

Manual:



saia-burgess
Control Systems and Components

Adapter board Staefa Integral NRUF/A – NRUE/A

Controls Division

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0.1 Document-History

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Version	Published	Changed	Remarks
pEN01	2010-05-18		Creation
EN01	2010-06-04		Release

0.2 Trademarks

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Technical changes are subject to the state of technology

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2 Guidance

2.1 Introduction

The adapter board is used for the preparation of the hardware compatibility with a system change from an existing DDC system type NRUF/A or NRUE/A (manufactured by Siemens Landis & Staefa) to modern DDC regulation and control systems of the PCD2 type, with minimum planning, installation and cost.

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The schematics and the entire hardware of the existing control cabinet, then input and output terminals, fuses, speed monitor, phase monitor, control transformer for power supply, power contactors, control contactors and relays, control cabinet interior lighting, sockets, etc., can also be further used without changes as also the existing field devices such as sensors and actuators.

Therefore with the adapter board it is possible to use the PCD2 without making any adjustments or changes to the control unit, without expecting any errors from the use of the existing electrical clamping connections.

The adapter board consists essentially of a system-conformant board with all the necessary functions, components, assemblies, and the pre-assembled connecting cables, such as:

- All the necessary components, such as for example: relays, bridge rectifiers, capacitors, heat sinks, fuses and diodes
- Complementary and conversion modules for signal conditioning, transmission and conversion, performance and interface expansion, electrical isolation and fuses
- Compatible host plug for the existing terminal connector of the DDC regulation and control system NRUF/A or NRUE/A for the connection of all existing inputs and outputs to the adapter board
(for older Staefa modules NRUF or NRUE without "/A" the connector plug must be replaced)
- Compatible clamp connectors for the socket connectors for connecting all existing inputs and outputs of the adapter board to the PCD2 input/output modules
- High input safety through electrical isolation and voltage regulation with suppression of induced voltages
- High output security through complete electrical isolation of the digital outputs with suppression of induced voltages



