

# + Quick Guide



your partner  
in sensor  
technology.

## EE650 - Air Velocity Sensor with RS485 Interface

### **i** PLEASE NOTE

Find this document and further product information on our website at [www.epluse.com/ee650](http://www.epluse.com/ee650).

## 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 or maintenance of the device.

## Hardware

The bus termination shall be implemented with a 120 Ω resistor, switch on the electronics board.

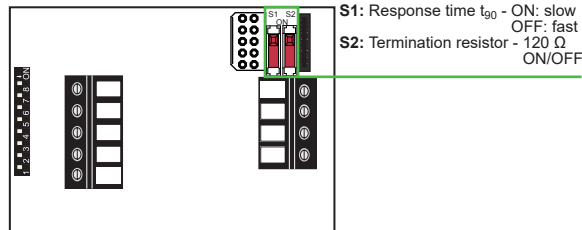
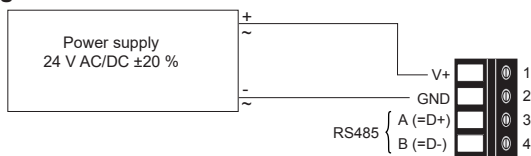
### NOTICE

Improper handling of the device may result in its damage.

- The power supply must be strong enough to ensure supply voltage within the specified range (see technical data) at any time and at all devices in the bus. This is particularly relevant when using long and thin cables which can cause high voltage drop. Please note that a single EE650 requires peak current of 150 mA.

## Wiring

### Digital interface



## Address Setting

### Address Switch



### Address setting via PCS10 Product Configuration Software

All DIP switches at position 0 → address has to be set via PCS10.

**Modbus** (slave device): factory setting 65 (permitted values: 1...247).

**BACnet** (master device): factory setting 65 (permitted values: 0...127).

Example: Address is set via configuration software = factory setting.

### Address setting via DIP switch

**Modbus** (slave device): Setting the DIP switches to any other address than 0, overrules the Modbus address set via PCS10 (permitted values: 1...247).

**BACnet** (master device): Setting the DIP switches to any other address than 0, overrules the BACnet address set via configuration software.

BACnet Note: permitted values are 0...127. The 8th bit of the DIP switches is ignored

(ID 127 = 0111 111). To set address 0 via DIP switches, the 8th bit shall be set to 1

(ID 0 = 1000 0000). Example: Address set to 11 (= 0000 1011 binary).

## BACnet Setup

Please refer to PICS (Product Implementation Conformance Statement), available on [www.epluse.com/ee650](http://www.epluse.com/ee650).

## Modbus Setup

### FLOAT32

Parameter	Unit <sup>1)</sup>	Register number <sup>2)</sup> [DEC]	Register address <sup>3)</sup> [HEX]
Read register: function code 0x03/0x04			
Temperature	°C	1003	3EA
Temperature	°F	1005	3EC
Air velocity	m/s	1041	410
Air velocity	ft/min	1043	412

### INT16

Parameter	Unit <sup>1)</sup>	Scale <sup>4)</sup>	Register number <sup>2)</sup> [DEC]	Register address <sup>3)</sup> [HEX]
Read register: function code 0x03/0x04				
Temperature	°C	100	4002	FA1
Temperature	°F	50	4003	FA2
Air velocity	m/s	100	4021	FB4
Air velocity	ft/min	1	4022	FB5

1) The choice of measurement units (metric or non-metric) must be done according to the ordering guide, refer to EE650 datasheet. Switching from metric to non-metric or vice versa by using the PCS10 is not possible.

2) Register number (decimal) starts from 1. 3) Register address (hexadecimal) starts from 0.

4) Examples: For scale 100, the reading of 2550 means a value of 25.5. For scale 50, the reading of 2550 means a value of 51.

