

# 1 Node Descriptor 53 – Multi Temperature (interfaces with temperature strip)

## 1.1 Device Description

The Multi Temperature sensor was developed as a custom firmware for interfacing to an Aurora High Resolution Temperature sensing strip.

## 1.2 Hardware Details

### 1.2.1 10 pin Right Angle Header

Possible hardware combinations include:

- Platform RFSC Rev A, Ver 0: not supported.
- Platform RFSC Rev B, Ver 0: not supported.
- Platform RFSC Rev C, Ver 0: 10 pin Right Angle Header attached to SP1 through SP10.

## 1.3 Enclosure Details

No enclosure is necessary. The Aurora High Resolution Temperature sensing strip has its own protective covering where the RFSC interfaces with the strip.

## 1.4 Message Details

### 1.4.1 STATE (SOM, SDM)

Both the Spurious Orphan Message (SOM) and the Spurious Data Message (SDM) contain the STATE field. STATE is defined here. (For definition of STATE, refer to Monnit Network Specifications, Section 4.2).

Field	Length	Description
Test Active	1 bit LSB	Test state is active (1) or inactive (0)
Aware State	1 bit	Aware State is active (1) or inactive (0)
Sensor Disable	1 bit	Sensor is disable (communication still happens)
RSVD	1 bit	Reserved
Calibrate	1 bit	Currently not used
Self Test Status	1 bit	If 0 or (>70) is reported on any temperature slots, this is set to 1.
Not used	1 bit	Currently not used
Not used	1 bit MSB	Currently not used

## 1.4.2 SDATA (SDM)

The Spurious Data Message contains the SDATA field, which is defined here. The SDATA field is defaulted to 4 bytes for this application.

SDATA[0]: App\_DiscoverState()

SDATA[1-8]: Temperature data captured from the strip. There are 8 readings.

Field	Length	Value	Format
SDATA[0]	1 byte	Int8	STATE
SDATA[1]	1 byte	Int8	Temperature reading 1 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[2]	1 byte	Int8	Temperature reading 2 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[3]	1 byte	Int8	Temperature reading 3 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[4]	1 byte	Int8	Temperature reading 4 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[5]	1 byte	Int8	Temperature reading 5 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[6]	1 byte	Int8	Temperature reading 6 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[7]	1 byte	Int8	Temperature reading 7 in Celsius. Divide data by 10 for one decimal point resolution.
SDATA[8]	1 byte	Int8	Temperature reading 8 in Celsius. Divide data by 10 for one decimal point resolution.

## 1.5 General Configuration Defaults

The Configuration Defaults below are native to the xxx sensor only.

Field	Default	Min	Max	Comments
NODEDESC	53	N/A	N/A	Fixed.

## 1.6 Profile Defaults

The Multi Temperature sensor operates using the Interval device profile.

Field	Default	Min	Max	Comments
PROFILE	1	N/A	N/A	1=Interval profile.
MRES	1	1	250	Measurements per heartbeat
SYNCMASK	0	0	0x00FF	Synchronization or offset of heartbeats.
HYST	0	0		Buffer zone around a threshold value.
THRSHMIN	0xFFFFFFFF	0	0xFFFFFFFF	Minimum Threshold for awareness.

THRSHMAX	0xFFFFFFFF	0	70	Maximum Threshold for awareness.
CALVAL_1	0xFFFFFFFF			Not used.
CALVAL_2	0xFFFFFFFF			Not used.
CALVAL_3	0xFFFFFFFF			Not used.
CALVAL_4	0xFFFFFFFF			Not used.