⁺Quick Guide
CDS201 | HTS201 | TES201
Room Sensors with RS485 Interface

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technology.


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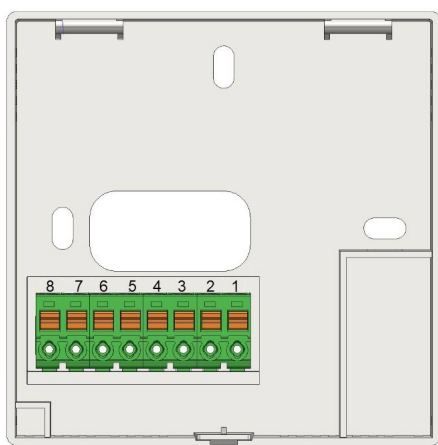
Pin number	Function
1	V+ supply voltage 24 VAC ±15%, 15 - 35 V DC class III ◁⫿▷ (Europe) Max. 30 V DC class 2 (North America)
2	GND
3	RS485 A (D+)
4	RS485 B (D-)
5	V+ supply voltage
6	GND
7	RS485 A (D+)
8	RS485 B (D-)

Address Setting

DIP switch
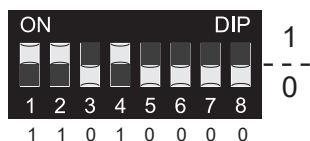
ON — DIP
1
0
1 2 3 4 5 6 7 8
0 0 0 0 0 0 0 0
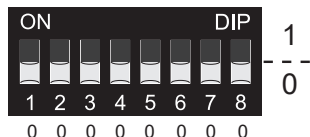
Address setting via PCS10 Product Configuration Software:
All DIP switches at position 0 → address has to be set via configuration software (factory setting: 45).
Example: Address is set via configuration software.

DIP switch

ON — DIP
1
0
1 2 3 4 5 6 7 8
1 1 0 1 0 0 0 0

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 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 the appropriate configuration cable HA011018.
  The PCS10 can be downloaded free of charge from www.epluse.com/pcs10.
- BACnet protocol, see the PICS.

Modbus Setup

	Factory settings	User selectable values (via PCS10)
Baud rate	acc. to ordering code	9 600, 19 200, 38 400, 57 600, 76 800, 115 200
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 the appropriate configuration cable HA011018.
  The PCS10 can be downloaded free of charge from www.epluse.com/pcs10.
- Modbus protocol in the register 1 (0x00) and 2 (0x01).
  See 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]
Write register: function code 0x06		
Modbus address	1	0x00
Modbus protocol settings[3]	2	0x01

Device information (INT16)

Parameter	Register number[1] [Dec]	Register address[2] [Hex]
Read register: function code 0x03 / 0x04		
Serial number (as ASCII)	1	0x00
Firmware version	9	0x08
Sensor name	10	0x09
Device status (bit decoded)	602	0x259

1) Register number starts from 1.
2) Protocol address starts from 0.
3) For Modbus protocol settings see Application Note Modbus AN0103 (available at the according product website).

Modbus Register Map

Parameter	Unit	FLOAT32		INT16		Scale	CDS201	HTS201	TES201
		Register[1]	Address[2]	Register[1]	Address[2]				
Read register: function code 0x03 / 0x04									
Temperature	°C	1003	0x3EA	4002	0xFA1	100	☑	☑	☑
	°F	1005	0x3EC	4003	0xFA2	50	☑	☑	☑
	°K	1009	0x3F0	4005	0xFA4	50	☑	☑	☑
Relative humidity RH, Uw	%RH	1021	0x3FC	4011	0xFAA	100	☑	☑	
CO_2 averaged	ppm	1061	0x424	4031	0xFBE	1	☑		
CO_2 non-averaged	ppm	1063	0x426	4032	0xFBF	1	☑		
Dew point temperature Td	°C	1105	0x450	4053	0xFD4	100	☑	☑	
	°F	1107	0x452	4054	0xFD5	100	☑	☑	
	°K	1147	0x47A	4074	0xFE9	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.

CE   UK CA