

Intelligent Building Solutions

Installation Manual



CTM 2013 D THERMOMETER UNIT

- up to 8 sensors
- Din-rail mounting

CIB-tech

Introduction

The CTM 2013 D is an 8-channel thermometer using external temperature sensors, part of the CIB-tech automation system.

Additional Equipment Required

1. Functional CIB-tech system

A minimal number of essential CIB-tech components to make a functional CIB-tech system¹

2. Temperature sensors (1 to 8 sensors)

For temperature sensing one SMARTEC SMT16030 digital temperature sensor is required per channel². Up to 8 temperature sensors can be connected.

NOTE: IBS provides various encapsulated or enclosed versions of easy to install, SMT16030-based temperature sensors³.

Technical Specifications

Electrical characteristics

● Power Supply

The CTM 2013 D functions as a node in a CIB-tech system, being powered from the CIB-tech system's power supply via the CIB-tech connectors.

- Operating voltage range: 20 to 28V DC (nominal 24V DC)
- Supply current
 - Standby current : 17mA
 - Maximum current⁴: 35mA

● Power output (for temperature sensor)

- Output voltage: 5V DC
- Maximum output current: 200mA (100mA for sensors S1 to S4 and 100mA for sensors S5 to S8)

● Signal Input (from temperature sensor)

- Duty-cycle measurement input, conform SMT16030 specifications:
 - supported input voltage levels: 0 - 5V
 - input impedance: >1.5KOhm

Note:The maximum cable length between the CTM 2013 D and the SMT16030 temperature sensor is 20 m

Temperature measurement

- Measured temperature range: -45°C to +130°C
- Temperature resolution: 1°C
- Typical accuracy⁵: ±0.7°C

1 See "CIB-tech installation manual" for details.

2 For details on SMARTECs SMT16030 digital temperature sensor visit SMARTEC home page:

<http://www.smartec.nl/> .

3 For details, visit IBS homepage or see "IBS equipment list".

4 This value is calculated with SMT16030 temperature sensors connected to the 5V power output of the device. If the 5V power output of the device is used for any other purpose, the maximum current consumption may exceed specified the value.

5 Accuracy depends on the type of SMT16030 used.

Mechanical characteristics

The CTM 2013 D has a standard 3-module wide enclosure for M36 type DIN-Rail

- Dimensions: 120mm W x 53mm L x 60mm D
- Weight: 95g

Environmental characteristics

- Operating temperature: -10°C to 85°C
- Storage temperature: -25°C to 100°C

Key Features

- Up to 8 temperature sensors connected to a single CTM 2013 D device
- 64-entry temperature history per channel with configurable logging interval
- Measured temperature are remotely viewable via the CIB-tech system
- Internal bi-color LED, indicating correct sensor operation (green: at least one sensor is present / red: all sensors are faulty or missing)

