



EE870

Modular CO₂ Transmitter



Manual

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ELEKTRONIK[®]
Ges.m.b.H.

GENERAL

For technical data, options and accessories please see EE870 data sheet at www.epluse.com/EE870

The modular CO₂ transmitter EE870 consists of following components:

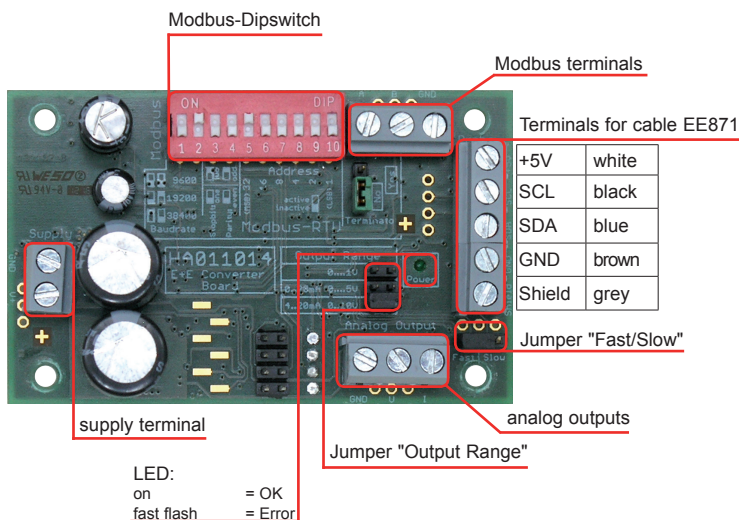
- EE871 interchangeable CO₂ probe with E2 digital output. For technical data please see EE871 data sheet (www.epluse.com/EE871)
For readjustment of EE871 please see data sheet and operation manual EE-PCS Product Configuration Software (www.epluse.com/EE-PCS)
- HA011014 converter board. The converter board supplies the EE871 CO₂ probe and converts its digital output signal into analog outputs and Modbus RTU digital interface. The measured data is available simultaneously on the analogue outputs and on the Modbus interface. Technical data, setup and operations instructions for HA011014 are detailed in this document.
- Connecting cable between EE871 CO₂ probe and HA011014. EE870 scope of supply includes one of the following cables, as ordered:
 - HA0108102m length
 - HA0108115m length
 - HA010812 10m length

IMPORTANT NOTES

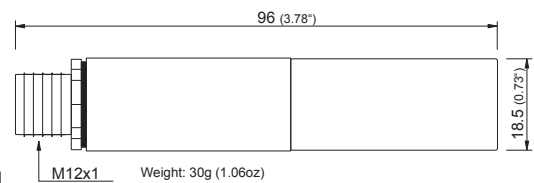
Modbus connections Connecting the supply voltage to the modbus terminals may destroy the device.

HA011014 converter board is supplied as a component and must be installed in accordance with the valid ESD guidelines and properly protected against environmental influences.

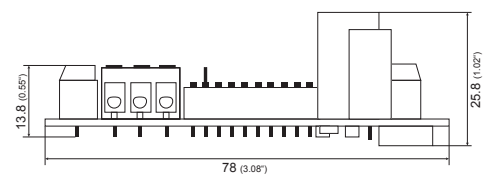
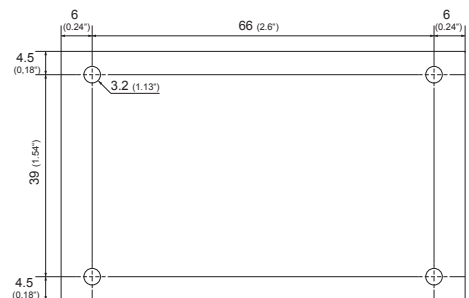
CONNECTIONS / MOUNTING



Digital CO₂ Probe EE871



Conversion Board



TECHNICAL DATA

General

Supply voltage	10-35VDC 10-28.8VAC
Supply current	300mA at 10VDC 120mA at 24VDC
Dimensions of circuit board	78 x 48 x 25.8mm (0.26 x 0.16 x 1.02ft)
Probe cable length	max. 10m (32.8ft)
Temperature working range	-40...60°C (-40...140°F)
Protection class	IP00

Analog Output

Voltage-/	0-1V; 0-5V; 0-10V	-1mA < I _L < 1mA
Current outputs	0-20mA; 4-20mA	R _L < 500Ohm
Conversion rate	Output value is updated every 200ms	
Resolution	12bit	
D/A Conversion accuracy	Voltage output:	+/- 10mV
	Current output:	+/- 30µA
Temperature dependence	Voltage:	typ. ±200ppm / °C
	Current:	typ. ±1µA / °C
Long-term stability	Drift < 0,2% / year	

Modbus

Register	see Modbus Map
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HARDWARE SETTINGS

Analog-Output

Output Range

0...1V	<input type="checkbox"/>
0...20mA 0...5V	<input type="checkbox"/>
4...20mA 0...10V	<input type="checkbox"/>

Analog Output

Fast | Slow

Jumper for setting the analogue output:

Current	Voltage
-	0-1V
0-20mA	0-5V
4-20mA	0-10V

Jumper for setting the response time:

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	fast response time
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	slow response time

Example:
 Jumper "Output Range" set to 0...10V.
 Jumper "Fast/Slow" set to "Fast"

Modbus-Interface

Modbus-RTU

Address: 1, 2, 4, 8, 16, 32

Parity: even, odd, none

Stopbit: 1, 2

Baudrate: 9600, 19200, 38400

Modbus settings

S1, S2: baud rate
 S3: stopbit
 S4: parity
 S5 - S10: adresse of the converter

Jumper for terminator settings
 active/inactive

Example:
 Dip-switch S1 and S2 "Baud rate" set on 19200
 Dip-switch S3 "Stopbit" set on "one"
 Dip-switch S4 "Parity" set on "even"
 Dip-switch S5 - S10 "Address" set on "13" (activate S5/S7/S8)
 Jumper "Terminator" set on "No"

MODBUS MAP

Register address	Parameter name	Protocol address
0x00	SN Hardware	0
0x01		1
0x02		2
0x03		3
0x04		4
0x05		5
0x06		6
0x07		7
0x08	FW Version	8
0x09	Partname of Transmitter	9
0x0A		10
0x0B		11
0x0C		12
0x0D		13
0x0E		14
0x0F		15
0x10		16
0x11	Serialnumber E2 Transmitter	17
0x12		18
0x13		19
0x14		20
0x15		21
0x16		22
0x17		23
0x18		24
0x19	Measured value 1	25
0x1A		26
0x1B	Measured value 2	27
0x1C		28
0x1D	Measured value 3	29
0x1E		30
0x1F	Measured value 4	31
0x20		32
0x21	Gain Spannung	33
0x22		34
0x23	Offset Spannung	35
0x24		36
0x25	Gain Strom	37
0x26		38
0x27	Offset Strom	39
0x28		40
0x29	Measrange low	41
0x2A		42
0x2B	Measrange high	43
0x2C		44
0x2D	Analog Output low (V)	45
0x2E		46
0x2F	Analog Output high (V)	47
0x30		48
0x31	Slow or Fast	49
0x32		50

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