SmaRT BU-2H8D Family Base Units

Features

- ✓ 2.4 GHz Spread Spectrum Technology
- ✓ Eight FET Outputs/Inputs
- ✓ High Side or Low Side Outputs
- ✓ Diagnostic LED outputs
- ✓ Two Analog Inputs/Outputs Capable
- ✓ Single connector for ease of wiring
- ✓ Power FET Cutoff
- ✓ Current Sense Capable
- ✓ CAN Bus Capable
- ✓ Weatherproof
- ✓ Compact design
- ✓ IEC 60950 Certified

The SmaRT Base Unit BU-2H8D features eight high-side or low-side switching field effect transistor (FET) outputs, each 2.5 A max. It accepts a broad range of input power operating voltages (from 7 to 28 VDC standard). All connections are made via a single cable, and the rugged weatherproof enclosure allows the unit to operate worry free in harsh weather conditions.

SmaRT base units feature seamless association to a SmaRT™ handheld unit without the need to open the case. Using Direct Sequence Spread Spectrum (DSSS) wireless technology at 2.4 GHz, the base unit provides a robust link with a SmaRT handheld remote in congested radio environments.

Specifications

Power

V_{in}	+7 to +28 VDC
Operating	1 W max.

LED Indicators

Unnamed (V_{in})	OK when inactive; Polarity reversed when active
+V1 – +V3**	OK when lit steady
1 (Health)	OK when blinking 1x/sec
2 (RF TX)	Flashes when active transmit message
3 (RF RX)	Flashes when active receive message
4 (CAN TX)	Flashes when active transmit message
5 (CAN RX)	Flashes when active receive message
6 (OUT)	Blinks 1x/sec when an output is active
7 (IN)	Blinks 1x/sec when an input is active
8 (ERR)	Error when active

Radio

Frequency	2405–2480 MHz
RF Power	200 mW*****
License	License-Free
Modulation	DSSS
Antenna	Internal or External

Enclosure

Dimensions	mm: 133 x 118 x 36 inch: 5.24 x 4.65 x 1.42
Weight	0.24 kg (0.5 lbs)
Durability	High-Impact Polymer

Environment

Operating Temp	–40° C to 70° C (–40° F to 158° 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

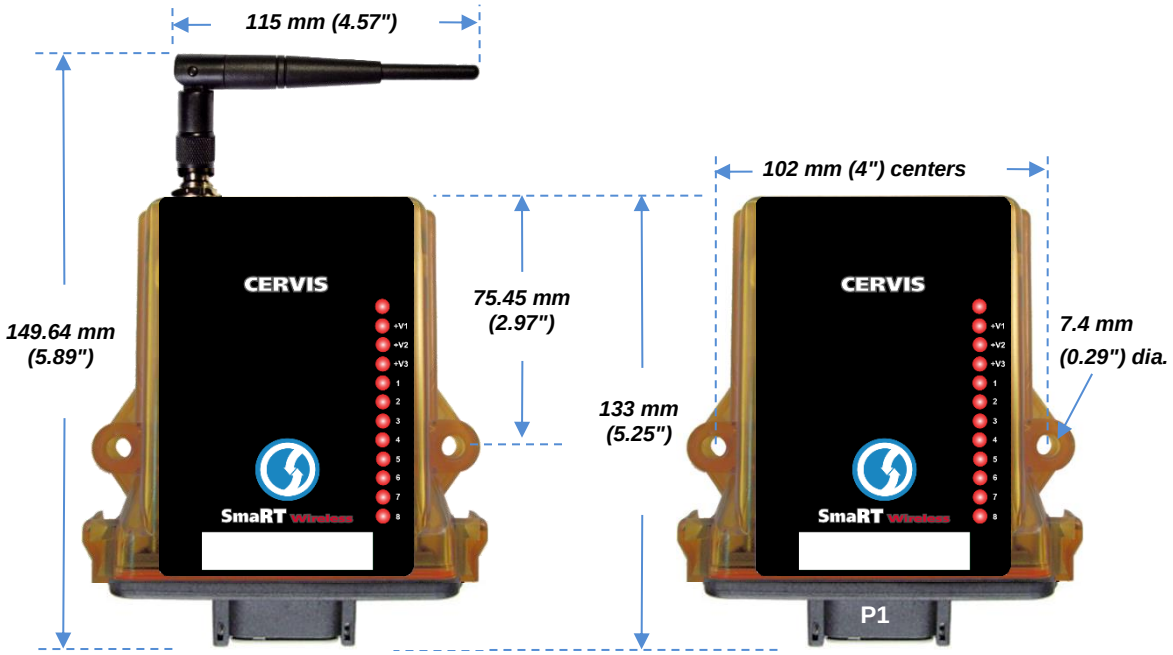
Outputs/Inputs

Eight FET	Open Drain
Two Analog	0–10 V input/4–20 mA input
(optional)	0–10 V output M7 and M8 analog when chosen
Max. Current	2.5 A Per Channel Total 15 A max @ 55° C (131° F)

Depending on the type of measurement performed, the value can vary between 100–200 mW.