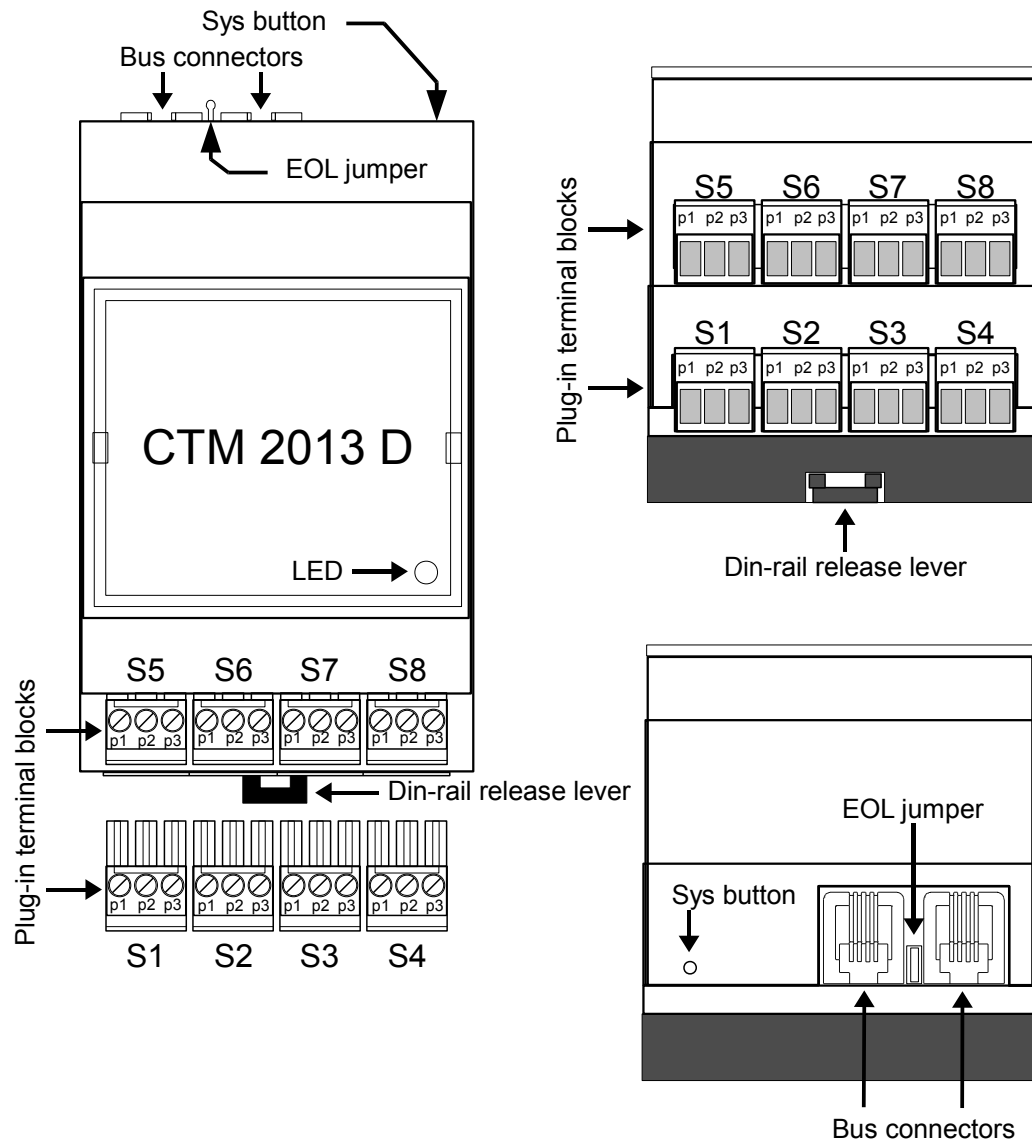
Installation

The CTM 2013 D is meant to be installed on a standard M36 type DIN-Rail.

Part description

- **Bus connectors:**
 - 4P4C modular jack connectors for CIB-tech connection¹
- **Sys button:**
 - pushbutton for CIB-tech system configuration
- **EOL jumper:**
 - CIB-tech system's End Of Line jumper¹
- **LED:**
 - indicator LED for sensor presence
- **Din-rail release lever:**
 - lever for removing the device from the M36 DIN-Rail
- **Plug-in terminal blocks:** 8 plug-in terminal blocks for connecting the temperature sensors (one for each sensor).
 - S1 – Sensor 1 connector
 - S2 – Sensor 2 connector
 - S3 – Sensor 3 connector
 - S4 – Sensor 4 connector
 - S5 – Sensor 5 connector
 - S6 – Sensor 6 connector
 - S7 – Sensor 7 connector
 - S8 – Sensor 8 connector
- **Terminal block contacts for S1 to S8:**
 - p1. Temperature sensor – GND
 - p2. Temperature sensor – Data
 - p3. Temperature sensor – +5V

