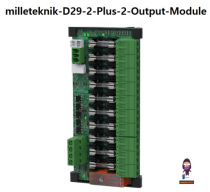


milleteknik D29 2 Plus 2 Output Module Instruction Manual

Contents

milleteknik D29 2 Plus 2 Output Module

Technical Specifications

- **Product:** 2+2 Output Module
- **Features:** Four fully protected load outputs (2 prioritized, 2 non-prioritized)
- **Mounting:** Plastic bracket inserted into battery backup
- **Maximum Load**: 5A per output, 10A total for the board

Product Usage Instructions

Mounting in Battery Backup

1. Ensure the card is mounted in its plastic casing.
2. If loose, snap it back into the plastic casing.
3. Mount the card on any available slot in the enclosure, leaving space for cables.
4. Important: Install the board before screwing on wiring or commissioning.

Connection to Motherboard

Connect the card following the provided diagram. Ensure that the load connections match (+ to +, – to -) between the motherboard and the option board.

Power Priority Explanation

Priority Load: In case of a power outage, priority loads are powered using reserve batteries.

Non-Prioritized Load: Non-prioritized loads will not be powered by reserve batteries during a power cut.

FAQ

- **What does priority / non-priority load mean?**
  - **Priority load:** Powered by reserve batteries during power outages.
  - **Non-prioritized load:** Not powered by reserve batteries during power outages.

TECHNICAL SPECIFICATIONS 2+2 OUTPUT MODULE

2+2 Output module is a protection module with four fully protected load outputs, of which two load outputs are prioritized and two are non-prioritized.
The card comes mounted in a plastic bracket that is inserted into the battery backup. When ordering, check that the card fits the battery backup card to be installed in.

What does priority / non-priority load mean?

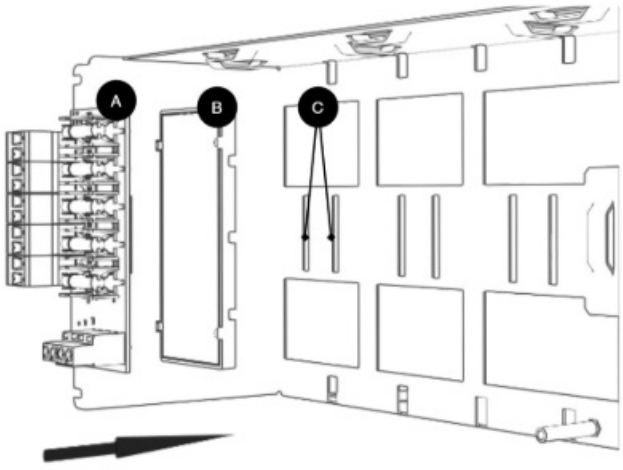
Priority load means that in the event of a power outage (mains failure), the load will be powered on with the reserve power, (batteries), Non-prioritized load means that in the event of a power cut (mains failure), the load will not be powered further with the reserve power (batteries)

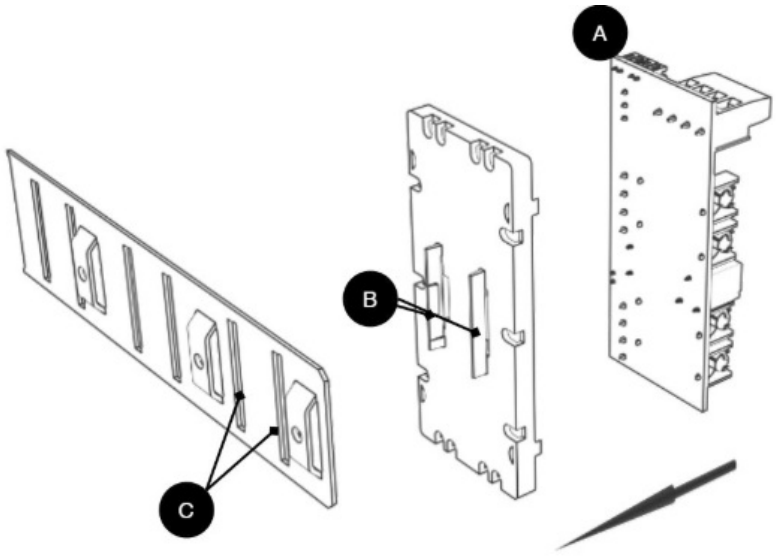
MOUNTING IN BATTERY BACKUP

The card is delivered mounted in it’s plastic casing, for easy installation.
If the card has come loose, snap it back into the plastic casing.
Mount the card on any card slot in the enclosure, leave space for cables.