3 Workflow

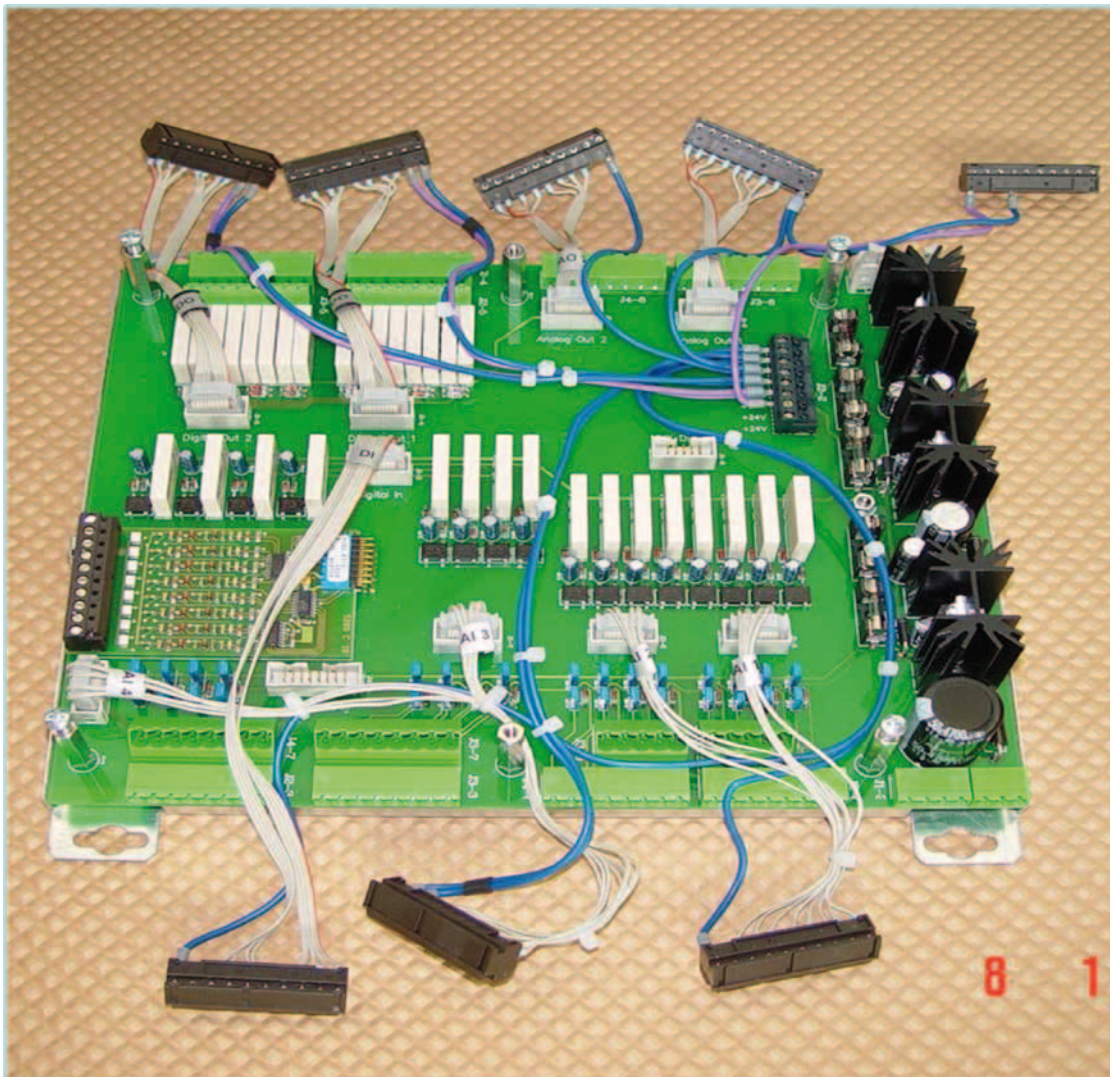
3.1 Preparation

First, the existing Staefa module is removed. Using the available documentation, the jumper for the universal inputs on the adapter board (see section 4) is set according to application.

Now attach the jumpers on the universal input cards W340 of the PCD2 according to the input application (see section 6.8.4, User Manual 26-856).

Then the universal input cards are to be inserted back into their slots (slot 0 and slot 2).

Now the PCD2 should be mounted on the adapter board and the connection to the socket connectors of the input/output cards should be established through the existing cables with mounted plugs.



3.2 Mounting

The adapter board completed with the PCD2 can now be secured with the fixing screws of the Staefa module in the control cabinet.

The plugs that were removed during the dismantling of the Staefa module are now attached to the adapter board (if NRUF/A or NRUE/A were not used earlier, but modules without the suffix "/A", the connectors are to be replaced by those of the NRUF/A or NRUE/A series).

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4 Configuration

4.1 Adapter board jumper configuration

The jumpers, which determine the use of inputs, are located on the adapter board behind the terminal connectors for the universal inputs. These jumpers are arranged in two rows. The jumpers with three pins are for the selection between active input signal, passive input signal or potential-free digital signal. The jumpers with two pins are for the adaptation of Staefa T1 sensor to Saia® analogue input cards.

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4.1.1 Active input signals 0-10V

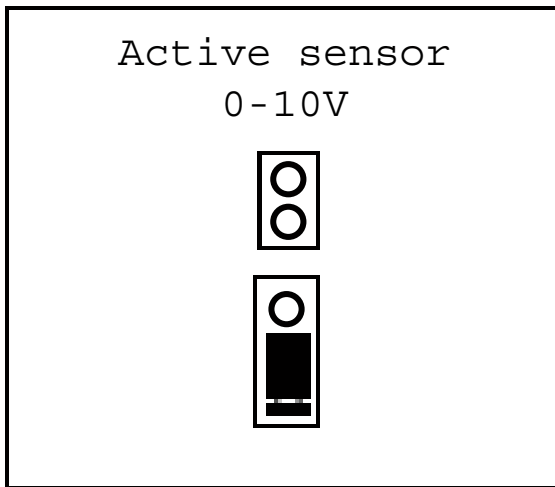


Figure 1

Here, the corresponding input of the input card W340 is to be configured as a voltage input 0-10V. (Figure 1)

