1 Node Descriptor 9 – Open/Closed

1.1 Device Description

The Open/Closed Sensor detects the presence or absence of an externally mounted magnet using a reed switch. The user can set alerts to trigger either when the magnet is detected or when the magnet is absent. This sensor sends a data message whenever the state changes, regardless of the heartbeat, as the event is configured as an interrupt on the processor.

1.2 Hardware Details

1.2.1 Leaded Reed Switch

Possible hardware combinations include:

- Platform RFSC Rev A, Version x: Not supported on this hardware.
- Platform RFSC Rev B, Version x: SP2 and GND.
- Platform RFSC Rev C, Version x: SP2 and GND.

1.3 Enclosure Details

Standard Monnit enclosures including: WIT, WIT2, Industrial, MOWI.

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. (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	Currently not used
Not used	1 bit	
Not used	1 bit	
Not used	1 bit	
Not used	1 bit MSB	

This application specifies no additional action control types.

1.4.2 SDATA (SDM)

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

SDATA[0]: App_DiscoverState()

SDATA[1]: If the device is set to trigger on the magnet's absence, then 0 = closed and 1 = open. If the device is set to trigger on the presence of the magnet, then 0 = closed and 1 = open.

SDATA[2]: 0

Field	Length	Value	Format
SDATA[0]	1 byte	Int8	STATE
SDATA[1]	1 byte	Int8	Trigger on magnet absence: 0 = closed, 1 = open Trigger on magnet presence: 0 = open, 1 = closed
SDATA[2]	1 byte	Int 8	Always 0.

1.5 General Configuration Defaults

The Configuration Defaults below are native to the Open/Closed sensor only.

Field	Default	Min	Max	Comments
NODEDESC	9	N/A	N/A	Fixed.

1.6 Profile Defaults

The Open/Closed Sensor operates using the Trigger device profile.

Field	Default	Min	Max	Comments
PROFILE	2	N/A	N/A	2 = Triggered profile.
DETEVTYPE	1	0	1	Port idle high for trigger on Magnet detected.
DETEVPERIOD	50	25	10000	Value is in milliseconds.
DETEVCOUNT	12	3	3000	Sensitivity of event detection.
REARMTRIG	1	1	3600	Value in seconds for trigger rearm.
BISTABLE	1	0	1	Reports each transition from 0 to 1 or 1 to 0.
RSVD	-	-	-	Reserved for future use.

DETEVTYPE configurable values:

0	Port idle low for trigger on no magnet
1	Port idle high for trigger on magnet