LONMARK®
Functional Profile:
CO2 Sensor

Overview

This document describes the profile of an HVAC CO2 sensor. The profile supports the standard Node Object.

CO2 Sensor Object Details

The following diagram details the mandatory and optional network variables, as well as the configuration properties for the CO2 sensor functional profile.
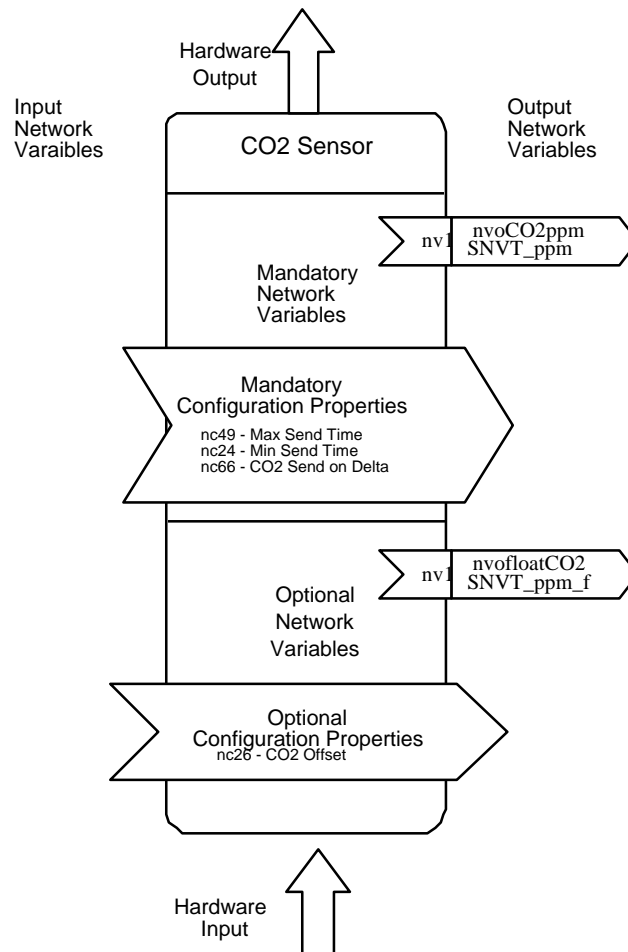

Figure 1.1 CO2 Sensor Functional Profile

Mandatory Network Variables

CO2 Output

```
network output SNVT_ppm nvoCO2ppm;
```

This output variable reports the CO2 level detected by the sensor.

Valid Range
see SNVT_ppm

Default Value
None

Remark
The actual sensor hardware can be any type.

Mandatory Configuration Properties

Max Send Time

```
network input config SNVT_time_sec nciMaxSendtime;
```

Indicates the maximum period of time that expires before the sensor object automatically updates all its output variables.

Valid Range
see SNVT_time_sec

Default Value
300 seconds

SCPT Reference
SCPTmaxSendTime(49)

Min Send Time

```
network input config SNVT_time_sec nciMinsendtime;
```

Indicates the minimum period between output network variable transitions.

Valid Range
see SNVT_time_sec

Default Value
5 seconds

SCPT Reference
SCPTminSendTime (52)

Send on Delta

```
network input config SNVT_ppm nciCO2MinDelta;
```

Indicates the minimum CO2 level change required to update the output
network network variables.

Valid Range

see SNVT_ppm

Default Value

10 ppm

SCPT Reference

SCPTminDeltaCO2 (66)

Optional Network Variables

CO2 Float Output

```
network output  SNVT_ppm_f nvofloatCO2;
```

This output variable reports the CO2 level detected by the sensor in floating
point representation.

Valid Range
see SNVT_ppm_f

Default Value
None

Remark
The actual sensor hardware can be any type.

Optional Configuration Properties

CO2 Offset

```
network input config SNVT_ppm nciCO2Offset;
```

This configuration property is used to calibrate the external hardware by specifying
the level that the `nvoCO2ppm` output should adopt based on the current data from
the hardware. This offset applies after the use of any translation table or gain factor.

Valid Range

The valid range is any value within the defined limits of the SNVT_ppm.

Default Value

The default value is manufacturer specific.

SCPT Reference

SCPToffsetCO2 (68)

Power-up State

All configuration properties which are stored are recalled during power up. The ouput variables are set to the CO2 level detected by the sensor.