# 1 Node Descriptor 3 – Dry Contact

## *1.1 Device Description*

This sensor is a generic-use sensor. The dry contact sensor has wired leads, 2-conductor, 3 feet long that extend from the RFSC core. It is to be interfaced with any kind of switching device that upon application-specific conditions, closes and opens. The data is displayed by “Loop Open” and “Loop Closed”. The user can set alerts to trigger either when the loop opens or when the loop closes. 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 Wire

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.

The wire is a 2-conductor, jacketed wire.

| Cable Type | 2 Conductor |
|---|---|
| Wire Gauge | 24 AWG |
| Conductor Material | Copper, tinned |
| Jacket Insulation Material | Poly-Vinyl Chloride (PVC) |
| Jacket Insulation Diameter | 0.156” |
| Jacket Insulation Thickness | 0.032” |
| Color | Gray |
| Voltage | 300 V |
| Operating Temperature | -20°C to +80°C |
| RoHS | Compliant |

## *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 closed loop, then 0 = loop open and 1 = loop closed. If the device is set to trigger when the loop breaks, then 0 = loop closed and 1 = loop open.

SDATA[2]: 0

| Field | Length | Value | Format |
|---|---|---|---|
| SDATA[0] | 1 byte | Int8 | STATE |
| SDATA[1] | 1 byte | Int8 | Trigger when closed: 0 = loop open, 1 = loop closed.<br>Trigger when open: 0 = loop closed; 1 = loop open. |
| SDATA[2] | 1 byte | Int 8 | Always 0. |

## *1.5 General Configuration Defaults*

The Configuration Defaults below are native to the Dry Contact sensor only.

| Field | Default | Min | Max | Comments |
|---|---|---|---|---|
| NODEDESC | 3 | N/A | N/A | Fixed |

## 1.6 Profile Defaults

The Dry Contact operates using the Trigger device profile.

| Field | Default | Min | Max | Comments |
|---|---|---|---|---|
| PROFILE | 2 | N/A | N/A | 2 = Triggered profile. |
| DETEVTYPE | 0 | 0 | 1 | Port idle high for trigger on loop closed. |
| DETEVPERIOD | 50 | 25 | 10000 | Event detection period. Value is in milliseconds. |
| DETEVCOUNT | 6 | 3 | 3000 | Number of events to trigger detection. |
| REARMTRIG | 1 | 1 | 3600 | Value in seconds for trigger rearm. |
| BISTABLE | 1 | 0 | 1 | Reports on both loop open and loop closed |
| RSVD | - | - | - | Reserved for future use. |

DETEVTYPE configurable values:

| | |
|---|---|
| 0 | Port idle high for trigger on loop closed. |
| 1 | Port idle low for trigger on loop open. |