

# + Quick Guide

## Sigma 05 - Sensor Hub / Modular Sensor Platform



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in sensor  
technology.

### **i** PLEASE NOTE

Find this document and further product information on our website at [www.epluse.com/sigma05](http://www.epluse.com/sigma05).

### General Information

Sigma 05 is a host device (Modbus master) for up to three E+E sensing probes / measurement devices with RS485 interface and Modbus RTU protocol.

This Quick Guide focuses on the Sigma 05 functionality with E+E plug-and-play probes. Please make sure to review the Sigma 05 user manual at [www.epluse.com/sigma05](http://www.epluse.com/sigma05) for manual setup and other Sigma 05 features.

### Plug-and-Play Operation / Setup

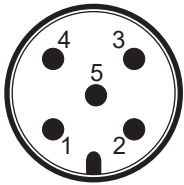
With enabled automatic discovery function (default setting), Sigma 05 automatically recognizes E+E plug-and-play probes and their combinations according to the table below, see "Probe Combinations and Automatic Discovery". Furthermore, the assignment of the measurands to the outputs and display, as well as the scaling of the outputs is performed automatically according to the table. This setup can be changed subsequently by the user as required, see "Manual Operation / Setup" below.

### **i** PLEASE NOTE

- The Sigma 05 must be powered off while connecting or disconnecting probes

### Manual Operation / Setup

For manual setup connect Sigma 05 to a personal computer running PCS10 Product Configuration Software, free download from [www.epluse.com/pcs10](http://www.epluse.com/pcs10). Disable the automatic discovery function and proceed with assigning measurands to the outputs and display as well as with the output scaling. See the user manual at [www.epluse.com/sigma05](http://www.epluse.com/sigma05).



Pin number	Function
1	Supply voltage <sup>*)</sup>
2	RS485 B (D-)
3	GND
4	RS485 A (D+)

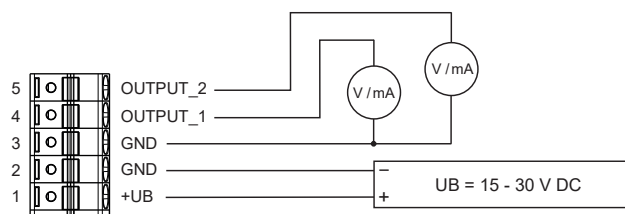
<sup>\*)</sup>The supply voltage at the probe connector is always equal to the supply voltage applied to Sigma 05. <

**Important:** Choose the Sigma 05 supply voltage (in the range 15 - 30 V DC) to match the probe supply requirements.

### Voltage Supply and Outputs

#### **⚠** 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.



### Modbus Setup

	Factory settings	User selectable values (via PCS10)
Baud rate	9600	9600, 19200, 38400, 57600, 76800, 115200
Data bits	8	8
Parity	Even	None, odd, even
Stop bits	1	1, 2
Modbus address	Sigma 05 has no Modbus address	

The recommended settings for multiple devices in a Modbus RTU network are 9600, 8, Even, 1. The Sigma 05 represents 1 unit load in a Modbus network.

### Approval

 DNV (Det Norske Veritas) maritime type approval.

For the scope of approval, please refer to the User Manual, chapter 9.4 DNV Type Approval.

Probes	Analogue Output 1			Analogue Output 2			Display line 1			Display line 2			Display line 3			
	Unit	Scale SI	Scale US	Unit	Scale SI	Scale US	SI	US	SI	US	SI	US	SI	US	SI	US
1 EE072	RH	0...100 %	0...100 %	T	-40...80 °C	-40...176 °F	RH[%]	RH[%]	T[°C]	T[°F]						
2 EE074	T	-40...80 °C	-40...176 °F													
3 EE872-M13	CO2	Range of probe	Range of probe	RH	0...100 %	0...100 %	CO2[ppm]	CO2[ppm]	RH[%]	RH[%]						
4 EE872-M10	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
5 EE671	v	Range of probe	Range of probe				v[m/s]	v[ft/min]								
6 EE680	vn	Range of probe	Range of probe	T	0...50 °C	32...122 °F	vn[m/s]	vn[ft/min]	T[°C]	T[°F]						
7 HA010406	RH	0...100 %	0...100 %	T	-40...180 °C	-40...356 °F	RH[%]	RH[%]	T[°C]	T[°F]						
8 EE072	RH	0...100 %	0...100 %				RH[%]	RH[%]								
9 EE074				T	-40...80 °C	-40...176 °F			T[°C]	T[°F]						
EE872-M13	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
EE072				RH	0...100 %	0...100 %			RH[%]	RH[%]						
EE872-M10	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
EE072				RH	0...100 %	0...100 %			RH[%]	RH[%]						
EE671	v	Range of probe	Range of probe				v[m/s]	v[ft/min]								
EE072				RH	0...100 %	0...100 %			RH[%]	RH[%]						
EE680	v	Range of probe	Range of probe				vn[m/s]	vn[ft/min]								
EE072				RH	0...100 %	0...100 %			RH[%]	RH[%]						
EE872-M13	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
EE074				T	-40...80 °C	-40...176 °F			T[°C]	T[°F]						
EE872-M10	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
EE074				T	-40...80 °C	-40...176 °F			T[°C]	T[°F]						
EE671	v	Range of probe	Range of probe				v[m/s]	v[ft/min]								
EE074				T	-40...80 °C	-40...176 °F			T[°C]	T[°F]						
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EE671				v	Range of probe	Range of probe			v[m/s]	v[ft/min]						
EE872-M10	CO2	Range of probe	Range of probe				CO2[ppm]	CO2[ppm]								
EE680	vn	Range of probe	Range of probe				vn[m/s]	vn[ft/min]								
EE671				T	0...100 %	0...100 %			T[°C]	T[°F]						
HTP501	RH	0...100 %	0...100 %				RH[%]	RH[%]								
HTP501	RH	0...100 %	0...100 %				RH[%]	RH[%]								
EE074				T	-40...120 °C	-40...248 °F			T[°C]	T[°F]						
MOP301	aw	0...1	0...1				aw[-]	aw[-]								
MOP301	aw	0...1	0...1				aw[-]	aw[-]								
EE074				T	-40...120 °C	-40...248 °F			T[°C]	T[°F]						

