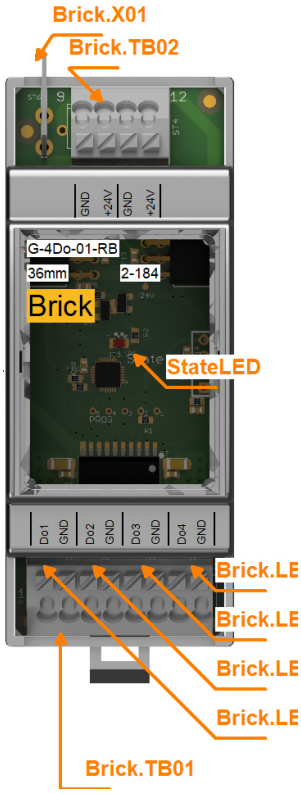
CAE_G_4Do-01-RB

1.1 Description

ID: 2-184
Order No.: G-4Do-01-RB
Terminal: Cage clamp
Size: 4 eU (36 × 90 mm)
BBFCP: 2-1-1
Weight: 20g

This module contains four 24V digital outputs. Each output supports a current of 3A but not more than 5A over all outputs in sum. All outputs have an over current protection and an over temperature protection. The logical state of each output is visualised by an LED. Common ground for outputs are the GND terminals. These are connected to the bus ground. The outputs are supplied via the power terminal.

1.2 Connectors and Indication-/Operation-Elements



1.2.1 Connectors (X)

Hereinafter the necessary connections, connectors and there specification for operation are listed. The location of a specific connector is documented with the ID (left coloumn) in the previous Illustrations.

ID	Model	Usage	Num. of term.	Model / Series	connection	elec. usage
Brick.X01	Flachstecker	ground connenction	1	6,3x0,8mm liegend	min. 1,5mm²	aux. ground

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 coloumn) in the preavious Illustrations.

ID	Model	Model / Series	Grid	Num. of term.	connection	elec. usage
Brick.TB01	Push-in Cage Clamp	Wago250-1##	3.5mm	8	Eindrähtig (starr) = 0.2 .. 1.5mm² Feindrähtig (flexibel) = 0.2 .. 1.5mm² Feindrähtig (mit Aderendhülsen) =	UL: 300V 5A VDE: 160V 8A

					0.25 .. 1.0mm²	
Brick.TB02	Push-in Cage Clamp	Wago250-1##	3.5mm	4	Eindrähtig (starr) = 0.2 .. 1.5mm² Feindrähtig (flexibel) = 0.2 .. 1.5mm² Feindrähtig (mit Aderendhülsen) = 0.25 .. 1.0mm²	UL: 300V 5A VDE: 160V 8A

1.2.3 Terminal assignment

Here the assignment of individual terminals and there affilation to terminal blocks (Te block), terminal numbers (Te no.) and short description (T.desc.) aswell as there 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 therminal description (T.descr.) in the previous Illustration respectivly.
In the coloumn "usage" the technical-/ device-functional use is listed.

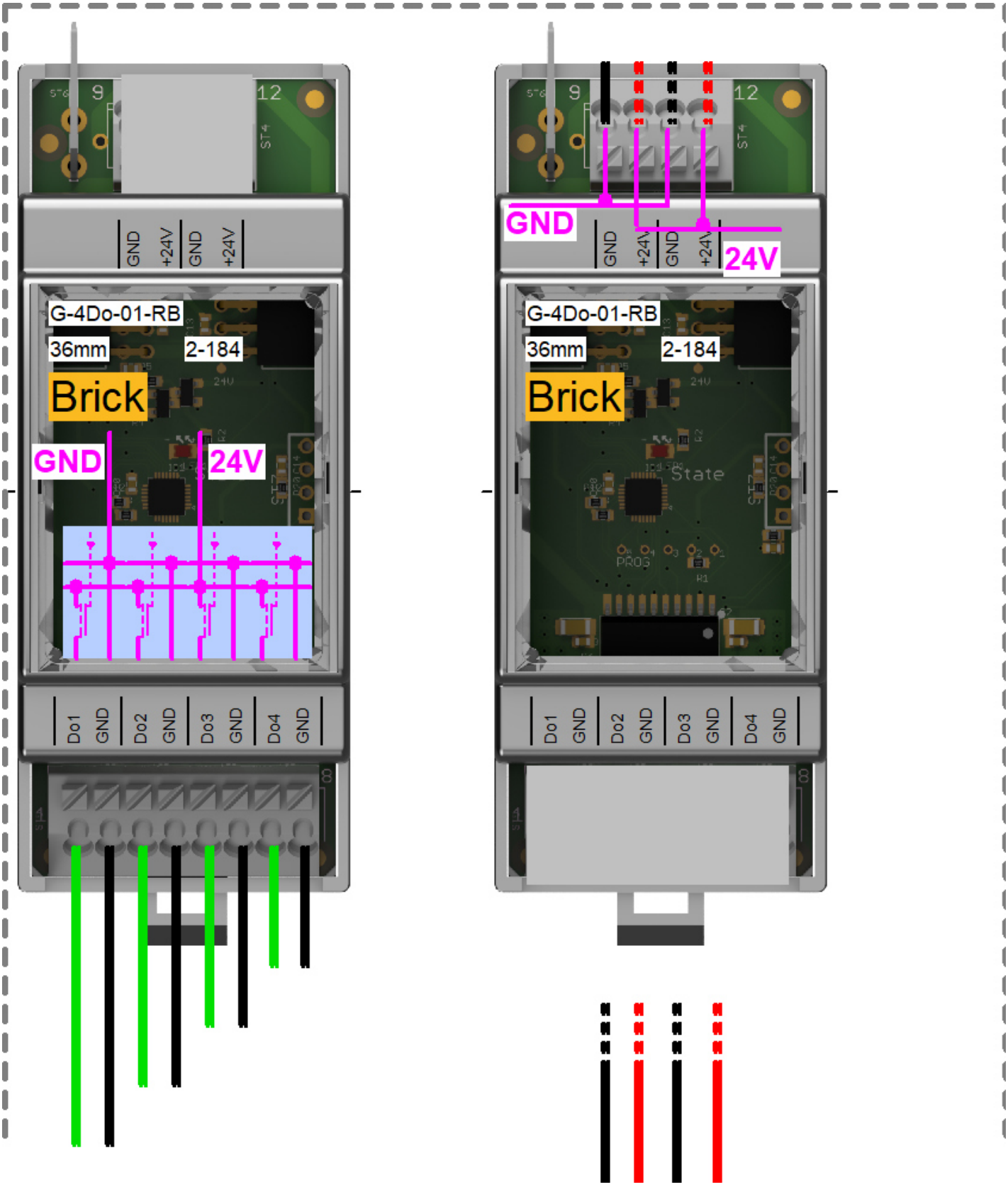
Te block	Te no.	T. descr.	Function	Usage
Brick.TB01	1	Out	Digital output	Do1
Brick.TB01	2	0V	Ground	Do1
Brick.TB01	3	Out	Digital output	Do2
Brick.TB01	4	0V	Ground	Do2
Brick.TB01	5	Out	Digital output	Do3
Brick.TB01	6	0V	Ground	Do3
Brick.TB01	7	Out	Digital output	Do4
Brick.TB01	8	0V	Ground	Do4
Brick.TB02	9	Ground	Ground	Supply
Brick.TB02	10	+24V	Voltage Input	Supply
Brick.TB02	11	Ground	Ground	forwarding
Brick.TB02	12	+24V	Voltage Input	forwarding