Important

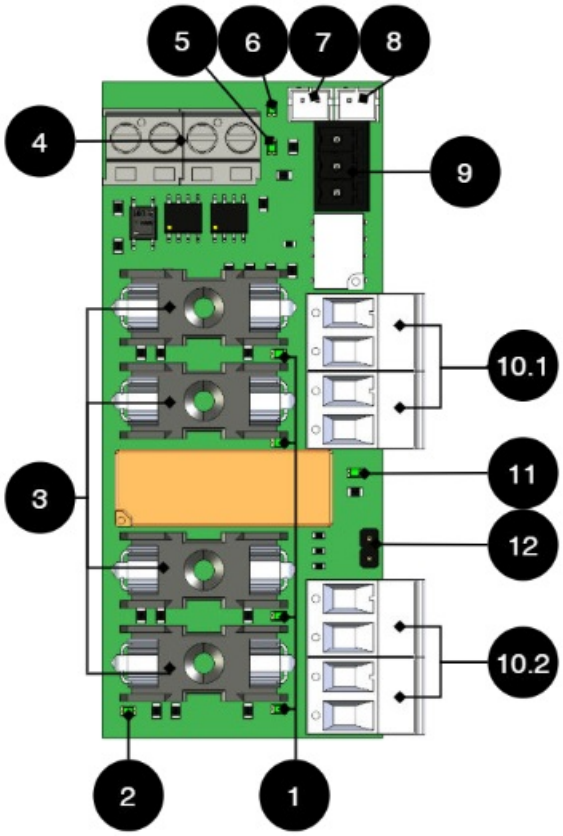
Install the board before screwing on wiring or commissioning.





Letter	Explanation	Comment
A	Optional card	Optional card comes mounted on plastic housing from factory. Has it come loose? Snap it back on before mounting the card.
B	Plastic casing	The plastic casing has hooks for attaching slots in the plate.
C	Place for plastic casing	Slits in sheet metal to snap the plastic bracket.

SHORT DESCRIPTION 5 OUTPUT MODULE



Circuit Board Overview – 2+2 Output module

No	On circuit board	Explanation
1	D1, D2, D11, D13	Lights up green when the fuse is full on the output. (Off when fuse is broken).
2	D3	Lights up yellow if prioritized outputs (10.1) are activated.
3	F1, F2, F9, F10	Load securing devices.
4	P1	Incoming 24 V. Use any input. The second input is used when powering additional option cards. Can also be used for external 24 V power supply when replacing the power supply unit on battery backup.

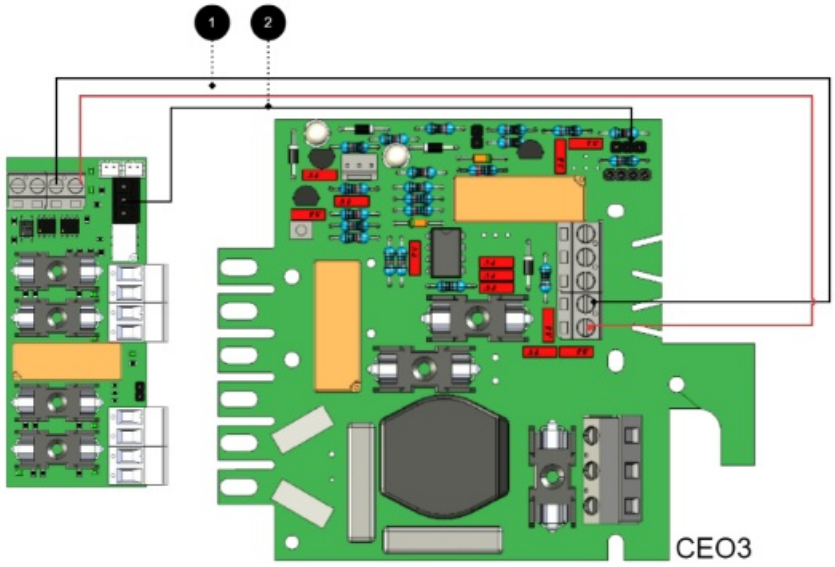
No	On circuit board	Explanation
5	D29	Green indicator diode, lights up with a steady green light when all fuses are intact.
6	D30	Red indicator diode, glows with a solid red light when any fuse is broken.
7	J11	Bridging connection for alarms from another option card.
8	J12	Connection of alarm to motherboard. Pin 1 controls non-prioritized output and Pin 0 goes low (0 V) in case of alarm.
9	P3:1-3	Alarm output, NO, COM, NC
10.1	P2:1-2 P2:3-4	Priority load output 1. Priority load output 2.
10.2	P2:5-6 P2:7-8	Unprioritized load output 3. Non-prioritized load output 4.
11	D10	Green indicator diode, lights up green when all outputs are activated.
12	JU1	Control of outputs. Not bridged = Priority (10.1) are activated in battery operation. The factory setting is that the card does not have jumpers on JU1. Bridged = All four outputs are prioritized, i.e. provide 24 V in battery operation.

