

SB, 1-15DS Lenze I550 VFD + Brake Resistor, 2024-02

SYMPTOM/DESCRIPTION

After replacing the 50Hz drive motor with the 120Hz drive motor, at specific circumstances e.g. while the Shot blasting machine is driving down ramps or working downwards, it may stop working and the VFD (Variable Frequency Drive) displays error codes.

When the 120Hz drive motor is forced to turn due to a downward inclination it turns into a generator and starts feeding energy back to the VFD. The VFD cannot handle the entire generated energy going back and as a result of self-protection it switches off.

AFFECTED UNITS

Note: Only the old **Blue** Blastrac products are affected.

For the serial number range of the **E-box**, refer to the table in *Appendix A*.

CORRECTIVE ACTION

Replacing the VFD from I510 to I550 with brake resistor solves this.

PROCEDURE

Refer to *Appendix B*.

PARTS INFORMATION

What parts to order and how? *Order from EPC:*

1. Check the serial number range in the table to see which part(s) you actually need to order.
2. Scrap parts in local stock? - *No*
3. The I510 is not eliminated, kept as *Orderable*.
4. 50Hz drive motor is eliminated, *Not able to order, replacement is 120Hz*.
5. Update products in local stock? – *No*
6. Recall products from customers and update? – *No*
7. Update sold products during next service only if part has caused a problem or anyway? – *No, replace only if I510 VFD fails or if the customer complains about the aforementioned symptoms.*

WARRANTY INFORMATION

Normal warranty policy applies.

Revision History

Rev.	Date	Order id.	Description
A	2024-02	00039814	Created

Appendix A

Parts to order:

1-15DSG1 = Dual Voltage (US market)

1-15DS = Global (EU Market)

Product	Blue	Affected serial range E-Box	Programmed VFD i550	Brake Resistor (120Hz)	Wiring diagram I510 120Hz
1-15DSG1	970554001	From 20211062 Up to + 20211081	546043102	546043001	PJ.11.1065.06.0
1-15DS	970598901	From 20201660 Up to + 20201671	536978602	536978501	PJ20.1366.01



Old, Eliminated 50Hz drive motor

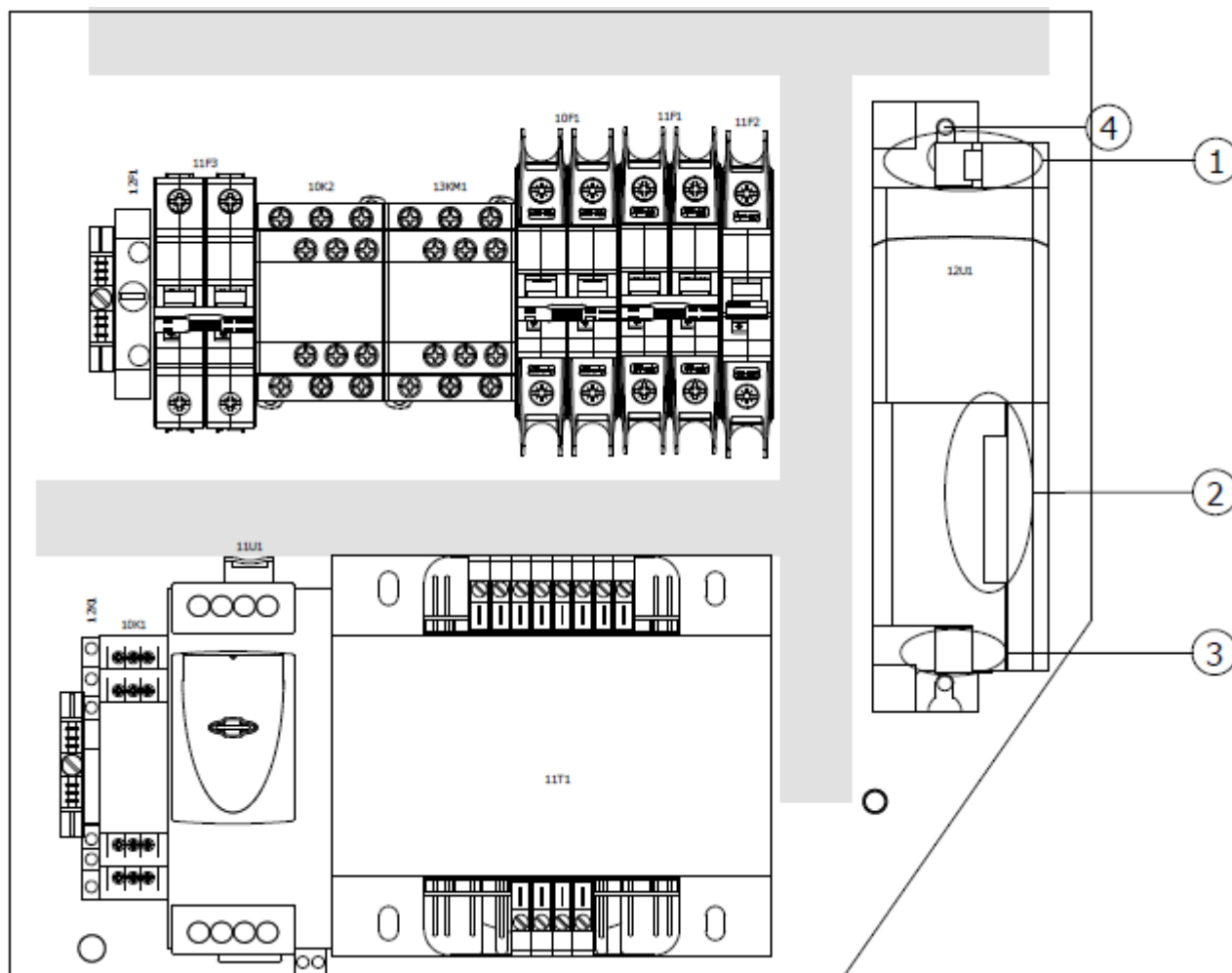


New, Active 120Hz drive motor

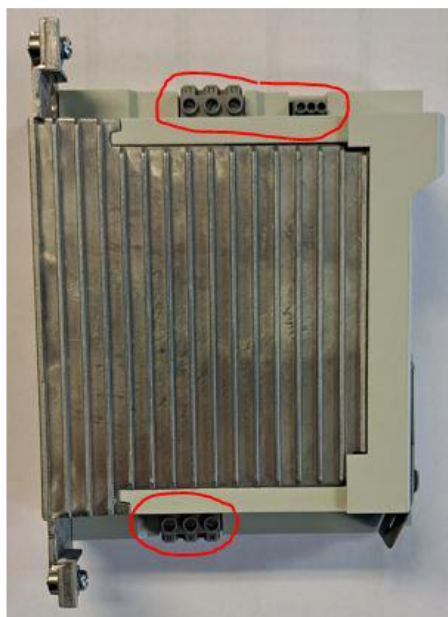
Appendix B

How to replace the I510 with an I550 + Brake Resistor.

1-15DS Dual Voltage (*PJ11.1065.REFIT*)



1. Take off the connectors with the power supply wires and motor brake wires.
2. Take off the control wires that are connected on the I/O block.
3. Take off the connectors with the motor wires.
4. Unscrew the VFD from the backplane.