4.1.2 Digital input signals

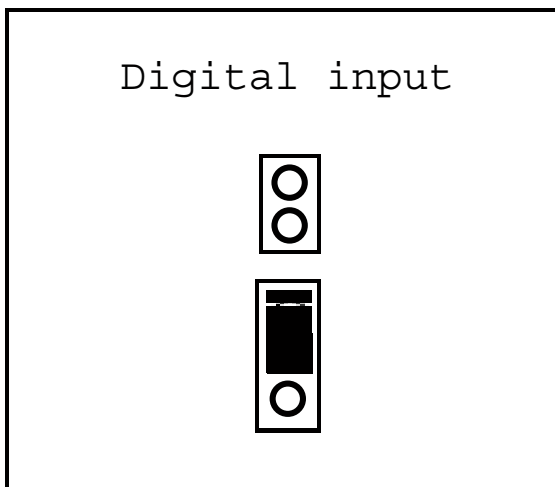
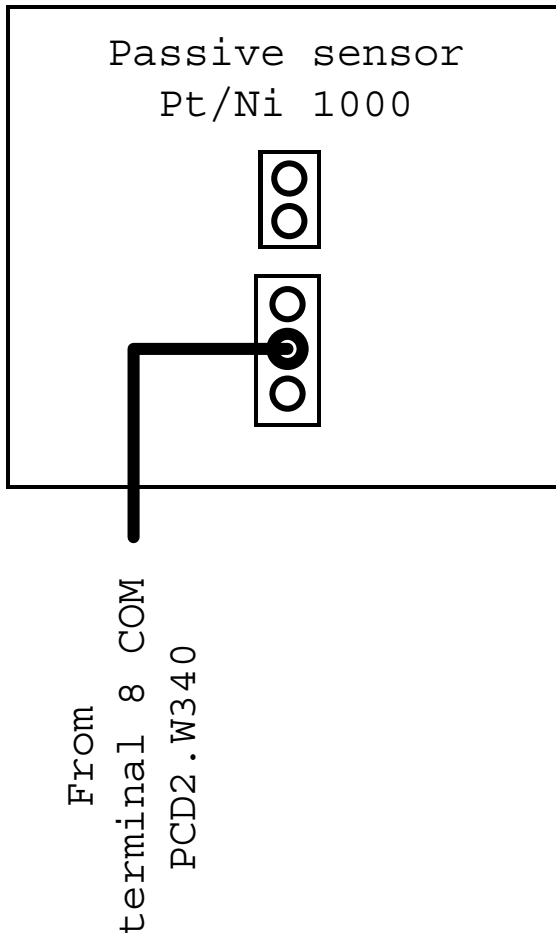


Figure 2

When used as a digital input, the relevant input of the PCD2.W340 is configured as a voltage input. (Figure 2)

4.1.3 Analogue input signals Pt/Ni 1000



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Figure 3

For use as a sensor input for Pt/Ni 1000 measurement elements, the concerned input of the PCD2.W340 is configured as a resistor input. Here, one of the connections of terminal 8 of the terminal connector of the W340 card is plugged on the centre pin of the jumper. (Figure 3)

4.1.4 Analogue input signals T1

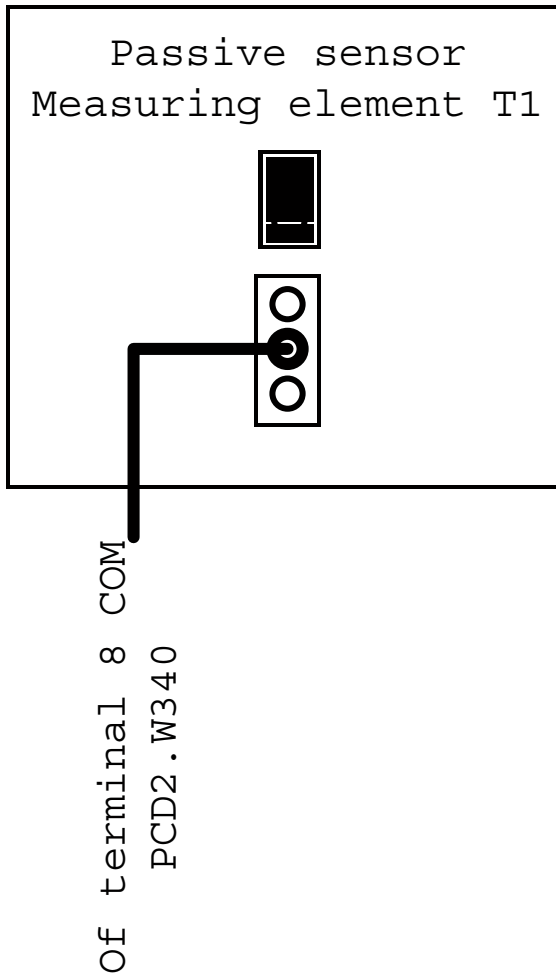
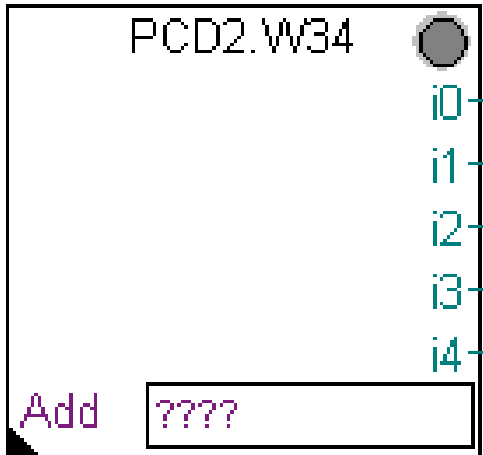


