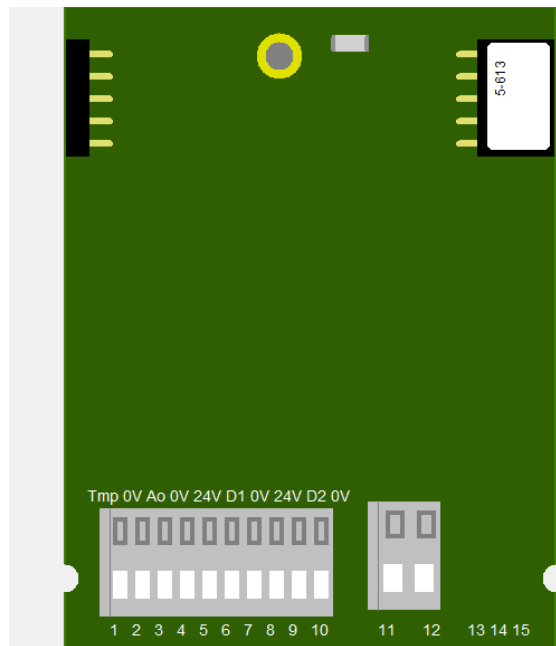


# CAE\_P-pHTmpAoDAioImp-04



## 1.1 Description

ID: 5-613

Order No.: CAE\_P-pHTmpAoDAioImp-04

Terminal: push-in (for  $\leq 0.5\text{mm}^2$ )

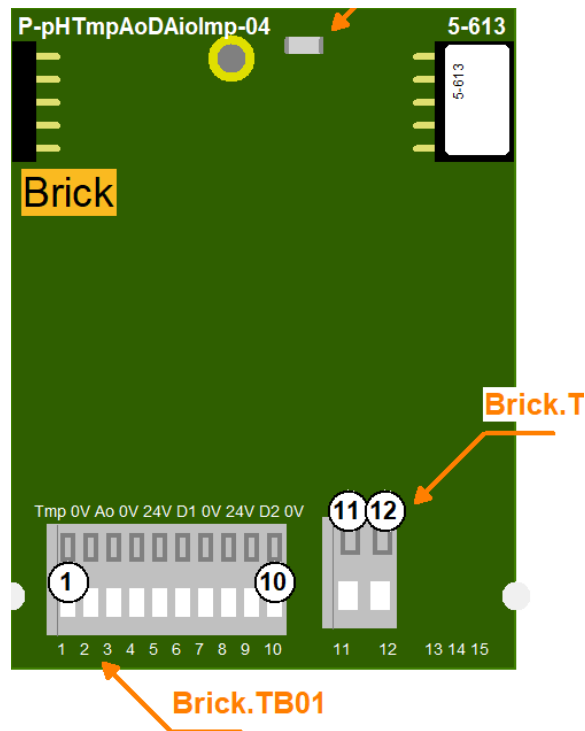
Size: 5eU (55mm x 72mm)

BBFCP: 1-1-1

Weight: 40g

This module sources an changeable constant current out of two outputs. The polarity is switchable and the current and voltage level is measured.

## 1.2 Connectors and Indication-/Operation-Elements



### 1.2.1 Connectors (X)

Hereinafter the necessary connections, connectors and their specifications for operation are listed. The location of a specific connector is documented with the ID (left column) in the previous illustrations.

ID	Model	Usage	Num. of term.	Model / Series	connection	elec. usage
Brick.X00	BNC-Buchse	pH Input	-	BNC	-	

### 1.2.2 Terminal block (TB)

The following illustration the technical details for Terminal blocks are listed. The location of a specific block is documented with the ID (left column) in the previous illustrations.

ID	Model	Model / Series	Grid	Num. of term.	connection	elec. usage
Brick.TB01	Cage Terminal	WAGO250	2.5mm	10	up to 0.5mm <sup>2</sup> or 0,8mm	signal level
Brick.TB02	Cage Terminal	WAGO250	3.5mm	2	up to 1.5mm <sup>2</sup>	signal level

### 1.2.3 Terminal assignment

Here the assignment of individual terminals and their affiliation to terminal blocks (Te block), terminal numbers (Te no.) and short description (T.desc.) as well as their electrical function and usage are explained.

