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.

![CO2 Sensor Diagram](image)

**Figure 1.1** CO2 Sensor Functional Profile
Mandatory Network Variables

**CO2 Output**

```c
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**

```c
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**

```c
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 (§2)
**Send on Delta**

```c
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)

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**Optional Network Variables**

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**CO2 Float Output**

```c
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.

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**Optional Configuration Properties**

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**CO2 Offset**

```c
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 output variables are set to the CO2 level detected by the sensor.