Quick Guide

CDS201 | HTS201 | TES201

Room Sensors with RS485 Interface

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your partner in sensor technology.

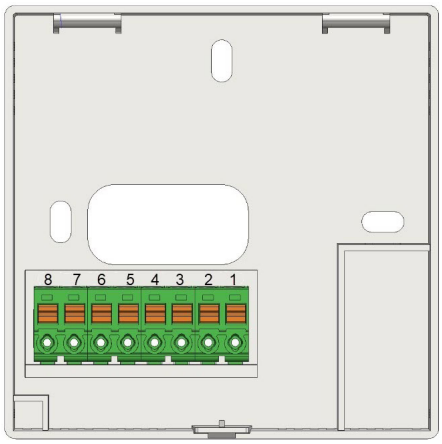
PLEASE NOTE

Find these documents and further product information on the product sites at
www.epluse.com/cds201 www.epluse.com/hts201 www.epluse.com/tes201.

Electrical Connection

WARNING

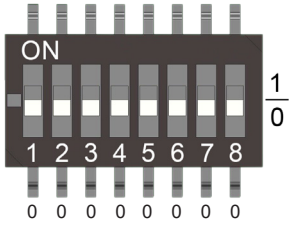
Incorrect installation, wiring or power supply may cause overheating and can therefore lead to personal injuries or damage to property. For correct cabling of the device, always observe the presented wiring diagram for the product version used.
The manufacturer cannot be held responsible for personal injuries or damage to property as a result of incorrect handling, installation, wiring, power supply and maintenance of the device.



Pin number	Function
1	V+ supply voltage 24 VAC ±15%, 15 - 35 V DC class III (Europe) Max. 30 V DC class 2 (North America)
2	GND
3	RS485 A (D+)
4	RS485 B (D-)
5	V+ supply voltage
6	GND
7	RS485 A (D+)
8	RS485 B (D-)

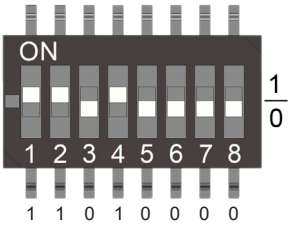
Address Setting

DIP switch



Address setting via PCS10 Product Configuration Software:
All DIP switches at position 0 → address has to be set via configuration software (factory setting: 45).
Example: Address is set via configuration software.

DIP switch



Modbus address setting via DIP switch:
Setting the DIP switch to any other address than 0 overwrites the address selected via configuration software.
Example: Address set to 11 (=00001011 binary).

BACnet Setup

BACnet PICS are available for download at the according product website.

	Factory settings	User selectable values (via PCS10)
Baud rate	acc. to the ordering code	9 600, 19 200, 38 400, 57 600, 76 800, 115 200
Data bits	8	8
Parity	None	None
Stop bits	1	1
BACnet address	45	0...127

The PICS (Product Implementation Conformance Statement) is available for download at the according product website.
The recommended settings for multiple devices in a BACnet MS/TP network are 38 400, 8, none, 1.
The communication parameters can be set via:

- PCS10 Product Configuration Software and the USB configuration adapter HA011066.
  The PCS10 can be downloaded free of charge from www.epluse.com/pcs10.
- BACnet protocol, refer to PICS.

Modbus Setup

	Factory settings	User selectable values (via PCS10)
Baud rate	acc. to ordering code	9600, 19200, 38400, 57600, 76800, 115200
Data bits	8	8
Parity	Even	None, odd, even
Stop bits	1	1, 2
Modbus address	45	1...247

Modbus Protocol

The recommended settings for multiple devices in a Modbus RTU network are 9600, 8, Even, 1. The room sensor represents 1 unit load in a Modbus network.

Device address, baud rate, parity and stop bits can be set via:

- PCS10 Product Configuration Software and the USB configuration adapter HA011066.
  The PCS10 can be downloaded free of charge from www.epluse.com/pcs10.
- Modbus protocol in the register 1 (0x00) and 2 (0x01).
  Refer to Application Note Modbus AN0103 (available at the according product website).

The serial number in ASCII format is located in read-only register 1 - 8 (16 bits per register). The firmware version is located in register 9 (bit 15...8 = major release; bit 7...0 = minor release). The sensor name is located in registers 10 - 17 (16 bits per register).

Communication settings (INT16)

Parameter	Register number[1] [Dec]	Register address[2] [Hex]	Size[3]
Write register: function code 0x06			
Modbus address[4]	1	00	1
Modbus protocol settings[4]	2	01	1

Device information (INT16)

Parameter	Register number[1] [Dec]	Register address[2] [Hex]	Size[3]
Read register: function code 0x03 / 0x04			
Serial number (as ASCII)	1	00	8
Firmware version	9	08	1
Sensor name (as ASCII)	10	09	8
Device status (bit decoded)	602	259	1

1) Register number (decimal) starts from 1.
2) Protocol address (hexadecimal) starts from 0.
3) Number of Registers.
4) For Modbus protocol settings refer to Application Note Modbus AN0103 (available at the according product website).

Modbus Register Map

		FLOAT32		INT16					
Parameter	Unit	Register[1]	Address[2]	Register[1]	Address[2]	Scale	CDS201	HTS201	TES201
Read register: function code 0x03 / 0x04									
Temperature	°C	1003	3EA	4002	FA1	100	☑	☑	☑
	°F	1005	3EC	4003	FA2	50	☑	☑	☑
	°K	1009	3F0	4005	FA4	50	☑	☑	☑
Relative humidity RH, Uw	%RH	1021	3FC	4011	FAA	100	☑	☑	
CO_2 average	ppm	1061	424	4031	FBE	1	☑		
CO_2 raw	ppm	1063	426	4032	FBF	1	☑		
Dew point temperature Td	°C	1105	450	4053	FD4	100	☑	☑	
	°F	1107	452	4054	FD5	100	☑	☑	
	°K	1147	47A	4074	FE9	100	☑	☑	

1) Register number starts from 1 and is expressed as decimal number.
2) Protocol address starts from 0 and is expressed as hexadecimal number.

It is possible to map measured value/status registers arbitrarily in a block with up to 20 registers provided for this purpose (registers 3001...3020). Please find detailed information in the manual at the according product website.

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