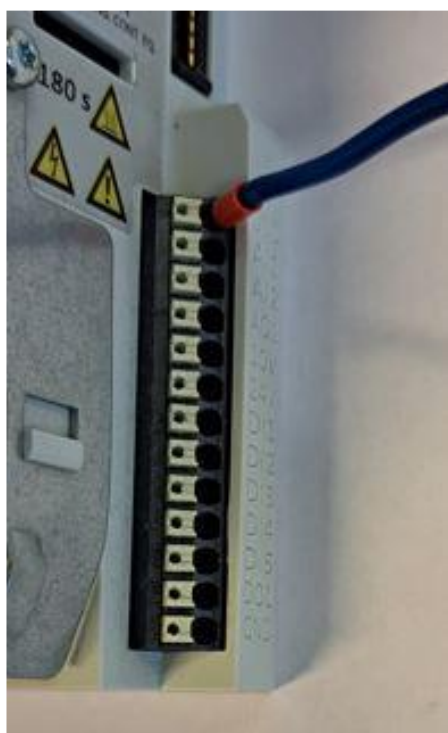
Connectors attached



Connectors detached



Connected control wire



Connected control wire

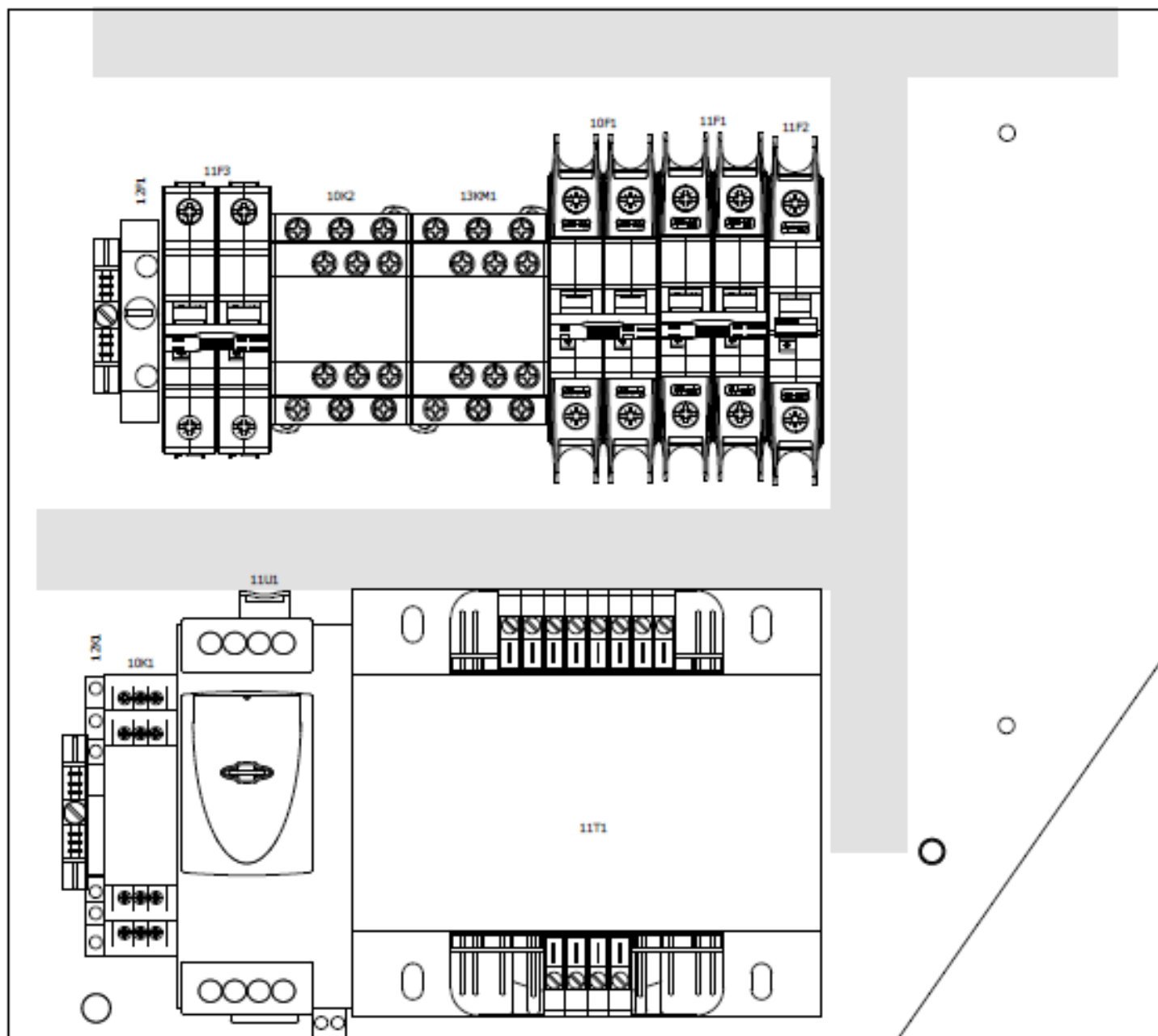


Push in connector with a screwdriver

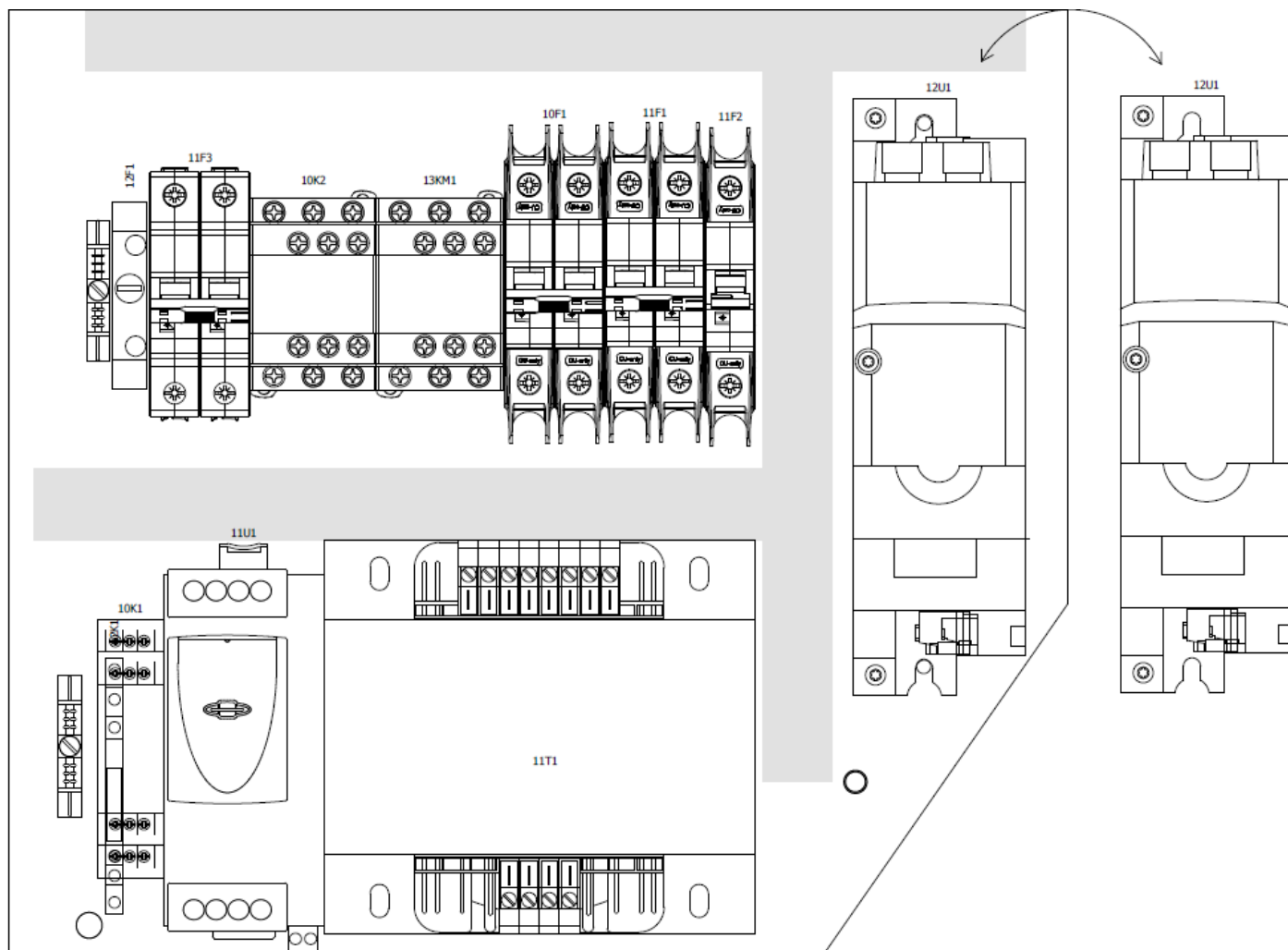


Pull out wire while pushing

After removing the I510 VFD.

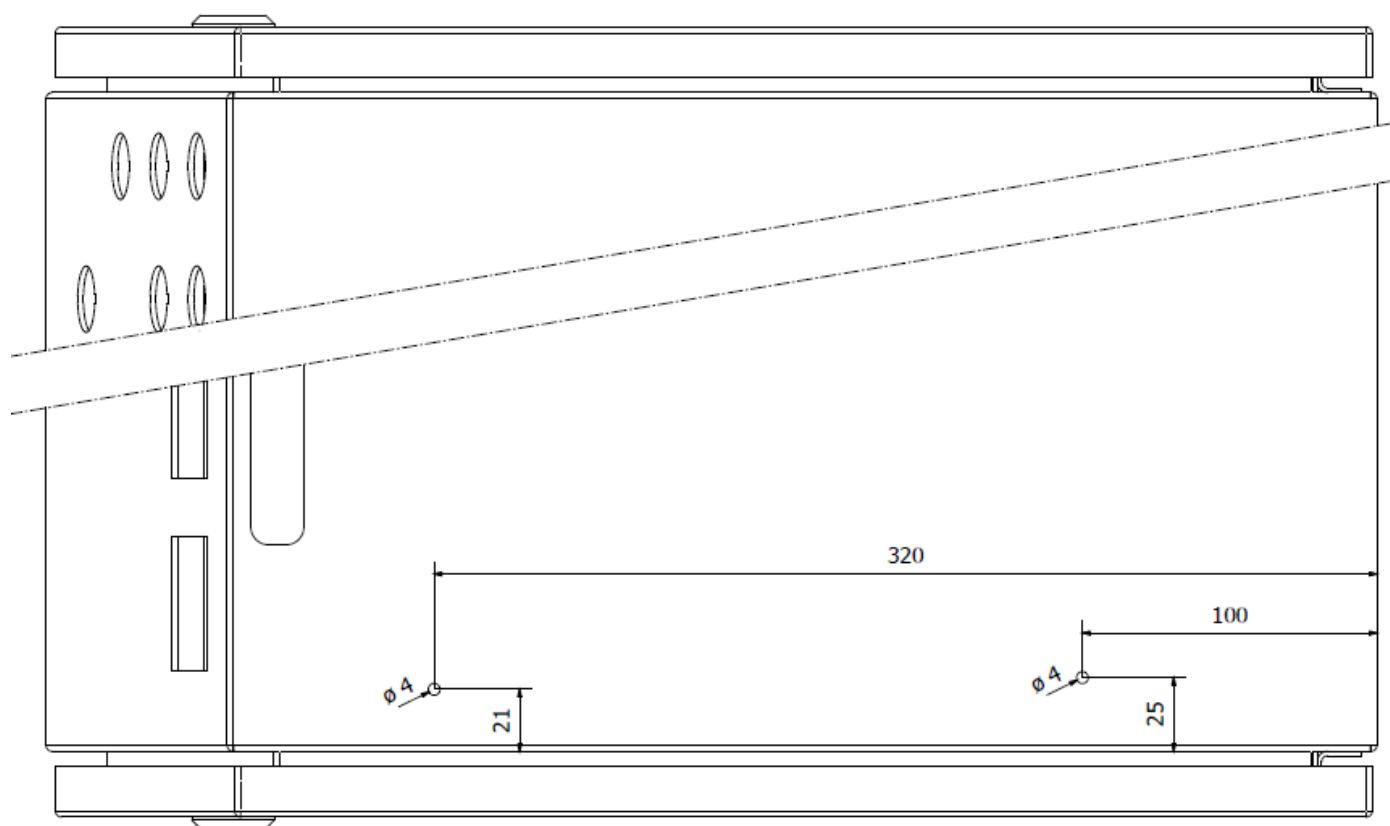


Mount the I550 drive with the screws in the same place where the I510 drive was mounted. The I550 has the same mounting dimensions as the I510.