Caution
Maximum load per output is 5 A and total maximum load for the entire board is 10 A.

Use the supplied cable
Use the cable that comes with the box to connect the card.

CONNECT 2+2 OUTPUT MODULE TO MOTHERBOARD: CEO3 V2.1

Connect the card as shown in the picture.



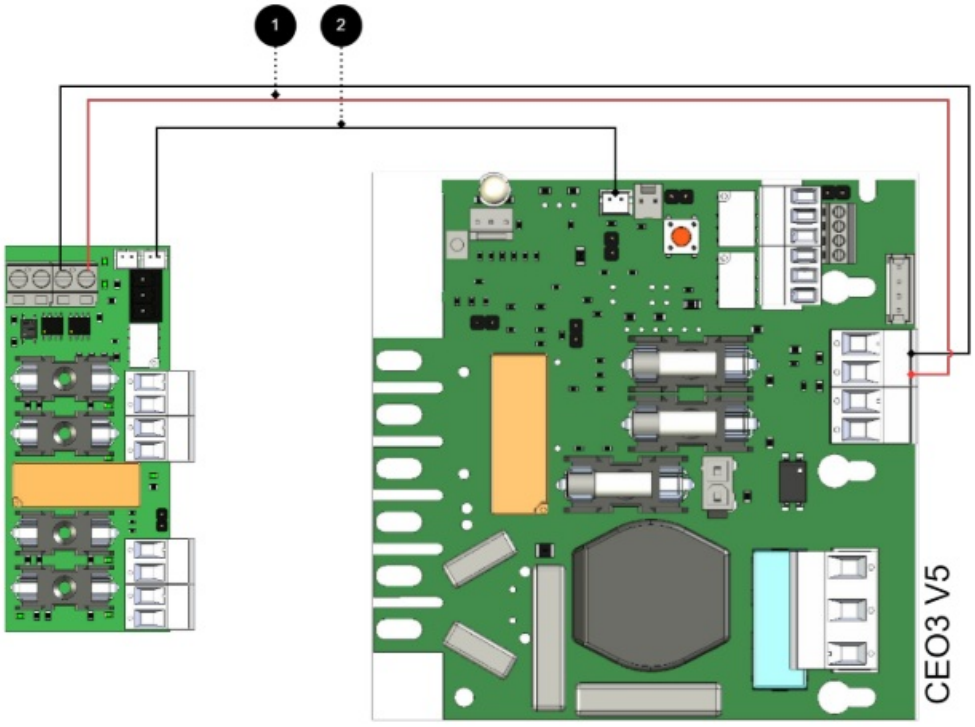
+ and – from load on the motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Alarm output: connected between NO and Com.	P3:1-2	JU3 - connect between middle pin and some outer pin.