***The +V3 LED is not active for all BU variants.**

Cable Wiring and Connection



P1 Connector Pin Numbers

Connection	BU-2H6D	BU-2H6D-CAN✓	BU-2H8D	BU-2H8D-CAN✓
P1:1	+VDC	+VDC	+VDC	+VDC
P1:2	+VDC	+VDC	M7	M7
P1:3	M1	M1	M1	M1
P1:4	M2	M2	M2	M2
P1:5	M3	M3	M3	M3
P1:6	M4	M4	M4	M4
P1:7	RS-232 TX	CANH	RS-232 TX	CANH
P1:8	RS-232 RX	CANL	RS-232 RX	CANL
P1:9	RS-232 COM	UMBILICAL PWR	M8	M8
P1:10	M5	M5	M5	M5
P1:11	M6	M6	M6	M6
P1:12	–VDC	–VDC	–VDC	–VDC

✓ ***Note**: BU-2H8D-CAN units are internally terminated at 1.2KΩ. Termination can be removed at the factory.*

List of BU-2H8D Models

Common Features

Operating Frequency	2.4 GHz	**Suppression:**	None	**Channels:**	8
Input Power:	7–28 VDC	**RF Power:**	200 mW*	**Type:**	FET

✓ ***Note**: The +V3 LED is not available on BU-x6D-INT, BU-x8D-INT, and BU-x8D-EXT. All other variants have the +V3 LED available.*

Model	Antenna	Analog Channel	Serial Port	Display
BU-2H8D-INT-AV2	Internal	(2) 0–10 V IN	RS-232	No
BU-2H8D-EXT-AV2	External	(2) 0–10 V IN	RS-232	No
BU-2H8D-INT-AV2-CAN	Internal	(2) 0–10 V IN	CAN	No
BU-2H8D-EXT-AV2-CAN	External	(2) 0–10 V IN	CAN	No
BU-2H8D-INT-AI2	Internal	(2) 4–20 mA IN	RS-232	No
BU-2H8D-EXT-AI2	External	(2) 4–20 mA IN	RS-232	No
BU-2H8D-INT-AI2-CAN	Internal	(2) 4–20 mA IN	CAN	No
BU-2H8D-EXT-AI2-CAN	External	(2) 4–20 mA IN	CAN	No
BU-2H8D-INT-AO2	Internal	(2) 0–10 V OUT	RS-232	No
BU-2H8D-EXT-AO2	External	(2) 0–10 V OUT	RS-232	No
BU-2H8D-INT-AO2-CAN	Internal	(2) 0–10 V OUT	CAN	No
BU-2H8D-EXT-AO2-CAN	External	(2) 0–10 V OUT	CAN	No
BU-2H8D-INT	Internal	N/A	RS-232	No
BU-2H8D-EXT	External	N/A	RS-232	No
BU-2H8D-INT-CAN	Internal	N/A	CAN	No
BU-2H8D-EXT-CAN	External	N/A	CAN	No
BU-2H8D-INT-DIS-AV2	Internal	(2) 0–10 V IN	RS-232	Yes
BU-2H8D-EXT-DIS-AV2	External	(2) 0–10 V IN	RS-232	Yes
BU-2H8D-INT-DIS-AV2-CAN	Internal	(2) 0–10 V IN	CAN	Yes
BU-2H8D-EXT-DIS-AV2-CAN	External	(2) 0–10 V IN	CAN	Yes
BU-2H8D-INT-DIS-AI2	Internal	(2) 4–20 mA IN	RS-232	Yes
BU-2H8D-EXT-DIS-AI2	External	(2) 4–20 mA IN	RS-232	Yes
BU-2H8D-INT-DIS-AI2-CAN	Internal	(2) 4–20 mA IN	CAN	Yes
BU-2H8D-EXT-DIS-AI2-CAN	External	(2) 4–20 mA IN	CAN	Yes
BU-2H8D-INT-DIS-AO2	Internal	(2) 0–10 V OUT	RS-232	Yes
BU-2H8D-EXT-DIS-AO2	External	(2) 0–10 V OUT	RS-232	Yes
BU-2H8D-INT-DIS-AO2-CAN	Internal	(2) 0–10 V OUT	CAN	Yes
BU-2H8D-EXT-DIS-AO2-CAN	External	(2) 0–10 V OUT	CAN	Yes
BU-2H8D-INT-DIS	Internal	N/A	RS-232	No
BU-2H8D-EXT-DIS	External	N/A	RS-232	No
BU-2H8D-INT-DIS-CAN	Internal	N/A	CAN	No
BU-2H8D-EXT-DIS-CAN	External	N/A	CAN	No

Depending on the type of measurement performed, the value can vary between 100–200 mW.