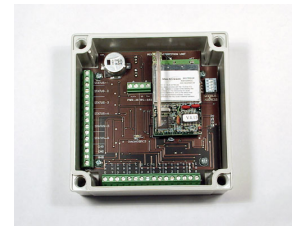
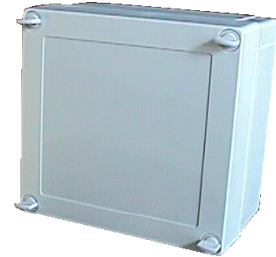




Flame resistance: UL94-5V (UL 746 C 5)  
USA: UL Type 1, 4, 4x, 6  
EURO: IP 66/67 (EN 60529); IK 08 (EN 50102)  
**EAN-code** 6418074014023



## FEATURES

- **Input channels: 6-thermistor, 4-analog and 6-status**
- **Energy managed thermistor excitation for minimum self-heating**
- **Six channels of isolated status input**
- **All 16 channels produce standard Point Six Analog data packets**
- **Channel values are transmitted sequentially every 16 seconds**
- **Dip switch selectable service packets**
- **Unique serial number for each channel based on root serial number of IAU**
- **Integrated 100 mw, 900 MHz./2.4 GHz radio network interface**
- **Internal antenna for 900 MHz. or 2.4 GHz. radios**
- **Phoenix screw terminals on all connections.**
- **Reverse tolerant, thermal and over voltage protected AC/DC input power.**
- **Dimensions 130 x 130 x 75 MM.**
- **Enclosure range-of material: - 40 °C - + 120 °C.**
- **Enclosure temperature range in cont. use: 80 °C.**

PARAMETER	MIN	TYP	MAX	UNITS
Supply Voltage 10-42 VAC, 10-60 VDC	10	-	60	Volts DC
Supply Current (no host radio or Ethernet)	-	100	300	MA
Status input excitation current at 20.6 VAC	-	10	-	MA
Status channel to channel isolation voltage	-	3740	-	VRMS
Analog input voltage range	0	-	5.00	Volts
Analog input resolution (12 bit)		.00122		Volts
Analog input impedance		24000		Ohms
900 MHZ. Radio Range	-	1500	5000 LOS	Ft.

*Product specifications are subject to change without notice.*

## Operational Characteristics

The transmit packet from a receiver consists of 13 bytes of data:

### 64-BIT Serial Number form:

8-bit Device ID field  
64-bit serial number  
16-data field  
16-bit CRC-16 error check

### 30-Bit Serial Number form:

8-bit Device ID  
30-bit serial number  
50-bit data field  
16-bit CRC-16 error check

Point Six Receivers, Servers and Repeaters receive process and perform a CRC-16 error check on this data packet. If the data is not accurate it is discarded. When a packet is received that is error free it is converted to a 29-character string and transmitted out the serial port (usually at **19,200 Baud**). A checksum byte is added so that data is easier to error check. The data is transmitted serially in ASCII Hex format and terminated with a CR character. This format requires two bytes for each byte of data; 14 data bytes x 2=28 plus the CR is 29 characters

The resulting binary data format of the packet is:

ID field	this field will contain an ID byte whose value indicates the service state of the transmitter, ID=normal, ID-1=service mode.
Serial#	this field contains the 64 or 30 bit serial number of the transmitter. Some devices use a serial number of 30-bits, which permits a 50-bit data field; the 64-bit serial number forms have a 16-bit data field; see the individual device specifications.
Data Field	this field contains the data stored is a device specific form either 50 or 30 bits depending on the form; see the individual device specifications below.
CRC-16	this is the originally received data packet CRC-16 as described above.
Checksum	the checksum is a mod 256 sum of all the binary values as represented by the ASCII hex in the string but does not include the CR.

**Note:** IAU Service mode is entered at power up when dip switches A0-A3 are all in the “on” position. This feature should be used during installation and setup and then disabled by setting Dip-switches A0-A3 to the “off” position.

## “Thermistor” (57/56)

**IDSSSSSSSSSSSSSSSSAAAACCCCKK<CR>**

*Note: All fields are in ASCII Hex*

“ID”

This field is the device type and mode indicator, the 57 or 56 indicates that this is a Thermistor analog transmitter; 56 indicates the transmitter is in service mode.

Note: IAU Service mode is entered at power up when dip switches A0-A3 are all in the “on” position. This feature should be used during installation and setup and then disabled by setting Dip-switches A0-A3 to the “off” position.

“SSSSSSSSSSSSSSSS”

This field is the 64 bit unique serial number of the Thermistor sensor.

“AAAA”

This is the analog data field. This field is 16 bits stored MSB first (bits 15-8) and LSB last (bits 7-0) from left to right. This is a value of 0-32767 for 0-fullscale. Conversion is dependant on thermistor type and termination specified (default termination is 10,000 Ohm.)

“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>.

The Thermistor channels are:

Channel	Label	Offset
Thermistor channel 0,	“CH0”	serial number offset 0.
Thermistor channel 1,	“CH1”	serial number offset 1.
Thermistor channel 2,	“CH2”	serial number offset 2.
Thermistor channel 3,	“CH3”	serial number offset 3.
Thermistor channel 4,	“CH4”	serial number offset 4.
Thermistor channel 5,	“CH5”	serial number offset 5.

**“Analog16” (43/42) (16 bit signed)**

**IDSSSSSSSSSSSSSSSSSSAAAACCCCKK<CR>**

*Note: All fields are in ASCII Hex*

**“ID”**

This field is the device type and mode indicator, the 43 or 42 indicates that this is an “Analog16” transmitter; 42 indicates the transmitter is in service mode.

Note: IAU Service mode is entered at power up when dip switches A0-A3 are all in the “on” position. This feature should be used during installation and setup and then disabled by setting Dip-switches A0-A3 to the “off” position.

**“SSSSSSSSSSSSSSSSSS”**

This field is the 64 bit unique serial number of the sensor.

**“AAAA”**

This is the analog data field. This field is 16 bits stored MSB first (bits 15-8) and LSB last (bits 7-0) from left to right. This is a value of –32768 to 32767 for min to max scale.

**“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>.

The analog channels are:

Channel	Label	Offset
Analog channel 0	<b>“CH6”</b>	serial number offset 6.
Analog channel 1	<b>“CH7”</b>	serial number offset 7.
Analog channel 2	<b>“CH8”</b>	serial number offset 8.
Analog channel 3	<b>“CH9”</b>	serial number offset 9.

**“Discrete” (20/1F)**

**IDSSSSSSSSSSSSSSSSSSBBBNCCCCKK<CR>**

*Note: All fields are in ASCII Hex*

“ID”

This field is the device type and mode indicator, the 20 or 1F indicates that this is a Discrete transmitter; 1F indicates the transmitter is in service mode.

Note: IAU Service mode is entered at power up when dip switches A0-A3 are all in the “on” position. This feature should be used during installation and setup and then disabled by setting Dip-switches A0-A3 to the “off” position.

“SSSSSSSSSSSSSSSSSS”

This field is the 64 bit unique serial number of the Discrete sensor.

“BBB”

This is the bit field. The 12 bits are used right to left.

“N”

This is the number of bits used.

“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>.

The Status channels are:

Channel	Label	Offset
Discrete channel 0	“Status-1”	, serial number offset A.
Discrete channel 1	“Status-2”	, serial number offset B.
Discrete channel 2	“Status-3”	, serial number offset C.
Discrete channel 3	“Status-4”	, serial number offset D.
Discrete channel 4	“Status-5”	, serial number offset E.
Discrete channel 5	“Status-6”	, serial number offset F.

# IAU Block Diagram