CONNECT 2+2 OUTPUT MODULE TO MOTHERBOARD: CEO3 V5 / CEO-ECO

Connect the card as shown in the picture



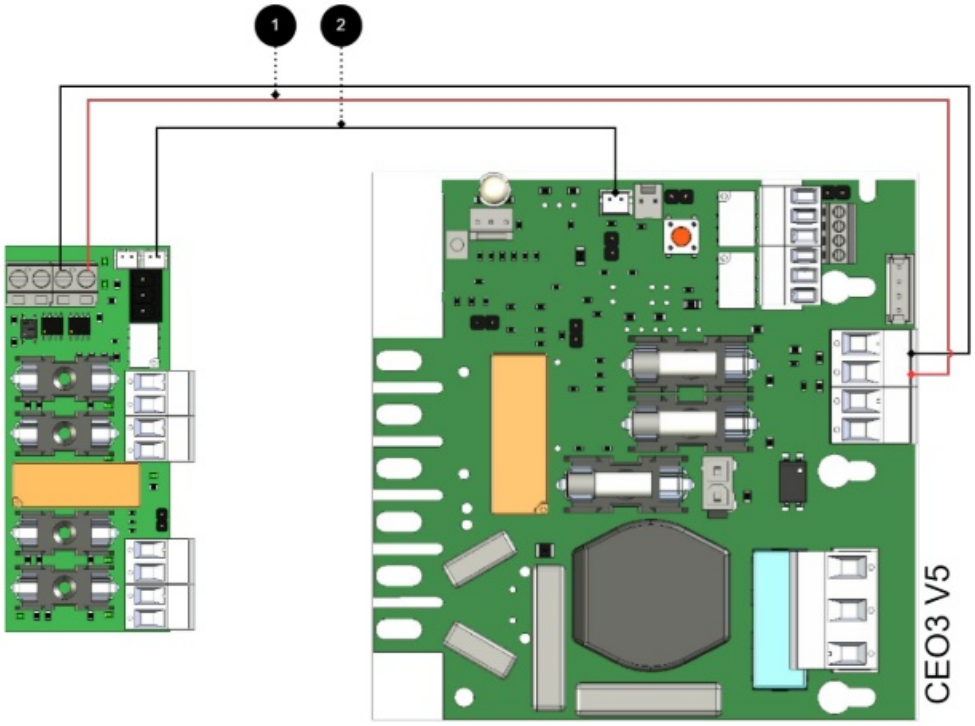
+ and – from load on the motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Alarm output: connected between NO and Com.	P3:1-2	JU3 - connect between middle pin and some outer pin.

CONNECT 2+2 OUTPUT MODULE TO MOTHERBOARD: NEO3

Connect the card as shown in the picture.



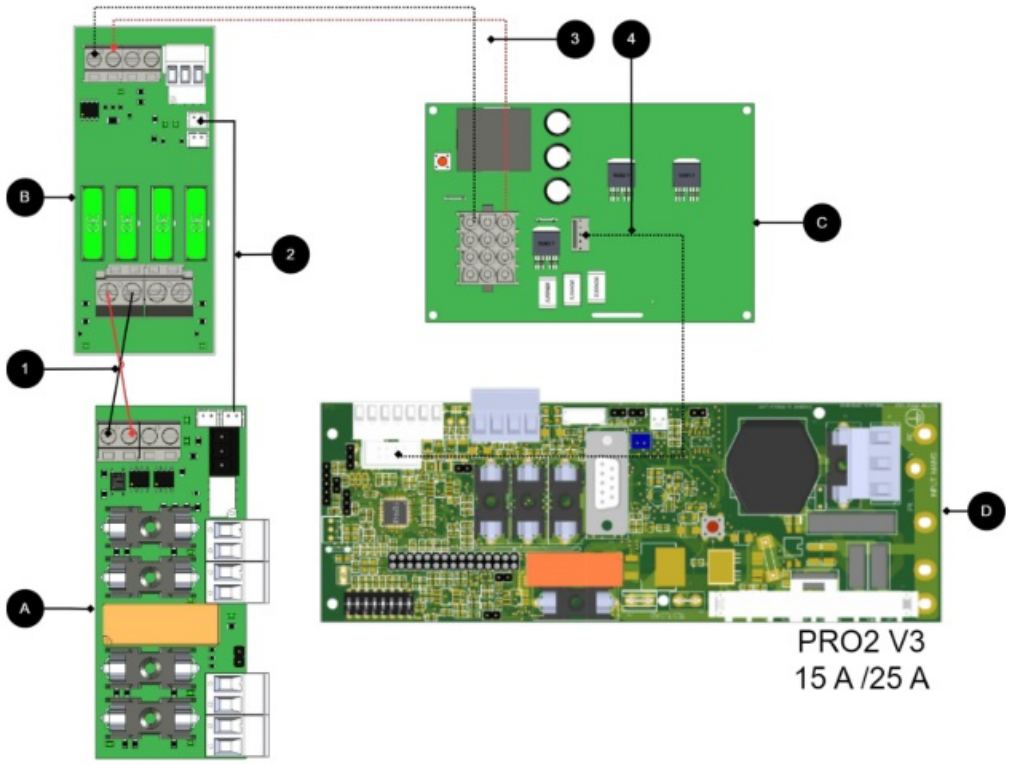
+ and – from load on the motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Connection to alarm on motherboard or Bridging of alarms to another 5 Output module	J12 J11	J27 -

CONNECT 2+2 OUTPUT MODULE FOR MOTHERBOARDS: PRO2 V3 15 A AND 25 A

Connect the card as shown in the picture.