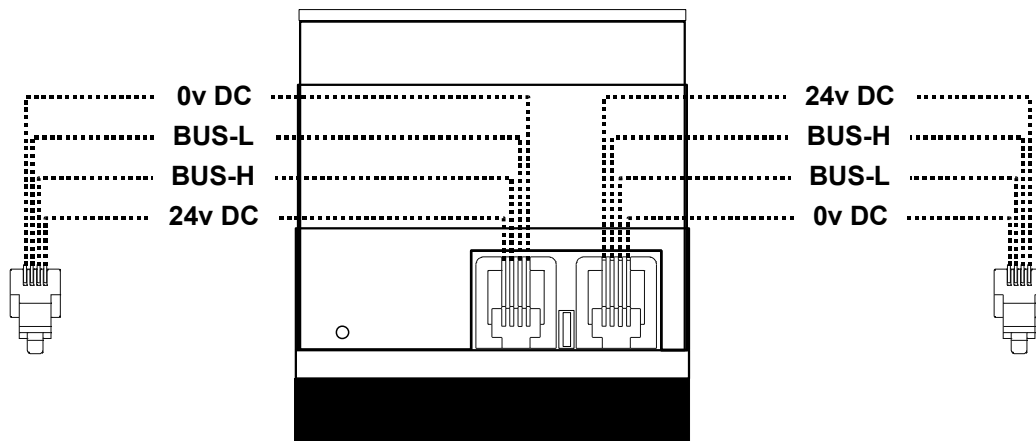
¹ See “CIB-tech installation manual” for details.



Wiring diagrams

Connection to CIB-tech system:

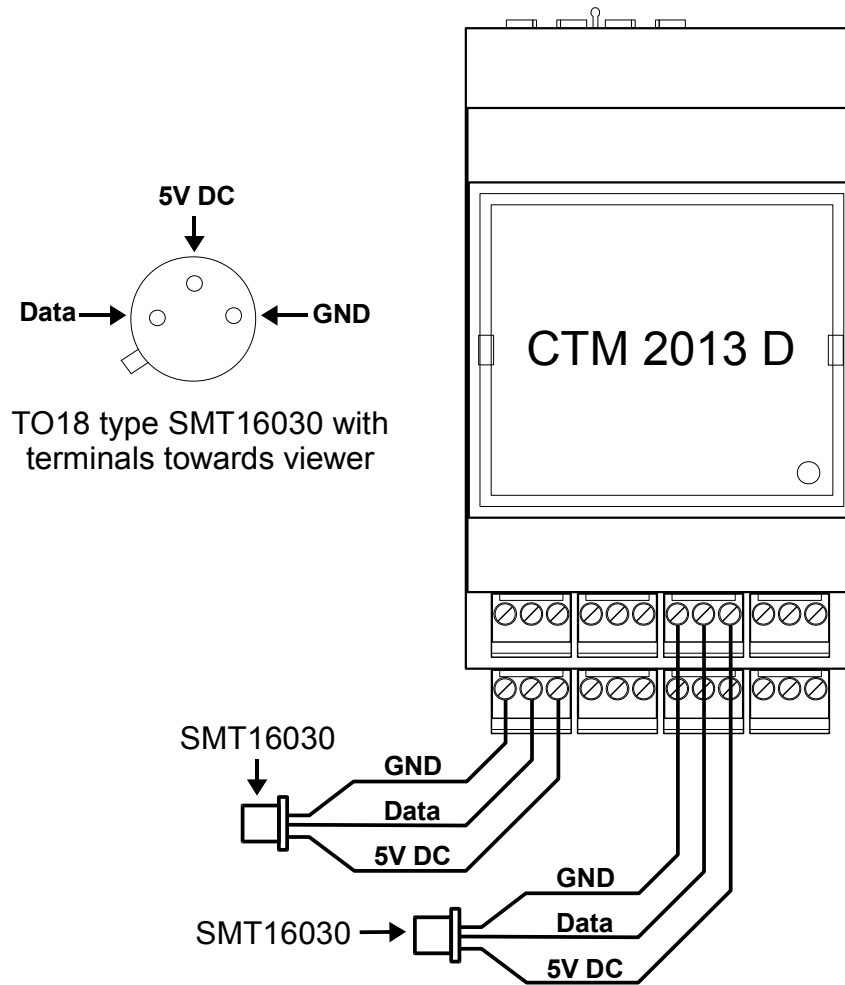
Use the CTM 2013 D device's two 4P4C modular jack connectors to connect it to the CIB-tech systems (chain like) bus. Do not forget to remove the EOL jumper if the device is not the last element of the chain¹:



¹ See "CIB-tech installation manual" for details.

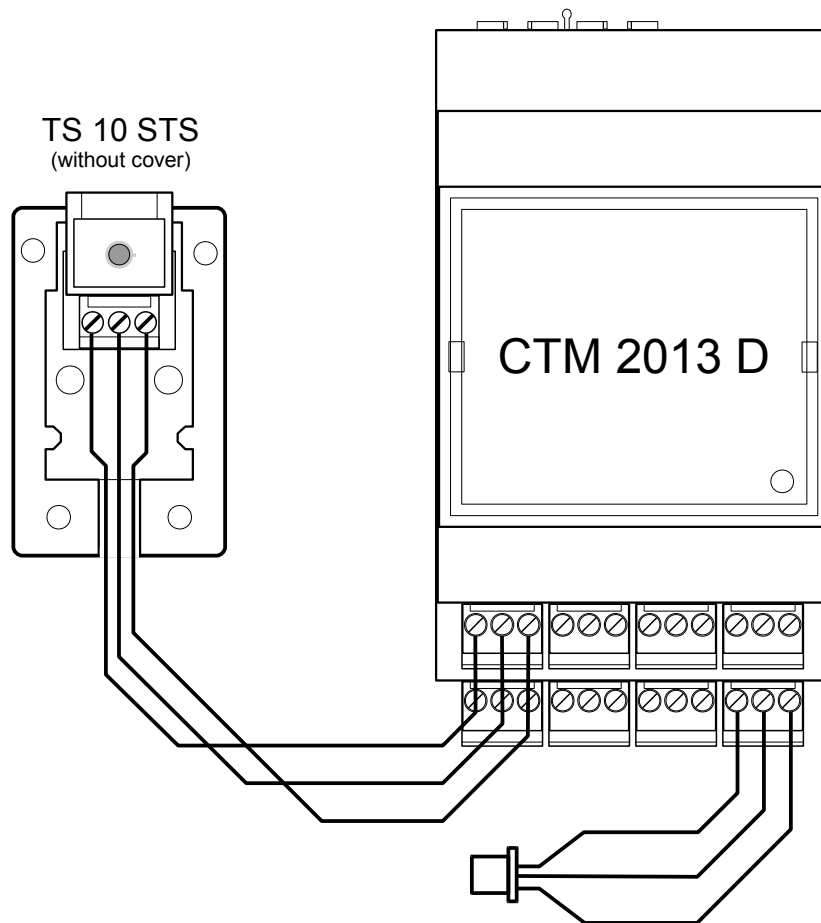
Connecting the temperature sensors

Connection example for two temperature sensors (channel 1 and 7) to the CTM 2013 D:



NOTE: This connection example is for a TO18 type SMT16030. To connect other types of SMT16030, check SMARTEC home page for SMT16030 data sheet.

Connection example with one enclosed, wall mounting temperature sensor TS 10 STS (channel 5) and one simple SMT16030 sensor (channel 4):



NOTE: Up to 8 temperature sensors can be connected to the CTM 2013 D in any possible combination.

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Technical Support:
<http://www.ibs-smarthouse.com/>
info@ibs-smarthouse.com

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