1.2.4 LED Indications

ID	Type	Specification	Type / Usage
Brick.LED01	SMD-LED	green	Do1
Brick.LED02	SMD-LED	green	Do2
Brick.LED03	SMD-LED	green	Do3
Brick.LED04	SMD-LED	green	Do4
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 Digital Outputs

The control unit has the following digital outputs / switching outputs:

Identifier	Do1
Type	High Side Semicon.
max. Switching Volt.	nom. 24V DC; max 35V DC
max. Switching Cur.	up to 2,5A dc
max. Perm. Current	2A
nom. Cycles	-
Component	ITS724
Remark	sum over all outputs, from this brick, max. 5A

Identifier	Do2
Type	High Side Semicon.
max. Switching Volt.	nom. 24V DC; max 35V DC
max. Switching Cur.	up to 2,5A dc
max. Perm. Current	2A
nom. Cycles	-
Component	ITS724
Remark	sum over all outputs, from this brick, max. 5A

Identifier	Do3
Type	High Side Semicon.
max. Switching Volt.	nom. 24V DC; max 35V DC
max. Switching Cur.	up to 2,5A dc
max. Perm. Current	2A
nom. Cycles	-
Component	ITS724
Remark	sum over all outputs, from this brick, max. 5A

Identifier	Do4
Type	High Side Semicon.
max. Switching Volt.	nom. 24V DC; max 35V DC
max. Switching Cur.	up to 2,5A dc
max. Perm. Current	2A
nom. Cycles	-
Component	ITS724
Remark	sum over all outputs, from this brick, max. 5A

1.4.2 Power Supply (injected from external)

The control unit requires the following electrical supply from external:

Description	Brick.Output supply

Information	
Voltage	24V DC
max. Current	5A DC
Inactive Current	< 1mA
Frequency	
Remark	

1.4.3 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)

1.4.4 Technican Notes

• A software generated pseudo PWM is possible till approx. 10Hz (depends on the bus/module update rate).

1.5 Process Data Image

1.5.1 Outgoing Process Data (from bus master to this brick)

Byte	Function	rCAssign
00	DO1 ... ... DO4	...+eB_B0,0,0,... ...+eB_B0,0,1,... ...+eB_B0,0,2,... ...+eB_B0,0,3,... ...+eB_B0,0,4,... ...+eB_B0,0,5,... ...+eB_B0,0,6,... ...+eB_B0,0,7,...

1.5.2 Incoming Process Data (from this brick to the bus master)

Byte	Function	rCAssign
00	Bit 0 ....DI1: Feedback Do 1 and 2 1 = Output is ok 0 = Overtemperature or overcurrent have occurred Bit 1 ....DI2: Feedback Do 3 and 4 1 = Output is ok 0 = Overtemperature or overcurrent have occurred	...+eB_B0,0,... ...+eB_B0,1,... ...+eB_B0,2,... ...+eB_B0,3,... ...+eB_B0,4,... ...+eB_B0,5,... ...+eB_B0,6,... ...+eB_B0,7,...

1.6 History

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

1.6.1 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 the modification	Impact for (end-)customer	Comment	location in model/source
xxxx-xx-xx		Release	0.99	tested	NSt					

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