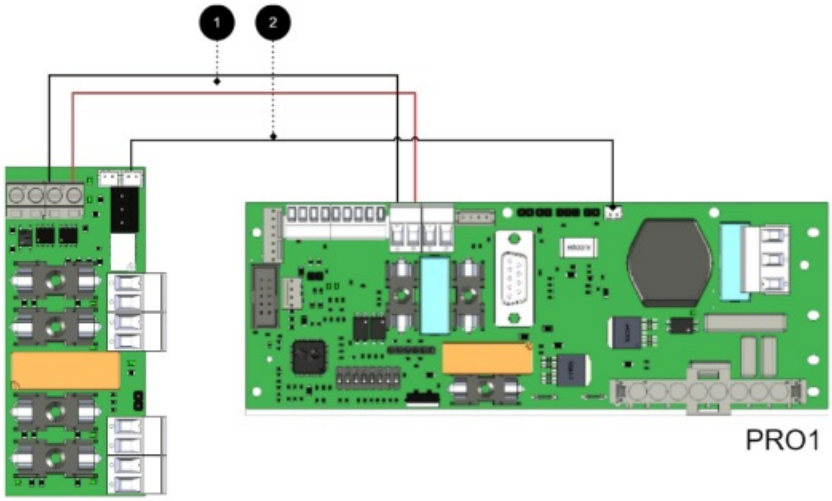


Connections 15A and 25A units

No/ letter	Circuit board	On circuit board	Explanation
A	2+2 Output mod-ule	-	Option card (A).
B	2 Output module	-	Connect the power supply (24 V) to the 2+2 Output module (A).
C	Effect card	-	Available in battery backups 15 A and 25 A.
D	PRO1	-	Motherboard in battery backup.
1	A and B	P1	Connect power supply from 2 Output module (B) to 2+2 Output module (A).
2	A	J12, J13	Connect alarm from J12 on 2+2 Ouput module load card.
3, 4	-	-	Internal power supply and communication between cards.

CONNECT 2+2 OUTPUT MODULE FOR MOTHERBOARD: PRO1 5 A AND 10 A

Connect the card as shown in the picture



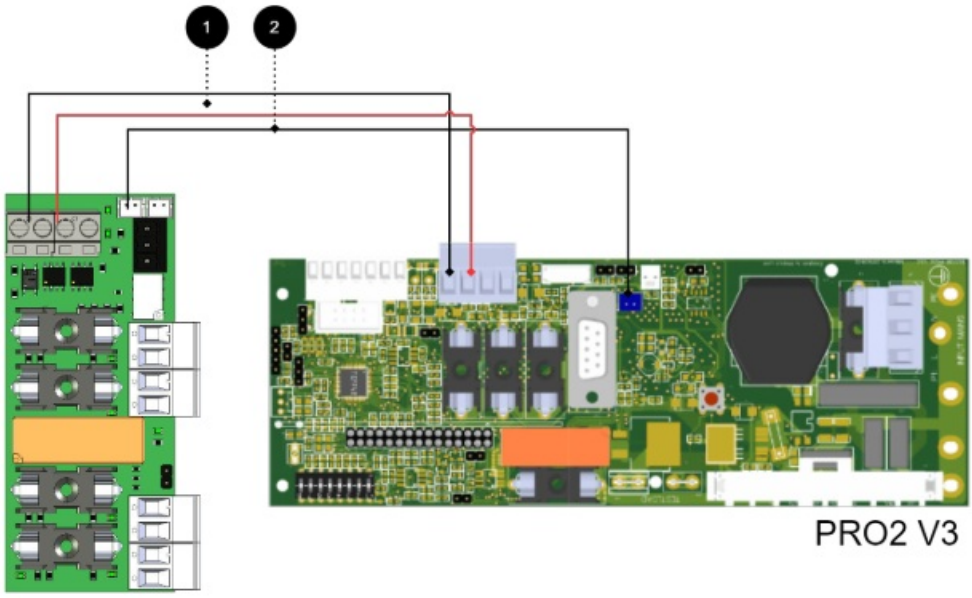
+ and – from load on motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Bridging alarm to motherboard.	J12	J13
	Bridging of alarms from/to additional option cards.	J11	-

CONNECT 2+2 OUTPUT MODULE FOR MOTHERBOARDS: PRO2 V3 5A AND 10A

Connect the card as shown in the picture.