Figure 4

For use as a sensor input for Staefa T1 measurement elements, the relevant input of the PCD2.W340 is configured as a resistor input. Here, one of the connections of terminal 8 of the terminal connector of the W340 card is plugged on the centre pin of the jumper. The second jumper is inserted, and thereby the T1 sensor is adapted in such a way that an acquisition is possible with standard input cards. (Figure 4)

5 Settings FBoxes

5.1 FBox PCD2.W340



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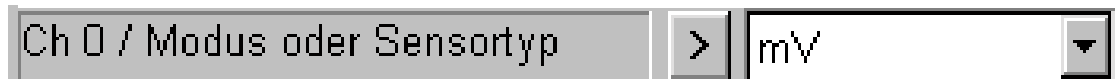
5.1.1 For use with passive signals or as digital input

For use with passive signals or as a digital input, the mode/sensor 1:1 is to be selected in the FBox for the appropriate channel

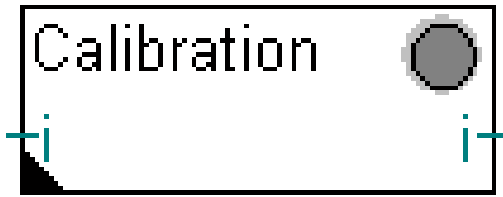


5.1.2 Active signals 0-10V

For active signals 0-10V, the mode/sensor mV is to be selected in the FBox for the appropriate channel



5.2 FBox scaling



5.2.1 For use with passive signals Pt/Ni 1000

For use with passive signals Pt/Ni 1000, the mode B-O is to be selected in the FBox with the parameters

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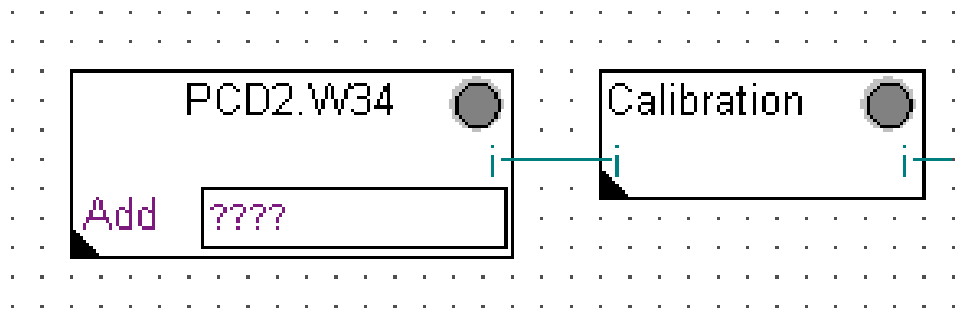
Eingang 0, Bereich	>	653.6	<	>	On
Eingang 0, Offset	>	-303.6	<	>	On

5.2.2 For use with passive signals T1

For use with passive signals T1, the mode B-O is to be selected in the FBox with the parameters

