1 Node Descriptor 1 –Analog Voltage Sensor

1.1 Device Description

The Analog Voltage Sensor accepts an input of 0 – 1.25 V. It returns the measured voltage. The user is capable of setting the thresholds in voltage and receiving alerts. A multiplier is available to convert the data so that it is displayed per the user's preference. It can be calibrated as well.

1.2 Hardware Details

1.2.1 Lead Wire

Red and Black wires are soldered provided for the connection.

Possible hardware combinations include:

- Platform RFSC Rev A, Version x: Supported.

- Platform RFSC Rev B, Version x: Supported.

- Platform RFSC Rev C, Version x: Supported.

- Platform MOWI Rev 2, Version x: Not Supported.

1.3 Enclosure Details

It is available in WIT, WIT2, and Industrial. Not available in Wi-Fi.

1.4 MNP 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.

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	Currently not used.
Calibrate Active	1 bit	Currently not used.
Self Test Status	1 bit	Not used. Always 0.
Not Used	1 bit	Currently not used.
Not Used	1 bit MSB	Currently not used.

This application does not specify any action control types.

1.4.2 SDATA (SDM)

The Spurious Data Message contains the SDATA field, which is defined here. The field is defaulted to 3 bytes total for this application.

SDATA[0]: STATE

SDATA[1]: Int16 value in voltage multiplied by 1000 (to give 3 decimal places on the data).

Field	Length	Value	Format	Translation
SDATA[0]	1 byte	Int8	STATE.	See table 1.4.1
SDATA[1-2]	2 bytes	Int16	Voltage multiplied by 1000.	Divide data by 1000.

1.5 General Configuration Defaults

The Configuration Defaults below are native to the Analog Voltage sensor only.

Field	Default	Min	Max	Comments
NODEDESC	1	N/A	N/A	Fixed.

2.7 Profile Defaults

The Analog Voltage sensor operates using the Interval device profile.

Field	Default	Min	Max	Comments
PROFILE	1	N/A	N/A	1 = Interval device profile.
MRES	1	1	250	Assessments per heartbeat.
SYNCMASK	0	0	255	Synchronize or offset heartbeats
HYST	0	0	1250	Buffer zone around threshold value.
THRSHMIN	0	0	1250	Minimum threshold for awareness.
THRSHMAX	1250	0	1250	Maximum threshold for awareness.
CALVAL_1	12200	0	65535	Default calibration value applied.
CALVAL_2	0	0	65535	Not used.
CALVAL_3	0	0	3	Power Options. 0=none,1=digital high 2=digital low, 3=switchable low side driver*
CALVAL_4	0	0	30000	Delay time (# of milliseconds to delay).

*NPN Collector input, up to 40V, sinking up to 20mA. Base has 10K resistor on input, emitter is grounded and collector is the signal to I/O on processor.