



FEATURES

- Performs counter-in, analog/relay-out and repeater functions simultaneously.
- Integrated 100mw, 900 MHz SSFH radio for long-range performance.
- Outputs voltage, current and form-C relay status from remote sensors.
- Acts as a 900 MHz. pulse counter.
- Built-in 900 MHz. packet repeater functions.
- Learns sensor device IDs from unique packet serial numbers.
- 30-Bit unique ID on UOM (counter) packets.
- CRC-16 error checked on all packet transfers.
- Range Indoor: Up to 1300 feet.
- Range Outdoor: Up to 1 mile with standard antenna.
- 12-24VDC power.
- Very small (3.25" X 2.5" X 1.125") ABS Enclosure.
- External ¼ wave antenna or internal wire.



DESCRIPTION

The Universal Output Module (UOM) provides analog output in both voltage and current forms as well as discrete form-C relay output. The UOM also acts as a counter, producing standard Point Six radio data packets as a single input counter accumulating active state time and number of activations of a switch closure input. Also, the UOM acts as a standard packet repeater for all Point Six 900 MHz. radio data packets. The UOM is married to Point Sensors with a simple ID-learn-sequence that stores sensor IDs in EEPROM so that the UOM knows which devices source the analog and discrete outputs. The UOM can be married to a single analog source and a single discrete source device at the same time while also producing counter device packets and repeating 900 MHz. packets from other Point Six devices. Analog output is produced in both voltage (0-5V or 0-10V) and current (0-20mA. or 0-40mA) at the same time with a common ground. The high/low analog output range is controlled by internal jumper selection and is shipped in the low range (0-5V, 0-20mA) mode. The relay output is an isolated form-C with 2-Amp contacts. The counter input is self-excited with 5V at 1 mA. referenced to the same ground as the analog outputs and the power input. This common ground architecture allows the UOM to be substituted for current mode sensors in 4-20 mA. remote applications.

The electronics are coated with a conformal material that provides a moisture barrier against condensation. Submersion in water is not recommended. An internal pushbutton switch permits a user to activate the ID-learn-sequence and service mode functions.

Analog output	12-bit resolution 0-5 or 0-10 V and 0-20 mA or 0-40 mA.
Relay output	0.5 A at 125 VAC 2 A at 30 VDC
Switch closure input	5V at 1 mA short circuit, .01sec. minimum active (closed) time
Storage Temperature	-40° to 85° C
Operating Temperature	-40° to 85° C
Dimensions (enclosure)	3.25 W X 2.5 H X 1.125 D (inches)
Weight	4 oz.
Radio FCC Certified	FCC ID: OUR9XSTREAM
Power	12-24Vdc 200 mA.

Universal Output Module

Installation and Operation Instructions

The UOM must be married to the source analog and discrete sensor devices see below:

Push and hold internal pushbutton for approximately three seconds until the LED turns off. For a period of 1 minute the UOM will look for a service packet (packet caused by pushing the service button on the desired source device). When the source ID is learned and stored in EEPROM the LED will be turned on again. Note: the LED flickers briefly any time a packet is repeated by the built in repeater function. Repeat this procedure for both the analog and relay source devices.



Application: Apply the sensor to a surface near the device to which the output is to be connected. Provide power in the form of 12-24 VDC. Note: the UOM can be powered by as little as 8VDC in the case where the analog output is set to the low range (0-5V or 0-20mA.) 12V or higher is required for 0-10V analog output only. The power supply should be capable of providing .2 Amps of current and shares a common ground return with the analog output and counter inputs.

UOM Connector

Description

Power +	Power input 12-24 VDC.
-	Power Gnd return, same as analog Gnd
Relay NC	Relay Normally Closed contact.
C	Relay Common contact.
NO	Relay Normally Open contact.
IN	Counter input (short with switch to Gnd).
CO	Current output referenced to Gnd .
Voltage +	Voltage output referenced to Gnd .
-	Gnd for power, voltage, current, input.



“UOM Counter Packet Format”

IDSSSSSSSSaaaaaacccccCCCKK<CR>

Note: All fields are in ASCII Hex

“ID”

The device type field: “DualCounter” has device type 11 hex. A 10 hex when in service mode.

“SSSSSSSS”

The MS-30 bits of these 4-bytes are the serial number of the UOM. The LS-2 bits are the status flags for the open and closed limit switches. The LS bit (bit-0) is the Open switch flag and the next most significant bit (bit-1) is the Closed switch flag.

For the UOM the status bits have the following meaning for the “IN” pin status:

Bit 1	Bit 0	State
0	0	Not defined
0	1	Open
1	0	Closed
1	1	Not defined

“aaaaaa”

This 24-bit field is the active state accumulator in 1/100 second units counter stored LS-byte first.

“cccccc”

This 24-bit field is the active state (Closed) counter stored LS-byte first.

“CCCC”

This field is the CRC-16 error check as was originally received and checked. This CRC is over the first 11 bytes of the packet starting with the device type and ending with but not including CRC-16.

“KK”

This field is the mod 256 sum of all the binary data values as represented by the ASCII hex values in the response but does not include the <CR>.

“UOM Source Devices”

The UOM can be married to different source devices for the purpose of generating a remote analog output or relay output. The list below describes the various source devices and the particular source used from each type:

“Analog” type (41/40) (12-bit unsigned). These are 12-bit voltage, current motion and vibration input sensors. The UOM will reproduce an analog voltage and current, for these devices.

“Thermistor” type (57/56).

The UOM will use the thermistor source value from these devices to control the relay. When married to this type device the UOM will activate the relay whenever the source value is below half scale. Placing a switch on a thermistor transmitter married to a UOM will result in relay activating whenever the switch is closed.

“Counter/Temperature” type (61/60).

The UOM will use the counter/temperature status value from these devices to control the relay. When married to this type device the UOM will activate the relay whenever the input switch on the source sensor is closed.

“Directional Counter” type (65/64).

The UOM will use the directional counter blocked status value from these devices to control the relay. When married to this type device the UOM will activate the relay whenever blocked status on the source sensor exists.

“People Counter” type (11/10), or “Dual Counter” type (11/10).

The UOM will use these counters closed status to control the relay output.

When married to this type device the UOM will activate the relay whenever closed status on the source sensor exists.

**FCC ID: OUR9XSTREAM
MADE IN USA**

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES; OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESERED OPERATION