Communication settings (INT16)

Parameter	Register number <sup>1)</sup> [Dec]	Register address <sup>2)</sup> [Hex]	Size <sup>3)</sup>
Write register: function code 0x06			
Modbus address <sup>4)5)</sup>	1	00	1
Modbus protocol settings <sup>4)</sup>	2	01	1

Device information (INT16)

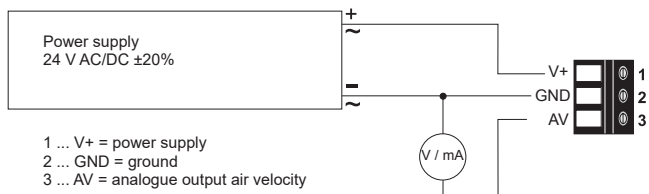
Parameter	Register number <sup>1)</sup> [Dec]	Register address <sup>2)</sup> [Hex]	Size <sup>3)</sup>
Read register: function code 0x03/0x04			
Serial number (as ASCII)	1	00	8
Firmware version	9	08	1
Sensor name (as ASCII)	10	09	8

- 1) Register number starts from 1.    2) Protocol address starts from 0.    3) Number of registers.
- 4) For Modbus address and protocol settings refer to Application Note Modbus AN0103 (available at [www.epluse.com/ee650](http://www.epluse.com/ee650)).
- 5) If the ID is set via DIP-Switch the response will be NAK.

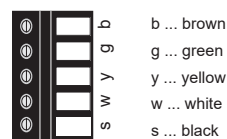
# EE650 - Air Velocity Sensor with Analogue Output

## Wiring

### Supply / Output

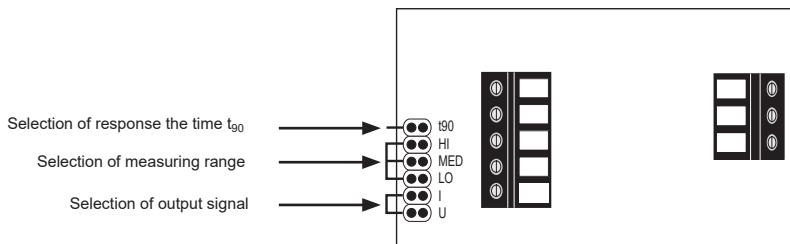


### Remote probe

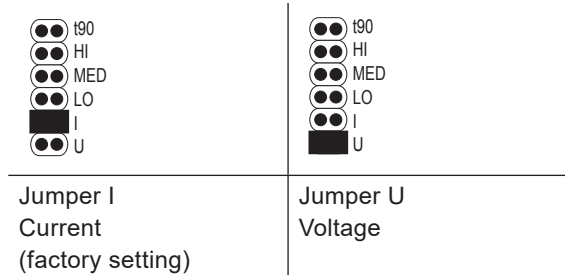


## Jumper

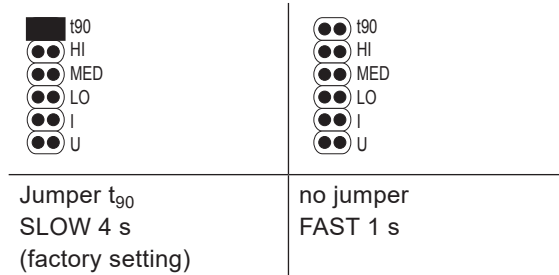
For performing the EE650 settings via the PCS10 Product Configuration Software (free download from [www.epluse.com/pcs10](http://www.epluse.com/pcs10)) the jumper for the measuring range must be set to HI.



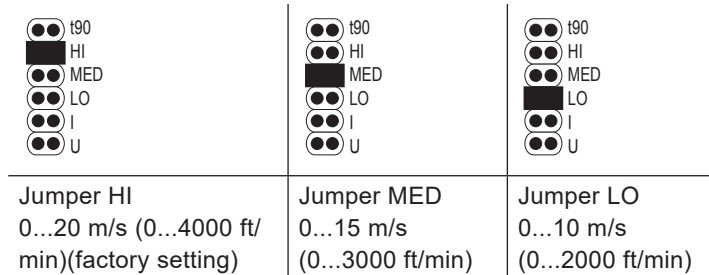
### Selection of the Output Signal



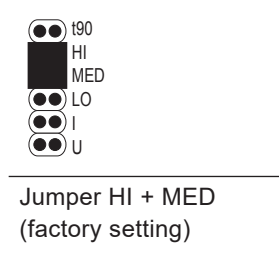
### Selection of Response Time $t_{90}$



### Selection of the measuring range



### Customized ranges<sup>1)</sup>



1) Upon request, customized ranges are fixed, no further selection with jumpers possible