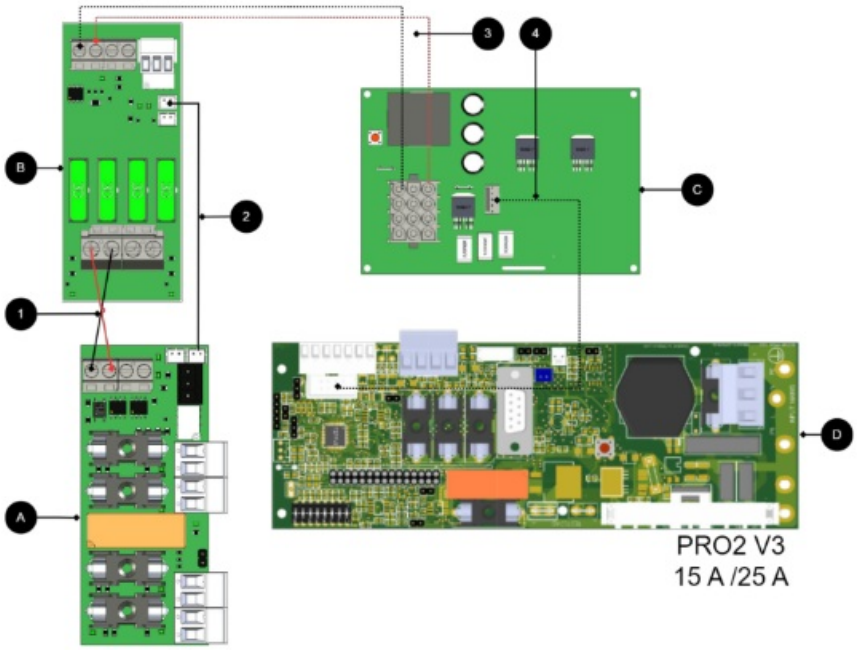
+ and – from load on the motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Connection to alarm on motherboard.	J12	J1

CONNECT 2+2 OUTPUT MODULE FOR MOTHERBOARDS: PRO2 V3 15 A AND 25 A

Connect the card as shown in the picture.

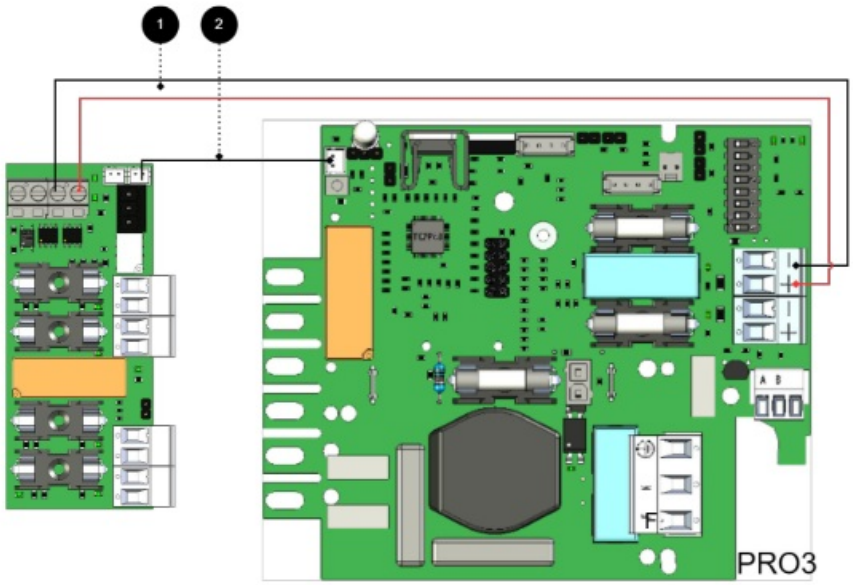


Connections 15 A and 25 A units

No/ letter	Circuit board	On circuit board	Explanation
D	PRO2 v3	-	Motherboard in battery backup.
C	Effect card	-	Available in battery backups 15 A and 25 A units.
1	A and B	P1	Connect power supply from 2 output module (B) to 2+2 Ouput module (A).
2	A	J12, J1	Connect alarm from 2+2 Ouput module to load card.
B	2 Output mod-ules	-	Connect the power supply (24 V) to the 2+2 Output module (A).
A	2+2 Output mod-ule	-	Option board (A).
3, 4	-		Internal power supply and communication between cards.