Eingang 0, Bereich	>	550.0	<
Eingang 0, Offset	>	-386.7	<

5.2.3 Linking FBoxes for passive signals



6 Technical specifications

6.1 Power feed

24 VAC power supply, back-up fuse 10 A required






6.2 Supply voltages

Supply 24 VDC 4 A for PCD

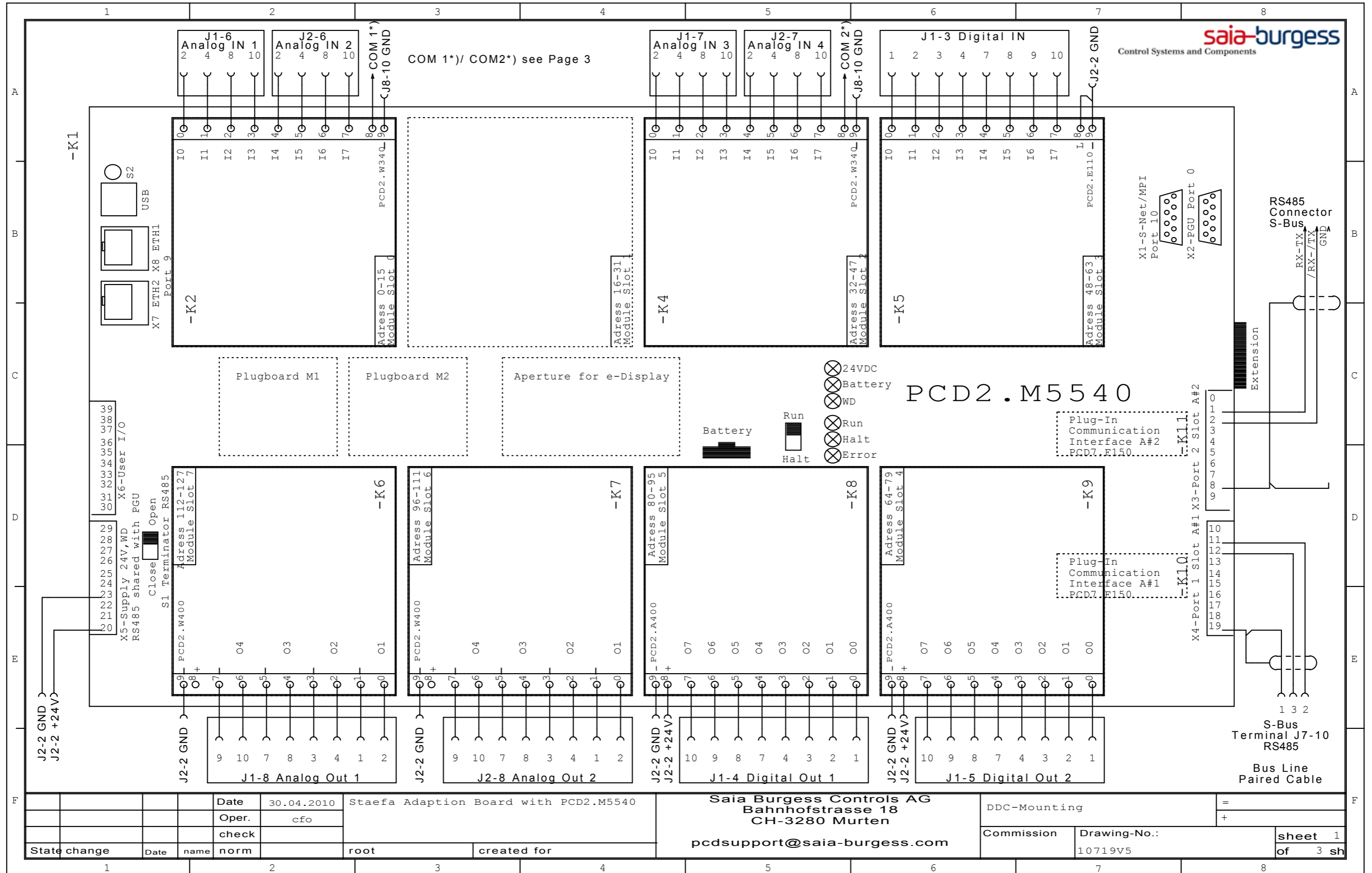
Supply 15 VDC 1 A for Staefa sensors

A Appendix

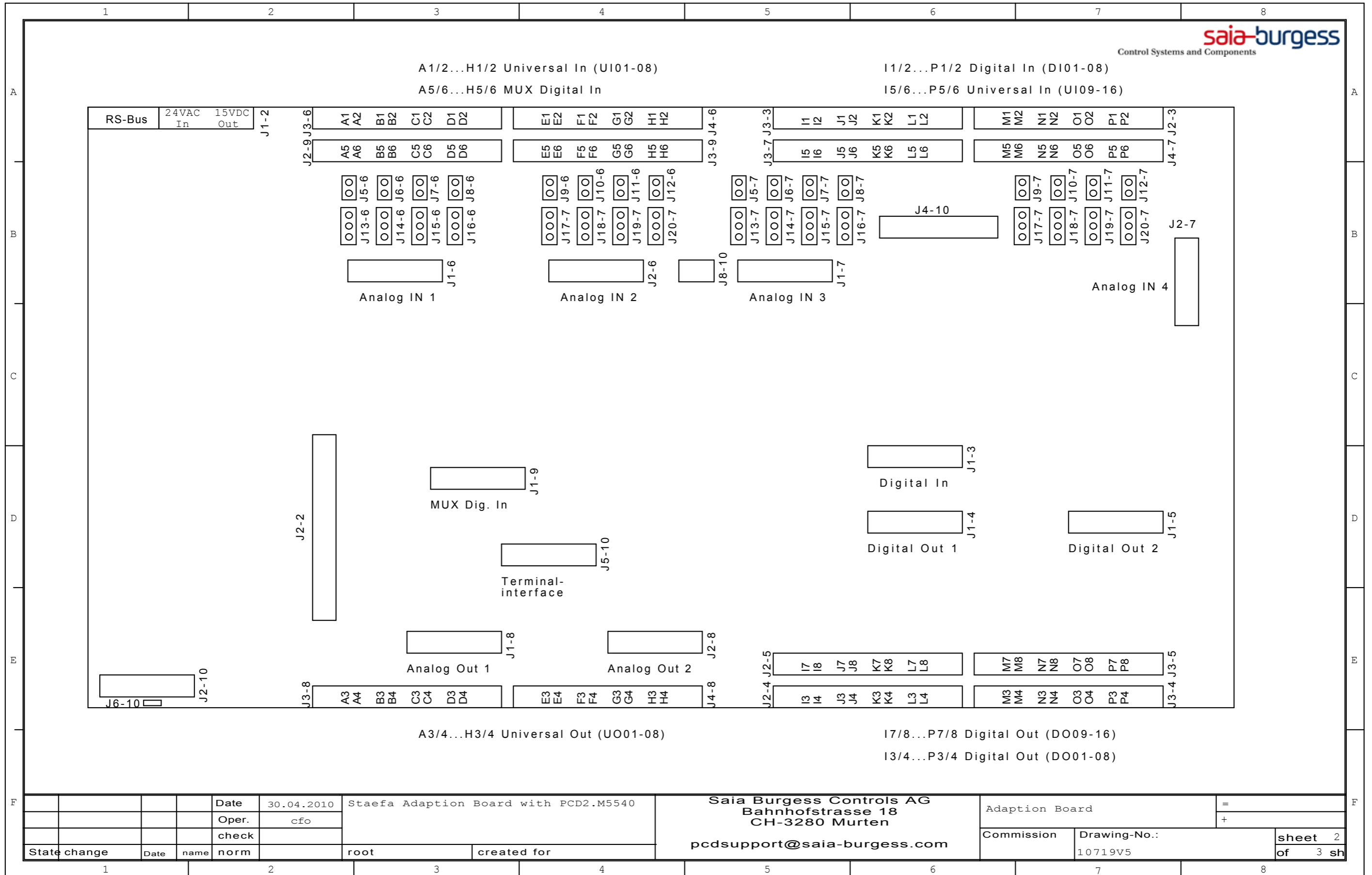
A.1 Icons

	<p>In manuals, this symbol refers the reader to further information in this manual or other manuals or technical information documents. As a rule there is no direct link to such documents.</p>
	<p>This symbol warns the reader of the risk to components from electrostatic discharges caused by touch. Recommendation : at least touch the Minus of the system (cabinet or PGU connector) before coming in contact with the electronic parts. Better is to use a grounding wrist strap with its cable attached to the Minus of the system.</p>
	<p>This sign accompanies instructions that must always be followed.</p>
	<p>Explanations beside this sign are valid only for the Saia-Burgess PCD Classic series</p>
	<p>Explanations beside this sign are valid only for the Saia-Burgess PCD xx7 series.</p>