The associated mechanical and electrical properties are stated with the specific terminal block in the previous chapter. The position of a terminal is dedicated through the "Te block" and the actual terminal number (Te no.) or the terminal description (T.desc.) in the previous illustration respectively.

In the column "usage" the technical-/ device-functional use is listed.

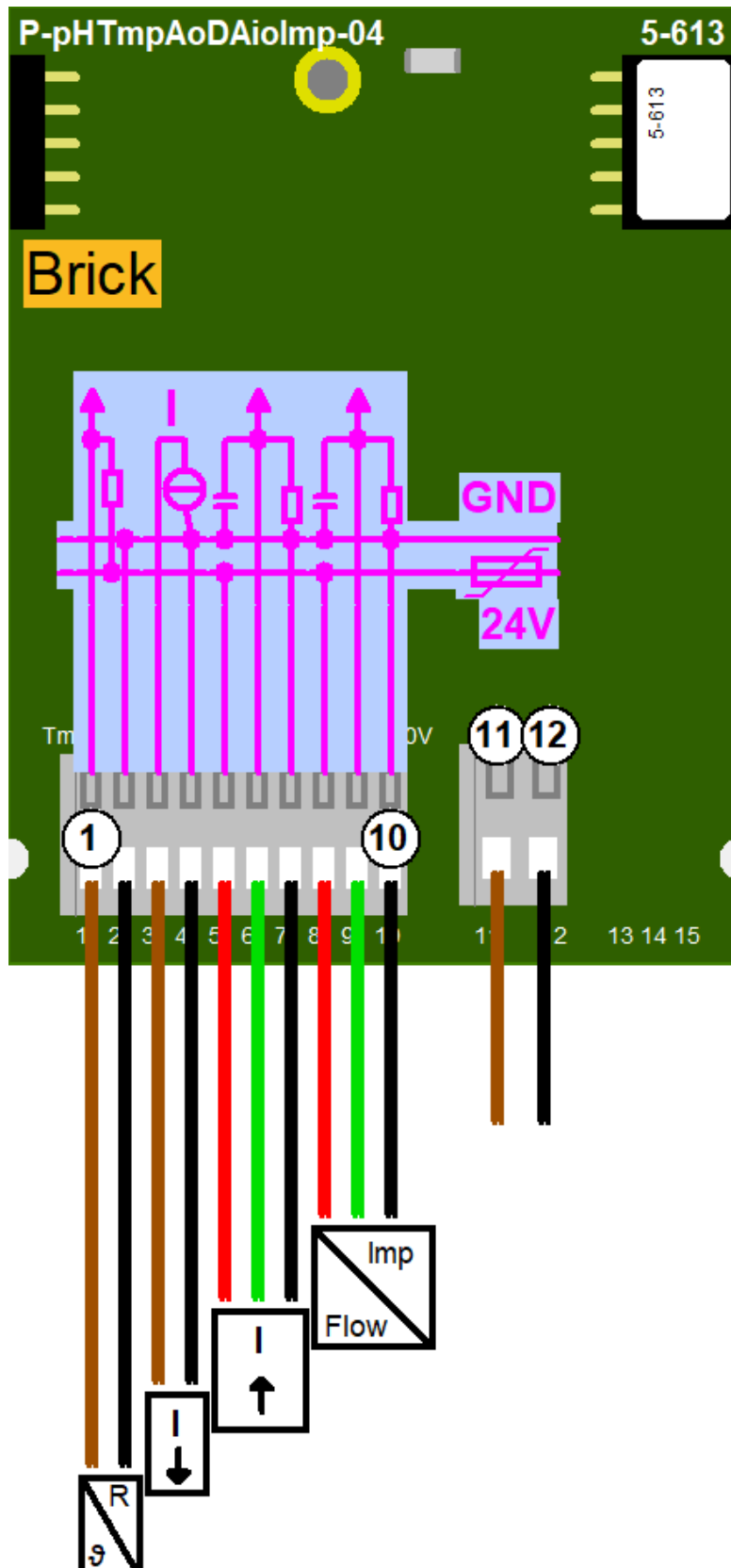
Te block	Te no.	T. descr.	Function	Usage
Brick.TB01	1	Tmp	Input Temperature Sensor	Temp1
Brick.TB01	2	0V	Ground Sensor	Temp1
Brick.TB01	3	OUT	Current Output	AnOut1
Brick.TB01	4	0V	Ground	AnOut1
Brick.TB01	5	24V	Sensor supply +24V	AnIn1
Brick.TB01	6	IN	Input	AnIn1
Brick.TB01	7	0V	Ground	AnIn1
Brick.TB01	8	V+	Sensor supply +24V	AnIn1
Brick.TB01	9	In	Input	AnIn1
Brick.TB01	10	0V	Ground	AnIn1

