Pronem midi

EMKO

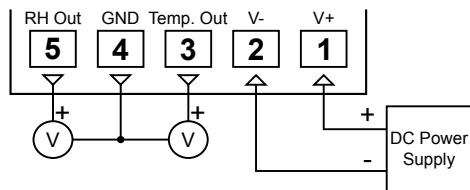**Temperature and Relative Humidity Transmitter**

CE

- -2 analogue outputs for temperature and humidity
- -High output accuracy
- -Long-term stability
- -Small and useful design
- -Low thermal drift
- -Current or voltage output signal selection for temperature and humidity analogue output type
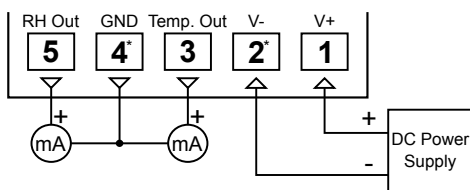
Application Areas

- -HVAC Building Controls
- -Poultry Automation
- -Greenhouse Applications
- -Food Manufacture and Storage
- -Cold Storage Chambers
- -Pharmacy and Medical Supplies Storage
- -Air Conditioning Chambers
- -Air Conditioning Automation
- -Textile Applications
- -Clean Rooms and Laboratories

Electrical Connections

Voltage (0-10 V, 2-10 V)

5	4	3	2	1
RH Out	GND	Temp. Out	V-	V+

DC Power Supply

Current (0-20 mA)

5	4*	3	2*	1
RH Out	GND	Temp. Out	V-	V+

DC Power Supply

*In case of current output devices, outputs can be used in current loop configuration. Connect the power supplies positive output to terminal 1 and return the current to power supplies negative. Current output type devices always require the temperature output to be connected to power supplies negative.

RS-485
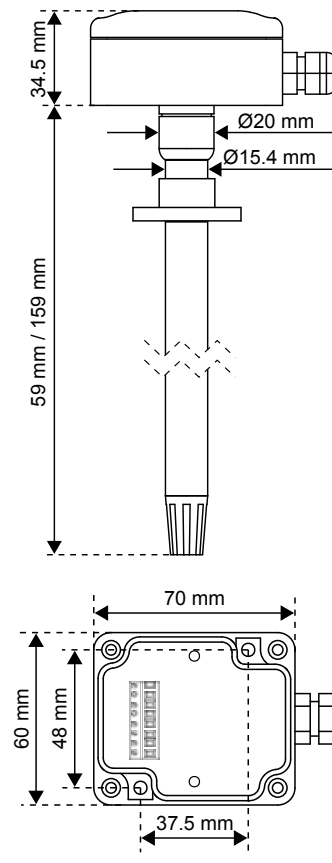
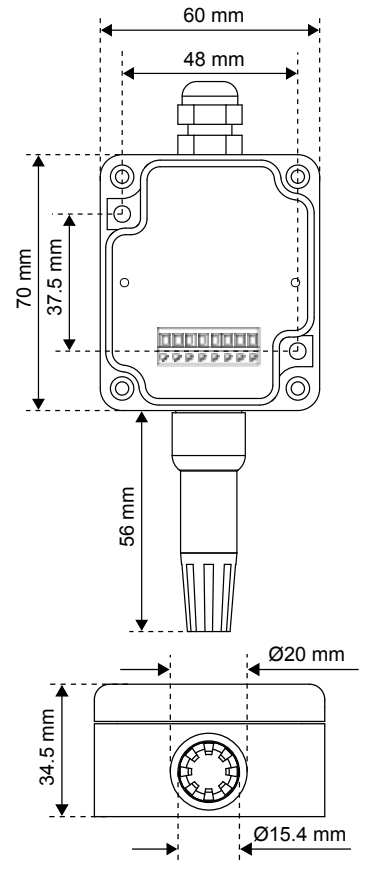| 8	7	6	5	4	3	2	1
D-	D+	Shield				V-	V+

DC Power Supply

RS-485 Interface
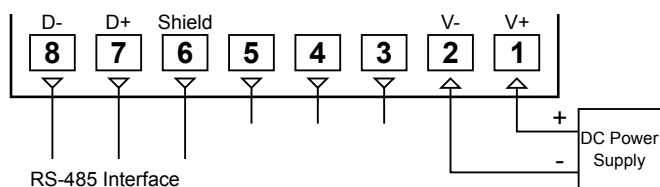
Technical Spesifications

Performance	
Measurement Range (RH)	%0...100 RH
Measurement Range (T)°C	-20°C...+80°C
Measurement Range (T)°F	-4°F...+176°F (for Pronem Midi LCD type)
Accuracy (RH)	±%2 RH (Typ) at 23°C %0...100
Accuracy (T)	±0,3°C (Typ) at 23°C
Stability (RH)	<0.5 %RH/year (Typ)
Stability (T)	<0,04°C/year (Typ)
Electrical Spesifications	
Supply Voltage	16...32VDC, Max. 1,5W
Analogue Output Signal	0-10 V, 2-10 V, 4-20 mA
Analogue Output Signal Stability	Voltage output ±%0,1
Analogue Output Signal Stability	Current output ±%0,5
Operating Conditions	
Operating Temperature	-40...+85°C
Operating Elevation	Up to 2000 m.
Mechanical Spesifications	
Protection Class	IP65 (except sensor)
Weight	With 59 mm probe: 103 gr With 159 mm probe: 130 gr