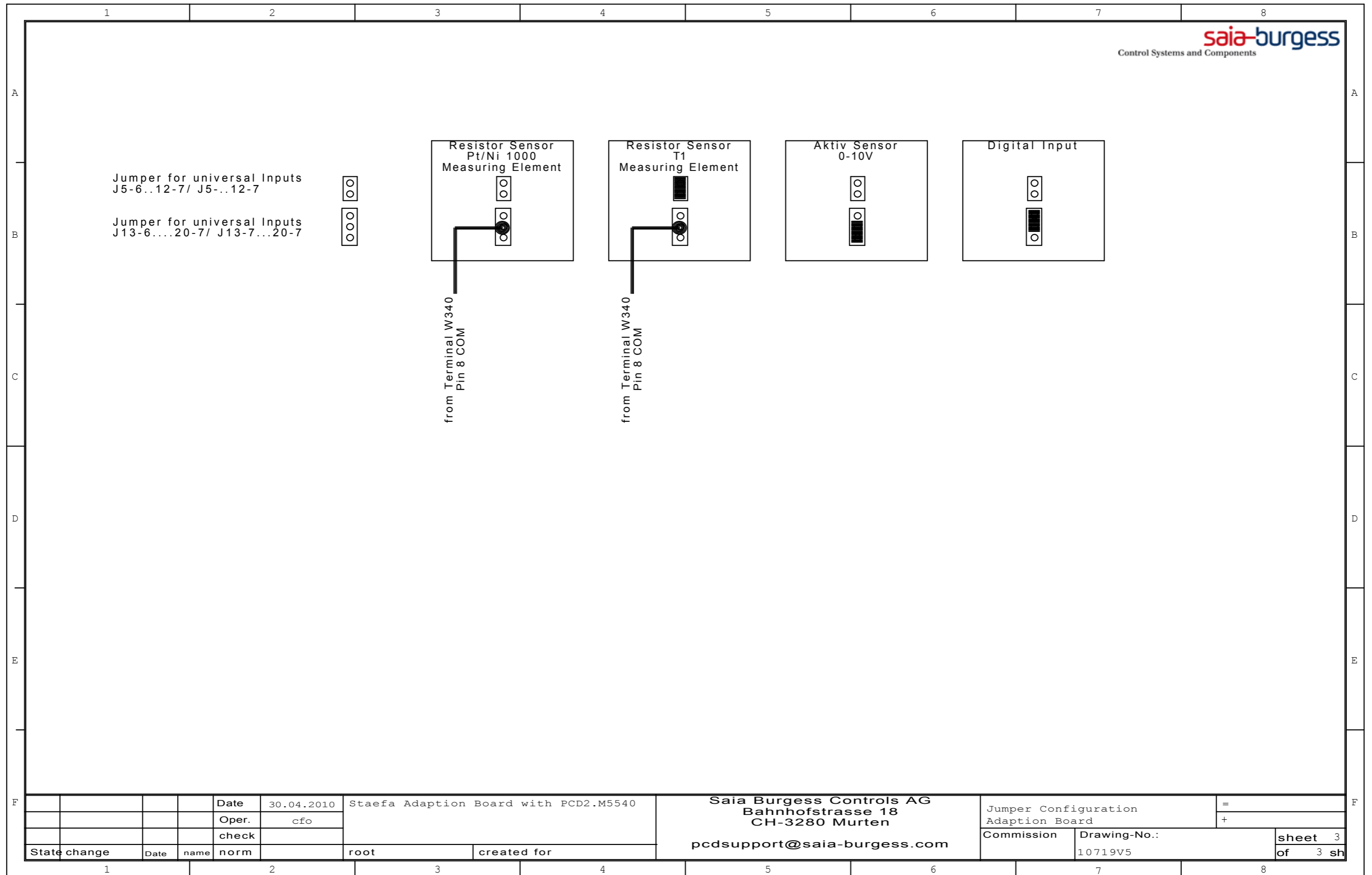
A.2 Schematic sheet 1



A.2 Schematic sheet 2



A.2 Schematic sheet 3



A.3 Address of Saia-Burgess Controls AG

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Adresse postale pour les retours de produits par les clients de “Vente Suisse” :

Saia-Burgess Controls AG

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