### 1.2.4 LED Indications

ID	Type	Specification	Type / Usage
Brick.StateLED	SMD-LED	yellow	communicationstate Brick

### 1.3 Input-/Output Scheme

The following diagram shows the adaption of the control unit. To avoid overlapping, some wires are displayed interrupted and dashed.



## 1.4 Technical Data

### 1.4.1 Analog Inputs

The control unit has the following analogue inputs / measuring inputs:

Identifier	AnIn1
Type	Current Input
Range	0/4 ... 20mA, 2/3-wire
Input/Load Resistor	175 Ohm
Resolution	10Bit
Accuracy	0.5%
Linearity	0.2%
Filter	-
Linearization	-
Model / Series	-
Remark	-

Identifier	Temp1
Type	Temperature input, PT1000, 0...50°C
Range	0 ... 50°C
Input/Load Resistor	-
Resolution	0.1%
Accuracy	2%
Linearity	1%
Filter	Tau = 1s
Linearization	-
Model / Series	PT1000
Remark	-

Identifier	pH1
Type	pH valie input, single-rod measuring cell
Range	0 ... 7 ... 14 pH (420mV ... 0V ... -420mV)
Input/Load Resistor	> 1000 MOhm
Resolution	0.1 pH
Accuracy	0.2 pH
Linearity	0.1 pH
Filter	
Linearization	
Model / Series	
Remark	

### 1.4.2 Analog Outputs

The control unit has the following analog outputs:

Identifier	AnOut1
------------	--------

Type	Current Output
Range	0 ... 20mA
max. Voltage	$V_o < 12V$
max. Current	25mA
Filter	1st order, $f_{cut\ off} = \text{approx. } 2Hz$
Component	-
Remark	Load Resistor 0...600 Ohm

### 1.4.3 Pulse and Counting Inputs

The control unit has the following pulse inputs / counter inputs:

Identifier	AnIn1
Type	Impuls/Digital input, universal 2/3 wire
Threshold	0.6 / 1V
Input Circuit	n-switching
Sensitivity	rising slope
Gate Time (Frequ.Mode)	10ms ... 65s
Resolution (Per.Mode)	1 ... 50ms
Filter	hardware, 1st order, $f_{cut\ off} = \text{approx. } 1.5kHz$
Component	-
Remark	Sensor power supply (24V) is provided; note overall capacity

### 1.4.4 Fuses

The controller owns the following internal fuses for providing safety for the device and partially for the connected sensors/ actors:

ID	Type	Nom. Current	Characteristic	Usage
Brick.SI 0	PolyFuse	100mA		Sensor supply +24V

### 1.4.5 User Notes

- Blinking behavior StateLED:  
Each Morse code is 3 seconds long!  
not initialized = flashing continuously at approx. 5Hz  
no communication = short-long-short  
too little communication = short-short-short  
disturbed communication = short-long-long  
OK = continuous flashing at approx. 1Hz (0.6-1.5Hz)

## 1.5 History

On the following page you will find a list of changes that have been made to the product.

### 1.5.1 History

Date	Entry scope (HW, SWappl, SWapi, Release)	Entry type (enhancement, improvement, bugfix, release)	Version	Status (development, implemented, tested)	Responsible	Reason for the modification	Items of modification	Impact for (end-)customer	Comment	Location in model/source
xxxx-xx-xx		Release	0.99	Tested	NSt					

For questions please contact:

emBrick GmbH	Alfred-Nobel-Straße 2 D-55411 Bingen am Rhein	+49 (0)6721-48035-70	<a href="https://www.embrick.de/">https://www.embrick.de/</a> <a href="https://www.embrick.de/shop/">https://www.embrick.de/shop/</a> <a href="mailto:support@embrick.de">support@embrick.de</a>
--------------	--	----------------------	--