CONNECT 5 OUTPUT MODULE TO MOTHERBOARD: PRO3

Connect the card as shown in the picture.



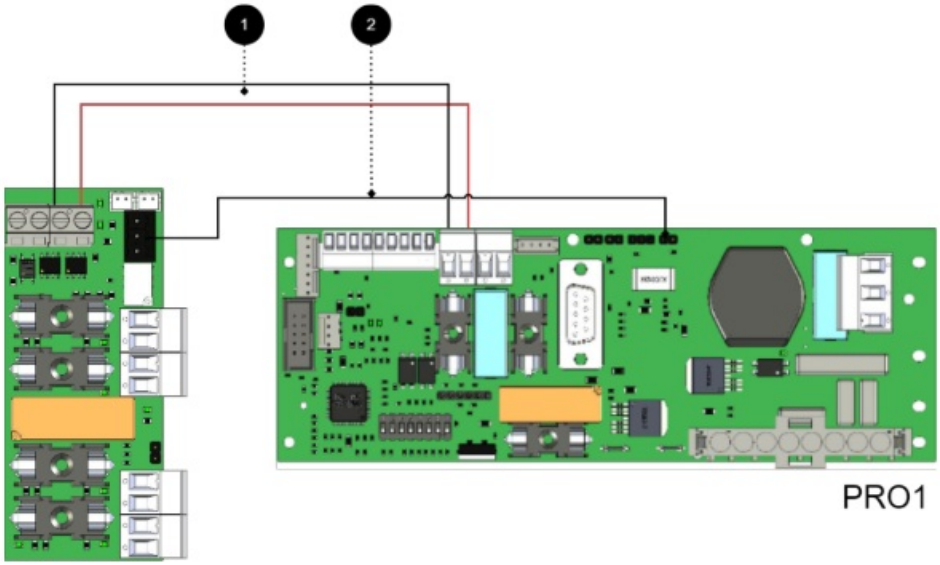
+ and – from load on motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Connecting the power supply.	P1	Load output 1
2	Connection of alarm on motherboard.	J12	J5
	Bridging of alarms to/from additional option cards.	J11	-

IF THE CARD LACKS A WHITE (JST) CONTACT OR IF AN ALARM IS TO BE GIVEN VIA RELAY SWITCHING

Connect the card as shown in the picture.



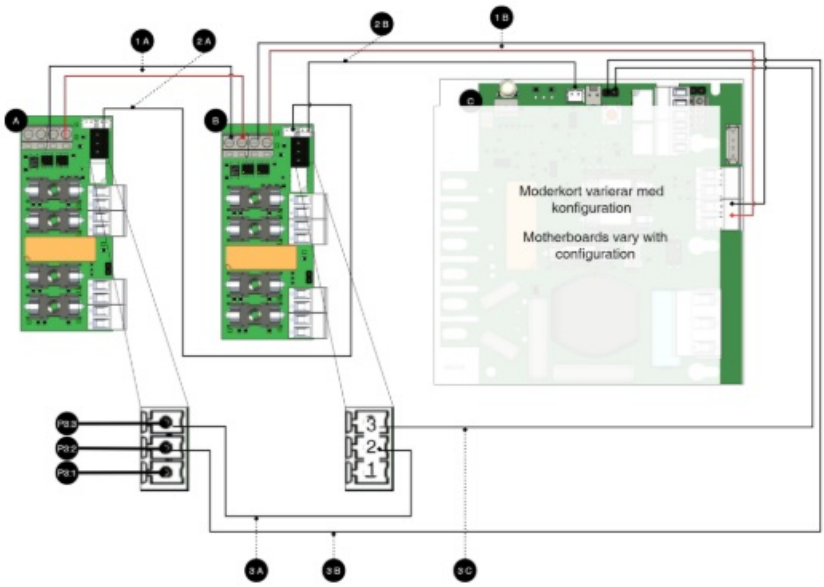
+ and – from load on the motherboard are connected to + and – on the option board.
Communication is connected between terminals as the solid line shows.