Dimensions

Duct Mount Type

34.5 mm
Ø20 mm
Ø15.4 mm
59 mm / 159 mm
70 mm
60 mm
48 mm
37.5 mm

Wall Mount Type

60 mm
48 mm
70 mm
37.5 mm
56 mm
Ø20 mm
34.5 mm
Ø15.4 mm

The cable to be used with PG7 cable gland must have a diameter between 3 mm and 6.5 mm.

Instruction Manual. ENG PRONEM-midi 01 V05 02/19

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Front Side

- Temperature / Parameter Index Display
- Humidity / Parameter Value Display
- Decrement Button
- Increment Button
- Programming Mode Selection / Parameters Transition / Confirmation Button
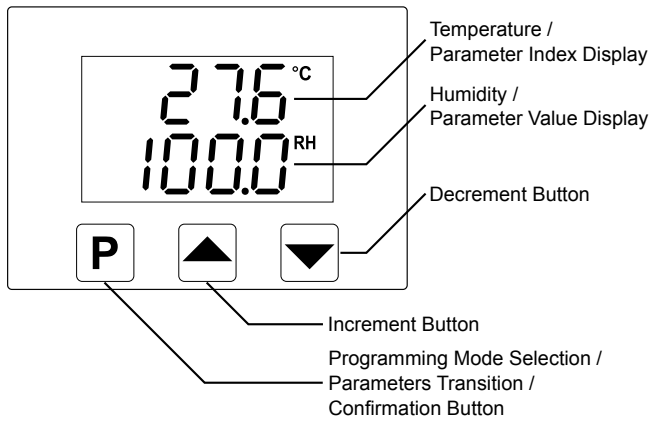
Sensor Values and Device Information

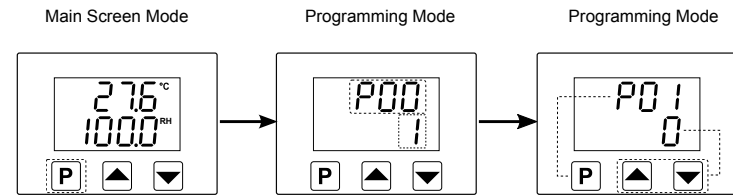**Temperature (MODBUS ADDRESS: 30001)**
Scale: -20...80 °C (-4...176 °F)

Humidity (MODBUS ADDRESS: 30002)
Scale: %0...%100 RH

Software Version (MODBUS ADDRESS: 30003)

Accessing Programming Mode, Changing Values and Saving

Main Screen Mode | Programming Mode | Programming Mode

Programming mode can be accessed by pressing the P button for 3 seconds at Main Screen Mode.

At programming screen, upper display shows which parameter is selected and lower display shows the current value of the selected parameter.

The value of the parameter is changed by using Increment and Decrement buttons. By pressing P button, the current value is saved and the next parameter is displayed.

ⓘ **During programming mode, if no interaction is done for 20 seconds, device returns back to Main Screen Mode.**

Parameters

P00 — Slave Address (Default = 1) (MODBUS ADDRESS: 40001)[1]
Any slave address between 1 and 247 can be selected.

P01 — Baud Rate (Default = 9600) (MODBUS ADDRESS: 40002)[1]
Any value of 0, 1 and 2 can be selected.
0 = 9600
1 = 19200
2 = 38400

P02 — Parity (Default = 0 (NONE)) (MODBUS ADDRESS: 40003)[1]
No Parity, single parity of dual parity can be selected.

P03 — Stop Bit (Default = 0 (1 Stop Bit)) (MODBUS ADDRESS: 40004)[1]
Number of stop bits (1 or 2) can be selected.

P04 — Temperature Offset (Default = 0) (MODBUS ADDRESS: 40007)[3]
Any value between -10.0 and +10.0 can be selected.
The value is not affected by temperature unit.

P05 — Relative Humidity Offset (Default = 0) (MODBUS ADDRESS: 40008)[3]
Any value between -10.0 and +10.0 can be selected.

P06 — Temperature Unit Parameter (Default = 0)[4]
Determines whether the temperature unit to be used at main screen mode be Celcius or Fahrenheit. Default value is 0 (Celcius). By changing the value to 1, temperature is displayed as Fahrenheit.

P07 — Backlight Active Duration (Default = 5)[5]
Determines how long will the backlight be active after pressing a button. Any value between 5 and 60 seconds can be selected.

2018 / 12.08 — Calibration Date (MODBUS ADDRESS: 40005 - 40006)[1,2]
Shows the latest calibration date of the device.
The upper display shows the year while the first two digit of the lower display shows the month and the last two digit shows the day.