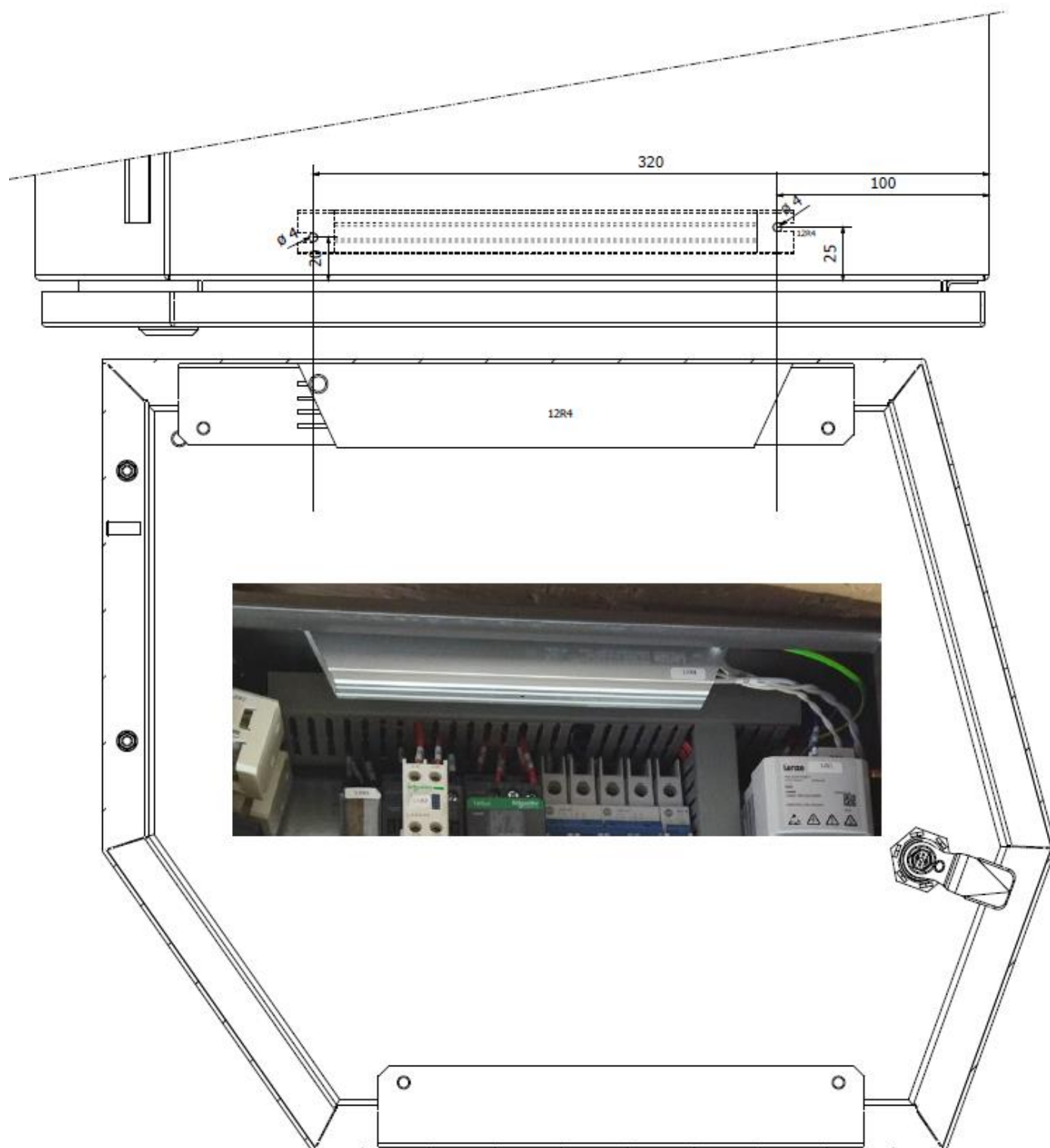


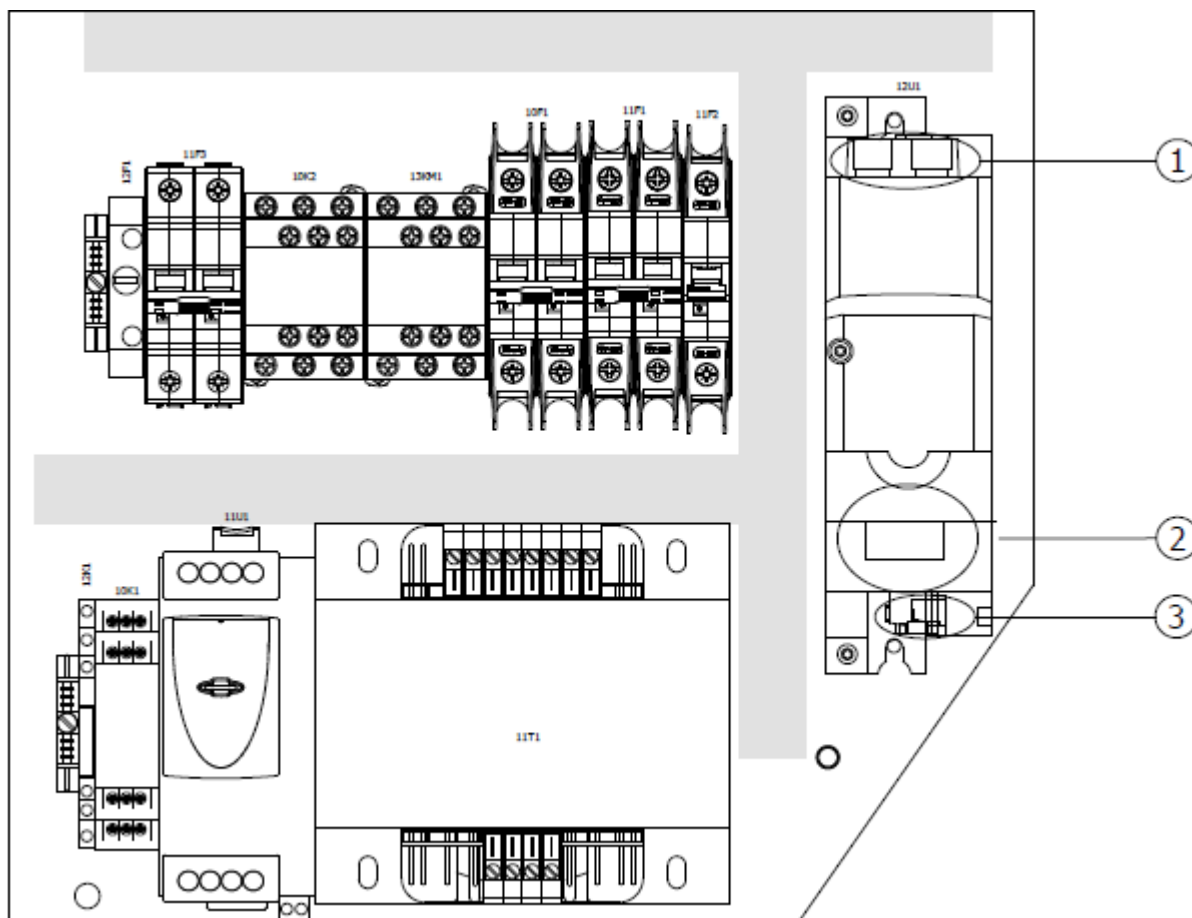
Drill 2 holes of 4mm according to the dimensions given here below for mounting the Brake resistor inside of the box.

- * Make sure that you protect the parts inside the box from the metal debris and dust that comes while drilling!**
- * Place some plastic foil over the parts before you start drilling!**



Mount the brake resistor at the newly drilled holes with M4 screws and tighten the M5 screws for the brake resistor.





1. Place the connectors with the power supply wires and motor brake wires.
2. Install the control wires that are connected to the I/O block.
3. Place the connectors with the motor wires.

Supply connectors and relay contact connectors



I510



I550

Motor cable connectors and Brake resistor connection



I510 (no brake resistor connection)



I550 (with brake resistor connection)