Connections from battery backup to fuse board

No	Connections	2+2 Output module	Motherboard
1	Power supply connection.	P1	Load output 1
2	Alarm output.	P3:1-3	J15

CONNECTION OF ADDITIONAL 2+2 OUTPUT MODULE

Connecting additional option cards to the motherboard



Note
For alarm connection use 2A and 2B for connection of newer devices (after approx. 2018). For older devices (before approx. 2018) use 3A-3C

Connection of additional option cards

Letter / No	On the card	Explanation
A	-	2+2 Output module.
B	-	2+2 Output module.
C	-	Motherboard, varies with configuration.
1 A	P1	Power supply from 1B.
1 B	P1	Power supply from C (motherboard).
2 A	J12	Bridging of alarms to card B.
2 B	See table below.	Connection of alarm on C (motherboard) from board A
3 A	P3:1-3	Jumper between card A and B.
3 B	P3:1-3	Alarm output switches on C (motherboard).
3C	P3:1-3	Alarm output is connected to C (motherboard).

P3:1-3 NC, COM, and NO

Alarms from optional cards are connected on the terminal block (on the motherboard)

On the card	Explanation
P3:1	NO
P3:2	Com
P3:3	NC

Motherboard	Terminal as an alarm from an optional card must be connected (on motherboard)
CEO3 v5	J27
NEO3	J5
PRO1	J13
PRO2 v3	J1
PRO3	J5

TECHNICAL DATA – 2+2 OUTPUT MODULE

Info	Explanation
Short name:	2+2 Output module
Product description	2+2 Output module is a hedging module with four fully secured outputs, two of which are prioritized and two are non-prioritized.
The product fits in	Battery backups with motherboards: PRO1, PRO2, PRO2 V3, PRO3 and NEO3.
Measure	85 x 37 mm
Own consumption	35 mA
Tension	24 V
Fuses	On exits.
Indication	Yes, LED on circuit board

Outputs

Info	Explanation
Alarm outputs, number	1
Alarm on alternating relay? (Yes No)	Yes, sum alarm in case of fuse fault
Alarm output protocol (communication protocol)	-
Load outputs, number, (of which priority).	4 (2)

Info	Explanation
Voltage at load output	27.3 V DC
Voltage limit, upper, on load output	27.9 V DC
Voltage limit, lower, on load output. For battery operation and disconnected mains voltage.	20 V DC
Priority (always voltage) load outputs (Yes / No)	Yes
Maximum load, per output	5 A
Maximum load, total, (must not be exceeded).	10 A
Load output plus (+) secured? (Yes No)	Yes
Load output minus (-) secured (Yes / No)	No
Fuses on output	F2A
Connection to buzzer? (Yes No)	No

The article number of the manual 350-162
Manufactured in Milleteknik's factory in Partille, Sweden.
This translation is not verified and should be cross-referenced with the Swedish original before use.

ABOUT TRANSLATION OF THIS DOCUMENT

User manual and other documents are in the original language in Swedish.
Other languages are machine-translated and not reviewed, errors may occur.

SUPPORT

Do you need help with installation or connections?

Our support phone is available: Monday-Thursday 08: 00-16: 00 and Fridays 08: 00-15: 00. Telephone support is closed between 11: 30-13: 15.

You will find answers to many questions at: www.milleteknik.se/support

Phone: +46 31-340 02 30
Support is open: Monday-Thursday 08:00-16:00, Fridays 08:00-15:00. Closed 11:30-13:15

Spare parts

Contacted support for questions about spare parts.

Support after the warranty period

Milleteknik provides support during the life of the product, but no longer than 10 years after the date of purchase. Replacement for an equivalent product may occur if the manufacturer deems that repair is not possible. Costs for support and replacement are added after the warranty period has expired.

Questions about product performance?

- **Contact sales**: 46 31-340 02 30,
- **e-mail: sales@milleteknik.se**

ADDRESS AND CONTACT DETAILS

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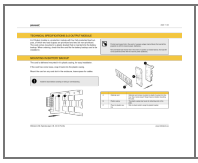
- **info@milleteknik.se**
- **www.milleteknik.com**
- **www.milleteknik.se**

Milleteknik AB, Ögärdesvägen 8 B, 433 30 Partille

Documents / Resources

	**milleteknik D29 2 Plus 2 Output Module** [pdf] Instruction Manual D29 2 Plus 2 Output Module, D29, 2 Plus 2 Output Module, Output Module, Module

References

- **User Manual**

Manuals+, **Privacy Policy**

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