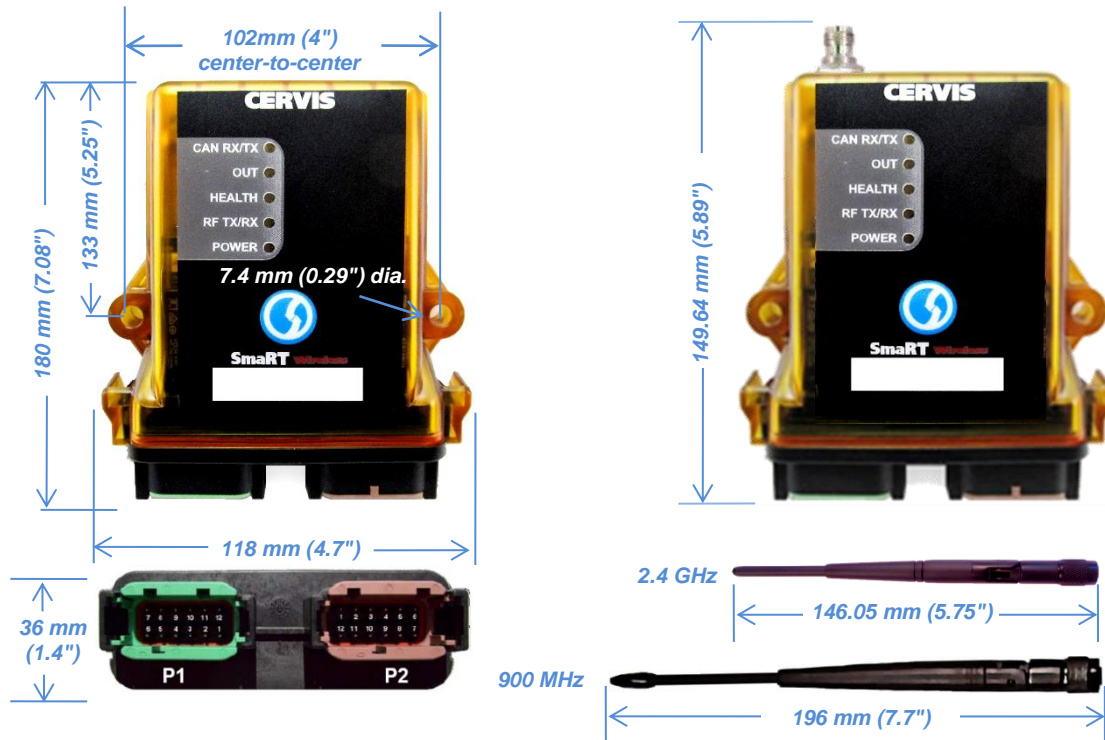
Environment

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

CAN Option

Protocol	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	900 MHz	10 mW	7-32 VDC	Internal	No	Yes
BU-9H16R-INT-LVD-CAN✓	900 MHz	10 mW	7-32 VDC	Internal	CAN	Yes
BU-9H16R-INT-LVD-NOS	900 MHz	10 mW	7-32 VDC	Internal	No	No
BU-9H16R-INT-LVD-NOS-CAN✓	900 MHz	10 mW	7-32 VDC	Internal	CAN	No
BU-9H16R-INT-LVA	900 MHz	10 mW	7-28 VAC	Internal	No	Yes
BU-9H16R-INT-LVA-CAN✓	900 MHz	10 mW	7-28 VAC	Internal	CAN	Yes
BU-9H16R-INT-LVA-NOS	900 MHz	10 mW	7-28 VAC	Internal	No	No
BU-9H16R-INT-LVA-NOS-CAN✓	900 MHz	10 mW	7-28 VAC	Internal	CAN	No

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

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