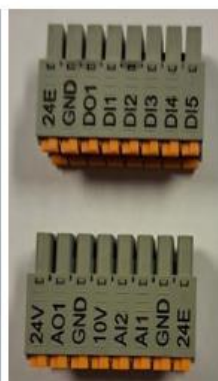
Control connections



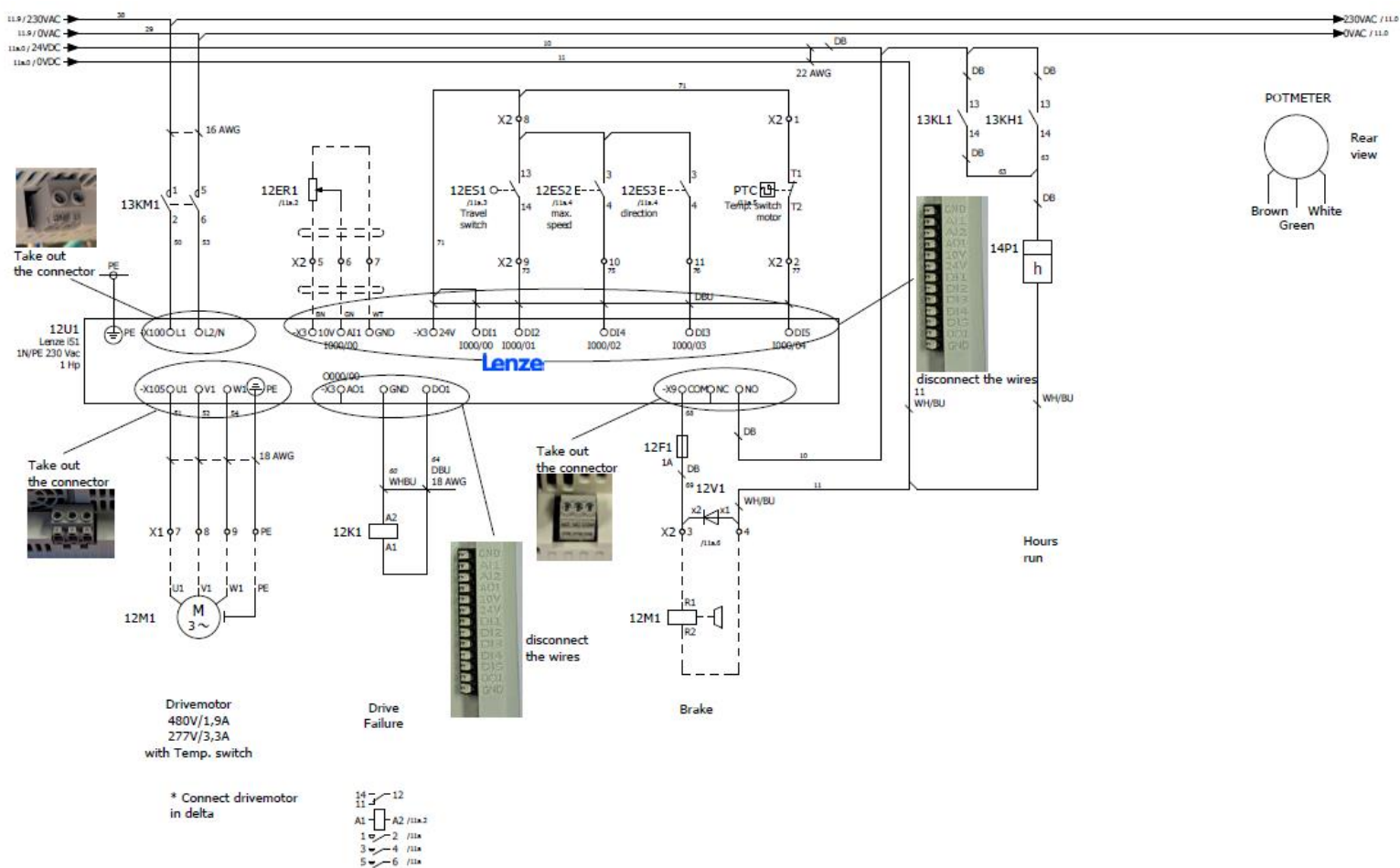
I510 has a fixed terminal

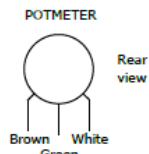


I550 has a detachable connector with connections at both side



**Reconnecting the wires to the newly installed VFD and BR.
Refer to wiring diagram "PJ11.1065.REFIT" on page 11 and 11a.**





1-15DS Dual Voltage - Overview E-Box, I510 without Brake Resistor.

Left side:

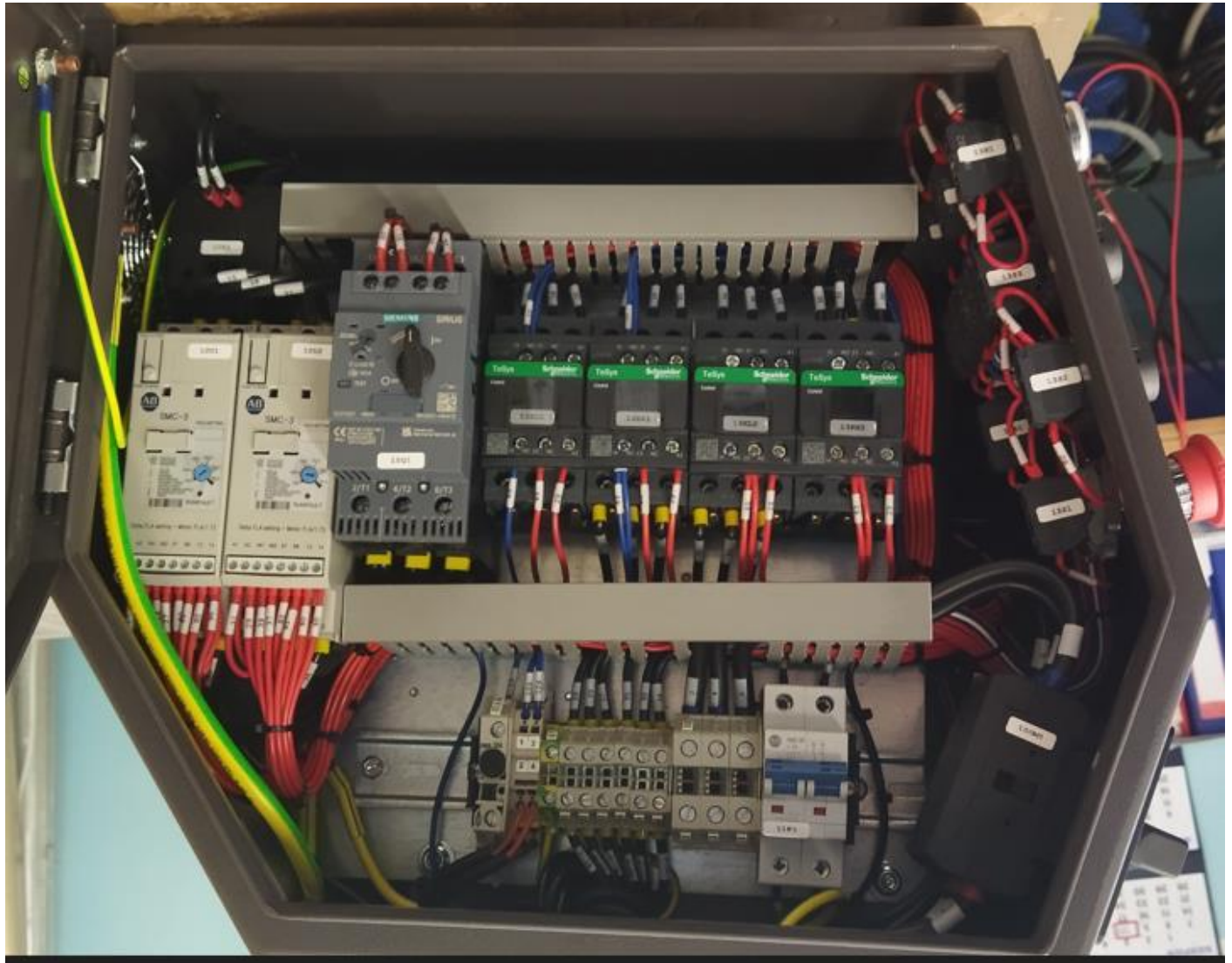


Right side:



1-15DS Dual Voltage - Overview E-Box, I550 with Brake Resistor.

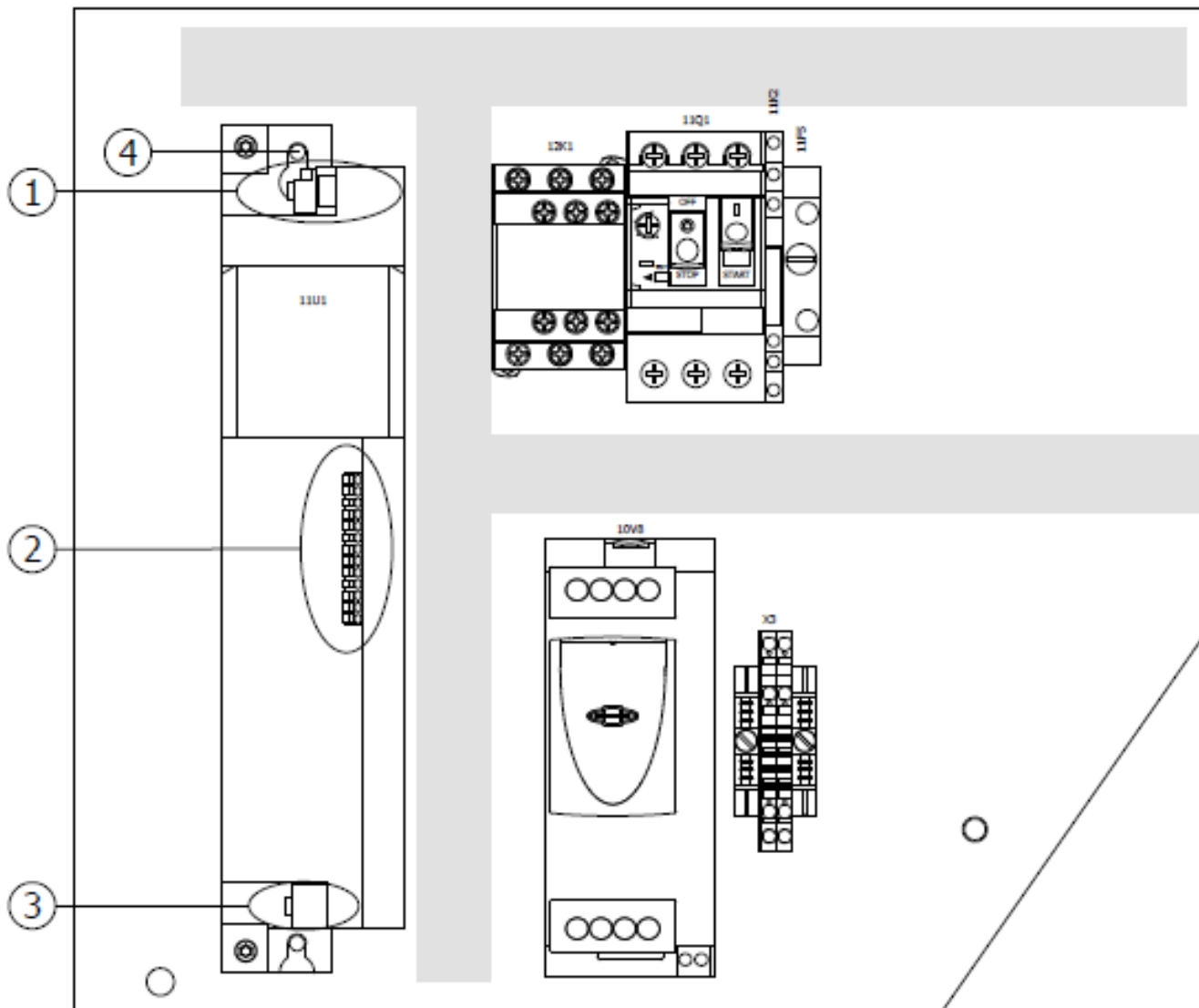
Left side:



Right side:



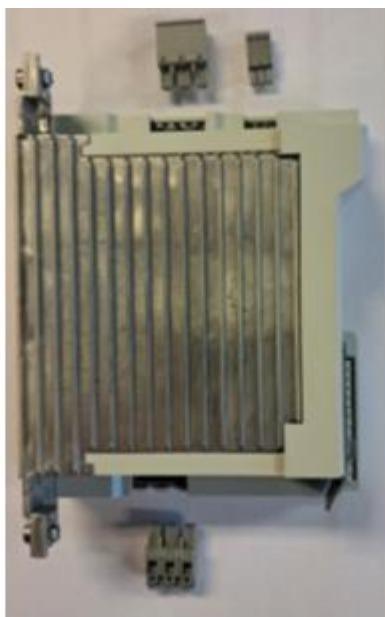
1-15DS Global (PJ20.1366.REFIT)



1. Take off the connectors with the power supply wires and motor brake wires.
2. Take off the control wires that are connected on the I/O block.
3. Take off the connectors with the motor wires.
4. Unscrew the VFD (drive) from the backplane.



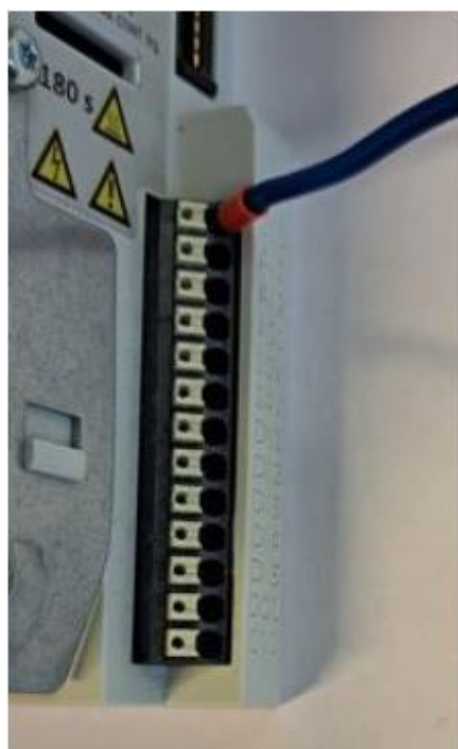
Connectors attached



Connectors detached



Connected control wire



Connected control wire

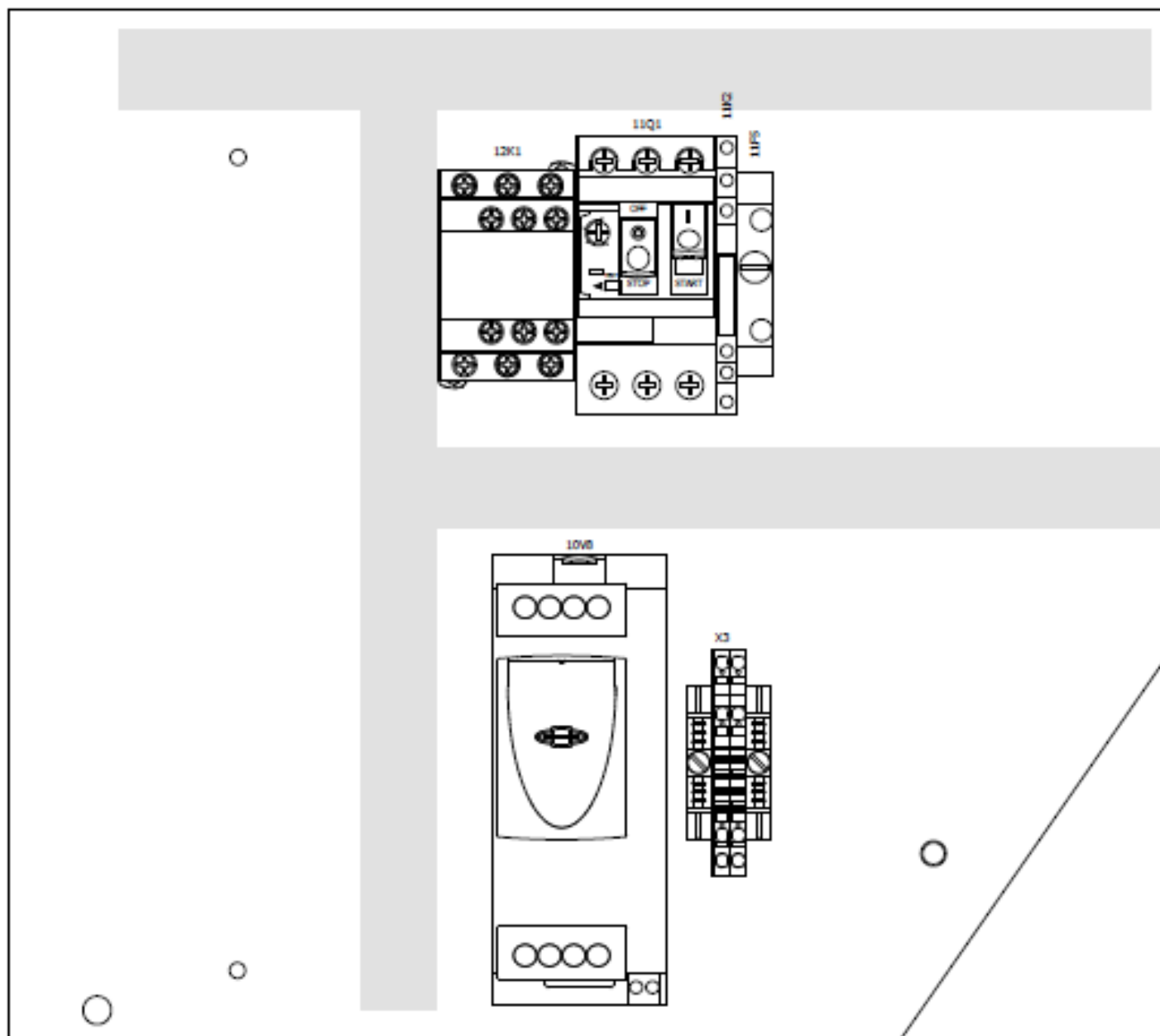


Push in connector with a screwdriver



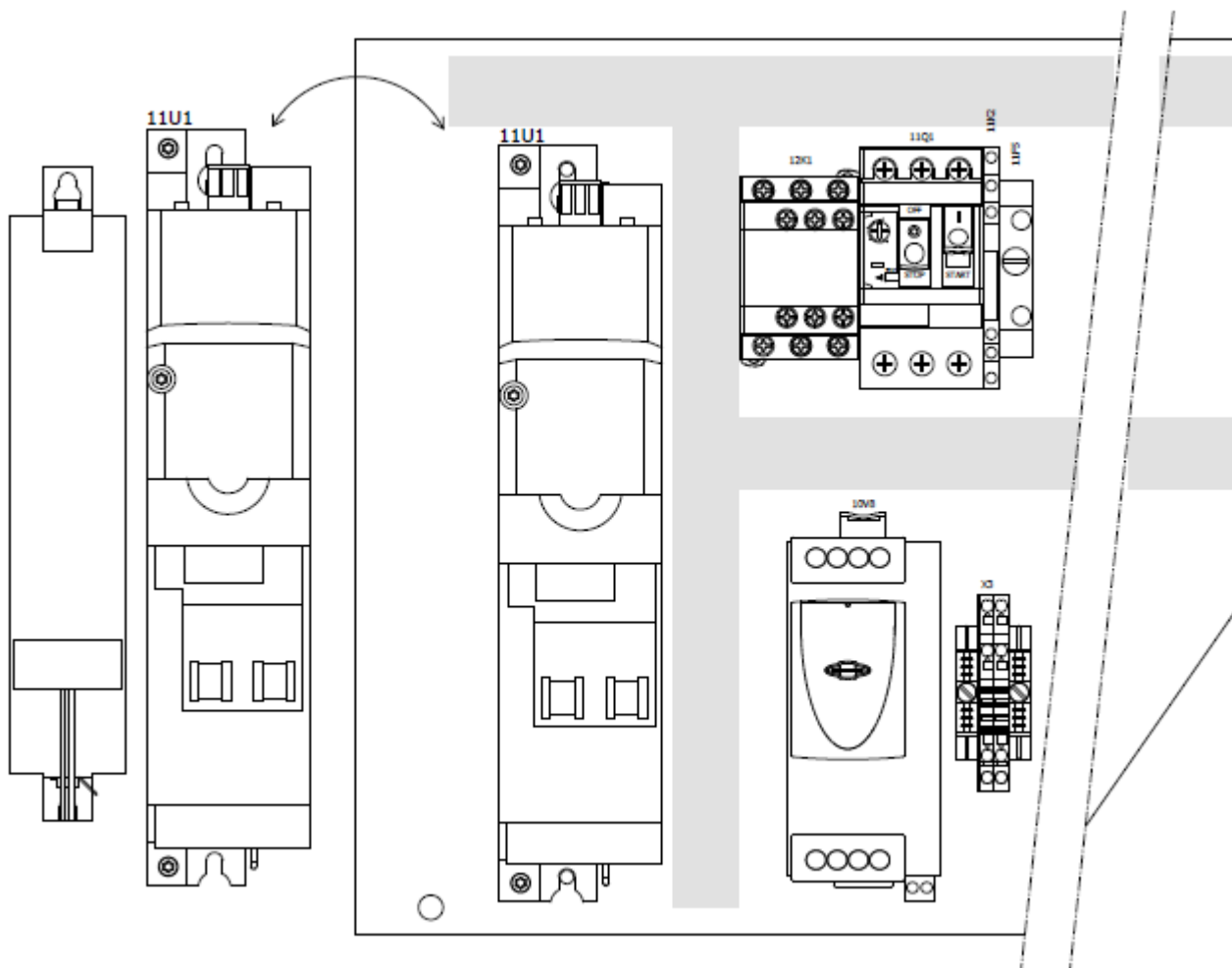
Pull out wire while pushing

After removing the I510 VFD.