8012 / 3456 — Device Serial Number [1,2]
Shows the 8-digit device serial number.
Upper left digit is the first digit and the lower right digit is the last digit.

Note 1: Only available for devices with serial communication interface.
Note 2: Read only.
Note 3: Available for devices with serial communication interface or devices with display.
Note 4: Only available for devices with display.
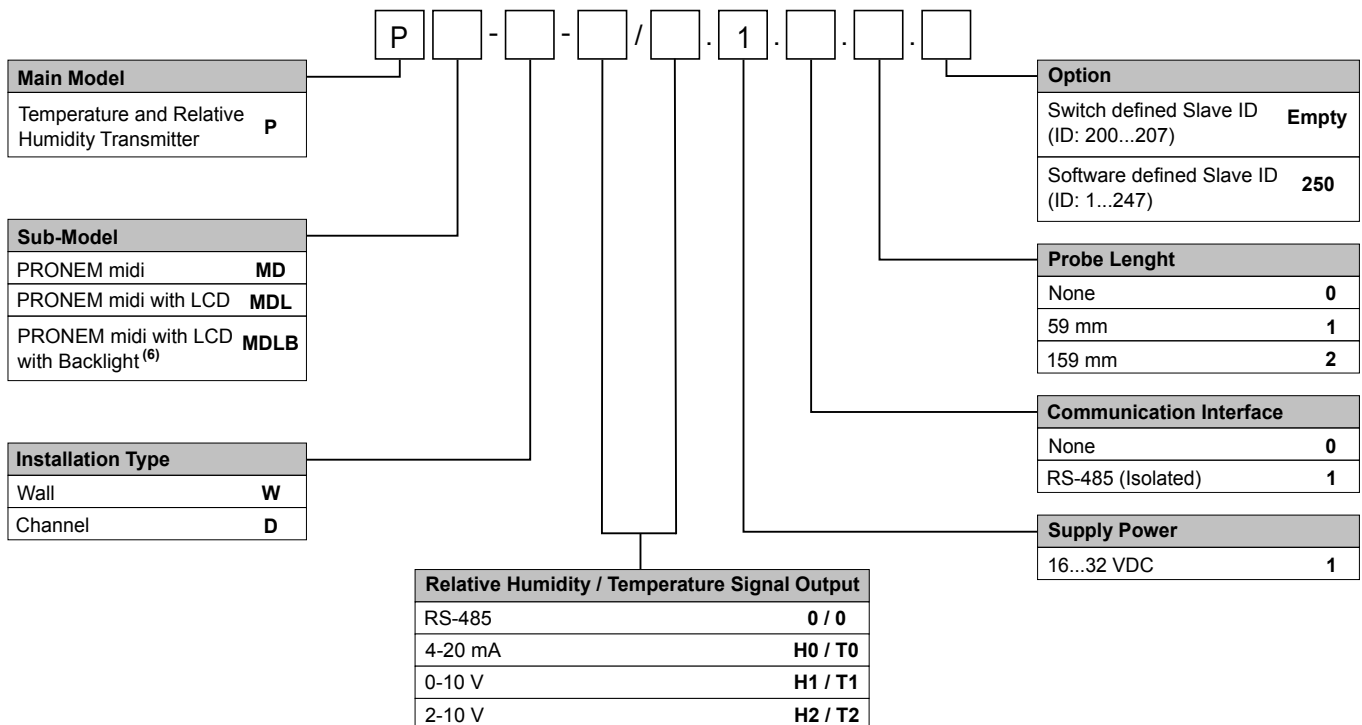**Note 5: Only available for devices with backlight.**

Error Messages

Err0 — Sensor connection is incorrect or incomplete.

Err1 — Communication error. Check the connection between the display and the sensor card.

Err2 — Communication error. Communication can not be completed due to momentary electrical noise.

Order Codes

By using the chart below, order code of the desired device type can be generated.

An example for order code: PMD-D-H0/T0.1.0.2
Temperature and Relative Humidity Transmitter PRONEM midi, Duct Type Installation, 4-20 mA Relative Humidity Signal Output, 4-20 mA Temperature Signal Output, 16...32 VDC supplied, 159 mm Probe Lenght.

Main Model

Temperature and Relative Humidity Transmitter	P

Sub-Model

PRONEM midi	MD
PRONEM midi with LCD	MDL
PRONEM midi with LCD with Backlight [6]	MDLB

Installation Type

Wall	W
Channel	D

Relative Humidity / Temperature Signal Output

RS-485	0 / 0
4-20 mA	H0 / T0
0-10 V	H1 / T1
2-10 V	H2 / T2

Option

Switch defined Slave ID (ID: 200...207)	Empty
Software defined Slave ID (ID: 1...247)	250

Probe Lenght

None	0
59 mm	1
159 mm	2

Communication Interface

None	0
RS-485 (Isolated)	1

Supply Power

16...32 VDC	1

Note 6: For devices with 4-20mA output signal, LCD with Backlight option is not available.

For more detailed documentation, please visit our website at
emkoelektronik.com.tr