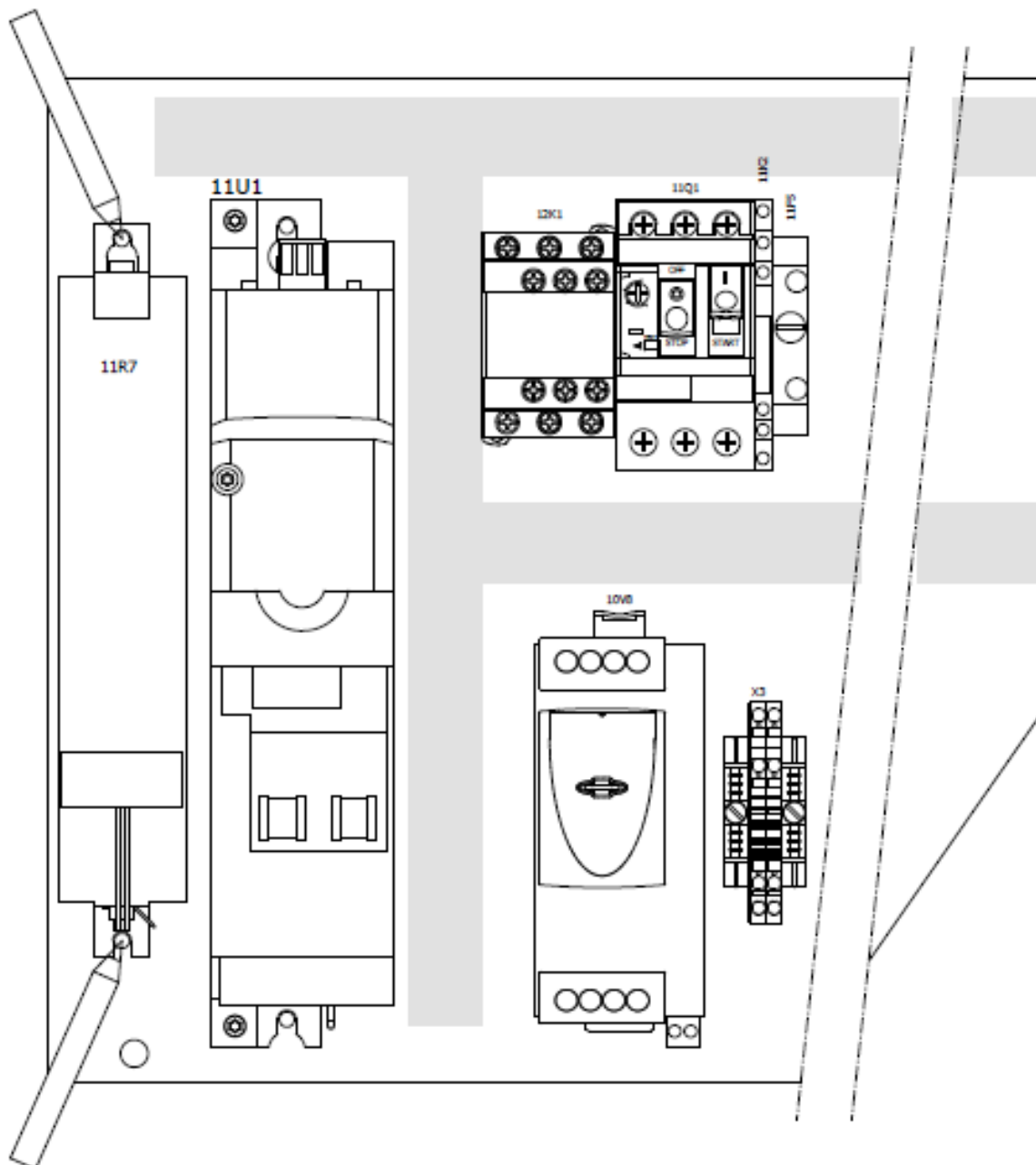
Mount the I550 drive with the screws in the same place where the I510 drive was mounted. The I550 has the same mounting dimensions as the I510.

* Do not tighten the screws too much because later the VFD will be taken out when drilling holes for the brake resistor.



Place the brake resistor next to the I550 frequency drive.
Make sure you have some space between the drive and brake resistor.

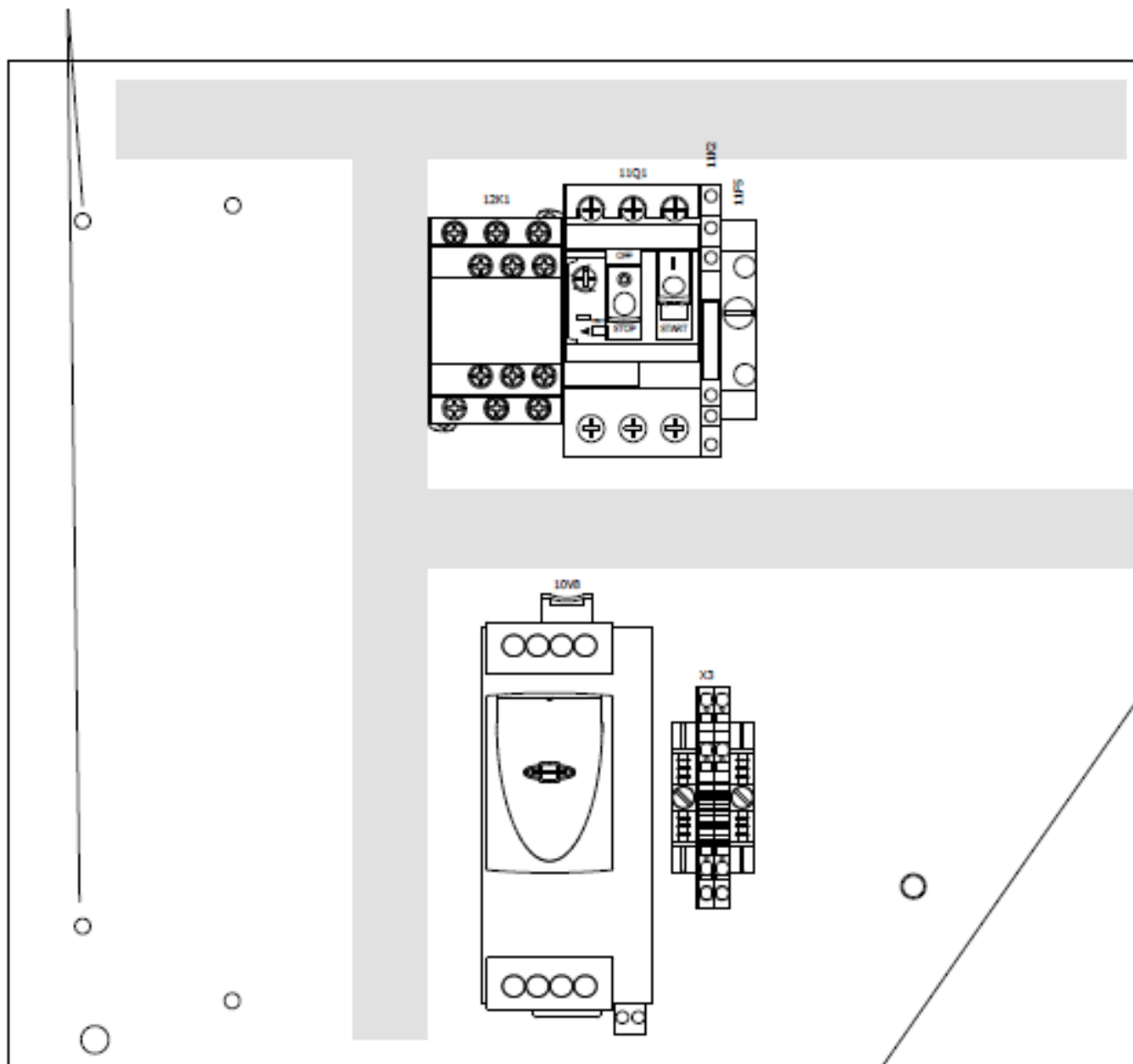
* With a marker you can now mark the place where you need to drill the holes for the M5 screws.



How it looks when ready to mount both units at there place.

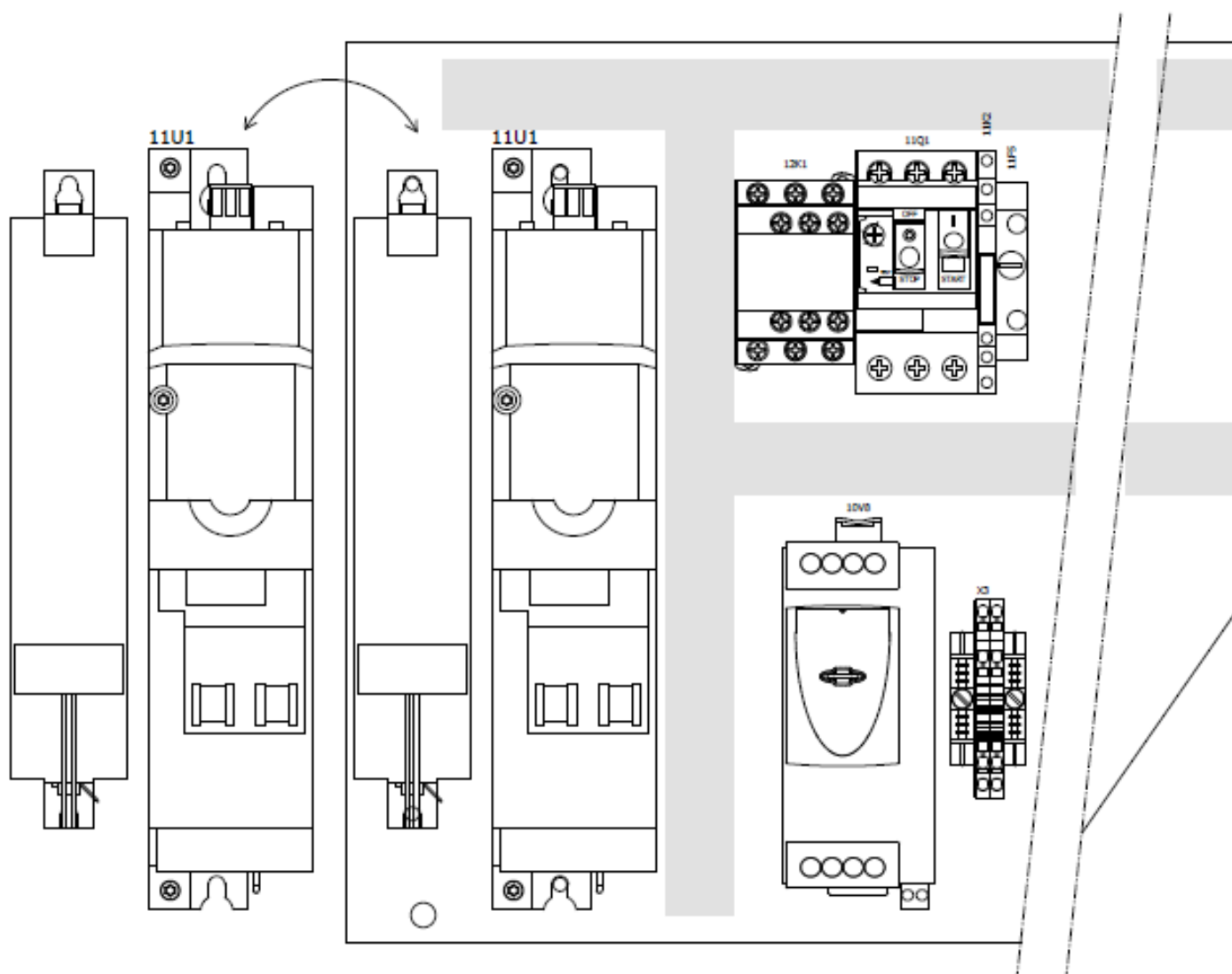
*** BE CAREFUL WITH DRILLING THE HOLES, THERE ARE OTHER PARTS MOUNTED ON THE BACKSIDE OF THE PANEL!**

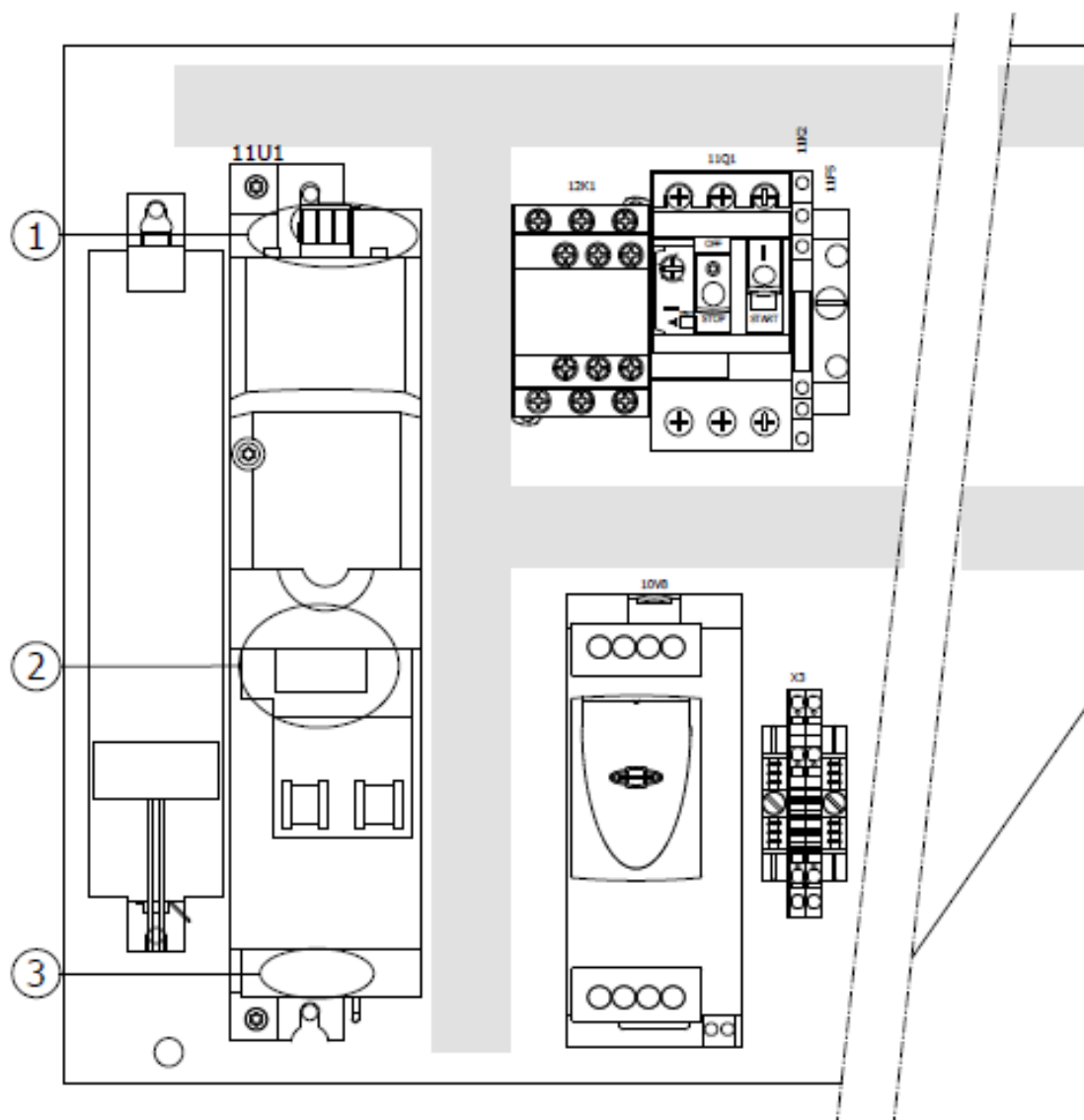
Now you drill two holes of 4,2mm and then tap them with M5 thread.



Mount the I550 drive with the M5 screws in the same place where the I510 drive was mounted.

Mount the brake resistor at the newly drilled holes with M5 screws and tighten the M5 screws for drive and brake resistor.





1. Place the connectors with the power supply wires and motor brake wires.
2. Install the control wires that are connected to the I/O block.
3. Place the connectors with the motor wires.

Supply connectors and relay contact connectors



I510



I550

Motor cable connectors and Brake resistor connection



I510 (no brake resistor connection)



I550 (with brake resistor connection)

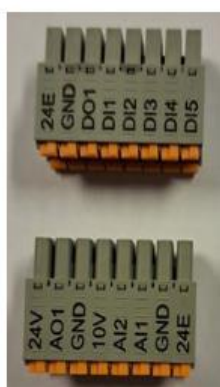
Control connections



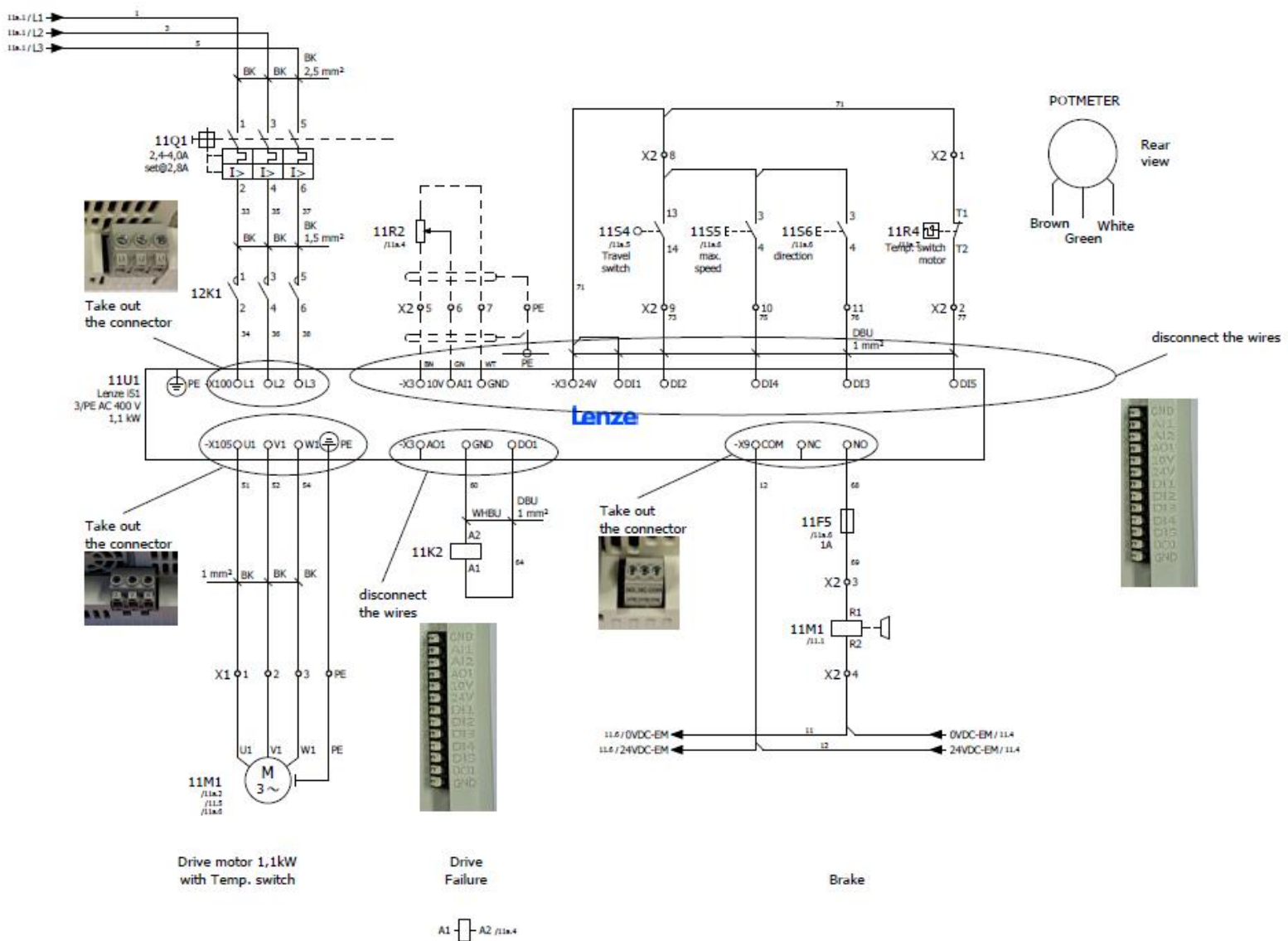
I510 has a fixed terminal

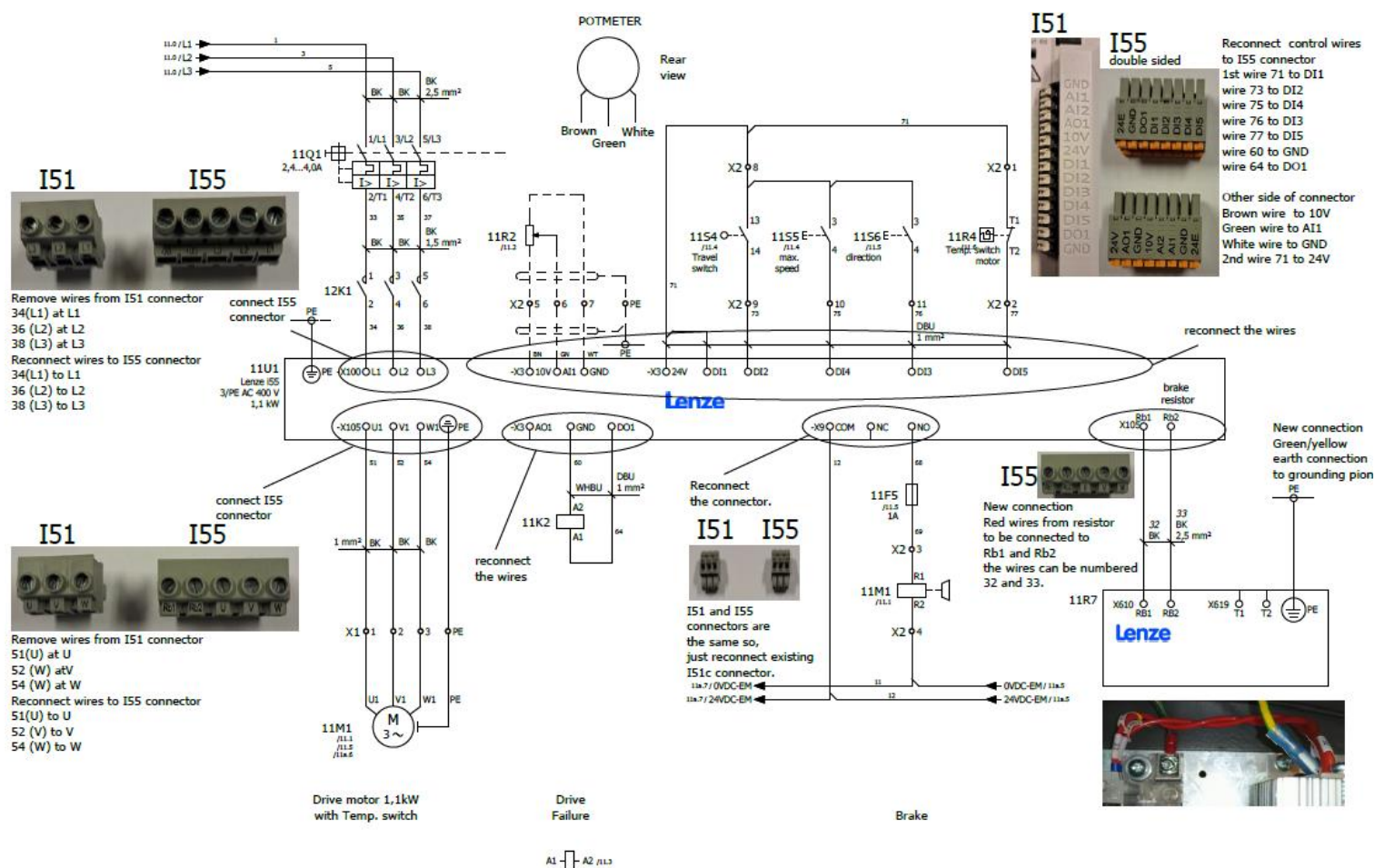


I550 has a detachable connector with connections at both sides



**Reconnecting the wires to the newly installed VFD and BR.
Refer to wiring diagram "PJ20.1366.REFIT" on page 11 and 11a.**





1-15DS Global - Overview E-Box, I510 without Brake Resistor.

Left side:

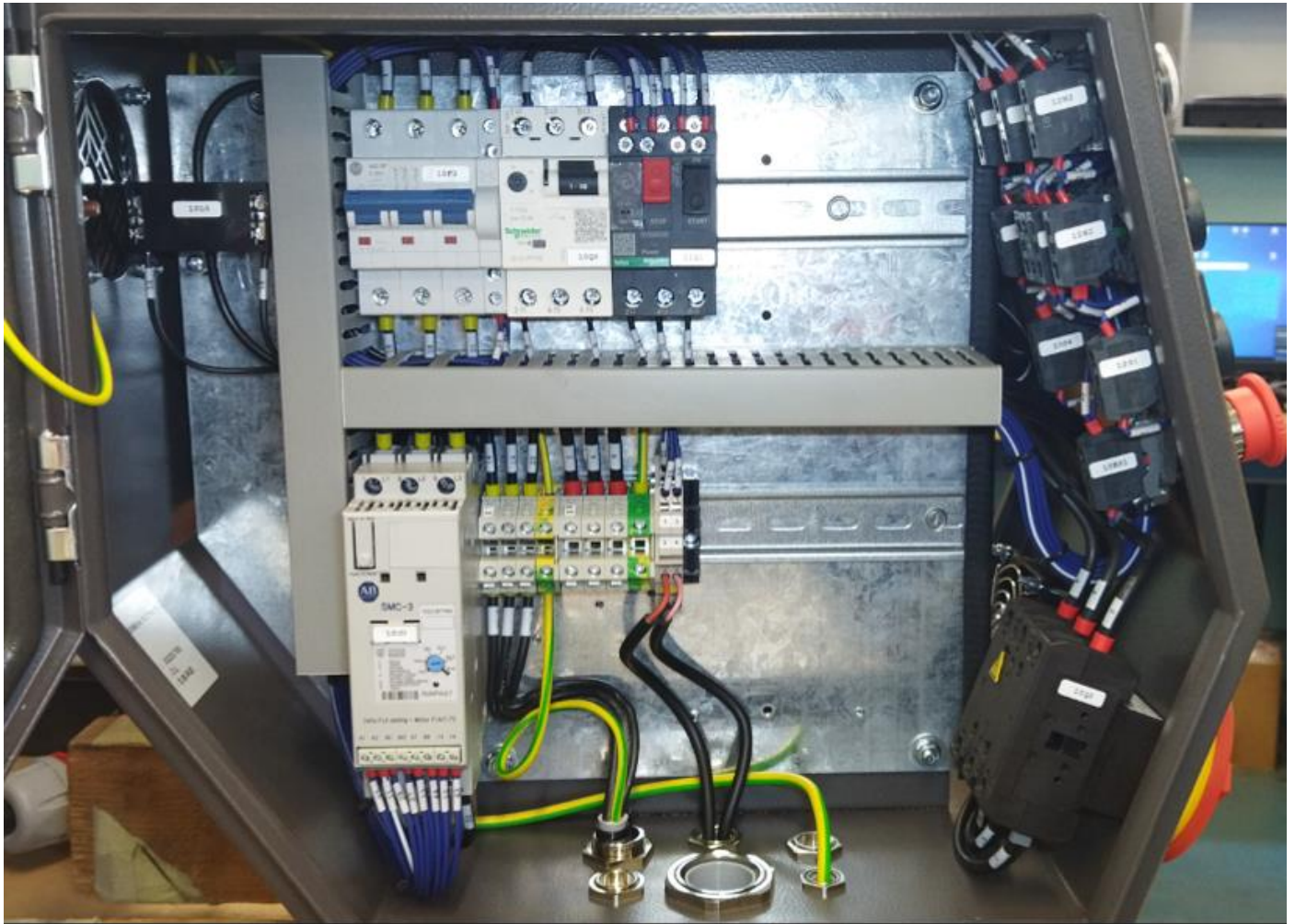


Right side:



1-15DS Global - Overview E-Box, I550 with Brake Resistor.

Left side:



Right side:

