SERVICE MANUAL

Turbo Deli Rotisserie

MODELS

TDR 5m
TDR 5p
TDR 7 m
TDR 7 p/i

Model TDR 7 p

- NOTICE -

This manual is prepared for the use of trained Service Technicians and should not be used by those not properly qualified. If you have attended a training for this product, you may be qualified to perform all the procedures in this manual.

This manual is not intended to be all encompassing. If you have not attended a training for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained technician.

fri-jado

EMPTY PAGE

Versions		
Version	Issue date dd/mm/yy	Remarks
2020	pre-release	Merging of previous manuals from TDR m, TDR p and TDR i. Addition of TDRp with 9192400 pcb board
20210415	15-04-2021	First release
20210430	30-04-2021	Minor changes
20221118	15-11-2022	Dimention height TDR 7+7 from 82 to 82⅝

INDEX

This manual covers the TDR electric oven models.
All of the information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing.

TECHNICAL DATA

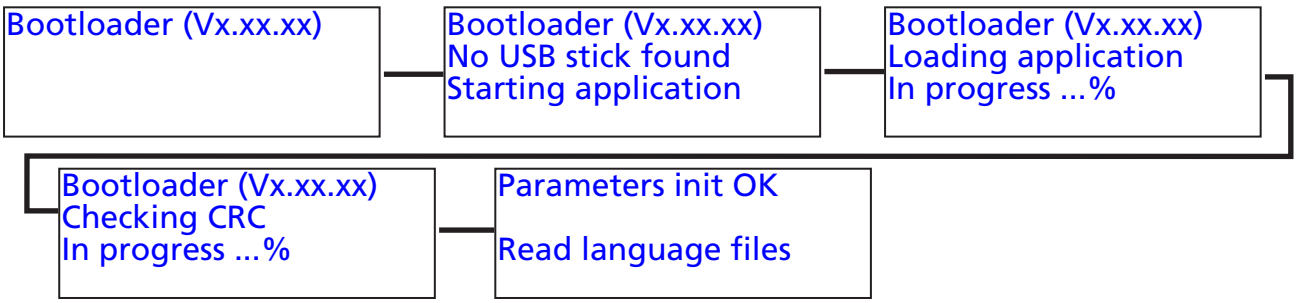
American Models		**TDR 5**	**TDR 7**	**TDR 5+5**	**TDR 7+7**
Dimensions					
-	Width	33 inch	39 ¼ inch	33 inch	39 ¼ inch
-	Depth	28 inch	32 ¾ inch	28 inch	32 ¾ inch
-	Height	35 ¼ inch	41 ¼ inch	70 inch	82 ⅝ inch
Weight					
-	Gross	353 lbs	463 lbs	661 lbs	937 lbs
-	Net	287 lbs	408 lbs	586 lbs	827 lbs
Maximum ambient temperature	95 °F	95 °F	95 °F	95 °F	
Sound pressure	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)	
Electrical installation	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
-	Required power	6.6 kW	10.5 kW	2x 6.6 kW	2x 10.5 kW
Length of power cable approx.		75 inch	75 inch	75 inch (2x)	75 inch (2x)
Delivery connection	Voltage	3~ 208 V	3~ 208 V	3~ 208 V	3~ 208 V
-	Max. nom. current	18.9 A	30.8 A	2x 18.9 A	2x 30.8 A
Plug		NEMA15-30P	NEMA 15-50P	2x NEMA 15-30P	2x NEMA 15-50P
	Recommended breaker	20 A	35 A	20 A	35 A
Single phase connection	Voltage	1~ 208 V	1~ 208 V	1~ 208 V	1~ 208 V
	Max. nom. current	32 A	51 A	2x 32 A	2x 51 A
	Recommended breaker	35 A	60	35 A	2x 60 A

Tools

- Standard set of tools.
- Metric wrenches, sockets and hex socket key wrenches.
- Multi-meter and AC current clamp meter.
- Temperature tester.
- Insulation value tester (Megger).
- Field Service Grounding Kit.

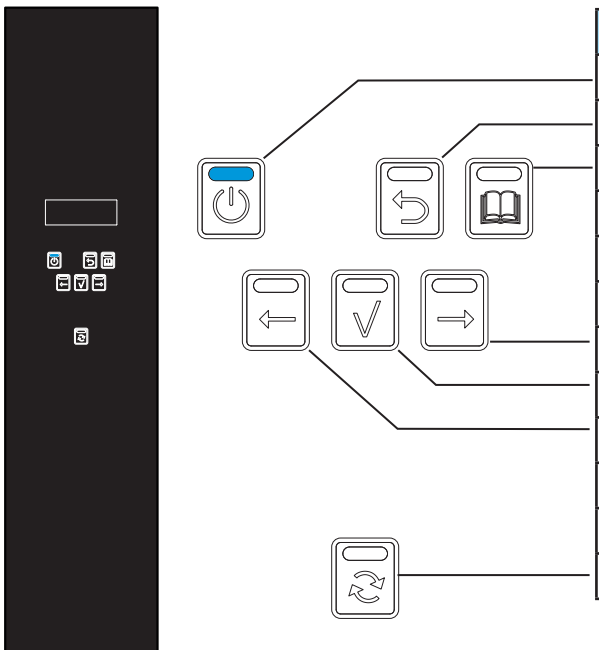
CONNECTING MAINS POWER

Messages on screen when connecting mains power.
Note the bootloader version.



OVERVIEW OF CONTROL PANEL

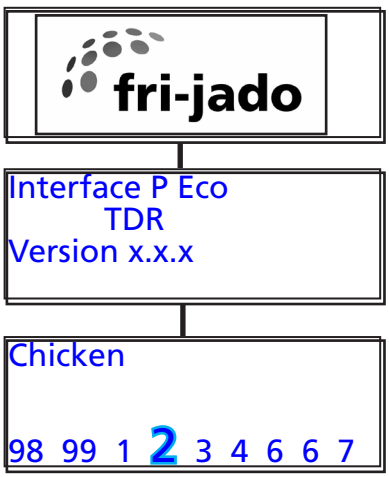
Functional keys are lit. In this case only the On / Off key. (mains is connected)



Key	Function
ON / OFF	Switching the unit on / off (3 sec)
UNDO	Go back to previous menu
LIST	Recipe / Programming modus
FORWARD	One step ahead in choice / setting
OK	Acknowledge a function or change
BACK	One step back in choice / setting
ROTOR	Switching the rotor ON

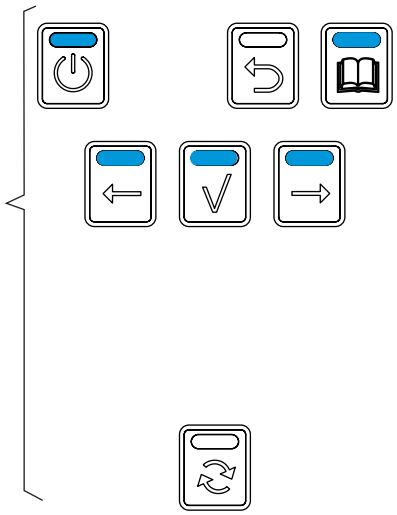
SWITCHING ON

Push to switch on. (push 3 seconds to switch off)
The following messages appear.
Note the software version (firmware)



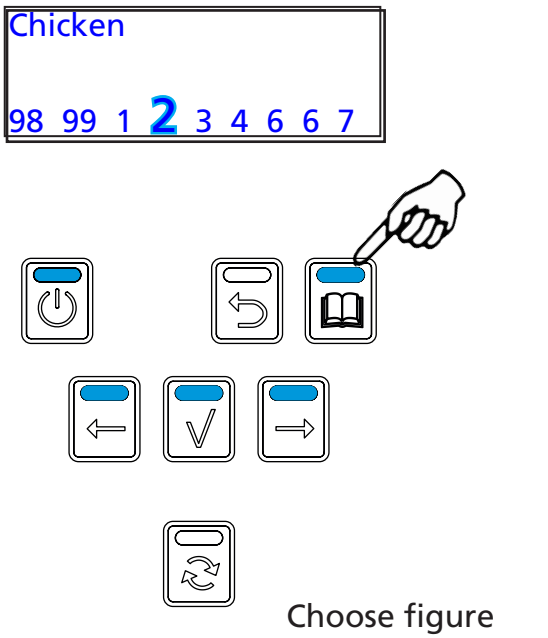
Rotisserie in “ON” position.

The keys are only illuminated when more than 2 programs are stored.



ENTERING THE MANAGER OR SERVICE MENU

Entering the manager menu

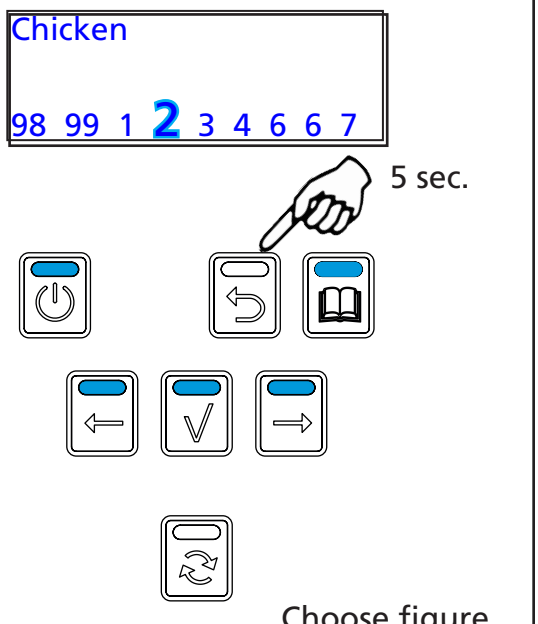


The following options appear on the bottom line.

Usb - Programming- Parameters- Change pin- Clock- Transfer- Version.

Select an option with ◄ ► and confirm with √

Entering the service menu



The following options appear on the bottom line.

Usb - Function- Parameters- Clock- Counter- Operation- User pin- Fault- Test Prog- Set Demo On.

Select an option with ◄ ► and confirm with √

Options in the manager menu

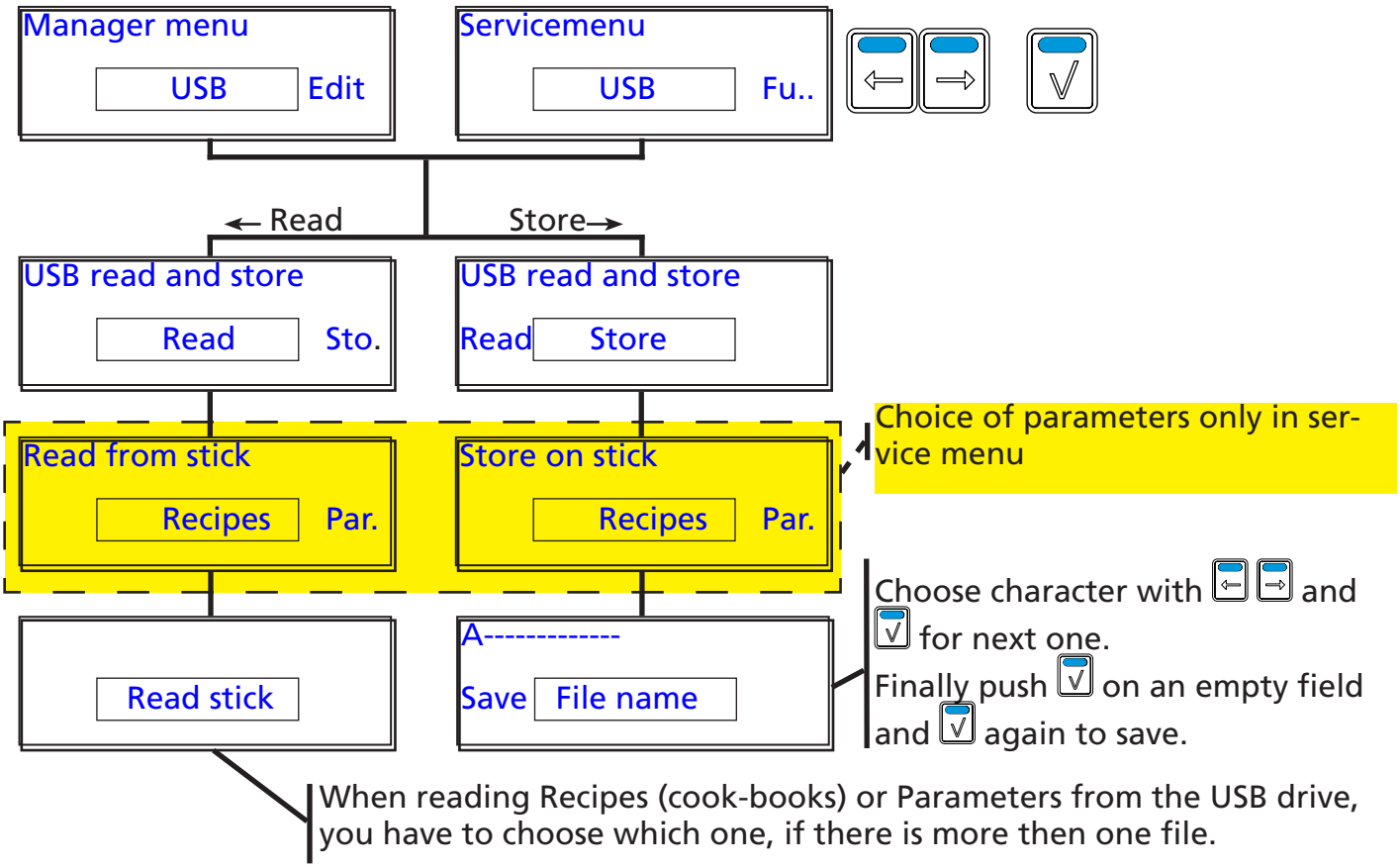
Option	Description
USB	Store cook-books to USB, or Read cook-books from USB
Programming	Make, edit or delete cooking programs
Parameters	Edit manager parameters. (service parameters include these as well) See manager parameters below.
Change pin	Pin 0000 gives free access. Default Pin code is 1111. Only active if in the service menu, the <user Pin in use> parameter is set to <Y>
Clock	Set time / date and format time / date (12 / 24 clock)
Transfer	Stores error log and parameter settings on 2 separate files on USB
Version	Shows the software version

Options in the service menu

Option	Description
USB	Store cook-books and / or parameters to USB. Read cook-books and / or parameters from USB.
Function	Function test of inputs and outputs, including the keypad
Parameters	Edit manager parameters.
Clock	Set time / date and format time / date (12 / 24 clock)
Counter	In this menu you can view the total working hours of the fan, gearbox and heaters. After replacing one of these parts you have to set the counter on zero again.
Operation	In this menu you can view the total hours of operation of the rotisserie. This value is not resettable.
User pin	In this menu you can view the current set pincode. This code can only be viewed and not changed.
Fault	In this menu you can view all occurred errors and, if applied, in what cooking program.
Test prog	In this menu you can start a test program. This fixed program has one cooking step of 250°C for 20 minutes and a holding program of 85°C and 10 minutes.
Set demo on	In this menu you can set the machine into a demonstration mode. In demonstration mode the machine will not turn the heating elements on and will simulate the machine heating.

THE USB OPTION READ AND STORE (COOK BOOKS OR PARAMETERS)

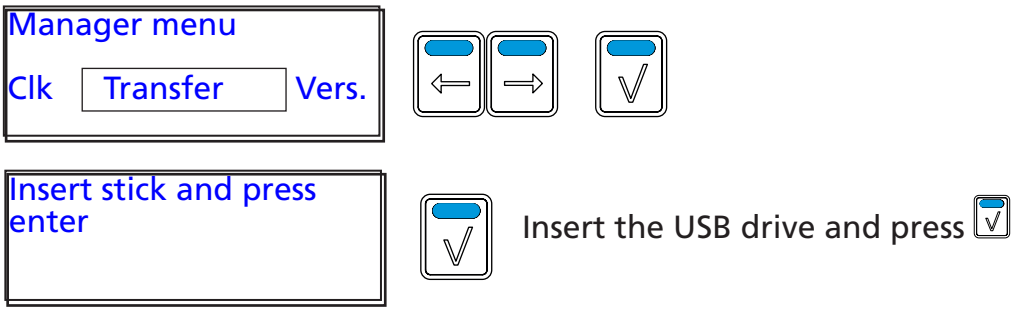
Enter the manager or service menu as described before.
Also see chapter "Files on USB drive"



Cook-books are stored or red from the folder "PROGRAMS" .
Parameters are stored or red from the folder "PARAMETERS".
The files are .csv files

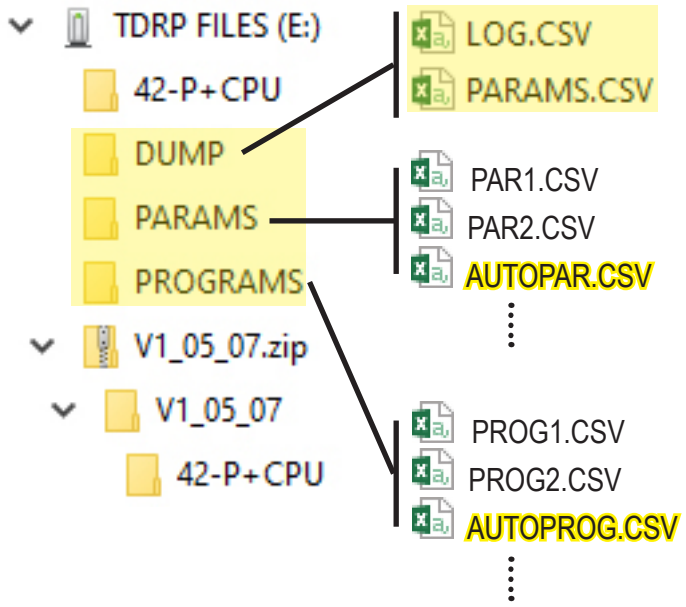
THE USB OPTION TRANSFER (ERROR LOG AND PARAMETER SETTINGS)

Enter the manager menu as described before.
Also see chapter "Files on USB drive"



2 files are being stored in the folder "DUMP".
These are "log.csv" and "params.csv"

FILES ON THE USB DRIVE (STRICT RULES)



These files can be found on the USB drive regarding the TDRp.

The highligted folders and files are fixed and made by the TDRp controller.
The other files can be named by yourself, but there are strict rules.

Note that all files are .csv files and can be red or modified with applications like excell.

The parameter files in "DUMP"and "PARAMS" contain the complete parameter list, including the service parameters.

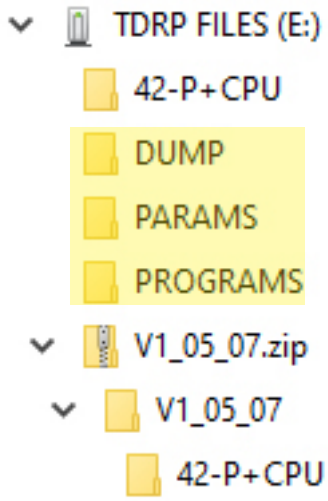
The files in "PROGRAMS" contain a list of recipes.

Automatic uploading of parameters and programs.
Be sure that the parameters and programs are copied in files with the names "autopar" or "autoprog" on a USB drive.
Put the USB drive in the socket and switch ON the rotiserie. Wait for the message to take out the USB drive.

Strict rules for folders and files on the USB drive.
- Own made programs have to be put in the folder "PROGRAMS".
- Customized parameter lists have to be put in the folder "PARAMS".
- The name of a file may not exist of more than 8 characters and can't have a space between the characters.
- It is not allowed to have an open line in the "excell"recipe list.
- All file names must have the extension ".csv".

When the message "files not found" is indicated on the display, one of the above might not be in order.
Also malfunction of the USBdrive can occur.
A software update might help too.

UPDATING SOFTWARE TDRP



Updating the software can be done:
- When certain features come available
- When a bug is fixed.
- When the controller is acting strange or crashed

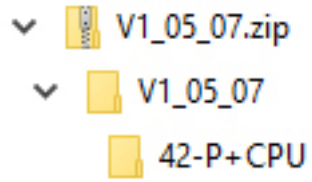
The zip file with the latest software can be found on the Fri-Jado website.
At the moment of writing, this is version V1_05_07.
It is not necessary to place this zip file on the USB drive.
The folder 42-P+CPU however must be copied or moved directly on the USB stick. Not in a folder deeper!

See update procedure on next page

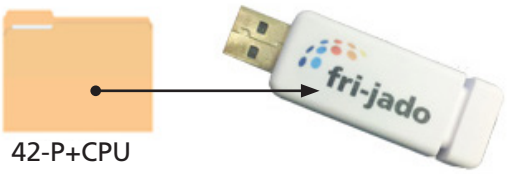
Preparing the software (firmware)

The software comes in a .zip file. The name corresponds with the version of the software. For example: *V1_05_07.zip.*

1. Extract the zip file

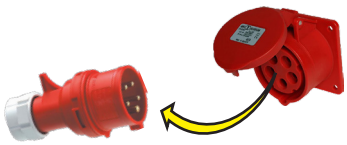


2. Copy or move the folder "*42-P+CPU*" to the USB drive.



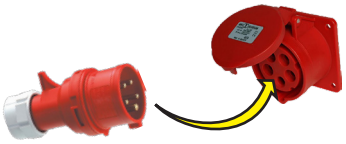
Updating the software (firmware)

1. Disconnect the mains supply



2. Connect the USB drive.

3. Connect the mains supply



4. The following messages appear

Bootloader version V1.01.02
-USB stick found
starting upgrade

-Checking CRC
In progress

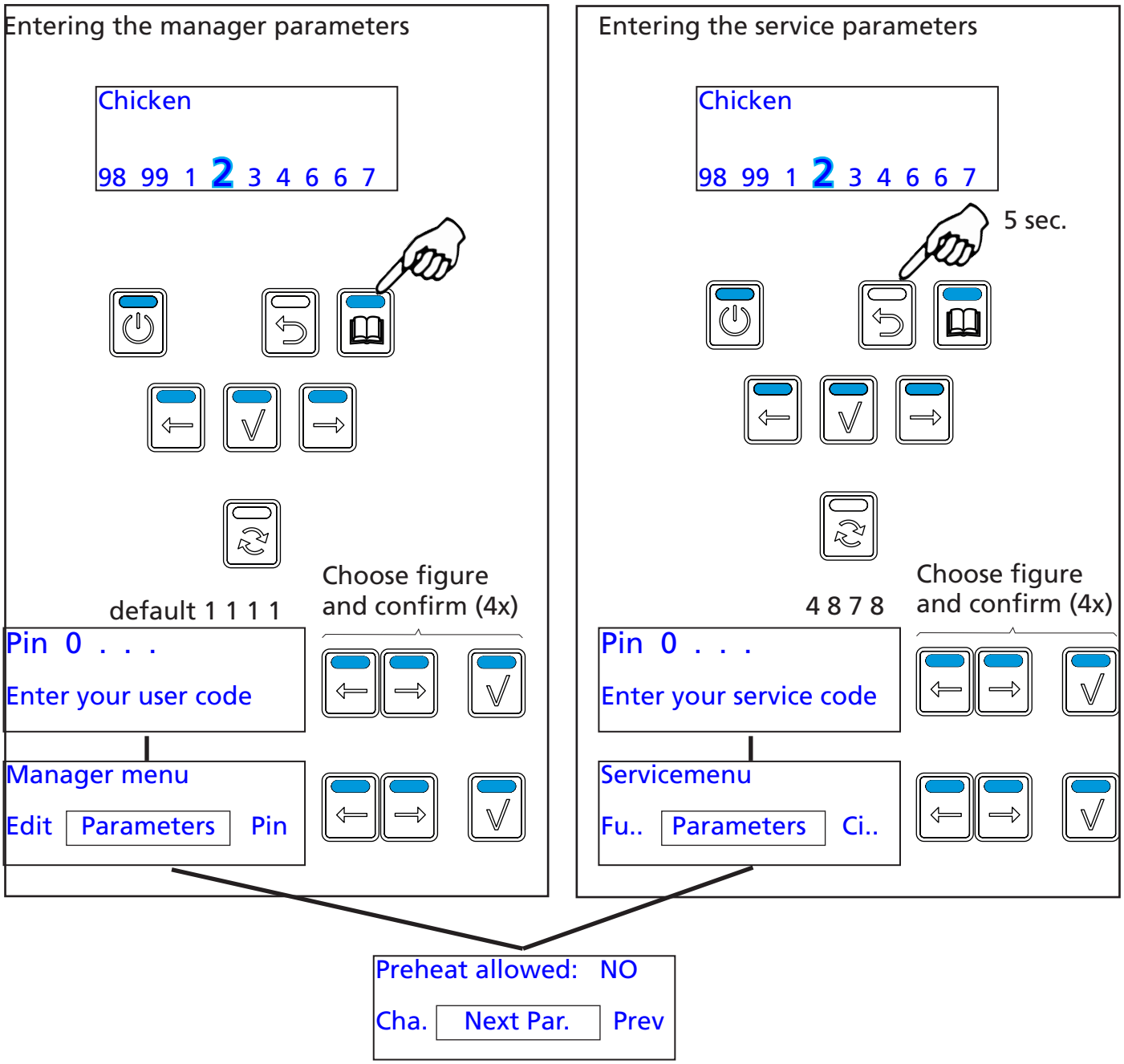
-Copying file
-Loading application

-Checking CRC

-Please remove USB stick
to start application

5. Disconnect the USB drive.

MANAGER AND SERVICE PARAMETERS



Use ☑ and <Next Par.> to scroll through the parameter list.

Push ⇐ for the < Change> option and confirm ☑.

Use ⇐ ⇒ and ☑ to change and jump back to <Next Par>

Use ⇐ ⇒ to scroll to <Save>, confirm with ☑ and confirm again with ☑

Use ↩ to step back (undo) if applicable.

Note that the manager menu only shows the green fields from the list below.

DESCRIPTION OF PARAMETERS

In the manager menu, only the green parameters are visible

Parameter	Description
Preheat allowed	Enables or disables a preheat step prior to the cooking program (steps) Yes > Preheat is allowed. In the cooking program you can still choose whether or not to preheat. No > Preheat is disabled.
Preheat temp	This is the default preheat temperature setting. Can be changed in the cooking program.
Holding allowed	Enables or disables a warm hold step at the end of the cooking program. If “no” is selected holding is not possible, even if there is a program with a holding tep.
Holding temp	This is the default holding temperature setting. Can be changed in the cooking program.
*Cook correction Cook corr. option	Enables or disables the cook correction function. See description below.
Cook cor. fact.	
* Eco function Ecocook option	Enables or disables the Eco mode. The heating is being switch of a few minutes before and the accumulated heat of the cooking cavity will be used to finish the product. The cooking time wil be a few minutes longer.
Ecocook var.	This parameter alows to set the variable of the ecocook. Var. adjustable from 1 to 9. This is the percentage of the total cooking time.
Language	Choose of available language.
Big digits	Choice for big digits on the display during preheat, cooking and hold cycle.
Sound preheat T1	Choice of sound at the end of the preheat step. You can choose 3 different sounds (T1-T2-T3) and the level of the sound (up to 4 white blocks) or no sound (no white block).
Sound step T2	Choice of sound at the end of the first grilling step. You can choose 3 different sounds (T1-T2-T3) and the level of the sound (up to 4 white blocks) or no sound (no white block).
Sound done T2	Choice of sound at the end of the grilling step(s). You can choose 3 different sounds (T1-T2-T3) and the level of the sound (up to 4 white blocks) or no sound (no white block).
Temp. unit:	Choice of Celcius (°C) or Fahrenheit (°F).
Boost allowed	Possibility to add extra cooking time in minutes at the end of the cooking cycle.
User PIN in use	N → No pin code will be asked for the manager menu Y → Unless changed, the default pincode 1111 will be asked. 0000 will still be free access

1 Only visible when “Cook Corr. option” in Service Menu is set on “yes”
2 Only visible when “Ecocook option” in Service Menu is set on “yes”

Parameter	Description
Lights out	Choice of lighting during opening of the door in standby position. Y → The lights will go on for 20 seconds.
key beep	choice for beep or no beep, with key operation.
Temp. offset	Temperature offset of PT1000 sensor. Example: at a set point of 180°C (355°F) and an offset of -20°C (-35°F) , the oven cavity will be controlled on 200°C (390°F)
Key sens	Adjustment of the sensitivity of the keys. Sensitivity is highest on value 1 and lowest on 9.
Temp. grad.	This parameter allows the setting of the minimal temperature rise, in °C / 2minutes, of the PT sensor during the preheat, cooking or hold step. This parameter is used for the error 55 test.In this test the measuring only starts 5 minutes after beginning of a heating step. Duration of the test is 5 periods of 2 minutes. Measuring stops at 150°C/302°F or when temp. in the cabinet is < 30°C than the set temperature. When the temperature rise is lower than 0.5°C per 2 minutes during 5 consecutive periods, an “error 55” will be indicated and the machine switches off.
Second display	Setting of the display on customer side. 0 = Second display has only the rotor function. 1 = Second display has only limited functions like viewing during cooking proces. 2 = As 1 + possibility of selection of programs and starting. 3 = Not in use.
Thermistor	Enables or disables the detection of the thermistor in the blower . See error 66.
Hood check	Enables detection of feedback signals from the hood, if applicable. Not in EUR versions. See error 91 and 92

THE AUTOMATIC COOK CORRECTION

The automatic cook correction facility will automaticly add or deduct time to the programmed cooking time in order to have constant cooking quality.

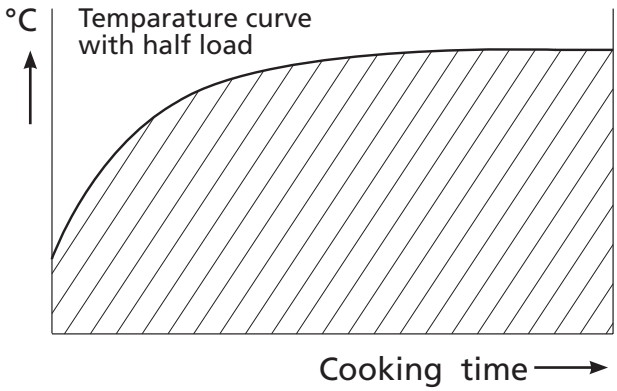
After programming a new program, the first cooking process will be the "learning" process. It is recommended to do the first cook with a half load.

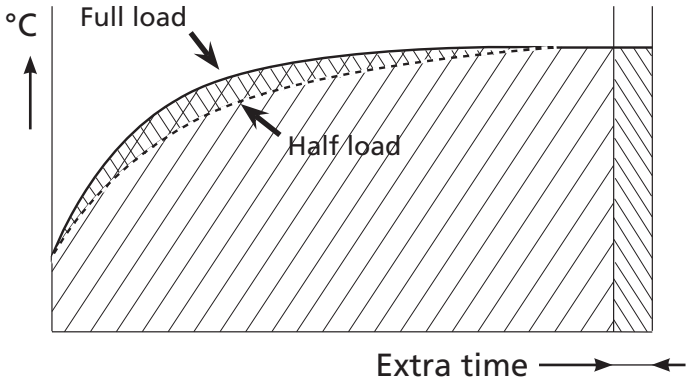
The program calculates the surface from the diagram below the curved line. (temperature * time). The result is the so called heat number. This heat number is stored into the cooking program.

All further cooking programs will try to get the same heat number.

The second diagram shows an example with full load. It takes more time for the unit to reach the programmed cooking temperature. See dashed line. The surface above the dashed line represents the missing part of the heat number. The cook correction will put this missing part behind the normal cooking time. Therefore extra time is added in order to reach the desired heat number.

It is also possible that time is deducted in case a smaller load has been put into the oven.





Time will be added in case of:
A bigger load.
A colder load. (straight from the freezer)
A lower mains voltage.
Somebody opened the door.

Time will be deducted in case of:
A smaller load.
A warmer load. (defrosted)
Higher mains voltage.

Note that:

In case the time or temperature will be changed in the cooking program, the heat number will be adapted with this amount.

The heat number is stored in the cooking program. In case such a program is copied with FIPS (see additional software), the heat number goes with it.

It is possible that in case the program has changed a lot, the cook correction is not able to perform well anymore. In that case the program has to be deleted and reprogrammed with the good parameters.

It is possible to disable this auto cook correction feature in the service parameters. See "parameter listings" -> "auto correct.

DEFAULT PARAMETERS USA

Level 1	Level 2	Default	Possibilities
Information		1.05.2007	software version
Manager		1111	
	Preheat allowed	yes	yes - no
	Preheat temp	425	50 - 250
	Holding allowed	no	yes - no
	Holding temp	160	50 - 250
	Cook Correction 1	yes	yes - no
	Eco function 2	no	yes - no
	Language	English	"English - Nederlands - Deutsch - Francais -Espanol - Russian"
	Big Digits	yes	yes - no
	Sound preheat	T1, ■■■■	T1 - T2 - T3
	Sound step	T2, ■□□□	T1 - T2 - T3
	Sound done	T3, ■■■■	T1 - T2 - T3
Service		4878	
	Preheat allowed	yes	yes - no
	Preheat temp	425	50 - 250
	Holding allowed	no	yes - no
	Holding temp	160	50 - 250
	Cook corr. Option [1]	yes	yes - no
	Cook corr. factor [2]	3	1 - 6
	Ecocook option	no	yes - no
	Ecocook var	6	1 - 9
	Language	English	"English - Nederlands - Deutsch - Francais - Espanol - Russian"
	Big Digits	yes	yes - no
	Sound preheat	T1, ■■■■	T1 - T2 - T3
	Sound step	T2, ■□□□	T1 - T2 - T3
	Sound done	T3, ■■■■	T1 - T2 - T3
	Temp unit	°F	°C - °F
	Boost allowed	yes	yes - no
	User pin in use	yes	yes - no
	Lights out	yes	yes - no
	Key beep	yes	yes - no
	Temp offset	0	-50 - +50°C or -100-+100°F
	Key sense	7	1 - 11
	Temp grad	3	"0 - 19 0 = disable error 55"
	Second Display	0	0-1-2-3
	Thermistor [3]	no	yes - no
	Hood Check	no	yes - no

1 Only visible when “Cook Corr. option” in Service Menu is set on “yes”
2 Only visible when “Ecocook option” in Service Menu is set on “yes”
3 May be put on yes in case serial number higher than 100067526

EMPTY PAGE

MENU SETTINGS TDR-I

Selection buttons

Display

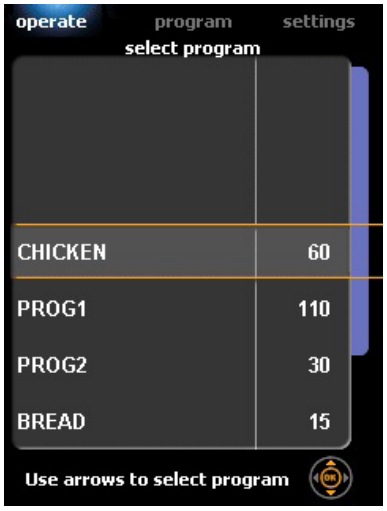
Rotation pad

on/ off key

To enter the set up of the TDR AC press the on/off key for 3 seconds. The main screen will show 3 options:

- operate
- program
- settings

Select the program by pushing the corresponding key.



Operate

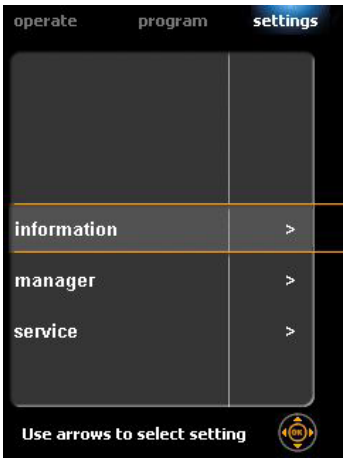
The operator menu will allow the user to run cooking and cleaning programs

Program

Within the program menu the user can edit or add additional cooking programs.

The cooking programs can be “pin code” protected in the manager menu.

MENU SETTINGS TDR -I



Settings

Information

The Information screen will display the following information about the rotisserie:

- Device type (TDRi)
- Firmware version of the CPU board (version: 6.01.27
- Last error
- Firmware version of the I/O board (MFMB:v1.00)

Manager

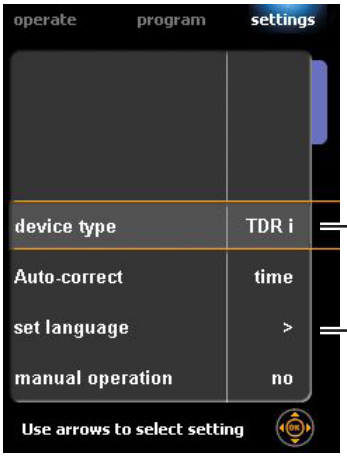
The manager settings are used to change local settings like temperature, date/time or to load recipes. A complete overview can be found in the TDR ac service manual.

No pin code is required if it is set to the default value “0000”

Service

A complete overview of service settings is available. Use pin code 4878 to enter the menu.

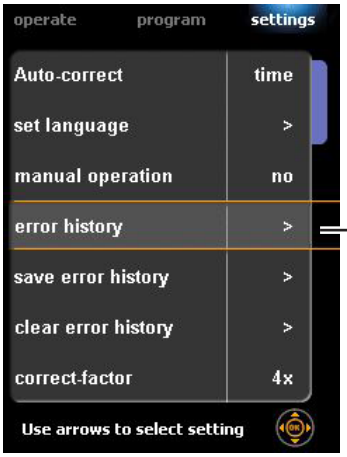
FIRST SETTINGS AND DIAGNOSTIC TOOLS TDR-I



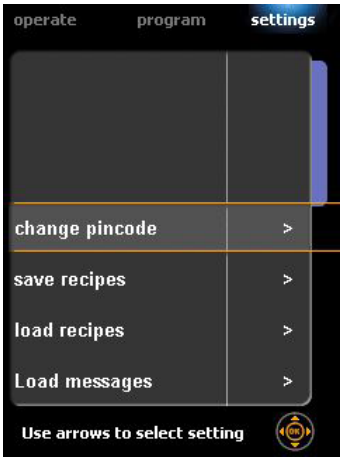
Miscellaneous service settings

device type
After replacing a cpu board the device type needs to be filled in.

set language
The next setting after replacing a board is to set language to local.



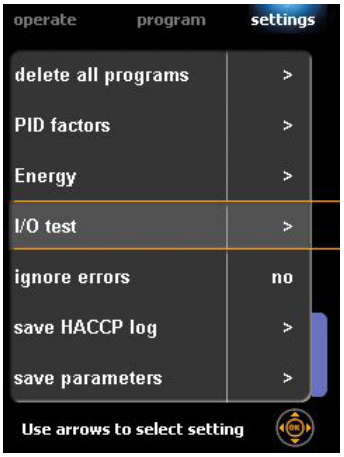
Error history
Read out
Save on USB stick
Clear errors



Pin code program menu

Go to: settings->manager->change pincode to protect the program and manager menu with a pin code.
The system will not ask for a pin code if the default 0000 value is being used.
You can view the program pin code via: settings->service-> pin code

I/O TEST TDR-I



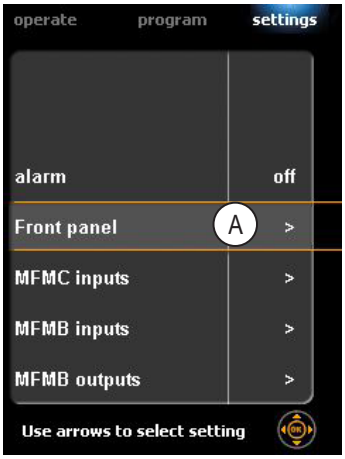
The I/O test function gives possibilities to:

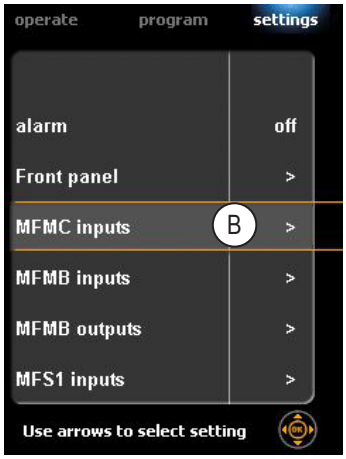
1. Check the key pads.
2. Read out the input signals.
3. Control the outputs.

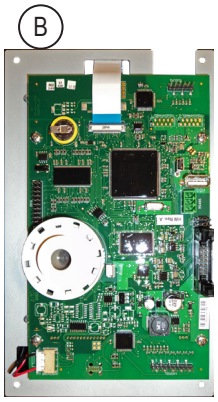
Go to settings -> service -> I/O test.

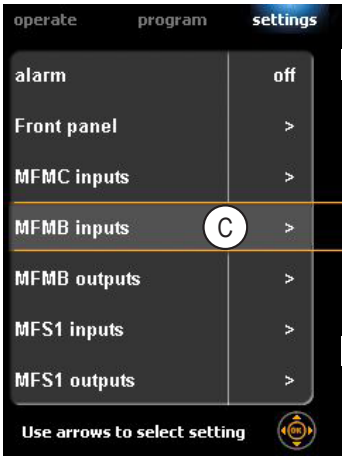
A - Key input test
B - Read out temperature of board
C - Read out inputs
D - Controlling of outputs

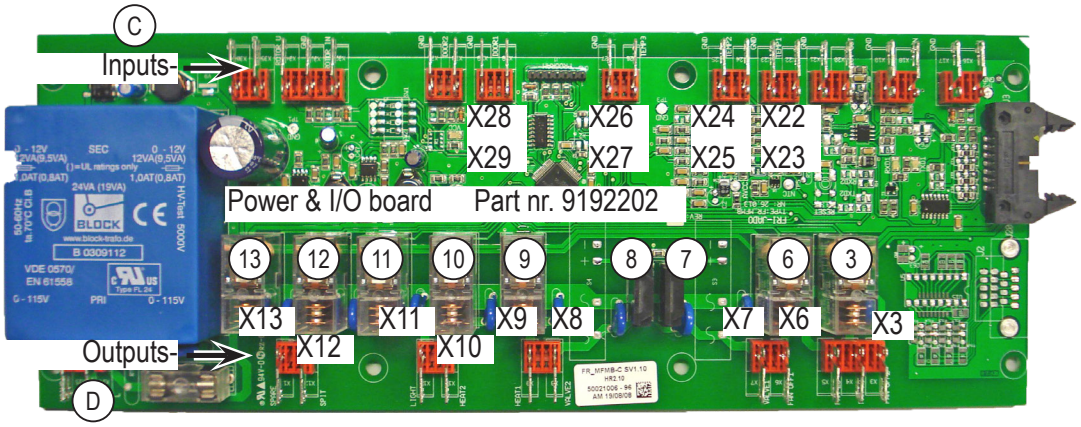
MC = CPU board
MB = Power&I/O board



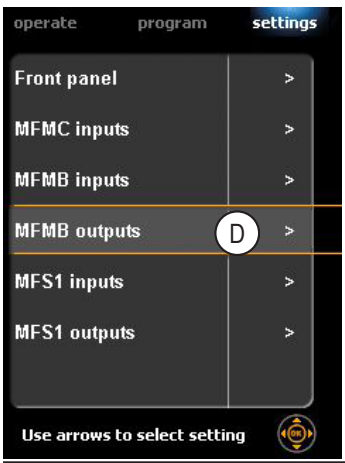


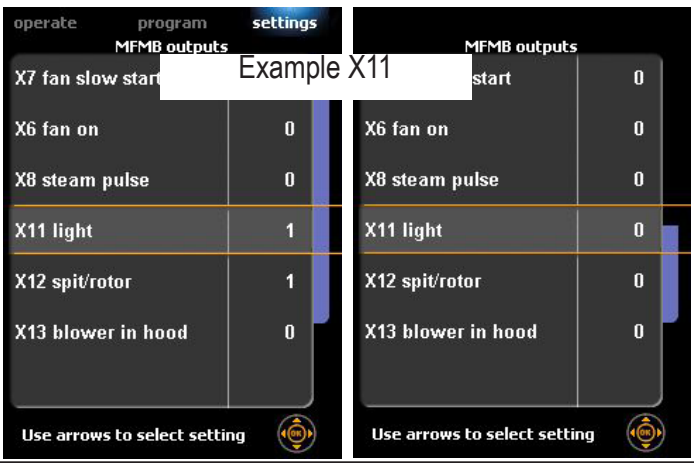






2. Push <OK> to switch the output ON or OFF



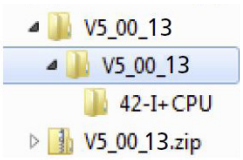


UPDATING SOFTWARE TDR-I

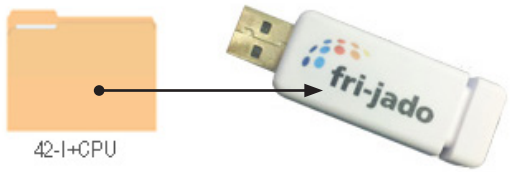
Preparing the software (firmware)

The software comes in a .zip file. The name corresponds with the version of the software. For example: *V5_00_13.zip.*

After extracting



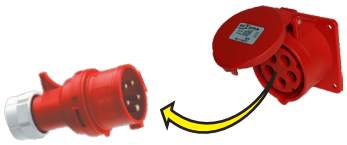
1. Extract the zip file



2. Copy or move the folder "*42-I+CPU*" to the USB drive.

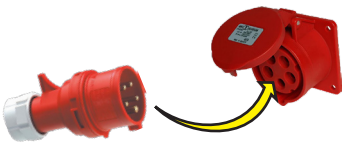
Updating the software (firmware)

1. Disconnect the mains supply



2. Connect the USB drive.

3. Connect the mains supply



4. The following messages appear

Bootloader version V1.02.02
-USB stick found
starting upgrade

-Checking CRC

-Copying file
-Loading application

-Checking CRC

-Please remove USB stick
to start application

5. Disconnect the USB drive.

In case the board has just been put into a unit, it has to be set to the right device type! -> TDRac

DEFAULT PARAMETERS VERSION 6.01.27 TDR-I

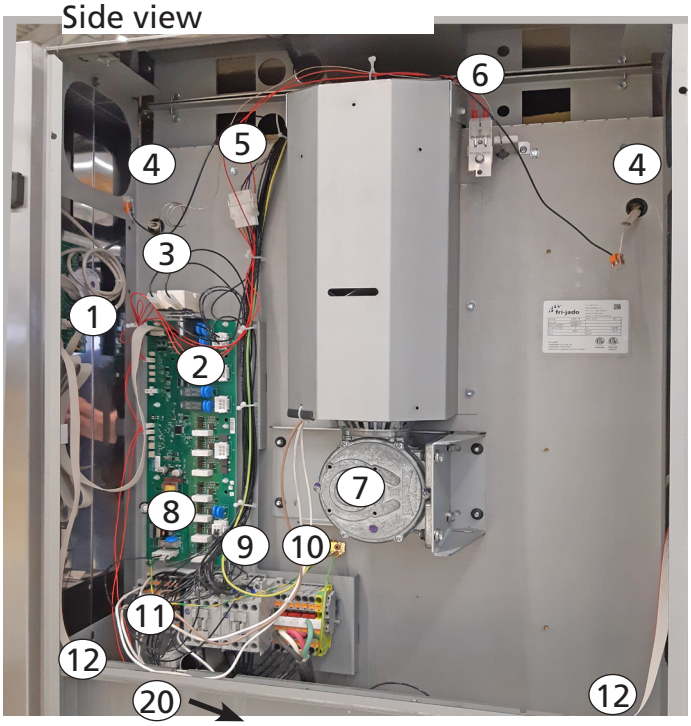
Level 1	Level 2	Level 3			Default	Possibilities
Information					6.01.27	software version
Manager						
	Change Pin code				0000	0000 - 9999
	Save Recipes					
	Load Recipes					
	Load messages					
	Light				off	on - off
	Temperature				°C	°C - °F
	Set time				Local time	
	Set date				Actual date	
	Time format				24 hr	24 hr - AM/PM
	Date format				DMY	DMY - MDY
	Alarm signal				yes	no - yes
	Preheat mode				no	no - 1x - yes
	Preheat delta				0	-50°C to + 50°C or -90°F to +90°F
	Auto recipe start				yes	no - yes
	Buzzer set				0	0 - 4
	Key beep				yes	no - yes
	Clear error					no - yes
Service					4878	
	device type				TDR I	STGi, Multi, BSi, STOi, TRC, ACR, TDRi, TDR AC
	auto-correct				time	no - time
	set language				englisch	englisch - deutsch - francais - neder-lands - espanol - japanese - danish - italiano - russian - norsk - polish
	Manual Operation				no	no - yes
	error history					overview of last 200 errors
	save error history					
	clear error history					
	correct-factor				4x	1x - 10x
	debug rs232				no	no - yes
	demo mode				no	no - yes
	auto off				60	no or 10 - 240
	pin code				****	read out of the manager pin code
	Sensor offset				0°C	-5°C - +5°C
	delete all programs				no	no - yes
	PID factors	P			100	0 - 100
		I			5	0 - 100
		D			100	0 - 500
		iMax			100	10 - 300
		Relay actions			80	16 - 160
	Energy	Volts			230	1 - 260
		Model			TDR	

Level 1	Level 2	Level 3			Default	Possibilities
	I/O test					read the inputs and set the outputs
	Ignore errors				no	no - yes
	save HACCP log					save haccp log on usb
	save parameters					save parameters on usb
	load parameters					load parameters from usb

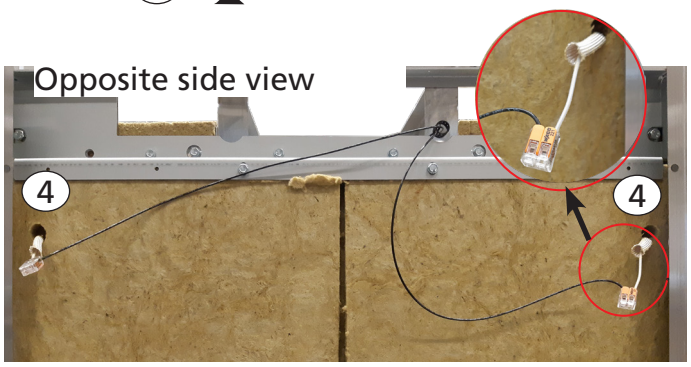
WARNING: Disconnect the electrical power to the machine at the main circuit box. Place a tag on the circuit box indicating the circuit is being serviced.

ACCESS TO SERVICE PARTS TDR-P (2020)

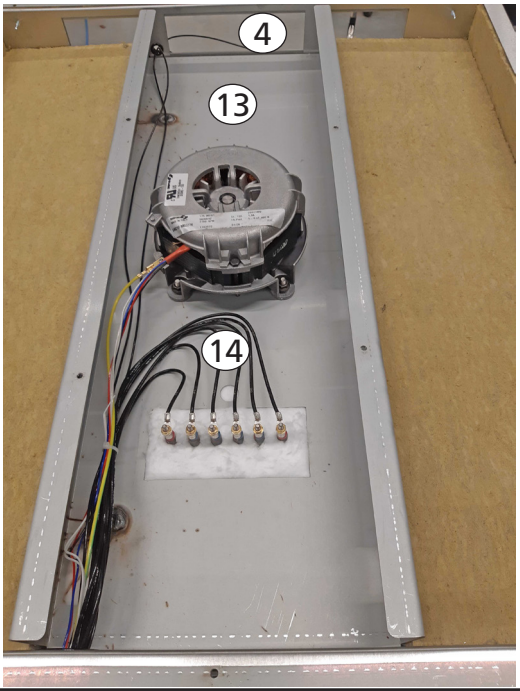
Side view



Opposite side view



Top view

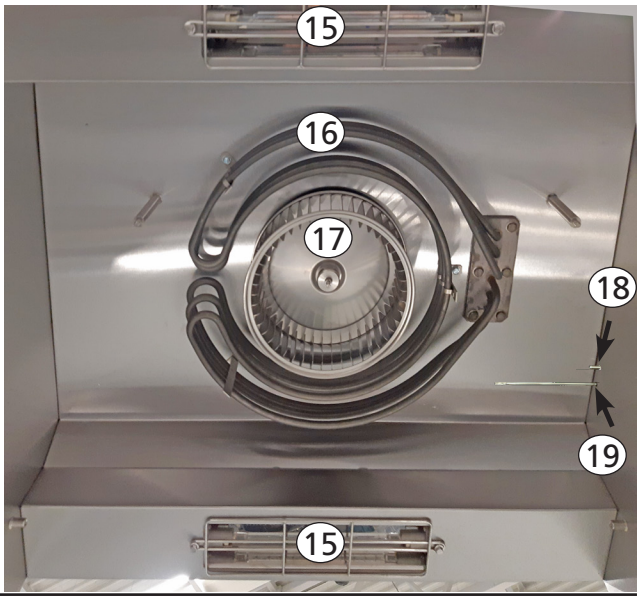


Unscrew 4 screws and open the panel from the electric compartment .
The same for the panel on the oposite side to reach the wiring from the light and also to "unlock" the top panel.
Remove the top panel and the blower panel on the inside, to reach the blower motor and the heating element.

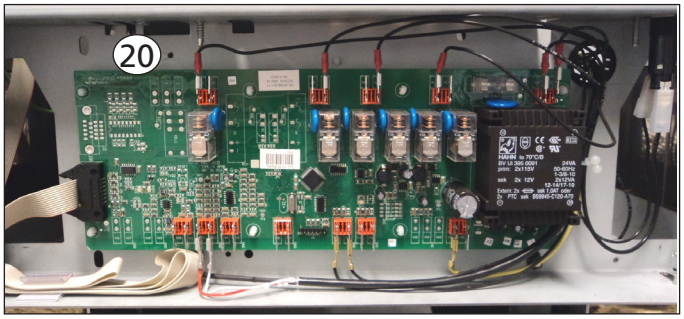
Placing of temperature sensors and heating element are from TDR7/8 and differs from TDR5

1. CPU & LCD board and key board
2. Power & I/O board.
3. Hi Limit thermostat
4. Lamp connection
5. Connector of blower
6. PT 1000 temperature sensor.
7. Rotor drive motor
8. Fuse on board (1A 5x20 slow acting).
9. Contactors (left = light, right = heating)
10. Mains connection block
11. Capacitors
12. Door switches and rotor switches
13. Blower motor
14. Connections of heating element.
15. Illumination
16. Heating element
17. Turbine
18. PT1000 sensor
19. Senor, hi limit thermostat.
20. Power & I/O board untill serial number 100097687

Inside view (with removed blower panel)



Power and I/O board untill serial number 100097687



ACCESS TO SERVICE PARTS STACKED UNITS

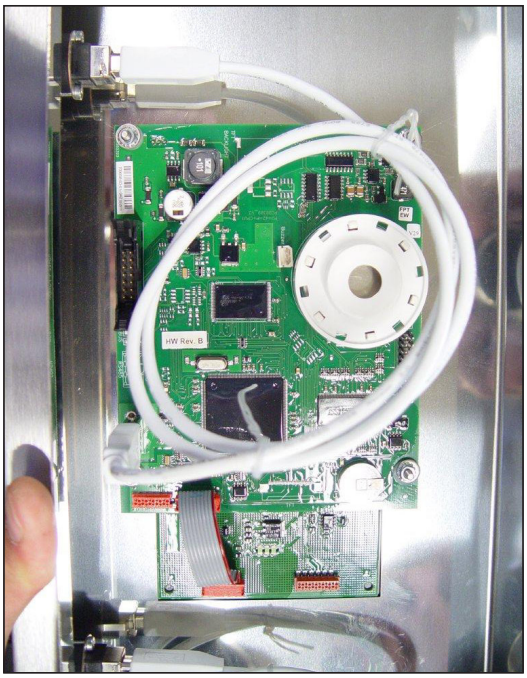
Acces to the blower motor, heating element and light cover has to be gained through the bottom side of the upper unit..
However, for the light cover of the TDR 5, the top rotisserie has to be removed.

1. Slide out the grease tray.
2. Unscrew 2 screws at the front side and slide out the grease guard.
3. Unscrew and remove the top plates of the lower unit.
4. It might be necessary to cut some silicon sealant.

OPERATING PANEL (GENERAL)

1. Remove the flatcables and ground wire from the CPU board on the backside.
2. Remove the bolt, nut and ring on the top-backside of the operating panel.
3. Pull out the panel and lift, to remove the panel.

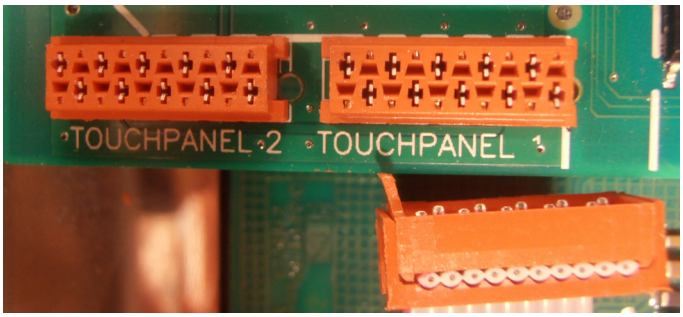
CPU BOARD



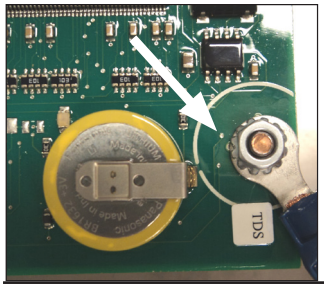
Consider to download (on a USB drive) or write down the cooking programs and the parameters, before exchanging the CPU board and display.

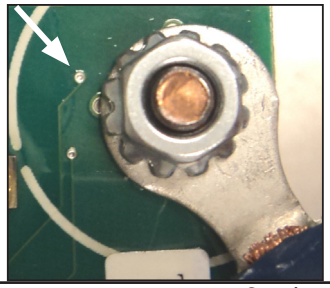
1. Remove the operating panel.
2. Unscrew the 4 nuts and remove the CPU board.
3. If applicable, read the cooking programs and parameters from the USB drive to the CPU board.

Note 1: *The keypad ribbon cable must be connected to connector "Touchpanel 1" on the CPU board.*



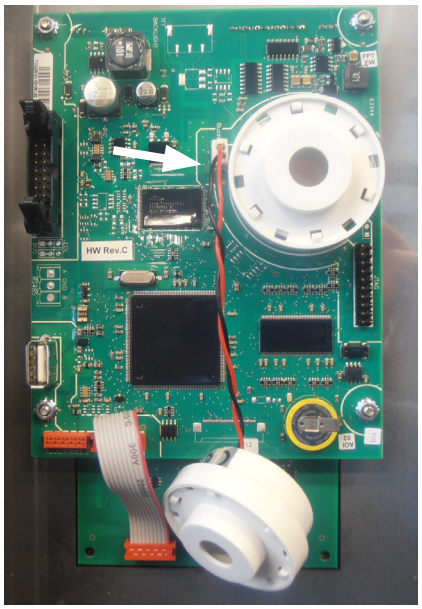
Note 2: *"Touchpanel 2" is the ribbon cable connection for the rotor switch keypad on the customer side.*





Note 3: *For older units with earth wire in right hand bottom corner. Take care that the ring terminal doesn't make contact with with the solder point (see arrow) .Otherwise the illumination of the display and keys can be off.*

BROKEN BUZZER



The buzzer on the CPU board cannot be replaced, it is soldered to the board.

Put the plug of the new buzzer in the socket next to the existing broken buzzer (see white arrow).

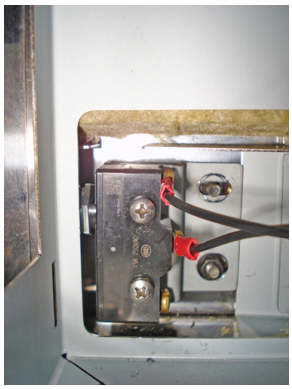
Note: *buzzer can dangle loosely without any problem.*

KEYPAD

1. Remove the keypad and degrease the surface of the glass.
2. Glue the new keypad on its place with the red colored connectors on the bottom side.

Note 1: *For connection of the ribbon cable of the keypads see previous page.*

DOOR SWITCH

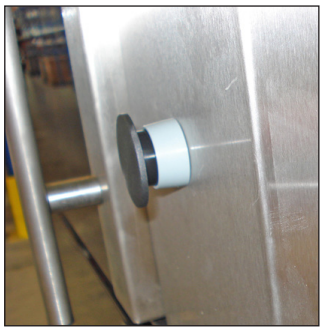


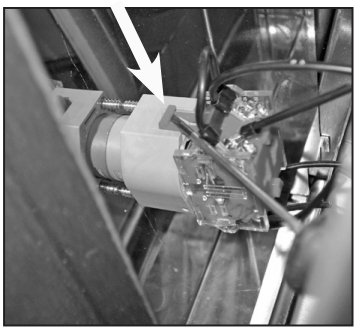
1. Remove the operation panel and the right side panel.
2. Unscrew the 2 screws and remove the switch.
3. Disconnect the wiring.

Reverse the procedure to install.

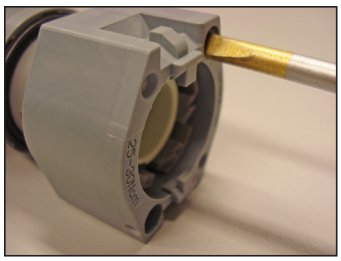
Note: *The contact pin of the switch must run free through the chassis.*

ROTOR SWITCH





1. Remove the right side panel
2. Lift the locking tab with a screwdriver and remove the back part of the switch.
3. Loosen the 2 screws that secure the front part and remove this part by twisting it.
4. Disconnect the wiring.



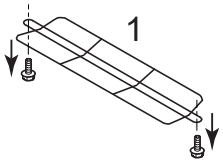
Reverse the procedure to install.

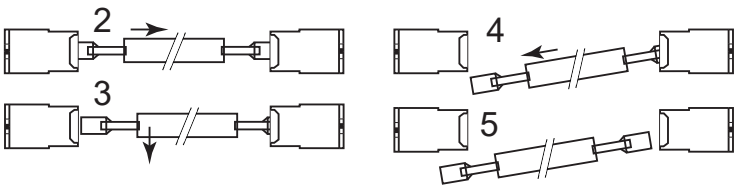
Note: *Make sure the back part is clicked-on on both sides.*

REPLACING A LAMP

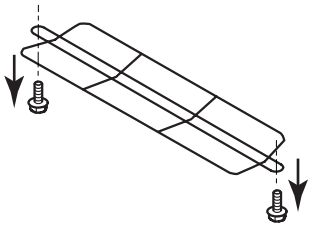
Unscrew the bolts and remove the protection guard of the Halogen lamp.

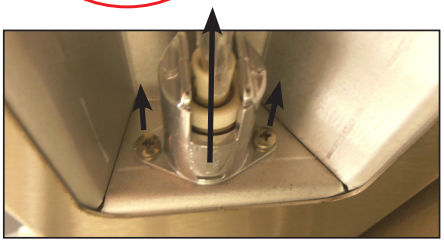
Do not touch the glassof the lamp with your hands! Otherwise clean with alcohol





LAMP HOLDER

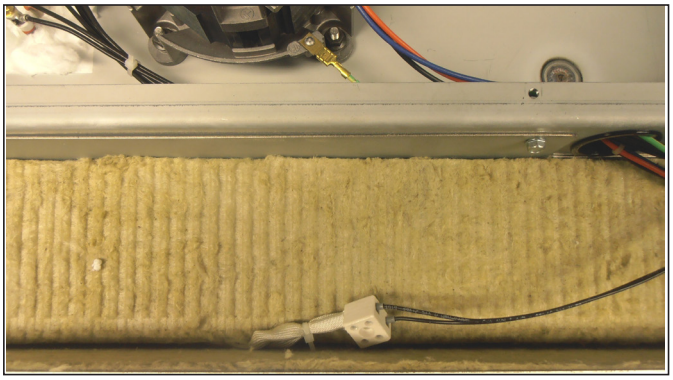


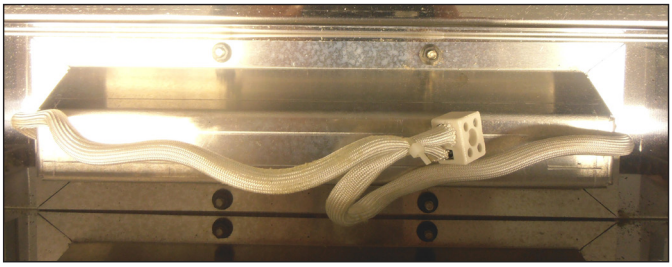


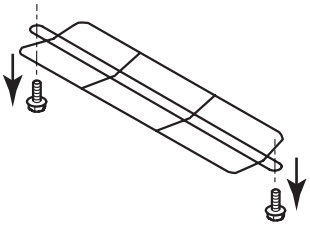
For units from serial number 100075954.

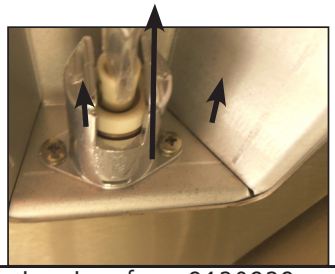
1. Remove both side panels from the rotisserie.
2. Disconnect the wiring on both sides.
3. Unscrew the bolts and remove the protection guard of the Halogen lamp.
4. Push the lamp to either side and pull it down to remove the lamp. (see above)
5. Unscrew the 2 M3 screws and remove the holders from the inside.

Untill serial number 100075953







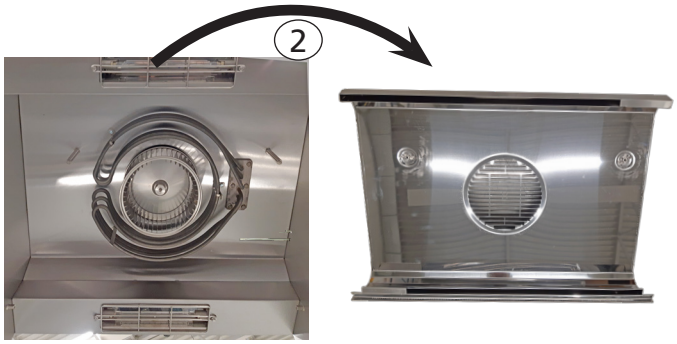


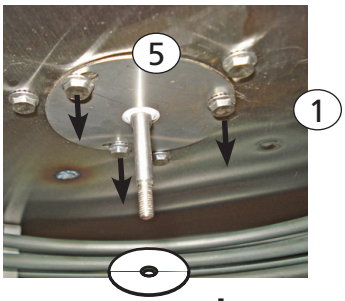
For units untill serial number 100075953.

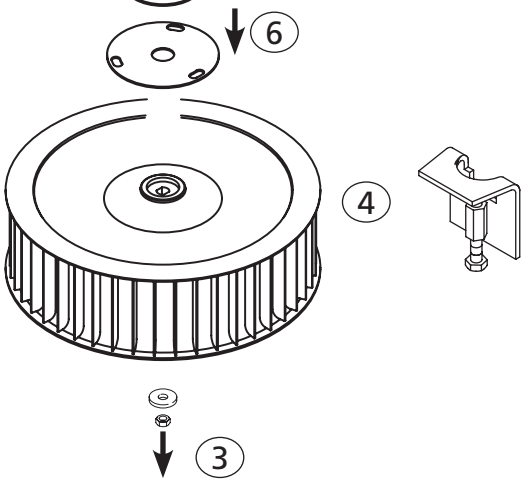
1. Remove both side panels and the top panel(s) from the rotisserie.
2. Disconnect the wiring on the terminal block.
3. Remove the insulation above the light fixture.
4. Unscrew the bolts and remove the protection guard of the Halogen lamp.
5. Push the lamp to either side and pull it down to remove the lamp. (see above).
6. Unscrew the 2 M3 screws and remove the holder from the inside.

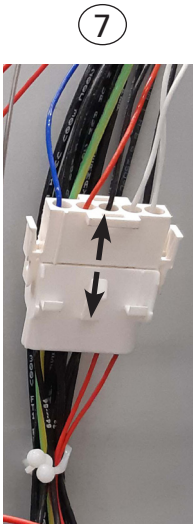
Reverse the procedure to install.

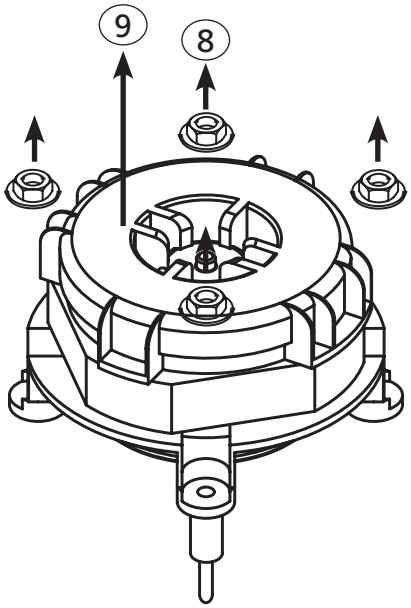
BLOWER MOTOR











Dismounting the blower assembly.

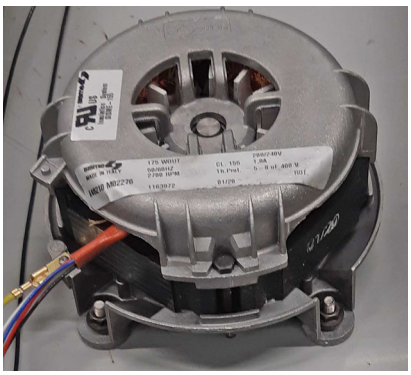
1. Remove both side panels and the top panel
2. Remove the blower panel
3. Remove the M5 nut and washer from the motor shaft
4. Pull the turbine from the shaft. A puller is delivered with the new blower kit.
5. Unscrew 3 screws.
6. Pull off the shaft seal with pressure plate.
7. Disconnect the blower wiring.
8. Unscrew 4 nuts.
9. Take out the motor.

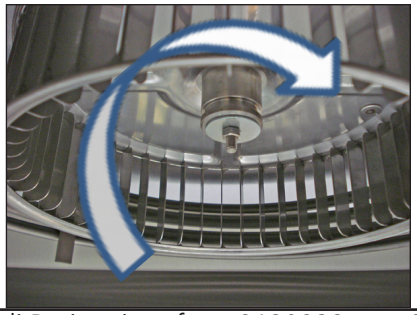
Mounting the blower assembly.

This has to be done in reversed order from disassembling.

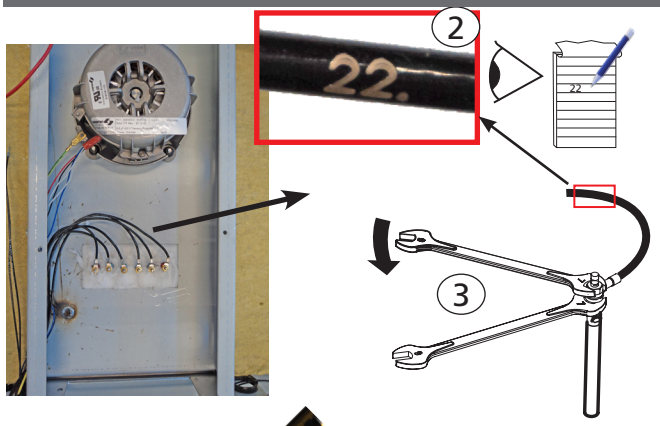
Very important!

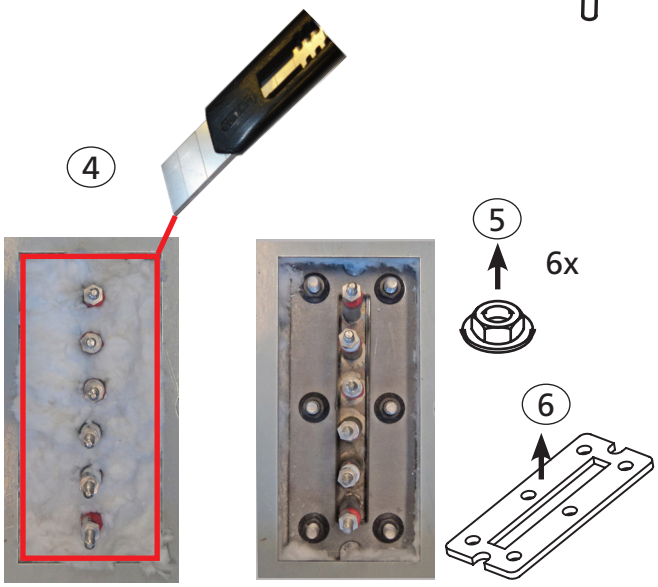
- First mount the motor and tighten the 4 nuts thorougly.
- Then mount the shaft seal.
- Never loosen or tighten, the 4 nuts from the motor afterwards.
- If this is necessary, then first loosen the shaft seal.
- Check the rotation direction.





HEATING ELEMENT





Dismounting the heating element.

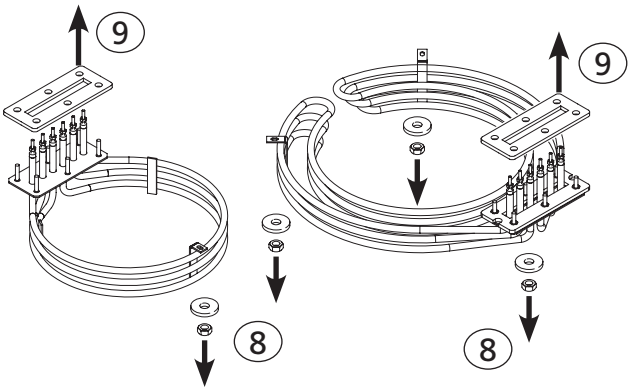
1. Remove both side panels and the top panel.
2. Note the wiring number and write down if necessary.
3. Disconnect the wiring. Note! Hold the rear nut with an open end spanner!
4. Cut loose the insulation and take it out.
5. Unscrew 6 nuts M6.
6. Take out the pressure plate.
7. Remove the blower panel.
8. Unscrew the M4 nuts that secure the heating element to the ceiling. This is one in a TDR5 and 3 in a TDR7/8.
9. Remove the graphite gasket from heating element. Also clean the ceiling from residu's.

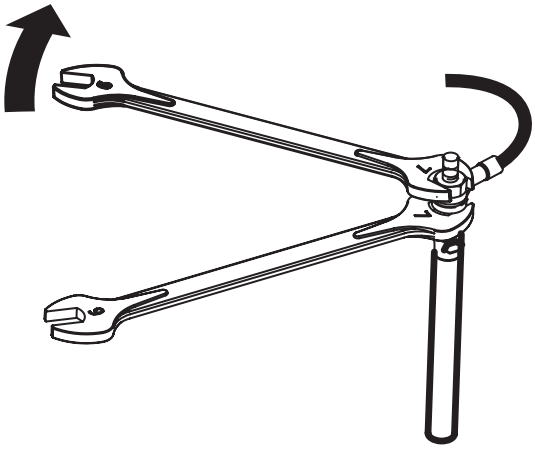
Mounting the heating element.

This has to be done in reversed order from disassembling.

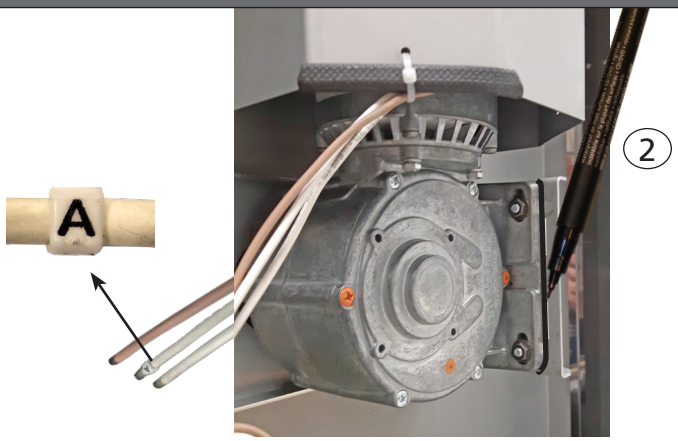
Very important!

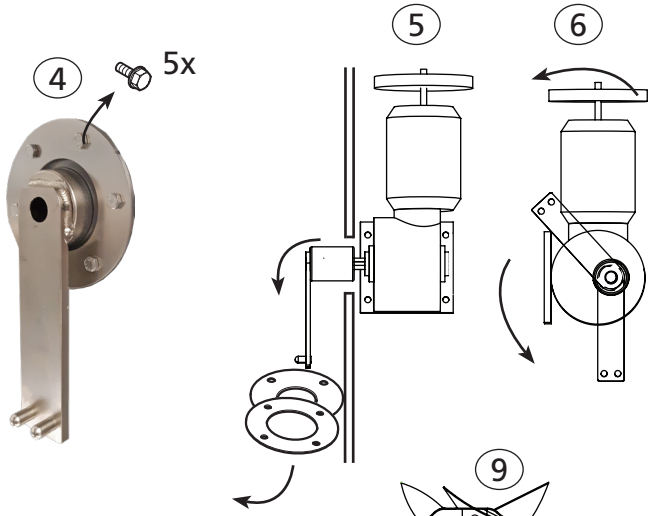
- Take a new gasket.
- Do not forget to hold the rear nut with an open end spanner when connecting the wiring and tightening the nuts.

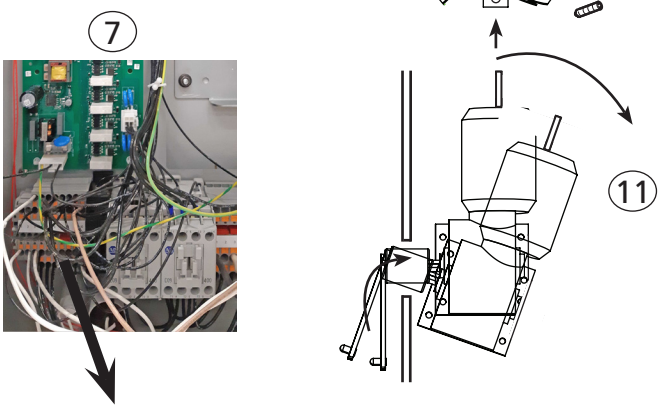


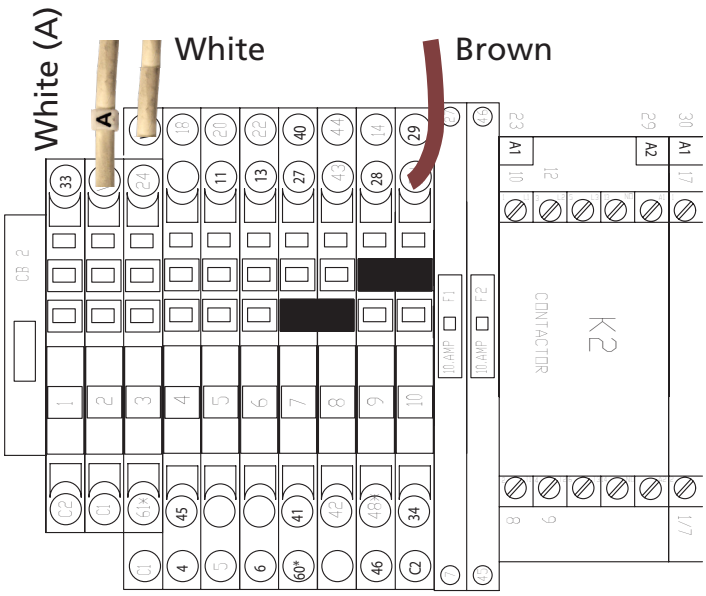


ROTOR DRIVE MOTOR





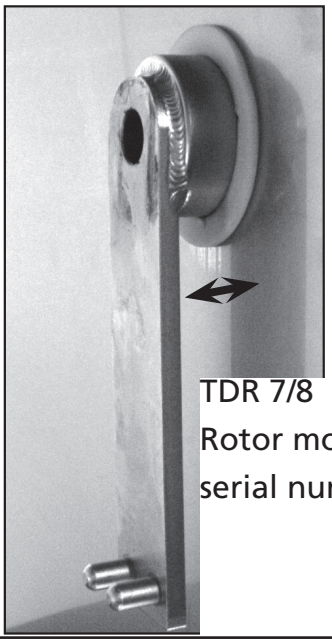




Dismounting the rotor motor:

Note, #4 and #5 are applicable from serial number 100075954.

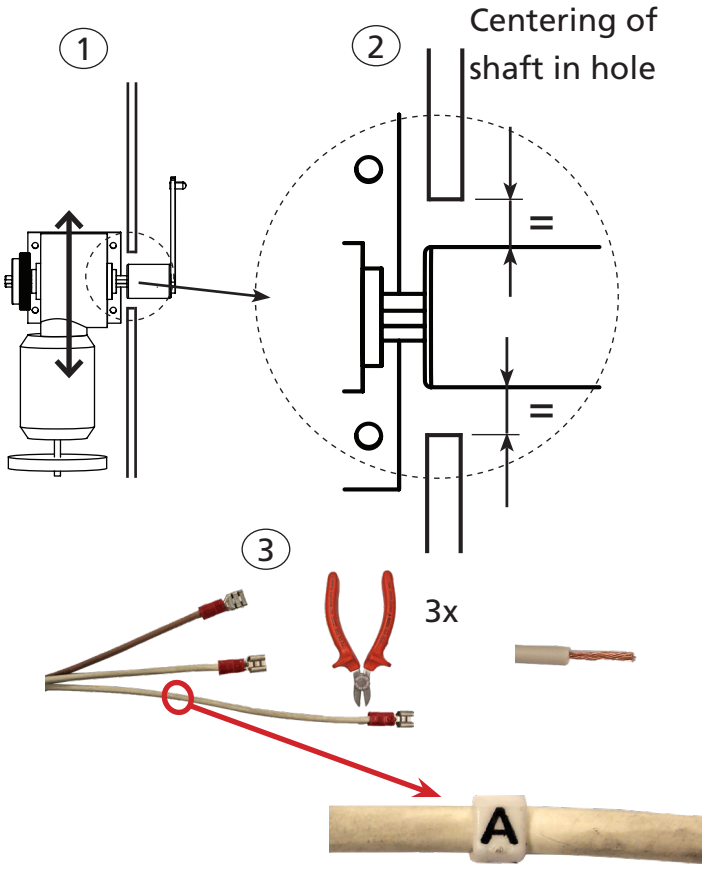
1. Remove the side panel at the operator-panel side.
2. Mark the position of the motor on the bracket.
3. Take the rotor shaft out of the cooking cavity.
4. Unscrew the 5 bolts from the shaft seal mounting plate.
5. Slide the mounting plate and lip-seal from the drive arm.
6. Put the drive arm (If applicable)in the position as shown. This can be done manually, if necessary, by turning the fan blade on the motor.
7. Disconnect the wiring of the motor.
8. Unscrew 4 screws and put the air guide aside.
9. Remove the (cooling) fan blade.
10. Unscrew 4 screws with nuts.
11. Take out the motor as shown.



TDR 7/8

TDR5

Rotor motor drive heads untill serial number 100075953



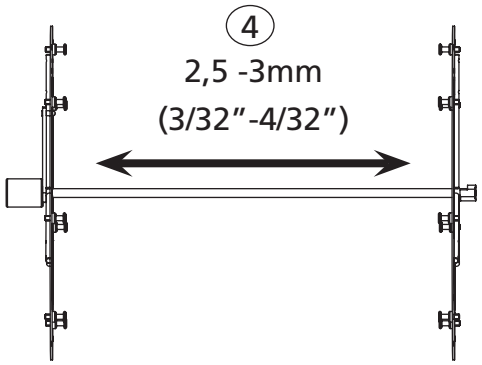
Mounting the rotor motor

1. Mount the motor on the bracket using the previous made mark (see #2 from disassembling).
2. The motor shaft should come through the center of the hole!!
3. Connect the wiring of the (new) motor. See previous page for position of wires.

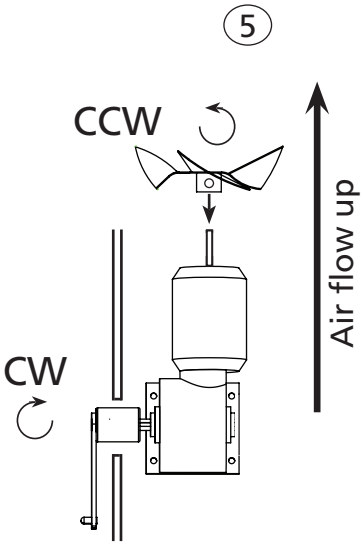
In case the wires have receptacles mounted, then these have to be cut off and the wires stripped.

Note that the white wire, marked "A" is longer

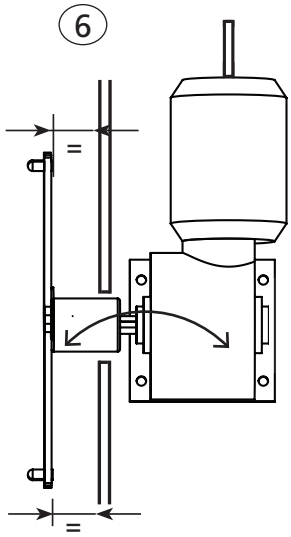
4. Hook in the rotor and check the axial play. This should be 2,5 -3mm (3/32-4/32)
5. Put power on the unit and test the rotation of the rotor. Interchange the two white wires if wrong. The air flow should go up!
6. Check if the drive arm in top position has the same distance to the side wall as in bottom position.
7. Mount the shaft seal when the position of the motor is ok and the screws are mounted tight.

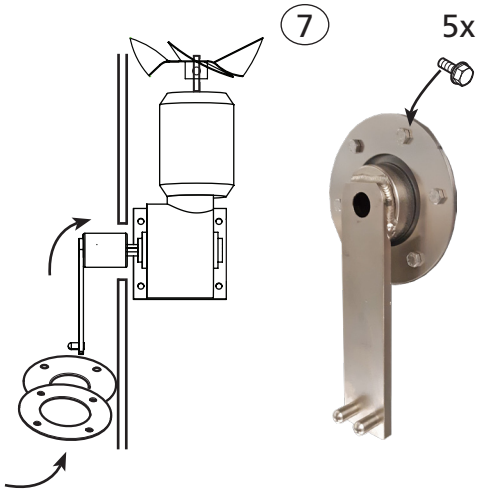


Checking rotation

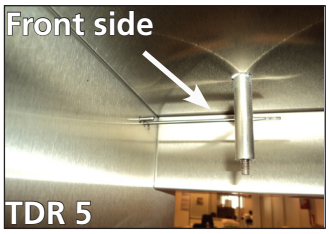


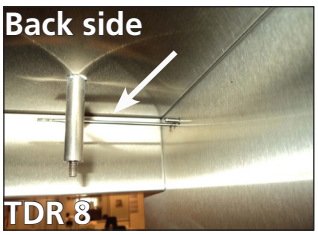
Aligning of the drive arm

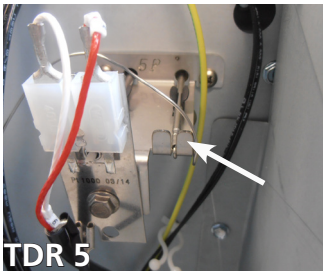


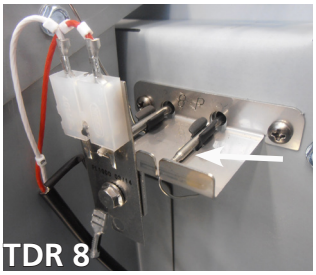


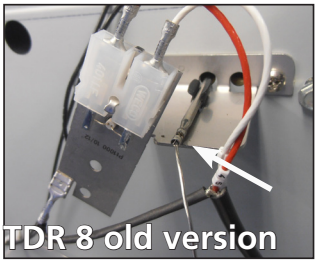
HIGH LIMIT THERMOSTAT

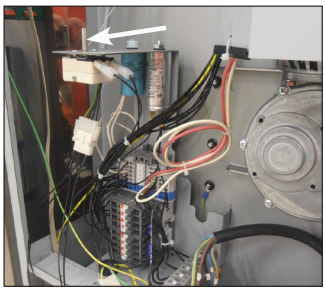










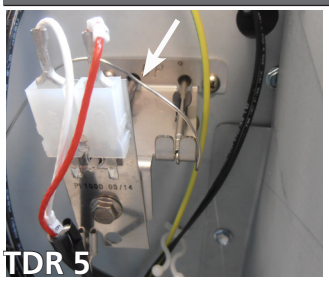


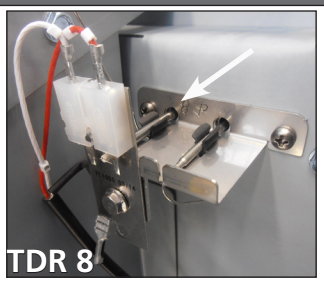
1. Remove the right side panel.
2. Remove the blower panel on the inside of the oven (this is only to check if the probe is on the right place).
3. Remove the thermostat probe from the clip and remove the probe.
4. Remove the screws on the electric panel that secure the thermostat.
5. Remove the thermostat and disconnect the wiring.

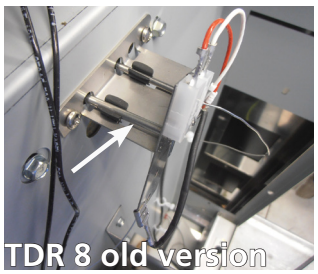
Reverse the procedure to install.

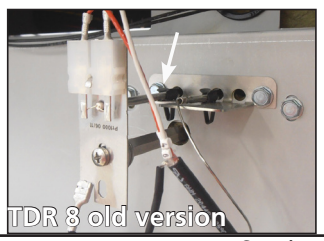
Note 1: *The probe sticks out of the side wall till the end of the bracket.*
Note 2: *Set the new high limit thermostat fully clockwise (see arrow).*
Note 3: *The versions until serial nr. 100067092 have different brackets. The latest bracket is the preferred one.*

PT 1000 SENSOR









1. Remove the right side panel.
2. Remove the blower panel on the inside of the oven (this is only to check if the sensor is on the right place).
3. Disconnect the wiring of the sensor.
4. Unscrew the screw and pull out the sensor

Reverse the procedure to install.

Note 1: *The sensor sticks out of the side wall till the end of the bracket.*
Note 2: *The versions until serial nr. 100067092 have different brackets. The latest bracket is the preferred one.*

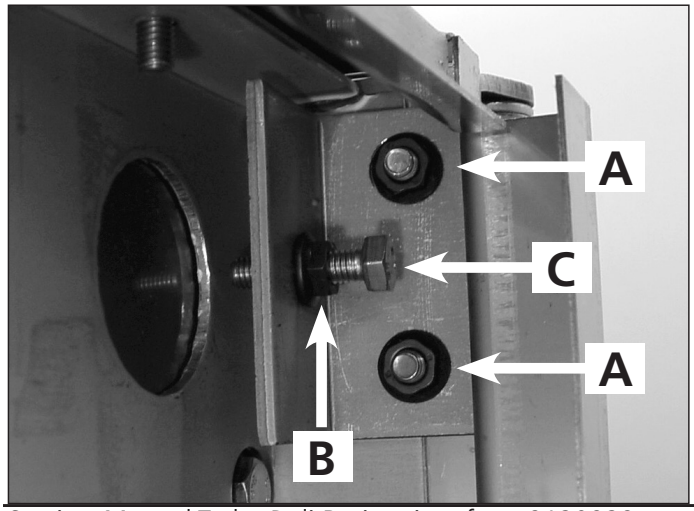
DOOR INSIDE

1. Pull the inside door from the outside door.
2. Lift the inside door upward out of the hinges.
3. Place the new door in the hinges.
4. Close the inside door on the outside door.

Note: *Tightening of nuts max. 8 Nm. or 5.9 lbf.ft*

DOOR OUTSIDE

1. Remove the left side panel.
2. Lift the inner door out of the hinges and lay this aside.
3. Close the outer door.
4. Unscrew the 2 nuts behind the upper hinge. Keep door closed!
5. Hold the door on both sides and move this towards yourself, before lifting it out of the hinge at the bottom side. See to it that the washers stay on the hinge.
6. Place the top hinge on the new door.
7. Reverse the procedure to install the new door.



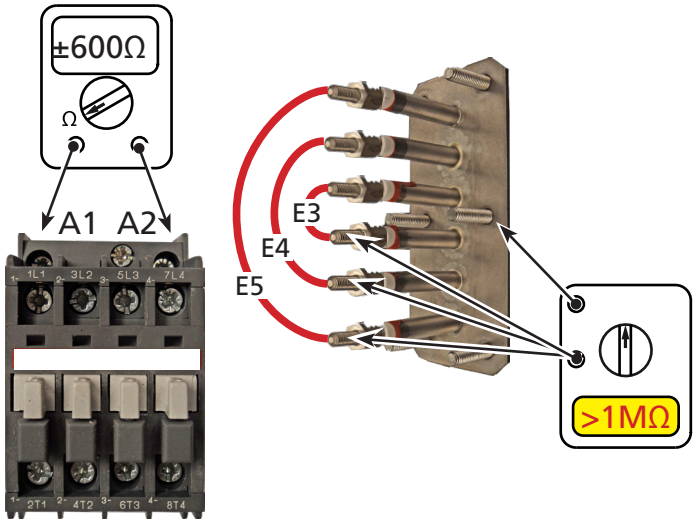
Adjusting the door (if necessary).

1. Loosen the nuts A of the upper hinge. The door must be closed.
2. Loosen the locknut B and adjust the bolt C in or out to adjust the door.
3. Tighten the nuts of the hinge and mount the left-hand panel.

Note: *Tightening of nuts max. 8 Nm. or 5.9 lbf.ft*

WARNING: Disconnect the electrical power to the machine at the main circuit box. Place a tag on the circuit box indicating the circuit is being serviced.

MEASURING THE HEATING ELEMENTS

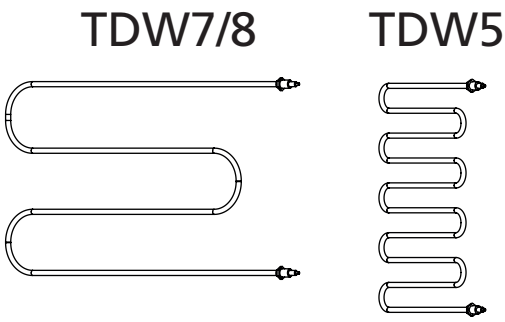


Heating element TDR 5

	200-208V (USA)	230V (EUR)
E3	1800W 24 Ω 8,6A	1800W 29 Ω 7,8A
E4	1800W 24 Ω 8,6A	1800W 29 Ω 7,8A
E5	1800W 24 Ω 8,6	1800W 29 Ω 7,8A

Heating element TDR 7 / 8

	200-208V (USA)	230V (EUR)
E3	3000W 14,5 Ω	3000W 17,5 Ω
E4	3000W 14,5 Ω	3000W 17,5 Ω
E5	3300W 13 Ω	3300W 16 Ω



Heating element TDW

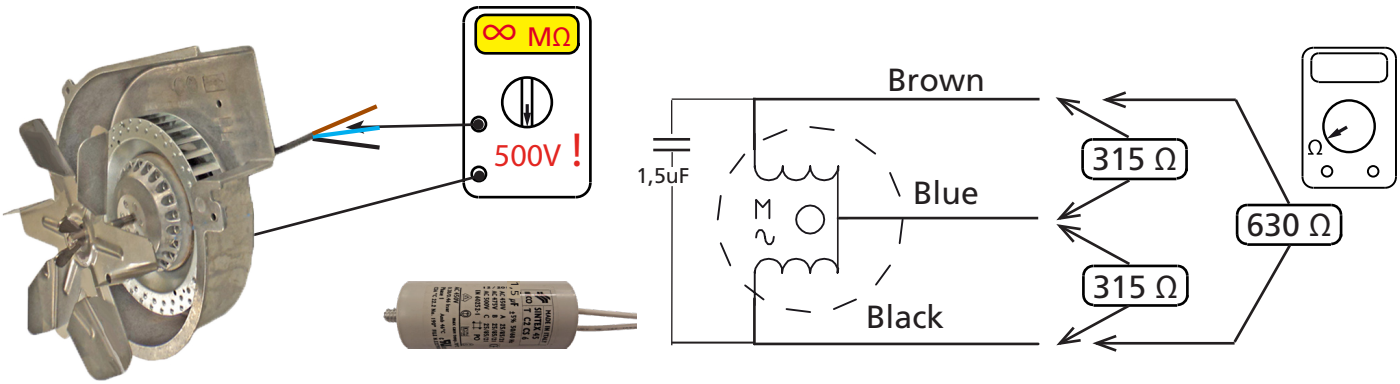
TDW		200-208V (USA)	230V (EUR)
5	2500W 21 Ω	9,8A	10,9A
7/8	1500W 35 Ω	5,9A	6,5A

If heaters have been stored for a longer period, Moist can go in and the insulation resistance can go down. Therefore it is good to measure this insulation resistance before mounting it.
In case this Insulation resistance is too low, it could be considered to dry the heater in an oven for 24 hours on 130°C (266°F). The longer the better.
Advise:

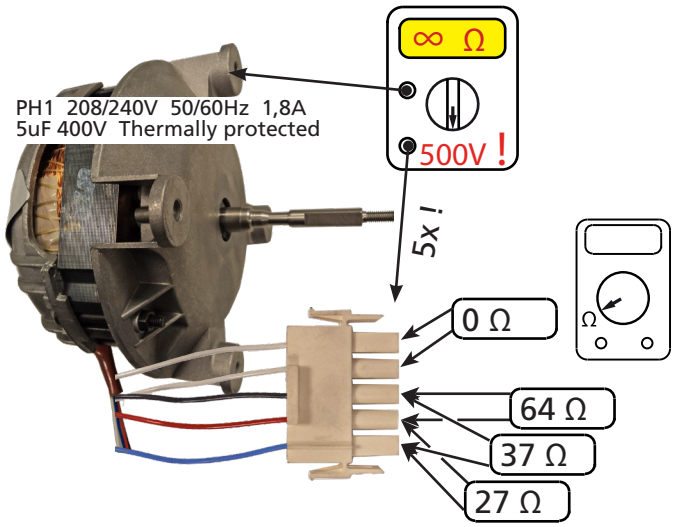
- *Keep stock limited.*
- *Store in conditioned space (for example in a box with silica gel)*

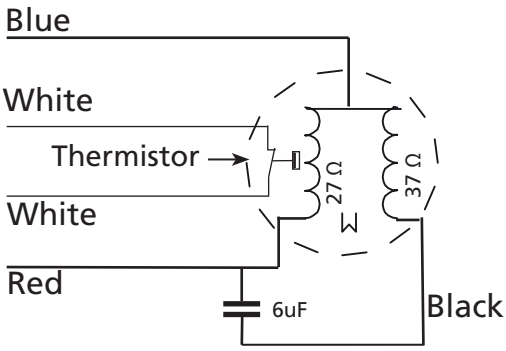
MEASURING THE BLOWERS

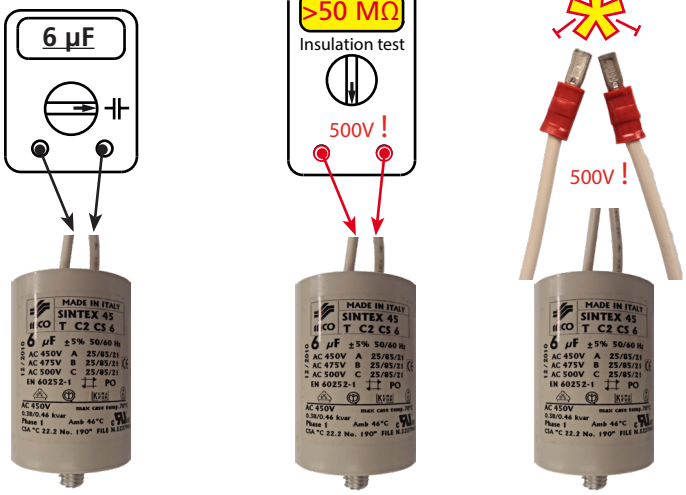
Blower of warmer



Blower of rotisserie

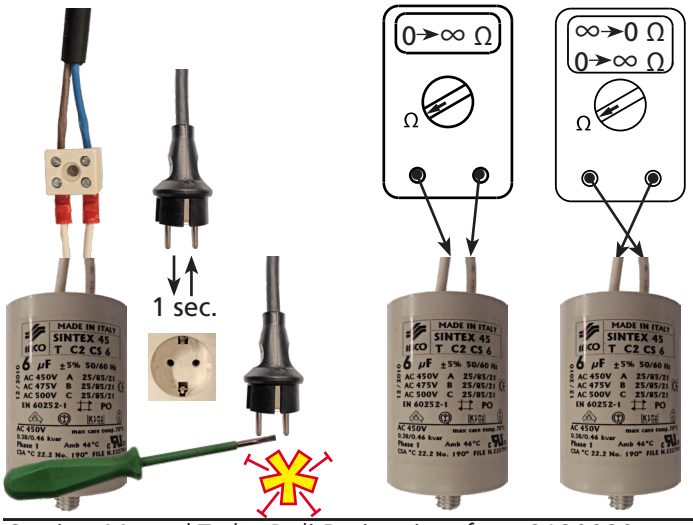






Charging with a test cable

Checking with Ω meter



<u>The 6µF capacitor</u>

General

Even with a capacitance meter it is impossible to determine for sure if the capacitor is ok or not, because it can be leaking when it is connected to mains power.

A quick optical check often tells more. Search for leaking oil and / or bulges (lumps).

Measuring with an insulation tester in 500V position.

Work under safe conditions according local legislation!

The value will not reach ∞ Ω, but will go up and down a little. When it is above 50MΩ it wil be ok. Disconnect the test leads while the value is at the highest position. The capacitor is now charged with ± 500VDC!!

Leave it for a few seconds and then put the wires together. A loud spark must arise. If not, the capacitor is leaking (loosing its charge).

It is also possible to charge the capacitor by shortly con necting it to the mains supply (208V~). The same spark must arise. Do this a few times. The capacitor will not be charged when the leads are disconnected during the "zero crossing" of the mains sinus. It is ok when a spark arises once.

Measuring with an Ω meter.

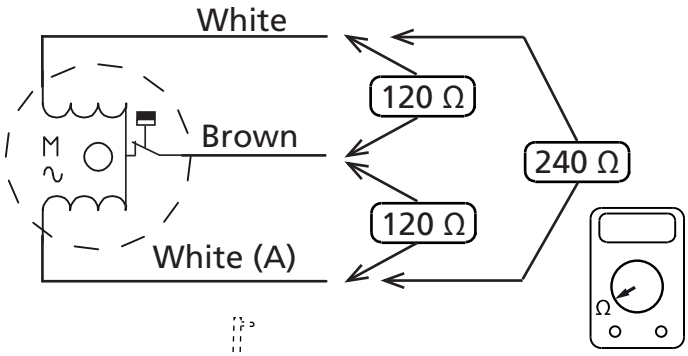
Be sure that the capacitor is empty!

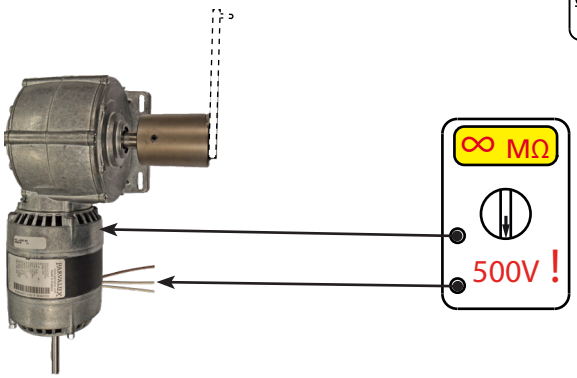
The value will go up until ∞ Ω is reached. Exchange the test leads. The value will go down, through "0" and up again.

If not, the capacitor is broken.

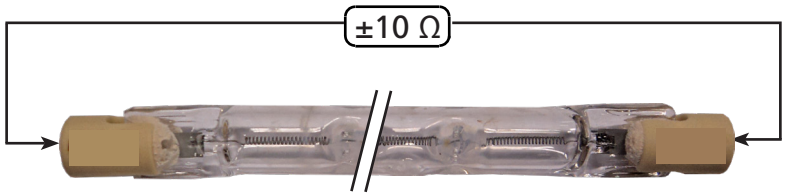
If ok, it is still not sure if the capacitor is ok. It might leak when it is connected to the mains power!

MEASURING THE ROTOR (DRIVE) MOTOR



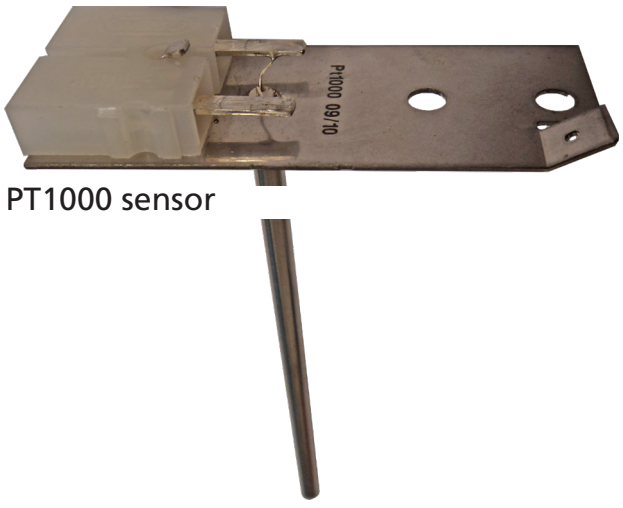


MEASURING THE 500W LAMP



230V 500Watt

MEASURING THE PT1000 SENSOR



PT1000 sensor

The oven temperature is controlled by a PT1000 sensor, mounted in the top at the side.

See the resistance overview for the PT1000 sensors.

°C	PT1000
-20	921,60
-10	960,90
0	1000,00
10	1039,00
20	1077,90
25	1097,40
30	1116,70

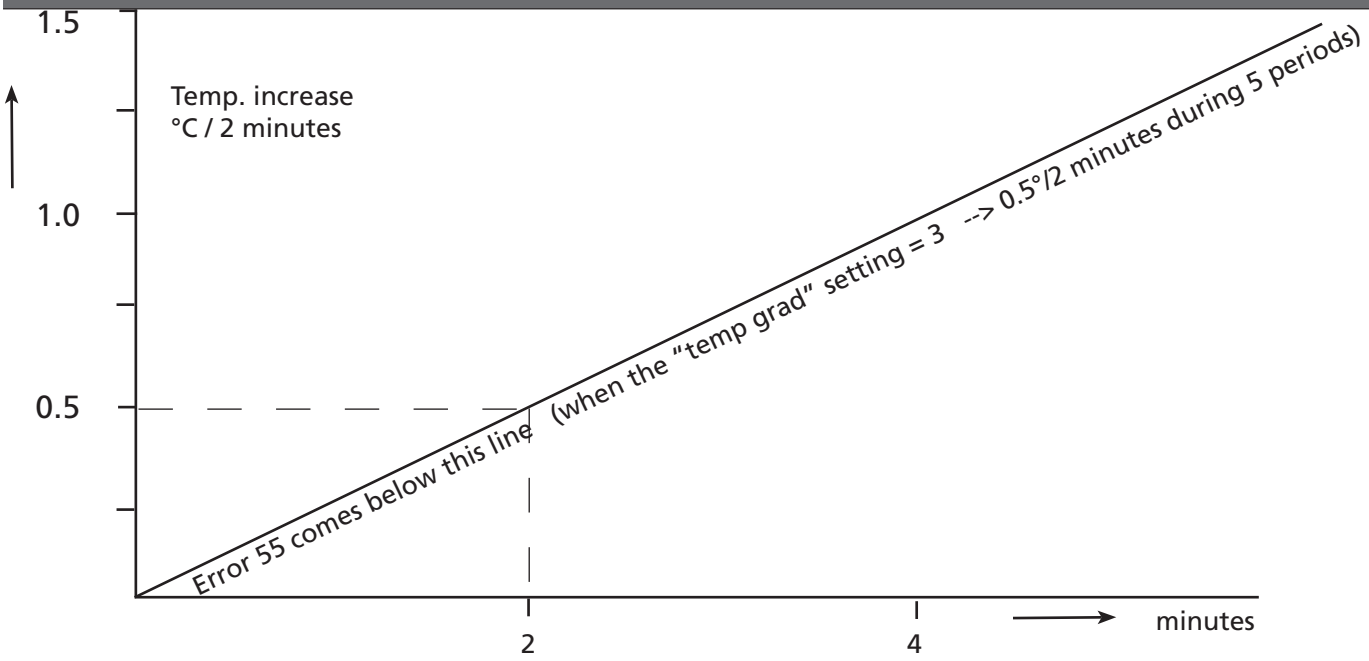
°C	PT1000
40	1155,40
50	1194,00
60	1232,40
70	1270,00
80	1308,90
90	1347,00
100	1385,00
110	1422,00

°C	PT1000
120	1460,60
130	1498,20
140	1535,80
150	1573,10
200	1758,43
250	1940,81
300	2120,30

OVERVIEW OF ERROR CODES TDR-P

Error 11.	1. PT sensor malfunction.(resistance below 1000 Ω) Reading < 0°C (32°F) 2. Wiring PT sensor shortened. 3. Environment below freezing point
Error 33.	1. PT sensor malfunction.(resistance higher than 2200 Ω) Reading > 315°C (600°F) 2. Wiring PT sensor loose.
Error 44	Logging of PCB temperature when above 65°C, only during cooking.
Error 55. **See also explanation on next page**	Heating up takes too much time. 1. Contactor malfunction. 2. P.T. sensor malfunction. 3. Heating elements malfunction. 4. Safety thermostat malfunction. 5. For software older than V.1.03.07: Setting of temperature in cooking program is too high. Set temperature on "normal value". Load latest software. 6. Parameter setting of "temp.grad" is not on value 3.
Error 66.	1. Blower overheated, thermistor in blower opens. 2. Relay K3 malfunction. 3. Parameter "thermistor"is set on "yes"in a model older than serial nr. 100067527. Put parameter on "NO" **Note that putting the parameter "thermistor" on "NO" will disable the error. The blower motor will however still stop in case of overheating.**
Error 77. Error 88.	The expected heat number is more than 20% lower (error 77) or higher (error 88) than the stored heat number in the cooking program. This error does not result in a complete shut down of the rotisserie, but is stored in the fault messages in the service menu. 1. Check heat number in cooking program. 2. Heating element malfunction. 3. Cooking program malfunction. Erase program, create new program, run a reference batch and run a second batch for verification.
Error 91	Filter(s) in hood not in place (see "parameter hood check")
Error 92	Filters in hood polluted (see "parameter hood check")
Application error. A: No standard screen when switching on. B: APP. error on screen.	Parameter file cannot be openend when switching the TDR on Failure during loading of parameters or programs. Communication failure keypad and CPU. A1. Make a complete reset by pulling out the plug for 1 sec. A2. CPU board malfunction. B1. Memory stick failure. B2. For communication failure load latest software version (solved in V1.03.08 or higher).
No Application found	The CPU board has no, or corrupt software. Upload the latest version. (can be found on frijado.com)

ERROR 55 EXPLANATION



Note: 1. Measuring starts 5 minutes after beginning of a heating step.
2. Duration is 5 periods of 2 minutes.
3. Measuring stops at 150°C/302°F or when temp. in cabinet is < 30°C than the set temperature.

Necessary line currents:
TDR8 with neutral 3x 16A. Without neutral 3x 27A.
TDR5 with neutral 3x 8,5A. Without neutral 3x 14A.

Possible cause	Caused by	Explanation	Solution
Energy supply problem	Broken contactor	One or more contacts broken, no current	Replace contactor
		Broken coil, contactor does not kick in	Replace contactor
	Missing phase	No current in one or two phases	Check mains connections and customer fuses
	Broken heating element	No current to one or more heating elements	Replace heating element
		Short circuit in heating element	Replace heating element
	Low supply Voltage	Low voltage results in low current	Check line voltage and currents.
	Hi-limit thermostat	Not adjusted to it's maximum	Fully turn clock-wise (cw)
		Broken thermostat.	Replace thermostat
	Broken temperature sensor	Sensor gives a wrong value	Replace sensor
	Wrong setting of "temp grad" parameter	Default setting is 3, --> 0.5° per 2 minutes	Check setting
Too much energy absorption	Products are stuffed with a very humid substance		Put "temp grad"setting on 2 or 1.

TROUBLE SHOOTING BY SYMPTOM.

Symptom	Mo-del	Possible causes
No power to oven controls.		1. Main breaker open. 2. Fuse burned (F1). 3. Fuse power and I/O board burned (F3). 4. Electronic control inoperative. 5. Wiring or flatcable loose/broken.
Main fuse or breaker blows.		1. Wiring incorrectly. 2. Heating element, drive motor, blower or contactor shorted. 3. Wiring shorted.
Rotor drive motor does not run during cooking cycle.	 M M P / I	1. Main fuse on L1 inoperative. 2. Capacitor malfunction. 3. Motor malfunction. 4. Main switch malfunction. 5. Rotor switch malfunction. 6. Door switch malfunction. 7. Timer malfunction. 8. Wiring loose. 9. Power and I/O board malfunction. Also check relay X12.
Rotor drive motor stops and runs again after a certain period.		Thermal protection activated (105°C / 220°F). This shuts off after the temperature is below 105°C / 220°F.
Rotor drive motor does not stop		1. Short circuit on rotor switch 2. Rotor switch pushed in. (unit is placed with the back to the wall.
Blower motor does not run.	 P / I	1. Capacitor malfunction. 2. Motor inoperative. 3. Power and I/O board malfunction. Also check relay X6. 4. Wiring loose.
Blower motor stops and runs again after a certain period.		1. Thermal protection activated (140°C). This shuts off after the temperature is below 140°C.
Oven temperature differs from temperature setting.	 M P / I P / I	1. Incorrect line voltage. 2. (safety) thermostat malfunction. 3. Blower motor inoperative (turning direction?). 4. Thermostat malfunction. 5. Electronic control inoperative. 6. PT 1000 sensor malfunction. 7. Sensor (probe) not in right place. 8. Dirty fanguard or fanblade.
All heating elements out, both halogen lamps and blower operate while oven cavity is below set temperature.	 M P / I	1. (safety) thermostat malfunction. 2. Contactor inoperative. 3. Thermostat malfunction. 4. Power and I/O board malfunction. 5. Wiring loose.

Symptom	Mo-del	Possible causes
Oven temperature does not reach desired temperature.	P / I M P / I	1. (safety) thermostat malfunction. 2. Contactor inoperative. 3. PT 1000 sensor malfunction. 4. Sensor (probe) not in right place. 5. Thermostat malfunction 6. Electronic control inoperative. 7. Heater(s) inoperative. 8. Incorrect line voltage.
Infrared Halogen lamp(s) do not work.		1. Contactor inoperative. 2. Lamp(s) broken. 3. Lamp holder broken. 4. Wiring loose.
Infrared Halogen lamps do not shut off.		1. Contactor inoperative.
↓↓↓↓ P / I models only ↓↓↓↓		
No display and/or keypad does not function.		1. Main breaker open. 2. Remove plug out of socket and connect plug again (reset of key sensitivity). 3. Loose flat cable from CPU/display to power and I/O board. 4. Fuse (125 mA) on power and I/O board burned. 5. Power and I/O board malfunction. 6. Loose flatcable from CPU/display to keypad. 7. CPU board malfunction. 8. Door switch malfunction. 9. Keypad malfunction. Check also the adhesive of the key-pad. 10. Earth wire on CPU board makes contact with the solder point on the board (see CPU board page 28).
All beep functions do not func-tion anymore.	O	1. Obsolete software (older than V1.03.06). Load latest sofware. If no software is available unplug the unit for 5 seconds and plug in again. Now the beep signal will work again for 49 days. 2. All sounds in parameter list are disabled (switched off).
Blue LED light On/Off key is fading in and out. Keypad does not function.		1. Flatcable from keypad on the operation panel is connected incorrectly. Must be connec-ted to “Touchpanel 1” connector of CPU board (see CPU board page 28).
Programs are not saved. Only program 0 is available.		1. Bug in program mode. Only way to bypass is to load mi-nimum one program with a memory stick. 2. Need to load latest software.
Infrared Halogen lamp(s) do not work.		1. Contactor inoperative. 2. Lamp(s) broken. 3. Lamp holder broken. 4. Wiring loose.
Infrared Halogen lamps do not shut off.		1. Contactor inoperative. 2. Power and I/O board malfunction. Also check relay X11.

TROUBLE SHOOTING BY PART / FUNCTION.

Description of part / function	Symptoms	Possible cause	Action
Inside door	Broken glass	Slamming of door.	Give instruction to operator.
		Fastening bolts and nuts are loose.	Tighten all fastenings.
		No PTFE ring between steel and glass.	Mount new glass with PTFE rings between glass and steel.
Outside door	Broken glass	Slamming of door.	Give instruction to operator.
		Fastening bolts and nuts are loose.	Tighten all fastenings.
		No PTFE ring between steel and glass.	Mount new glass with PTFE rings between glass and steel.
	Door adjustment	Door not well adjusted and closes against bottom side.	Adjust door on hinge and tighten the hinge plate.
Heating element	Rotisserie doesn't reach adjusted temperature	Wiring.	Check the wiring.
			Check the power on the element.
		Element malfunction.	Check the current with AC current tester. See table on page 52.
	Duration of grilling time is too long	Wiring.	Check the wiring.
		Element malfunction.	Check the current with AC current tester. See table on page 52.
Safety thermostat	Contactor does not come in after starting of program	Wiring.	Check the wiring.
		Thermostat malfunction.	Check if the thermostat is making contact.
	Contactor switches off before reaching the adjusted temperature in program	Thermostat malfunction.	Check if the thermostat is turned fully clockwise (contact closed).
		Thermostat probe not in right position.	Check the position of the thermostat probe.
Contactor	Contactor doesn't come in	Wiring.	Check the wiring.
		Coil malfunction.	Check resistance of the coil. This should be 525Ω.
	Contactor comes in, but one or more functions don't come in	Contact burned.	Check the wiring.
			Check the power on al contacts.
			Check the contacts of the contactor.
Capacitor	Drive motor or blower don't work	Wiring.	Check the wiring.
		Capacitor malfunction.	Check function after connecting a new capacitor. *Checking of capacitor:* *Discharge capacitor with screwdriver. Set meter on MΩ and connect the pins of the meter on contacts, value runs up. Change the pins on contacts, value runs up again. This means the capacitor is OK.*

Description of part / function	Symptoms	Possible cause	Action
Drive motor	Motor doesn't run and / or main fuse burned	Wiring. Coil malfunction.	Check the wiring. Check the power to the motor. Check insulation value of coil with Megger on 500V. Minimum value is 0.5 MΩ. Check resistance of the coils. See chapter Electrical tests. Between whiteA and white wire 234Ω. Between whiteA and brown wire 117Ω. Between white and brown wire 117Ω.
		Reduction gearbox.	Check if reduction gearbox is blocked.
	Motor runs after starting it up by hand	Capacitor malfunction.	Check capacitor (see capacitor) or connect new capacitor.
	Motor stops during process and comes in again after a period of time	Coil overheated, thermistor switches off (105°C – 221°F).	Check rotation direction. Air should be flowing upwards over the motor. Check cooling circuit of motor. Check if rotisserie is close to another heat source. Measure temperature motor during process.
	Main fuse burned	Short circuit in coil to earth.	Check insulation value of coil with Megger on 500V. Minimum value is 0.5 MΩ.
Blower ***Note:*** Until serial number 100062182 this blower is executed with a 8 uF capacitor due to the minimum RPM. The blower in the rotisseries after 100062182 have adapted coils and 6 uF capacitor. The RPM now are minimum 2500.	Blower doesn't run and / or Main fuse burned	Wiring. Coil malfunction.	Check the wiring. Check the power on the blower. Check insulation value of coil with a Megger on 500V. Minimum value is 0.5 MΩ. Check resistance of the coils. *See chapter Electrical tests.* *Between black and red wire 65Ω.* *Between black and blue wire 35Ω.* *Between red and blue wire 30Ω.*
	Blower runs after starting it up by hand	Capacitor malfunction.	Check capacitor (see capacitor) or connect new capacitor.
	Blower stops during process and comes in again after a period of time	Coil overheated, thermistor switches off (140°C – 284°F).	Check cooling circuit of blower. Check if rotisserie is close to another heat source. Measure temperature blower during process.
	Temperature indication on display runs up very fast (180°C - 355°F after 5 minutes)	Blower doesn't turn and heat stays in top of cavity.	Check the wiring. Check the power on the blower.
Blower of warmer		(150°C – 302°F)	Check the wiring. Check the power on the blower. Check insulation value of coil with a Megger on 500V. Minimum value is 0.5 MΩ. Check resistance of the coils. See also table on page 50. Between blue and brown wire= 310Ω Between blue and black wire= 320Ω Between brown and black wire= 630Ω

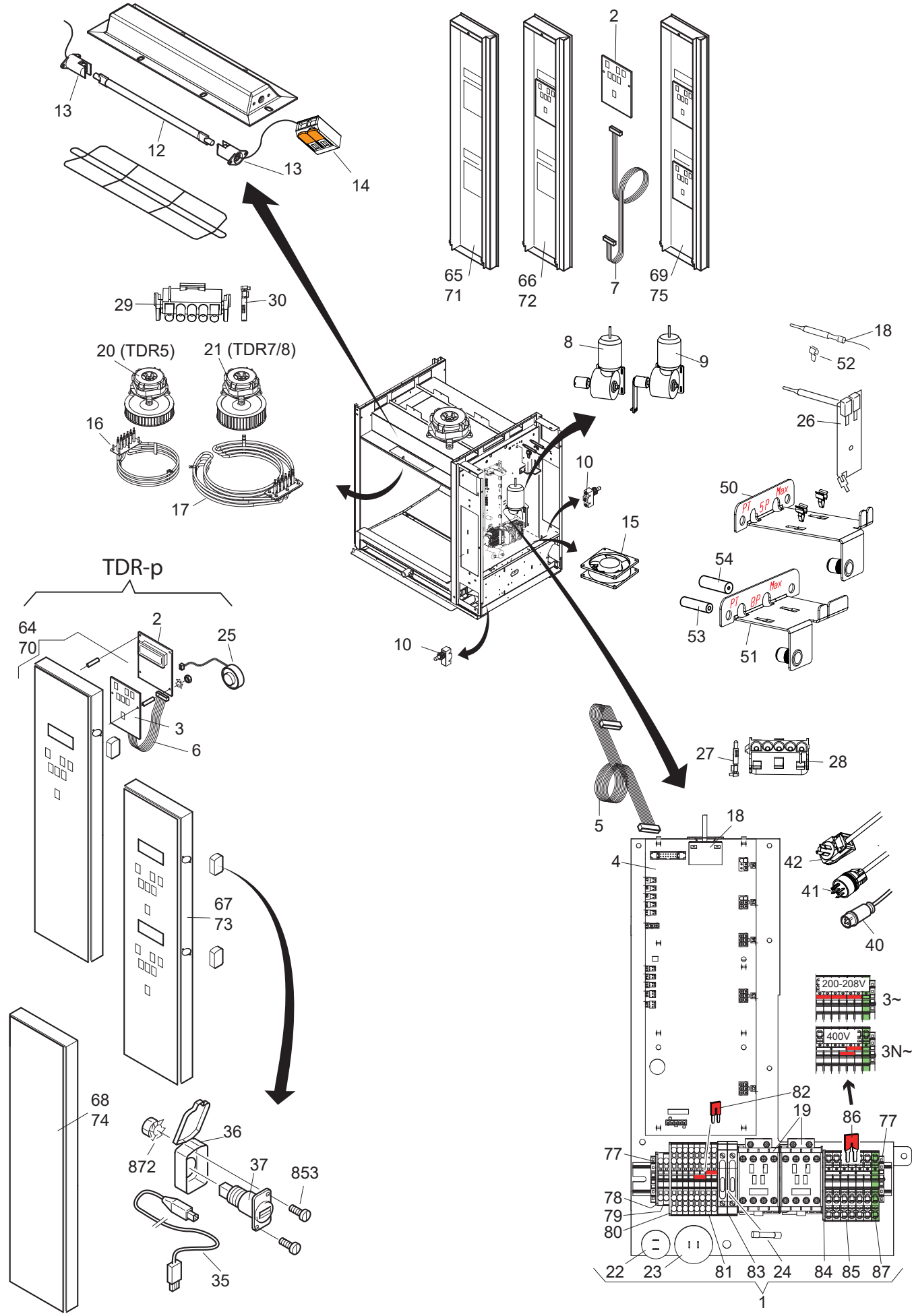
Description of part / function	Symptoms	Possible cause	Action
↓↓↓↓ M models only ↓↓↓↓			
Main switch	No power to all, or some oven controls.	Wiring.	Check the wiring on the switch.
		Malfunction of the cams on the switch.	Check the cams.
	Switch comes in, but one or more functions from the switch don't work.	Contacts burned.	Check the wiring.
			Check the power on all contacts.
			Check the contacts of the switch.
Thermostat	Contactor doesn't come in after starting of program	Wiring.	Check the wiring.
		Thermostat malfunction.	Check if the thermostat is making contact.
	Contactor switches off before reaching the adjusted temperature in program	Thermostat malfunction.	Check if the thermostat is turned fully clockwise (contact closed).
		Thermostat probe not in right position.	Check the position of the thermostat probe.
Timer	No functions of the oven are working.	Wiring	Check the wiring on the timer.
			Check the power on the timer.
		Malfunction of the timer.	Check function after connecting a new timer.
	Grilling proces is working, but doesn't stop.	Malfunction of the timer.	Check if the time is running down on the timer (does it tick).
			Check if the timer is switching off after reaching the zero position.
Rotor switch	Drive motor doesn't run.	Wiring.	Check the wiring.
			Check the power on the switch.
		Back part of switch not clicked-on.	Check if back part is clicked-on on both sides.
		Malfunction of the switch.	Check function after connecting a new switch.
↓↓↓↓ P / I models only ↓↓↓↓			
PT-sensor	Temperature indication on display of 317°C / 603°F	No connection between wires.	Check the wiring. Check thin wire on sensor.
	Temperature indication on display does not go up	Full contact between wires of sensor.	Check the wiring.
		Short circuit in sensor.	Measure resistance of sensor. This is zero.
	Rotisserie does not reach adjusted temperature	Malfunction sensor.	Measure resistance of sensor with a thermometer probe next to the sensor. See table in this manual.
		Sensor not in right position.	Check position of sensor
	Temperature indication on display runs up too fast	Malfunction Sensor	Measure resistance of sensor. See table on page 53.

Description of part / function	Symptoms	Possible cause	Action
Keypad(s) do not react	No possibility to make a program	One or more keys don't function.	Check functions of keypad(s), see "function" parameter in service menu.
			Check flat cable connection between CPU board and keypad.
			Check if keypad is correctly glued to the glass.
		No responce on all keys.	Remove plug from socket and connect again (reset of key sensitivity)
			Check if keypad is correctly glued to the glass.
Keypad(s) react strange / automatic	Automatic stopping of program.	Moist on / or running over the keypad	1. Check for condensation. When the unit is cold and the environment is heating up, condensation can be expected. 2. Check for water, dripping on the top of the unit and running down.
Display/CPU on operation panel and power I/O board	No illumination on display	Wiring.	Check the wiring.
			Check the power on the CPU board by the 2 flashing red LED's just near the flatcable on the power and I/O board.
		Fuse burned.	Check the 125 mA fuse on the power I/O board.
			Check the fuses.
		Flat cable.	Check grey flat cable connection.
			Check functions after connecting a new grey flat cable.
		Display/CPU malfunction.	Check functions after installing a new CPU board with display.
		Power board malfunction.	Check functions after installing a new power I/O board.
	Display shows strange things.	Parameters not on right settings.	Check parameters.
		Wrong software or loss of data.	Check software version or upload latest software.

TROUBLE SHOOTING THE TDW WARMER

Symptom	Possible causes
No power to warmer controls.	1. Main breaker open. 2. Switch malfunction. 3. Wiring loose.
Main fuse or breaker blows.	1. Wiring incorrectly. 2. Heating element or blower shorted. 3. Wiring shorted.
Blower motor does not run.	1. Capacitor malfunction. 2. Wiring loose. 3. Motor inoperative.
Lamps do not operate.	1. Lamp malfunction. 2. Switch malfunction. 3. Wiring loose.
Oven temperature does not reach desired temperature.	1. Incorrect line voltage. 2. Heater(s) inoperative. 3. Thermometer malfunction. 4. Thermostat malfunction. 5. Thermostat probe not in right place. 6. Blower motor inoperative (turning direction?) 7. Dirty fanguard or fanblade.
Products dry out too fast.	1. No water in tray.
No indication on the display.	1. Battery of display empty. 2. Display malfunction.

TDRP, ELECTRICAL PARTS

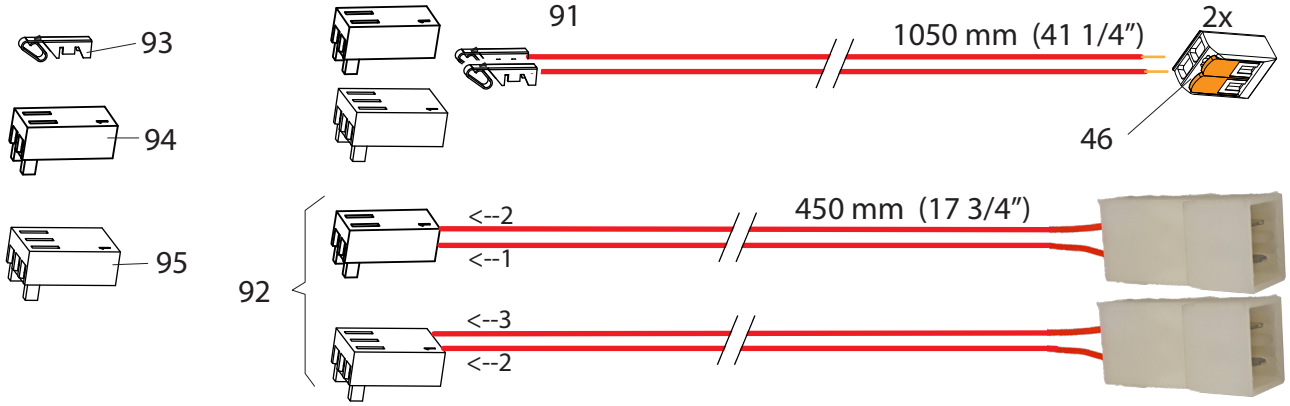


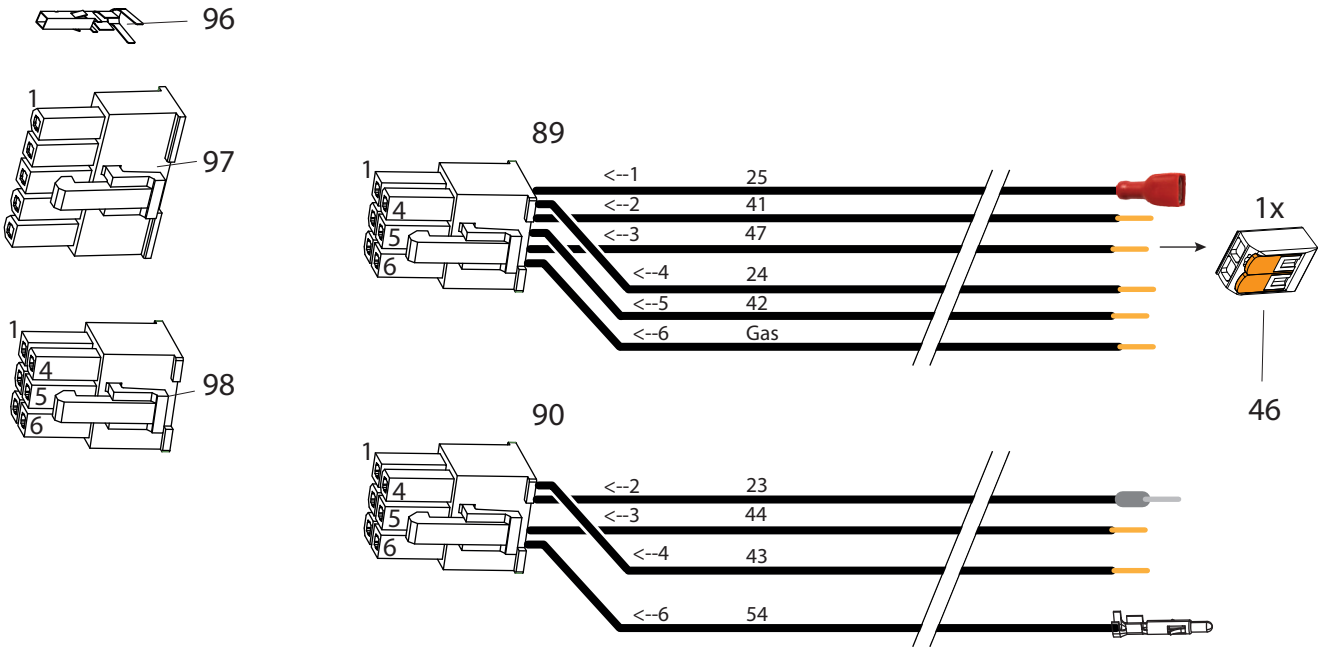
TDRP, PARTS LIST ELECTRICAL PARTS

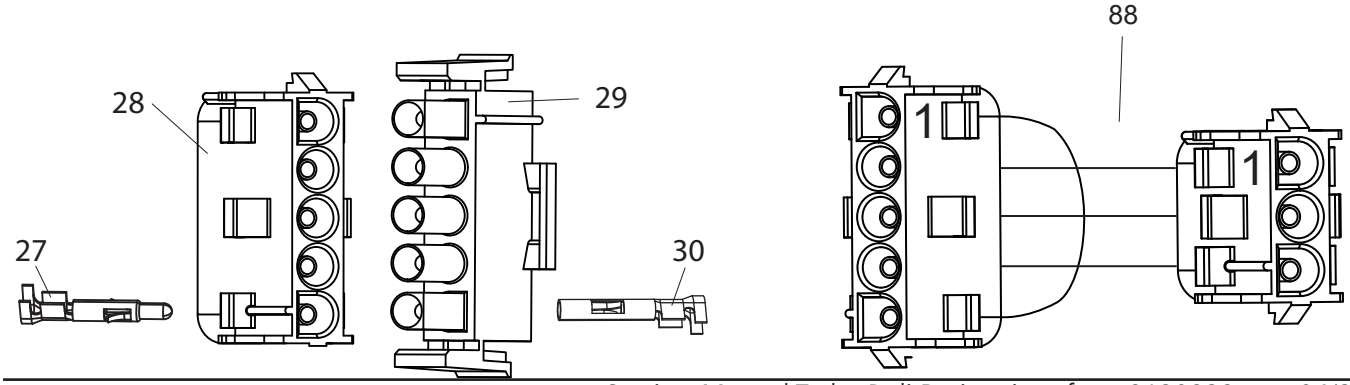
Pos	Part number	Description	Qty
1	9290344s	Electric panel, ass.	
2	9292040s	CPU board + LCD	
3	9292041	Keypad + short flatcable	
4	9192400s	Power & I/O board	
5	9172314	Ribbon cable L= 1500 mm, 14 pins	
6	9292081	Ribbon cable 10p 85 mm.	
7	9292044	Ribbon cable 10p 1100 mm.	
8	9293001s	Gearmotor, complete with drive head, TDR5	
9	9293002s	Gearmotor, complete with drive head, TDR7/8	
10	3701233s	Door switch	
12	9291001s	Infrared Halogen lamp 500W	
13	9052826	Lamp holder	
14	9291122	Connector, 2 pole	
15	3500031	fan, cooling	
16	9292029s	Heating element 208 V, 5.4 KW, ass.	
17	9292028s	Heating element 208 V, 9.3 KW	
18	9040970	Safety thermostat	
19	3500069	Contactor	
20	9298550s	Blower, ass. TDR5	
21	9298551s	Blower, ass. TDR7/8	
22	3701228	Capacitor 2.5 uF	
23	9192034	Capacitor 6 uF	
24	9191197	Fuse 10A, ceramic 32x6,3	
25	9172362	Buzzer 12V, separate connection for service	
26	9172310	Temperature sensor PT 1000	
27	0601466	Crimp contact male, M-N-L	
28	9291014	Socket, 5p, Mate-N-Lock	
29	3701272	Plug, 5p, Mate-N-Lock	
30	0601458	Crimp contact female, M-N-L	
35	9291012	USB cable	
36	9291010	Cover USB adapte	
37	9291011	USB adapter	
41	9172404	Connecting cable with plug15-30P	
42	9172425	Connecting cable with plug 15-50P	
50	9294075s	Bracket temperature sensors, TDR5p	
51	9294069s	Bracket temperature sensors, TDR7/8	
52	9110072	Clip	
53	9293095	Seal, silicon Ø10 x ø4 L=45	
54	9293096	Seal, silicon Ø12 x ø3 L=45	
64	9298520	Control panel, ass. + keypad, TDR5	
65	9298524	Panel, left side, TDR5	

Pos	Part number	Description	Qty
66	9298522	Panel, customer side, ass. + keypad, TDR5	
67	9298523	Control panel, ass. + 2 keypads, TDR5	
68	9298561	Blind panel, right side, TDR5	
69	9298525	Panel, customer side, ass. + 2 key-pads, TDR5	
70	9298530	Control panel, ass. + keypad, TDR7/8	
71	9298534	Panel, left side, TDR7/8	
72	9298532	Panel, customer side, ass. + keypad, TDR7/8	
73	9298533	Control panel, ass. + 2 keypads, TDR7/8	
74	9298536	Blind panel, right side, TDR7/8	
75	9298535	Panel, customer side, ass. + 2 key-pads, TDR7/8	
77	9191222	End clamp	
78	9191351	End cover	
79	9191232	Terminal, 2 pole 4² Grey	
80	9191223	Endcap, terminal	
81	9191240	Terminal, 4 pole 4² Grey	
82	9191238	Plug-in bridge FBS 2-6 PHX	
83	9191218	Fuse holder Phoenix	
84	9191347	End cover	
85	9191349	Terminal, 3 pole 6² Grey	
86	9191355	Plug-in bridge FBS 2-8 PHX	
87	9191348	Terminal, 3 pole 6² Green	

TDR-P/I CONNECTORS AND WIRING





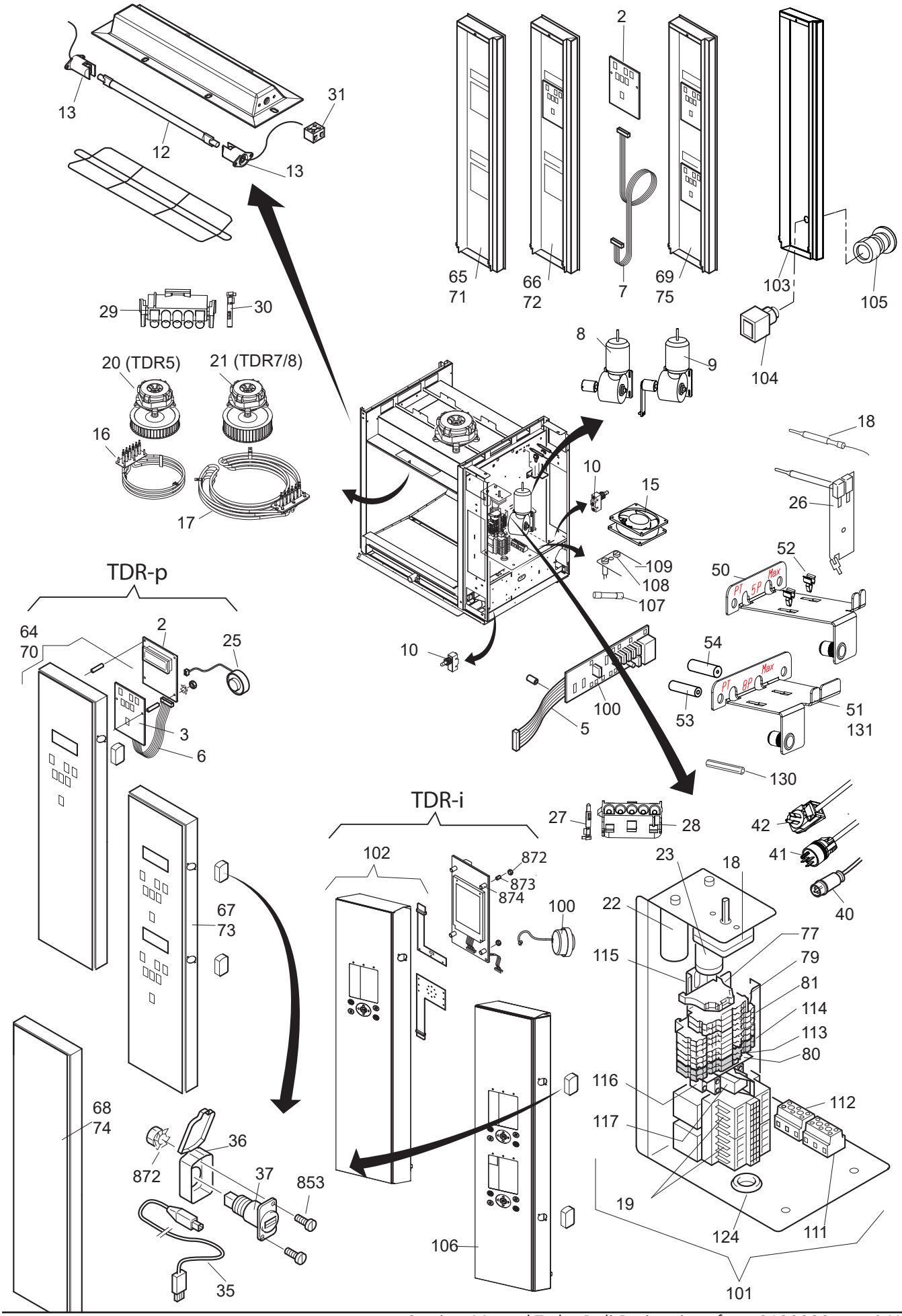


TDR-P/I PARTS LIST CONNECTORS AND WIRING

Pos	Part number	Description	Qty
88	9293021	Conversion cable 3 to 5-pole	
89	9290858	Wire repair set TDRp J2	
90	9290859	Wire repair set TDRp J6	
91	9310850s	Wire repair set inputs	
92	9310816s	Connection set TDR hood	
93	9291176	Crimp contact, inputs	
94	9291175	Socket, 2 p, inputs	
95	9291177	Socket, 3 p, inputs	
96	3701231	Crimp contact, outputs	
97	9291170	Plug, 5p, power	
98	9291173	Plug, 6p, outputs	

Pos	Part number	Description	Qty

TDR-P/I, ELECTRICAL PARTS UNTILL SERIAL NUMBER 100097687

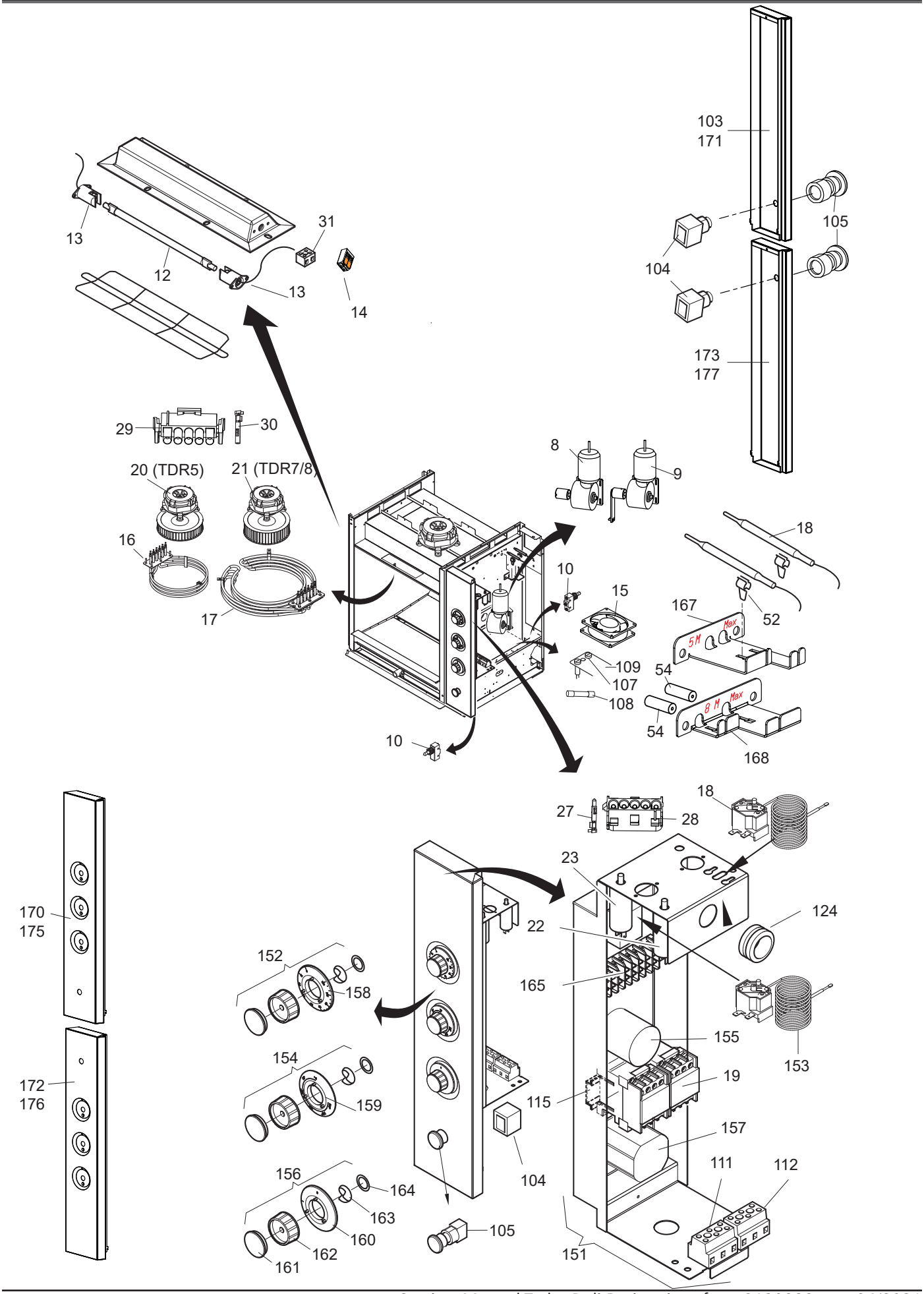


TDR-P/I, PARTS LIST ELECTRICAL PARTS UNTILL SERIAL NUMBER 100097687

Pos	Part number	Description	Qty
2	9292040s	CPU board + LCD	
3	9292041	Keypad + short flatcable	
5	9172314	Ribbon cable L= 1500 mm, 14 pins	
6	9292081	Ribbon cable 10p 85 mm.	
7	9292044	Ribbon cable 10p 1100 mm.	
8	9293001s	Gearmotor, complete with drive head, TDR5	
9	9293002s	Gearmotor, complete with drive head, TDR7/8	
10	3701233s	Door switch	
12	9291001s	Infrared Halogen lamp 500W	
13	9052826	Lamp holder	
14	9291122	Connector, 2 pole	
15	3500031	fan, cooling	
16	9292029s	Heating element 208 V, 5.4 KW, ass.	
17	9292028s	Heating element 208 V, 9.3 KW	
18	9040970	Safety thermostat	
19	3500069	Contactor	
20	9298550s	Blower, ass. TDR5	
21	9298551s	Blower, ass. TDR7/8	
22	3701228	Capacitor 2.5 uF	
22,1	9077102	Capacitor 3 uF (till serial nr. 100061450)	
23	9192034	Capacitor 6 uF	
23,1	9291015	Capacitor 8 uF (till serial nr. 100062182)	
23,2	3701274	Capacitor 5 uF (till serial nr. 100060887)	
25	9172362	Buzzer 12V, separate connection for service	
26	9172310	Temperature sensor PT 1000	
27	0601466	Crimp contact male, M-N-L	
28	9291014	Socket, 5p, Mate-N-Lock	
29	3701272	Plug, 5p, Mate-N-Lock	
30	0601458	Crimp contact female, M-N-L	
31	2300121	Terminal block, ceramic	
35	9291012	USB cable	
36	9291010	Cover USB adapte	
37	9291011	USB adapter	
41	9172404	Connecting cable with plug15-30P	
42	9172425	Connecting cable with plug 15-50P	
50	9294075s	Bracket temperature sensors, TDR5p	
51	9294069s	Bracket temperature sensors, TDR7/8	
52	9110072	Clip	
53	9293095	Seal, silicon Ø10 x ø4 L=45	
54	9293096	Seal, silicon Ø12 x ø3 L=45	

Pos	Part number	Description	Qty
64	9298520	Control panel, ass. + keypad, TDR5	
65	9298524	Panel, left side, TDR5	
66	9298522	Panel, customer side, ass. + keypad, TDR5	
67	9298523	Control panel, ass. + 2 keypads, TDR5	
68	9298561	Blind panel, right side, TDR5	
69	9298525	Panel, customer side, ass. + 2 key-pads, TDR5	
70	9298530	Control panel, ass. + keypad, TDR7/8	
71	9298534	Panel, left side, TDR7/8	
72	9298532	Panel, customer side, ass. + keypad, TDR7/8	
73	9298533	Control panel, ass. + 2 keypads, TDR7/8	
74	9298536	Blind panel, right side, TDR7/8	
75	9298535	Panel, customer side, ass. + 2 key-pads, TDR7/8	
77	9191222	End clamp	
79	9191232	Terminal, 2 pole 4² Grey	
80	9191223	Endcap, terminal	
81	9191240	Terminal, 4 pole 4² Grey	
100	9192202	Power & I/O board	
101	9290215	Electric panel, ass.	
102	9298539s	Control panel TDR7/8i (right control-led)	
103	9294055s	Blind panel, SS, for rotor button	
104	9291003	Contact block, rotor switch	
105	9291002	Knob, rotor switch	
106	9298540s	Control panel TDR7/8i stacked (right controlled)	
107	9044205	Fuse holder	
108	9110250	Fuse SC10, 10A	
109	...	Fuse holder plate	
111	9044564	Connecting block, 1,2,3	
112	9044572	Connecting block, 4,5,6	
113	9191237	Connecting bridge, 3p	
114	9191241	Terminal, 4 pole 4² Blue	
115	9077088	Rail	
116	9291141	Socket, relay	
117	9291140	Relay	
124	9070840	Grommet	
130	9172280	Spacer M4, L= 83,5mm (till ser.nr. 100060436)	
131	9294063	Bracket temperature sensors. (Untill serial nr. 100060436)	

TDRM, ELECTRICAL PARTS

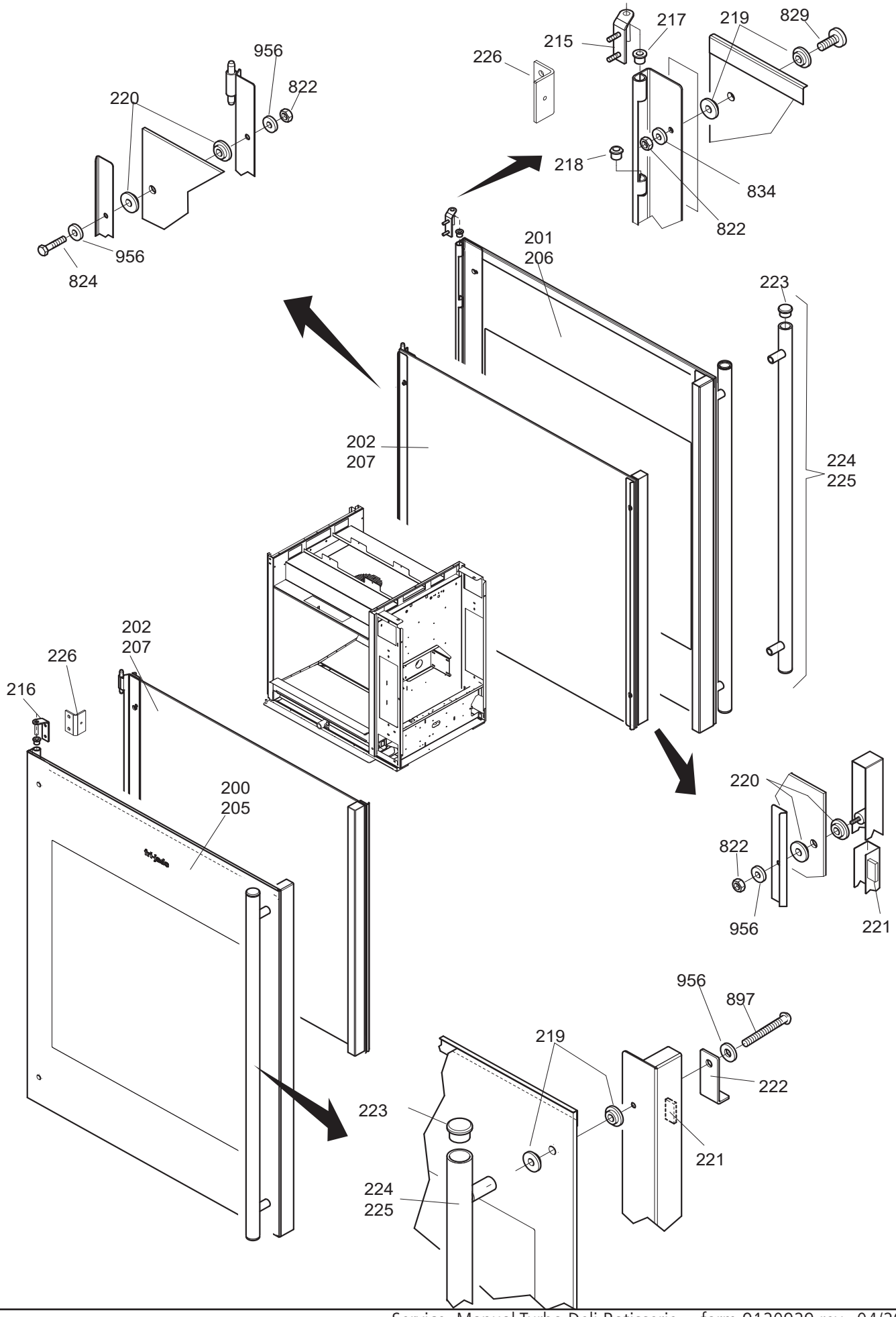


TDRM, PARTS LIST ELECTRICAL PARTS

Pos	Part number	Description	Qty
8	9293001s	Gearmotor, complete with drive head, TDR5	
9	9293002s	Gearmotor, complete with drive head, TDR7/8	
10	3701233s	Door switch	
12	9291001s	Infrared Halogen lamp 500W	
13	9052826	Lamp holder	
14	9291122	Connector, 2 pole	
15	3500031	fan, cooling	
16	9292029s	Heating element 208 V, 5.4 KW, ass.	
17	9292028s	Heating element 208 V, 9.3 KW	
18	9040970	Safety thermostat	
18	9040970	Safety thermostat	
19	3500069	Contactor	
20	9298550s	Blower, ass. TDR5	
21	9298551s	Blower, ass. TDR7/8	
22	3701228	Capacitor 2.5 uF	
22,1	9077102	Capacitor 3 uF (till serial nr. 100061450)	
23	9192034	Capacitor 6 uF	
23,1	9291015	Capacitor 8 uF (till serial nr. 100062182)	
23,2	3701274	Capacitor 5 uF (till serial nr. 100060887)	
27	0601466	Crimp contact male, M-N-L	
28	9291014	Socket, 5p, Mate-N-Lock	
29	3701272	Plug, 5p, Mate-N-Lock	
30	0601458	Crimp contact female, M-N-L	
31	2300121	Terminal block, ceramic	
52	9110072	Clip	
54	9293096	Seal, silicon Ø12 x ø3 L=45	
103	9294055s	Blind panel, SS, for rotor button	
104	9291003	Contact block, rotor switch	
105	9291002	Knob, rotor switch	
107	9044205	Fuse holder	
108	9110250	Fuse SC10, 10A	
109	...	Fuse holder plate	
111	9044564	Connecting block, 1,2,3	
112	9044572	Connecting block, 4,5,6	
115	9077088	Rail	
124	9070840	Grommet	
151	9290215	Electric panel, ass.	
152	9298508	Temperature knob, ass.	
153	9070531	Thermostat	
154	9298506	Timer knob, ass.	
155	9040463	Timer switch	
156	9298507	Main switch knob, ass.	

Pos	Part number	Description	Qty
157	9171140	Main switch	
165	8033659	Connecting block	
167	9294064	Bracket temperature sensors	
168	9294063	Bracket temperature sensors	
170	9294129	Control panel, TDR5m	
171	9294130	Panel, customer side, TDR5m	
172	9294131	Control panel (lower unit), TDR5m	
173	9294132	Panel, customer side (lower unit), TDR5m	
175	9294053	Control panel, TDR7/8m	
176	9294054	Control panel (lower unit), TDR7/8m	
177	9294056	Panel, customer side (lower unit), TDR7/8m	

TDR DOORS


956
822
220
824
956
226
215
217
219
829
218
834
822
201
206
223
202
207
224
225
202
207
226
216
200
205
220
822
956
221
956
897
219
222
223
221
224
225

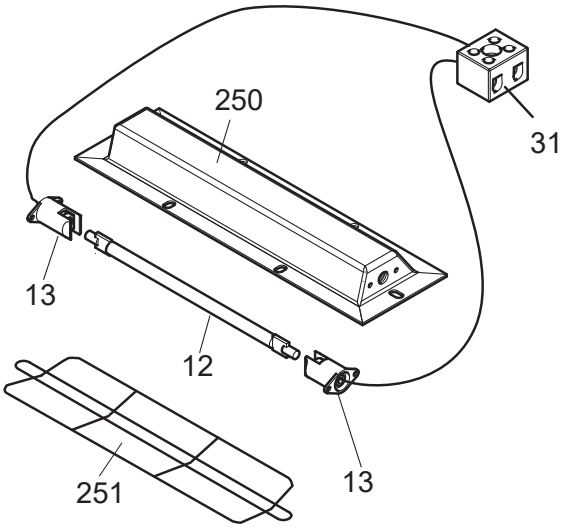
TDR PARTS LIST DOORS

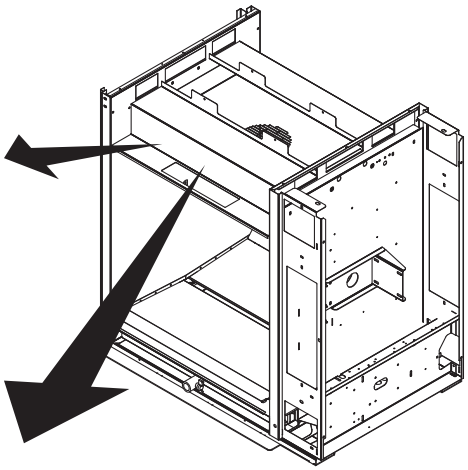
Pos	Part number	Description	Qty
		TDR 5	
200	9298500s	Door service side, ass., TDR5m	
201	9298503s	Door customer side, ass., TDR5m	
202	9298502s	Door inside, ass., TDR5m	
		TDR 7/8	
205	9298510s	Door service side, ass., TDR7/8m	
206	9298513s	Door customer side, ass., TDR7/8m	
207	9298512s	Door inside, ass., TDR7/8m	
215	9290410	Hinge, right	
216	9290409	Hinge, left	
217	9172054	Brass bearing 8 mm	
218	9172122	Brass bearing 8 mm, adjusted	
219	3702342	Flange bush, PTFE 3 mm	
220	3702341	Flange bush, PTFE 2 mm	
221	9070141	Magnet block	
222	9294229	Blocking bracket	
223	2103209	Plug, door handle	
224	9298100	Door handle, kit, TDR5	
225	9298101	Door handle, kit, TDR7/8	
226	9174154	Adjusting bracket	

Pos	Part number	Description	Qty

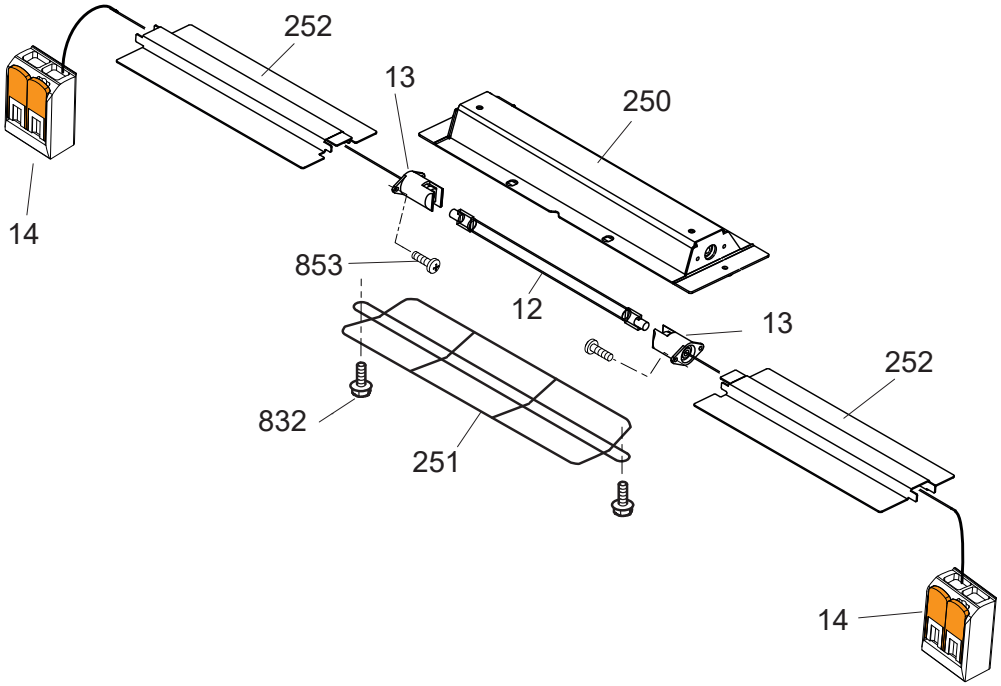
TDR ILLUMINATION

Untill serial number 100075953





From serial number 100075954

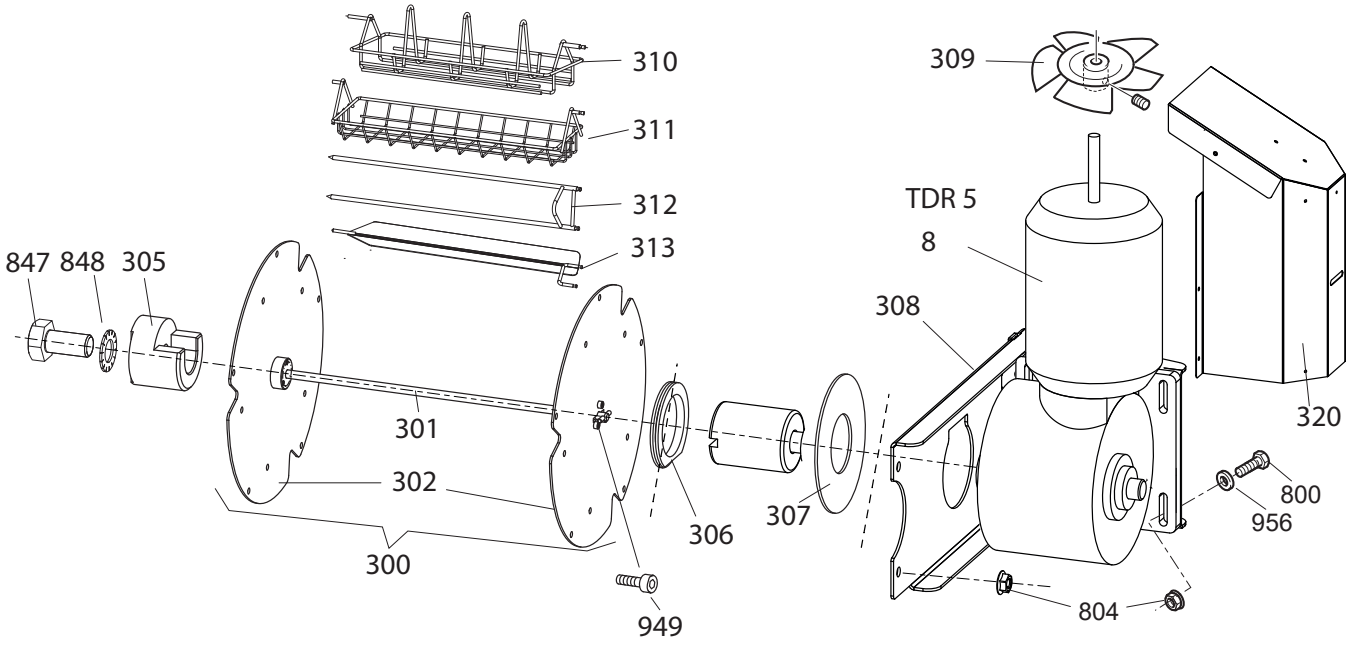


TDR PARTS LIST ILLUMINATION

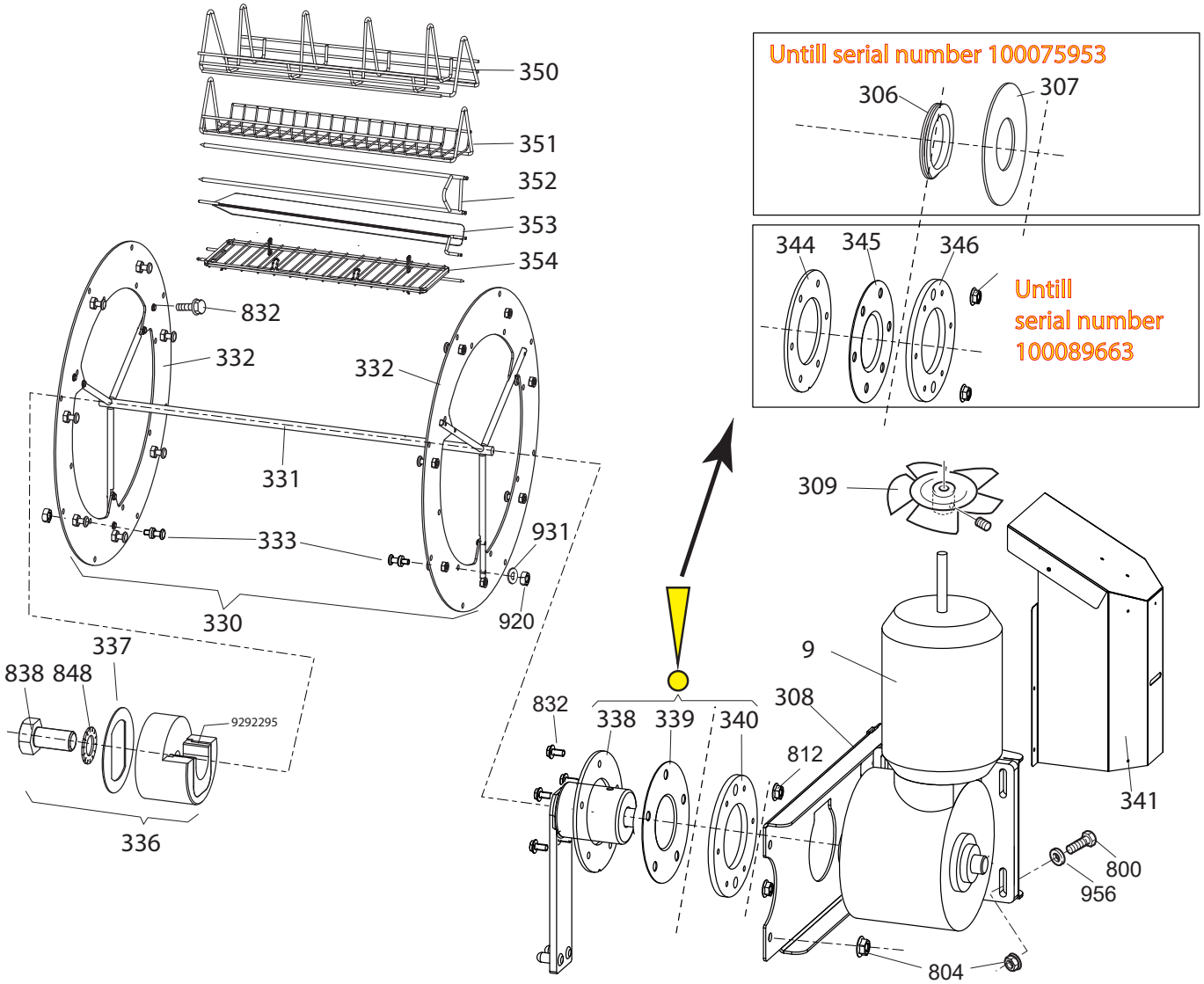
Pos	Part number	Description	Qty
12	9291001s	Infrared Halogen lamp 500W	
13	9052826	Lamp holder	
14	9291122	Connector, 2 pole	
31	2300121	Terminal block, ceramic	
250	9294463s	Light fixture + end plate L and R	
251	9292061	Protection guard, infrared lamp	
252	9294227	Channel, lamp wiring	
853	2105045	Screw M3x10	
832	4288231	Tensilock bolt M5 x 10	

Pos	Part number	Description	Qty

TDR 5 ROTOR



TDR 7/8 ROTOR

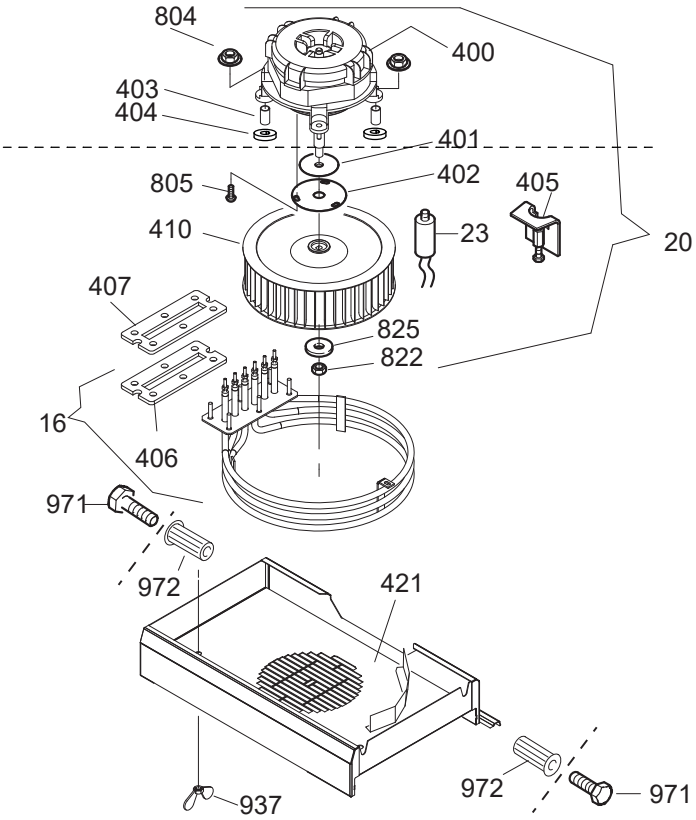


TDR 5 PARTS LIST ROTOR

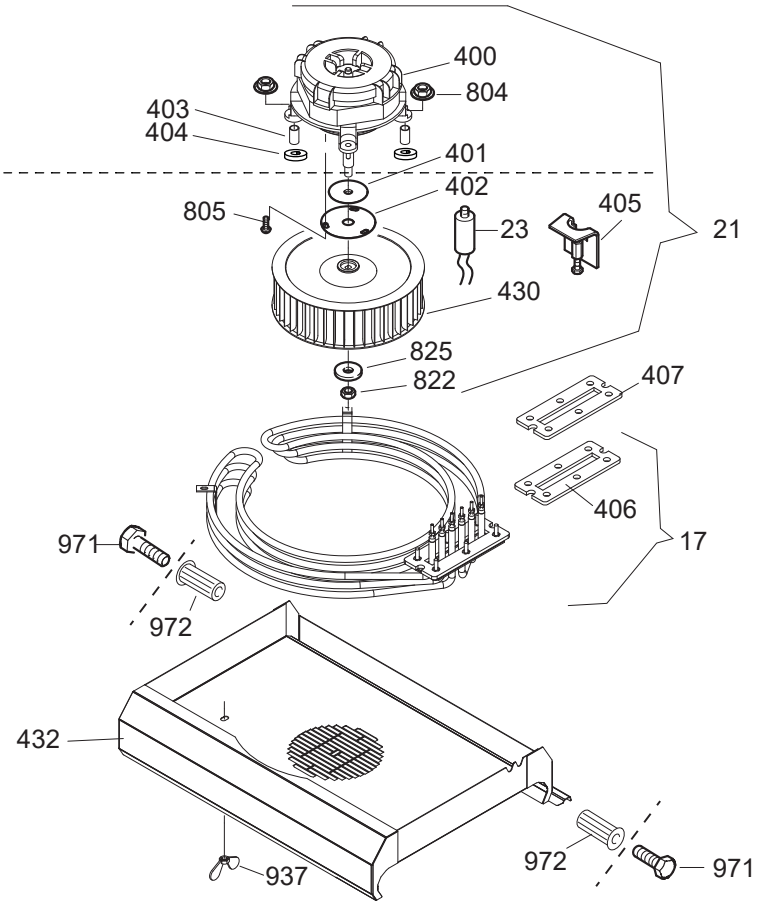
Pos	Part number	Description	Qty
8	9293001s	Gearmotor, complete with drive head, TDR5	
9	9293002s	Gearmotor, complete with drive head, TDR7/8	
22	3701228	Capacitor 2.5 uF	
300	9146951	Ass. Rotor TDR5	
301	9170571	Rotor shaft	
302	9174369	Rotor disc 3 mm	
305	9172062	Bearing 12mm, rotor TDR5	
306	9073131	Seal ring, Teflon	
307	9110797	Seal, silicon	
308	9290444	Support plate, rotor motor	
309	9172078	Fanblade Ø 150 mm, rotor motor	
310	9172112	3 Chicken rack	
311	9010387	Meat basket	
312	9010549	Meat fork	
313	9112472	V-spit	
320	9294419	Air guide, fan rotor motor TDR5	
330	9172274	Rotorset ass. 8 meat forks, stainless steel	
331	9070272	Rotor shaft	
332	9174623	Rotor disc 3 mm	
333	9172169	Support pin	
336	9172063s	Bearing ass., rotor TDR7/8	
337	9292245	Seal	
338	9314126	Pressure ring, 5 holes	
339	9312002	Shaft seal, 5 holes	
340	9314125	Reinforcement ring, 5 holes	
341	9294421	Air guide, fan rotor motor TDR7/8	
344	9294649	Pressure ring, 6 holes	
345	9292244	Shaft seal, 6 holes	
346	9294650	Reinforcement ring, 6 holes	
350	9172136	4 Chicken rack	
351	9172134	Meat basket, SS	
351,1	9172213	Meat basket, SS, coated	
351,2	9172214	Meat basket, SS, coated, set of 7	
352	9172153	Meat fork	
353	9112480	V-spit	
354	9312090	Butterfly, 3 chicken rack	

Pos	Part number	Description	Qty

TDR 5 HEATING



TDR 7/8 HEATING

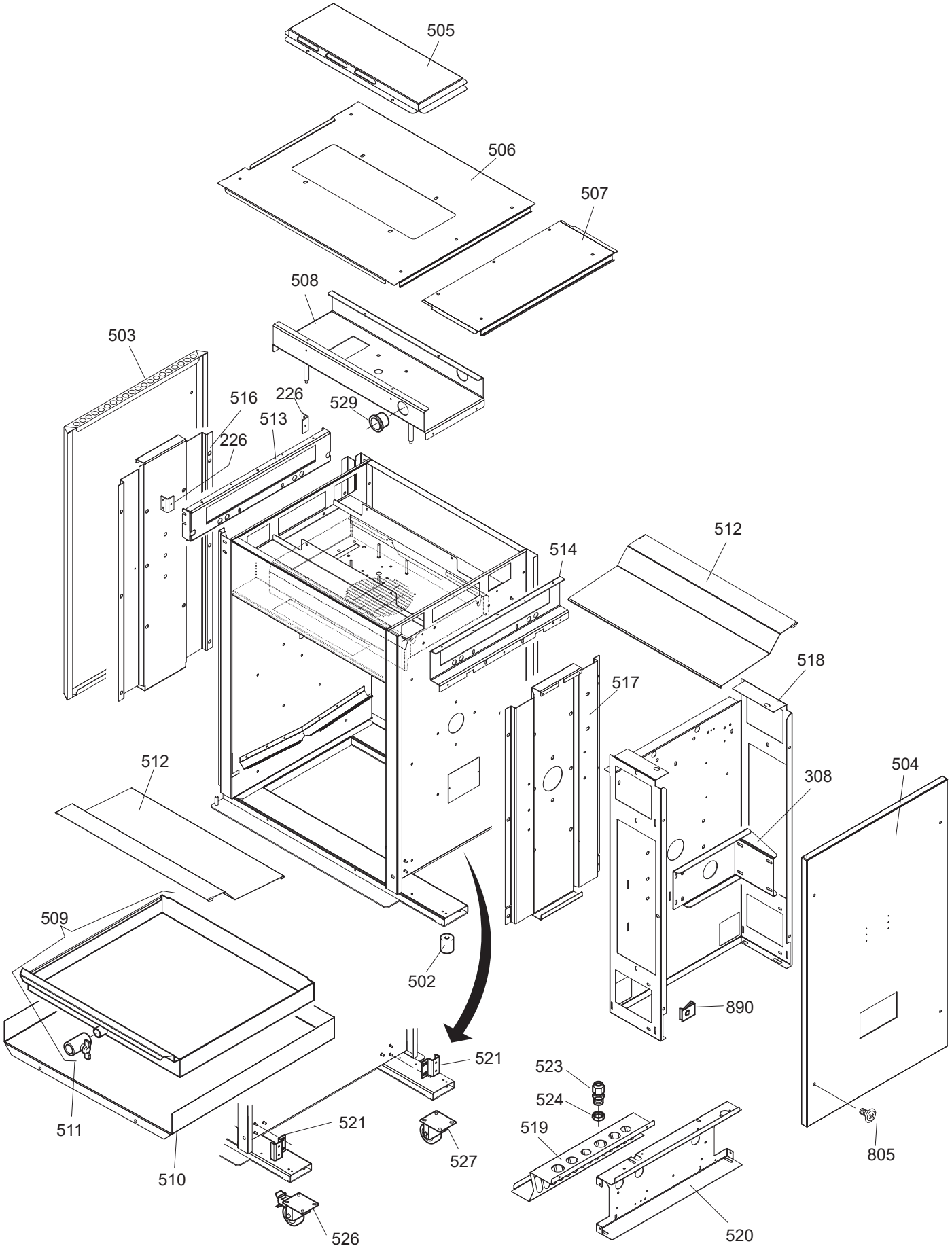


TDR 5/7/8 PARTS LIST HEATING

Pos	Part number	Description	Qty
16	9292029s	Heating element 208 V, 5.4 KW, ass.	
17	9292028s	Heating element 208 V, 9.3 KW	
20	9298550s	Blower, ass. TDR5	
21	9298551s	Blower, ass. TDR7/8	
23	9192034	Capacitor 6 uF	
400	9293020s	Blower motor, with conversion cable 3 to 5 pole	
401	3702325	Seal, blower shaft, PSS	
402	9294007	Pressure plate	
403	9293004	Spacer Ø12xø6,2 H=17mm	
404	9294083	Spacer Ø15xø6,2 H=3mm	
405	9298600	Puller	
406	9194489	Gasket, heating element	
407	9194501	Pressure plate	
410	3701218	Turbine Ø 200 mm x 43	
421	9290475s	Blower panel	
430	3701273	Turbine Ø 200 mm x 61	
432	9290411s	Blower panel	
804	4285092	Nut M6	
805	4288232	Screw M5x12, SS cross recess, wide button head	
822	0142315	Nut M5 SS	
825	0142103	Washer M5	
937	2800082	Wing nut M6, brass nickel plated	

Pos	Part number	Description	Qty

TDR 5 SHEET METAL

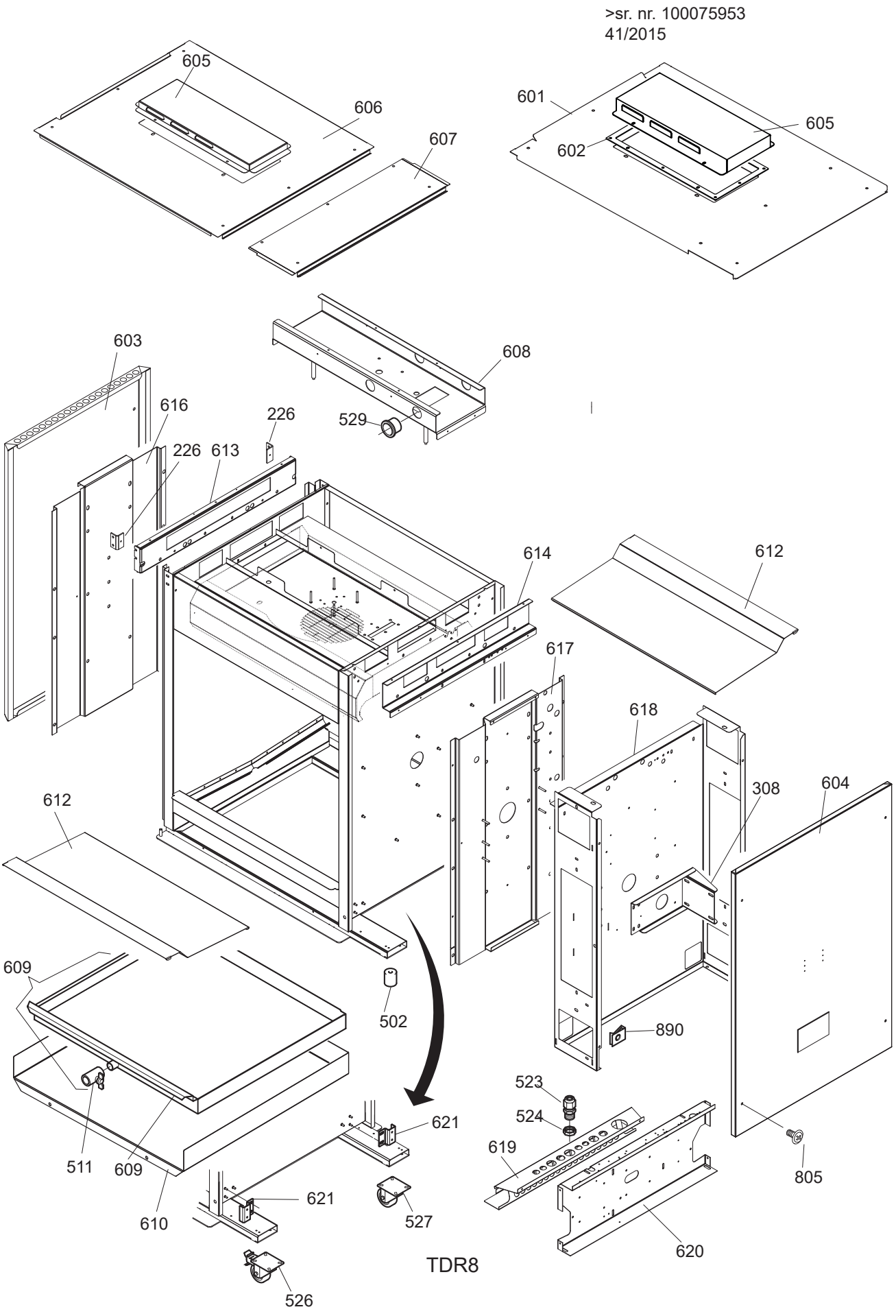


TDR 5 PARTS LIST SHEET METAL

Pos	Part number	Description	Qty
226	9174154	Adjusting bracket	
308	9290444	Support plate, rotor motor	
502	9171125	Leg, rubber 50 mm	
503	9294353	Side panel, left	
503,1	9294126	Side panel, left (till serial nr. 100061480)	
504	9294352	Side panel, right	
504,1	9294125	Side panel, right (till serial nr. 100061480)	
505	9294160	Top cover	
506	9294350	Top plate	
506,1	9294127	Top plate (till serial nr. 100061480)	
507	9294351	Cover, removeable	
507,1	9294128	Cover, removeable (till serial nr. 100061480)	
508	9290450	Suspension plate, blower	
509	9290476s	Drawer	
509,1	9290456s	Drawer (till serial nr. 100061480)	
510	9294366	Grease guard.	
511	9171008	Drain-tap with handle	
512	9294354	Drip plate, SS	
512,1	9294116	Drip plate, SS (till serial nr. 100061480)	
513	9294356	Side plate, left	
513,1	9294110	Side plate, left (till serial nr. 100061480)	
514	9294357	Side plate, right	
514,1	9294112	Side plate, right (till serial nr. 100061480)	
516	9294109	Reinforcement, side plate, left	
517	9294111	Reinforcement, side plate, right	
518	9294360	Cover plate, machine components	
518,1	9294119	Cover plate, machine components (till serial nr. 100061480)	
519	9294370	Spark catcher	
519,1	9294121	Spark catcher (till serial nr. 100061480)	
520	9294361	Mounting plate	
520,1	9294120	Mounting plate (till serial nr. 100061480)	
521	9294381	Bracket, door switch	
521,1	9294065	Bracket, door switch (till serial nr. 100061480)	
523	9261022	Strain relief M25	
524	9261023	Nut, strain relief M25	
526	9172066	Swivel castor with brake	
527	9172065	Swivel castor without brake	
528	9123492	Indication plate	

Pos	Part number	Description	Qty
529	9171015	Grommet, plastic	
805	4288232	Screw M5x12, SS cross recess, wide button head	
890	9172053	Nut M5, for sheet metal	

TDR 7/8 SHEET METAL



TDR 7/8 PARTS LIST SHEET METAL

Pos	Part number	Description	Qty
226	9174154	Adjusting bracket	
308	9290444	Support plate, rotor motor	
502	9171125	Leg, rubber 50 mm	
510	9294366	Grease guard.	
511	9171008	Drain-tap with handle	
523	9261022	Strain relief M25	
524	9261023	Nut, strain relief M25	
526	9172066	Swivel castor with brake	
527	9172065	Swivel castor without brake	
529	9171015	Grommet, plastic	
601	9294651	Top panel	
602	9292082	seal	
603	9294180	Side panel, left	
604	9294018	Side panel, right	
605	9294009	Top cover	
606	9294032	Top plate	
607	9294045	Cover, electrical compartment	
608	9290401	Blower suspension	
609	9290405s	Drawer	
610	9294041	Grease guard.	
612	9298565	Drip plate, SS, set of 2	
612,1	9292062	Drip plate, ss coated	
613	9294011	Construction profile, left	
614	9294030	Construction profile, right	
616	9294028	Reinforcement, side plate, left	
617	9294029	Reinforcement, side plate, right	
618	9294026	Electrical compartment	
619	9294019	Spark catcher	
620	9294025	Mounting plate	
621	9294065	Bracket, door switch	
805	4288232	Screw M5x12, SS cross recess, wide button head	
890	9172053	Nut M5, for sheet metal	

Pos	Part number	Description	Qty

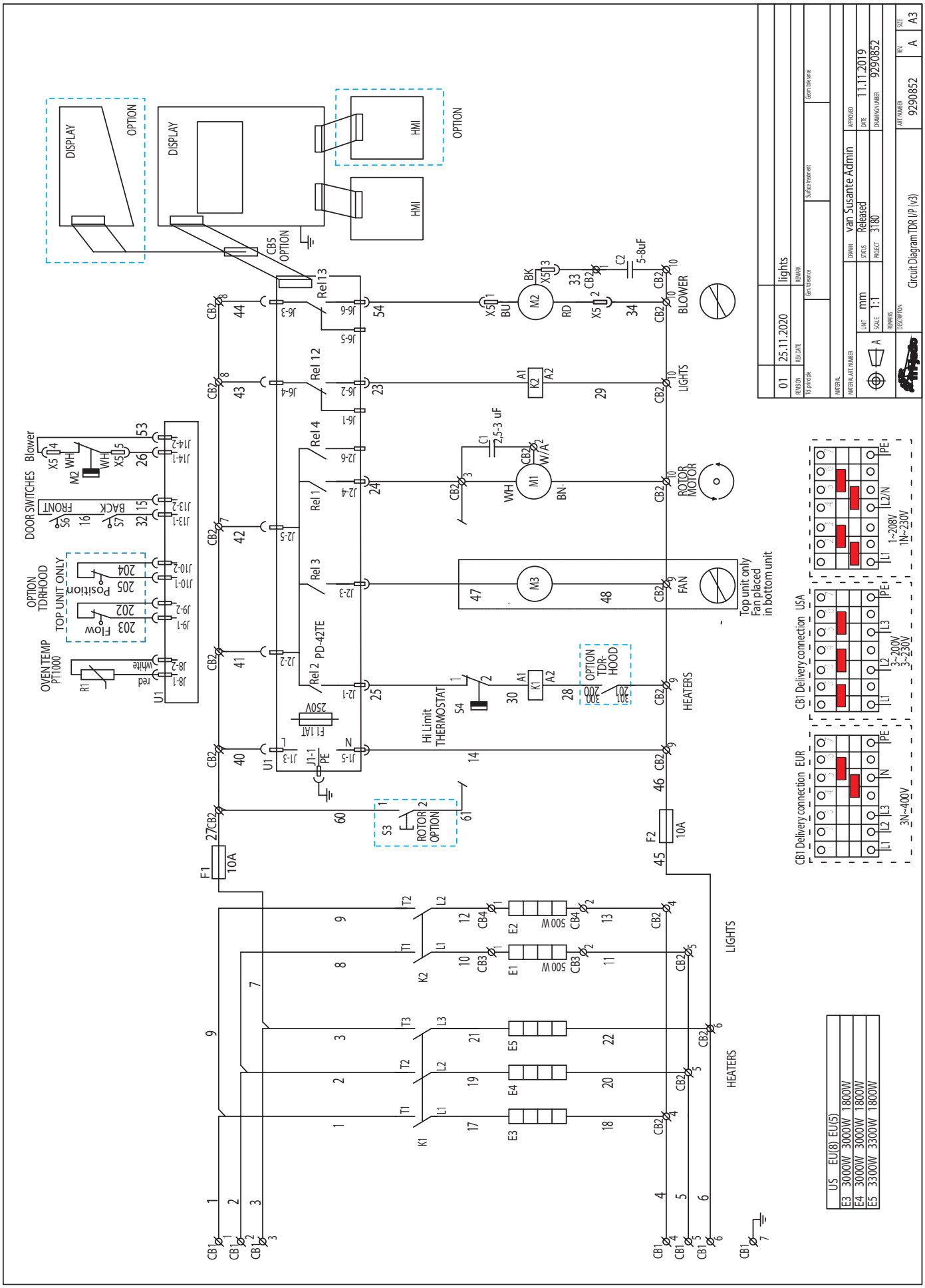
FASTENERS

Pos	Part nr	Description
800	4280107	Bolt M6x20 ZP
801	4289559	Lockwasher M6, serrated ZP
802	4288321	Screw M5x16, SS socket button head.
804	4285092	Nut M6, black serrated
805	4288232	Screw M5x12, SS cross recess, wide button head
806	4286713	Bolt M6x16, ZP threadforming
810	4288325	Screw M5x12, SS socket, wide button head
812	9087570	Nut M5, black serrated
814	4289787	Bolt M6x30 ZP
817	4287549	Washer M8, ZP
819	0196673	Bolt M8x25, ZP
820	0141149	Screw M5x16, SS Cross recess pan head
822	0142315	Nut M5, SS hexagonal
824	9191050	Bolt, SS M5x18
825	0142103	Washer M5, SS
826	4280218	Screw M5x45, SS Cross recess pan head
827	4280208	Screw M4x8, SS Cross recess pan head
828	4280215	Screw M5x8, SS Cross recess pan head
829	4280558	Screw M5x16, SS Slotted wide head
830	9192065	Capnut M4, ZP
831	0142129	Washer M4, SS
832	4288231	Bolt M5x10, SS serrated
833	0142307	Nut M4, SS
834	4311110	Washer M5, SS ø5xØ15
835	0142111	Washer M6, SS
836	4285035	Nut M6, Brass
837	0195910	Capnut M6, BNP
838	4285076	Bolt M8x16, ZP
841	0147017	Screw M2,5x16, SS Slotted pan head
842	0142293	Nut M2,5, SS hexagonal
843	9191130	starlock washer, 3mm black
845	0141081	
847	9070688	Bolt M8x12, SS
848	9008518	Lockwasher, M8 SS serrated
849	0142292	Nut M3
853	0141050	Screw M3x10, SS Cross recess pan head
854	0141076	Screw M3x20, SS Cross recess pan head
855	0141078	Screw M3x30, SS Cross recess pan head
856	0141035	Screw M3x5, SS Cross recess pan head
858	0141075	Screw M3x16, SS Cross recess pan head
859	4312810	Socket set screw M3x6, SS
861	4285151	starlock washer, 6mm
862	9191041	Circlips, E type for 6mm shaft
863	4287540	Screw M4x10, BNP
864	4285319	Screw 4,8x13, ZP Self drilling and tapping.
866	4287620	Screw 4,2x12, NP self tapping
868	4285078	Nut 1/4" bsw ZP
871	9191049	Set screw M5x5, black
872	4285010	Nut M3, ZP with lockwasher

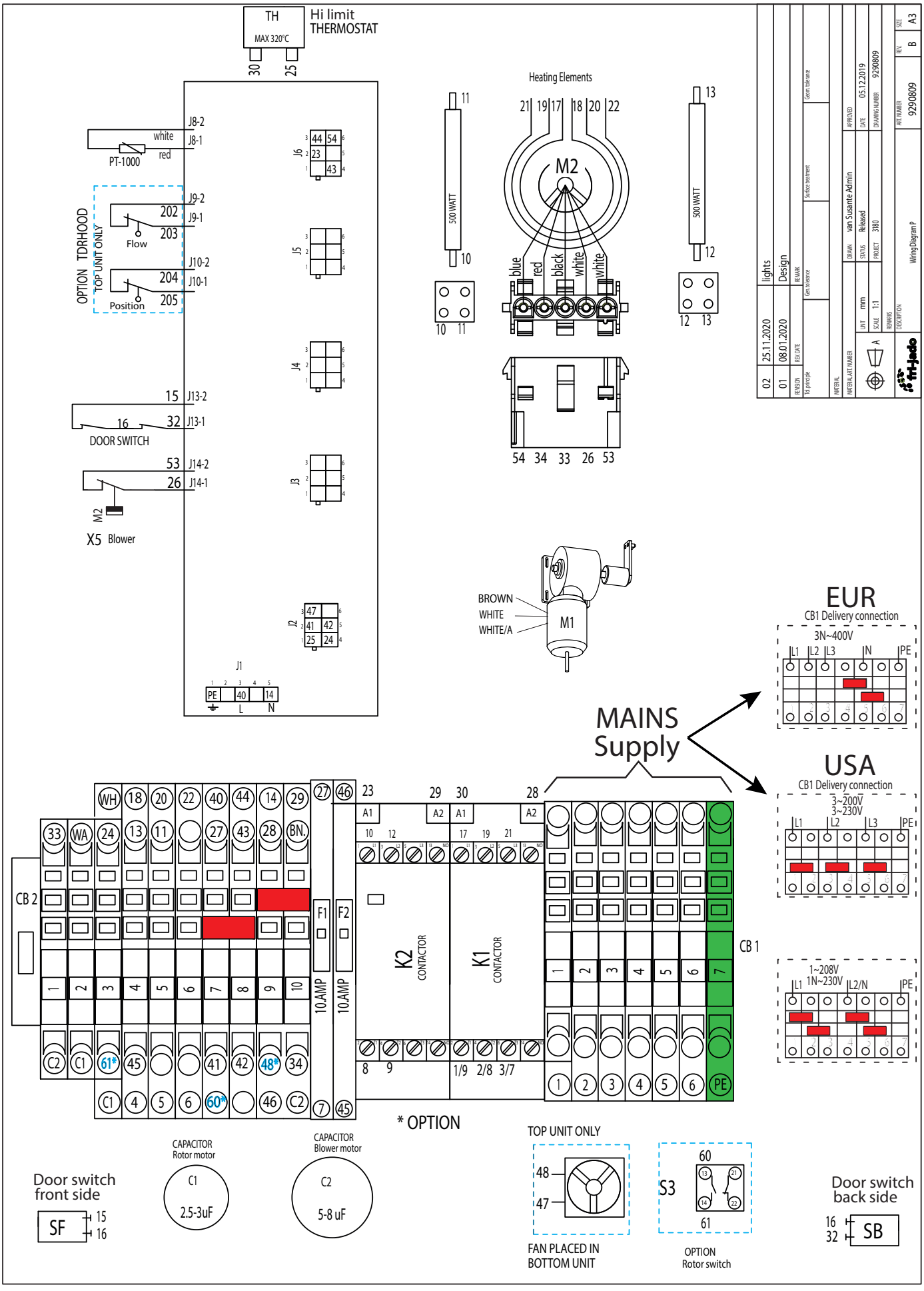
Pos	Part nr	Description
873	3701248	Spacer 7mm, Ø3,2x6 NP
874	0149296	Spacer 10mm, Ø4,2x8 Nylon
875	9057347	Spacer 10mm, Ø5,2x10 Nylon
876	0141165	Screw M5x25, SS Cross recess pan head
877	4285135	Bolt M5x10, ZP thread forming
878	0137344	Screw M5x30, SS Cross recess pan head
879	4287610	Screw, ZP selftapping 3,5x13
880	9008178	Bolt M5x8, SS
881	0141246	Bolt M6x12, SS
882	0141117	Screw M4x45, SS Cross recess pan head
883	0142365	Locknut M6, ZP
885	4288324	Screw M4x8, SS Cross recess pan head
888	6962153	Washer M6, ZP ø6xØ25
889	6802013	Rivet nut, M5, ZP
890	9172053	Nut M5, for sheet metal
891	4288058	Bolt M5x20, ZP
892	0141521	Nut M6, SS
893	0146987	Washer M8, SS
894	0211520	Bolt M5x12, SS
895	0144359	Locknut M5, SS
896	4285408	Capnut M5, BNP
897	4288320	Screw M5x50, SS hexagonal
898	9073987	Washer M8, SS ø8xØ25
900	9008869	Bolt M8x50, ZP
902	4288319	Screw 6x20, ZP CR threadforming
903	4289402	Lockwasher M8, ZP
904	3701280	Lockwasher, starlock for 10mm shaft
905	0141393	Screw M4x10, SS countersunk
906	0141084	Screw M4x10, SS Cross recess pan head
907	4288327	Screw M5x25, SS Socket pan head
908	9006930	Lockwasher M4, countersunk SS serrated
909	0141092	Screw M4x12, SS Cross recess pan head
910	4287520	Washer M4, Brass
911	4285020	Nut M4, Brass
912	4280128	Bolt M4x12, SS
914	0144347	Locknut M4, ZP
915	8047381	Washer M6, SS ø6xØ25
919	6501450	Circlips, E type for ??mm shaft
920	0141547	Nut M8, SS
922	2800066	Connection nut M8x24, ZP
923	4285051	Connection nut M10x30, ZP
925	0195596	Bolt M8x10, ZP Socket head
926	9070793	Connection nut M6x18, ZP
929	0197378	Washer M12, Zp
930	9008056	Nut M12, ZP
931	0142056	Lockwasher M8, SS
933	9077004	Socket set screw M4x6, SS
934	9301049	Circlips external ø25

Pos	Part nr	Description
935	4287557	Washer M10
936	9073149	Wingnut M6, SS
937	2800082	Wingnut M6, Brass Nickle plated
939	4312027	Connection nut M5x15, ZP
940	4280540	Screw M5x6, SS countersunk
941	4311215	Screw , socket head M6 x 30
942	0141123	Screw pan head, Philips M5x10, SS
943	149299	Spacer, Ø8xø4,2, H15, black
944	0139142	Screw hexagon head M6x40, SS
945	4285410	Capnut M12 SS low profile
946	4286728	Set screw M8x40, socket
947	4280239	Screw M12x20, hexagon ZP
948	0197380	Washer M12, SS
949	0142975	
950	4285120	Screw M4x20, thread rolling
951	8071043	Nut M4, serrated ZP
952	6962187	
953	0197807	Screw M4x30, slotted ZP
954	4285084	Screw 4,8x19, ZP Self drilling and tapping.
955	9008217	Blind rivet 4x8,6
956	9174680	Washer ø5,2xØ20x2mm
957	4285047	nut M8 hexagon, thin DIN 439B
958	0195783	Screw M10x30 sock button head
959	9191108	Wing nut M6x10 SS
960	0141204	Screw M4x16, Pan head SS
961	0149210	Screw M5x6, Pan head
962	0141539	Screw M5x10, SS countersunk
963	4288233	Screw M8x16, ZP serrated
964		Screw M3x20, SS countersunk
965	4288330	Screw M8x12, SS button head, wide flange
966	4285414	Capnut, M4 ss
967	0149298	Spacer 10mm, Ø3,4x6 Nylon
968	0149299	Spacer 15mm, Ø4,2x8 Nylon
969	0251473	Washer M4, ZP ø4xØ16
970	4285043	Nut M5, prevailing torque SS
971	4280555	Screw M6x16, Brass nickel plated
972	6390168	Rivet nut, M6 ss

CIRCUIT DIAGRAM TDR 5P AND 7P (FROM SERIAL NR. 100097688)



WIRING DIAGRAM TDR 5P AND 7P (FROM SERIAL NR. 100097688)



OVERVIEW OF CPU BOARD

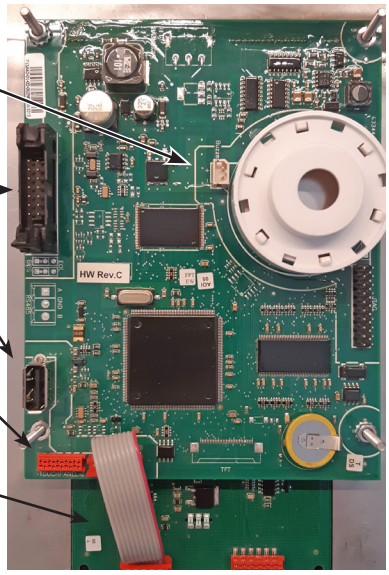
Socket for spare buzzer (in case the one on board is broken)

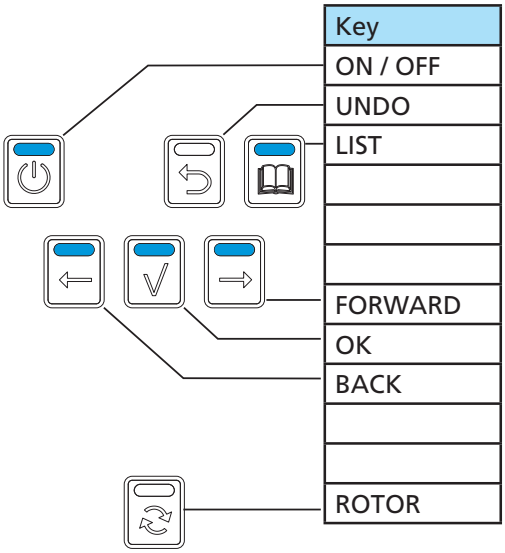
Socket for 14p ribbon cable, from Power&I/O board

USB socket

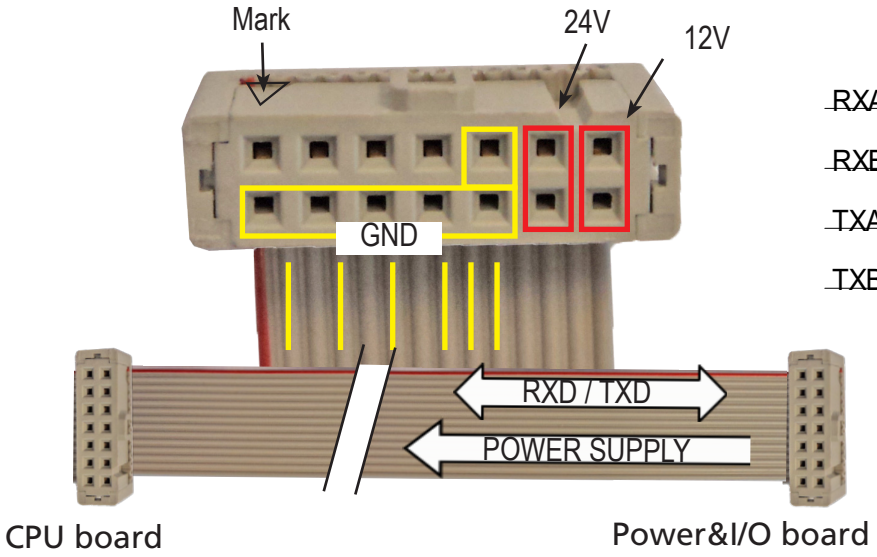
Socket for second key panel

Key panel

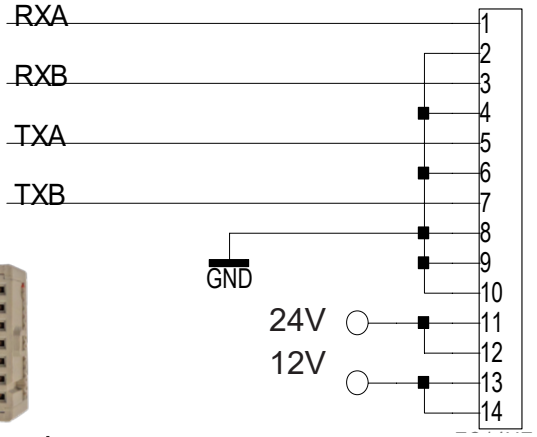




Ribbon cable connection between CPU board and Power& I/O board.
For data transmission and also the power for the CPU board.

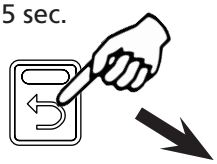


Schematic overview

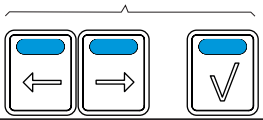


Access to the function test of the Power&I/O board.
This is an important diagnostic tool for testing the inputs and outputs.

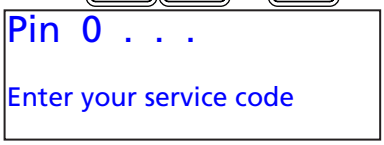
5 sec.



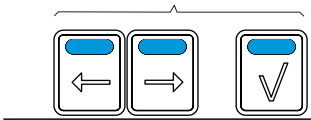
Choose figure and confirm (4x)

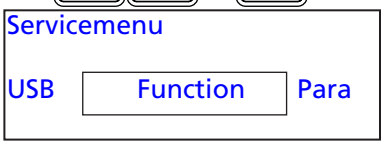


4 8 7 8



Choose “Function” and confirm

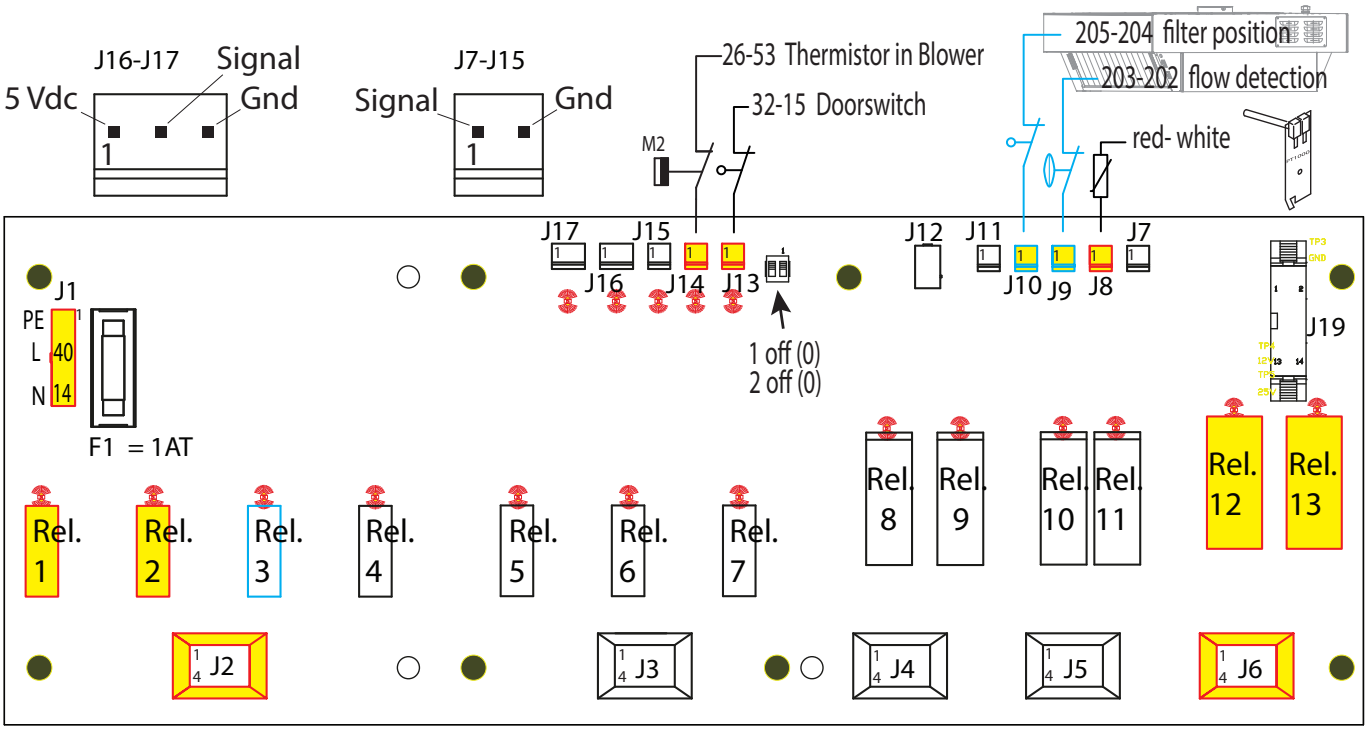


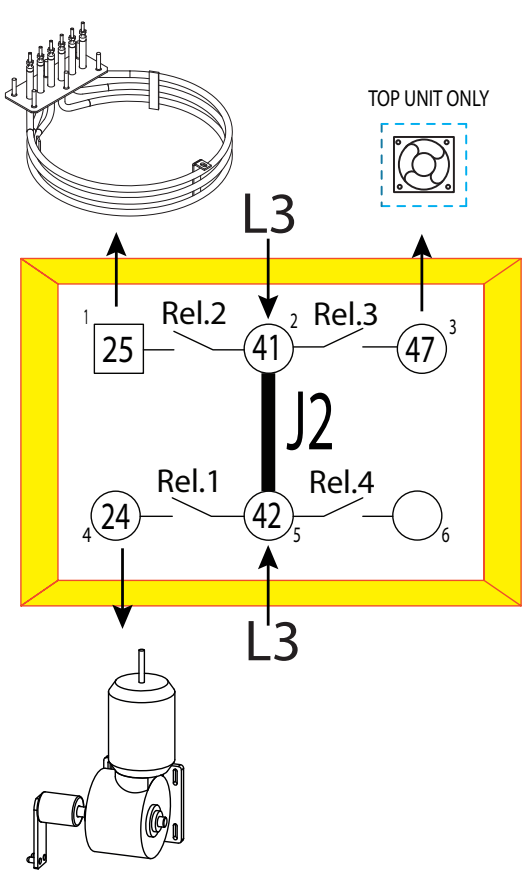


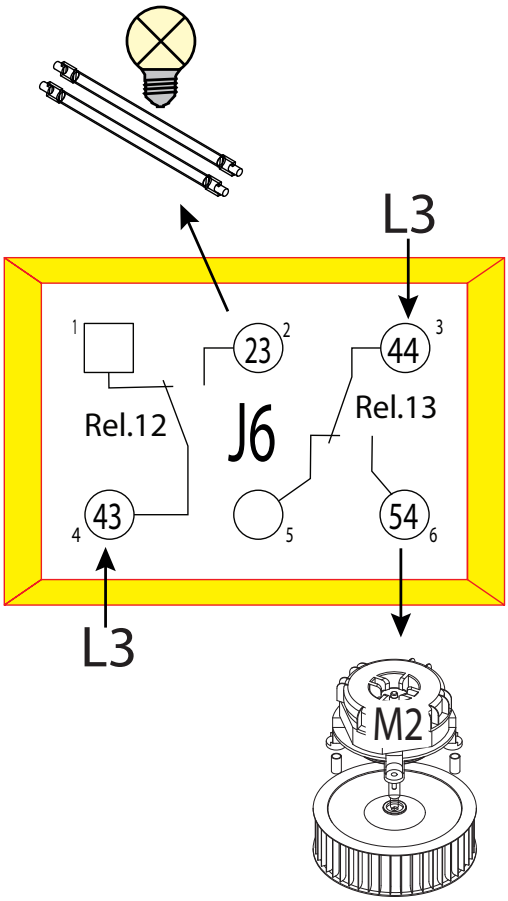
Now choose an input or output and confirm to test.
Go to the chapter “Programming instructions TDRp” for more information.

OVERVIEW OF POWER & I/O BOARD (FROM SERIAL NR. 100097688)

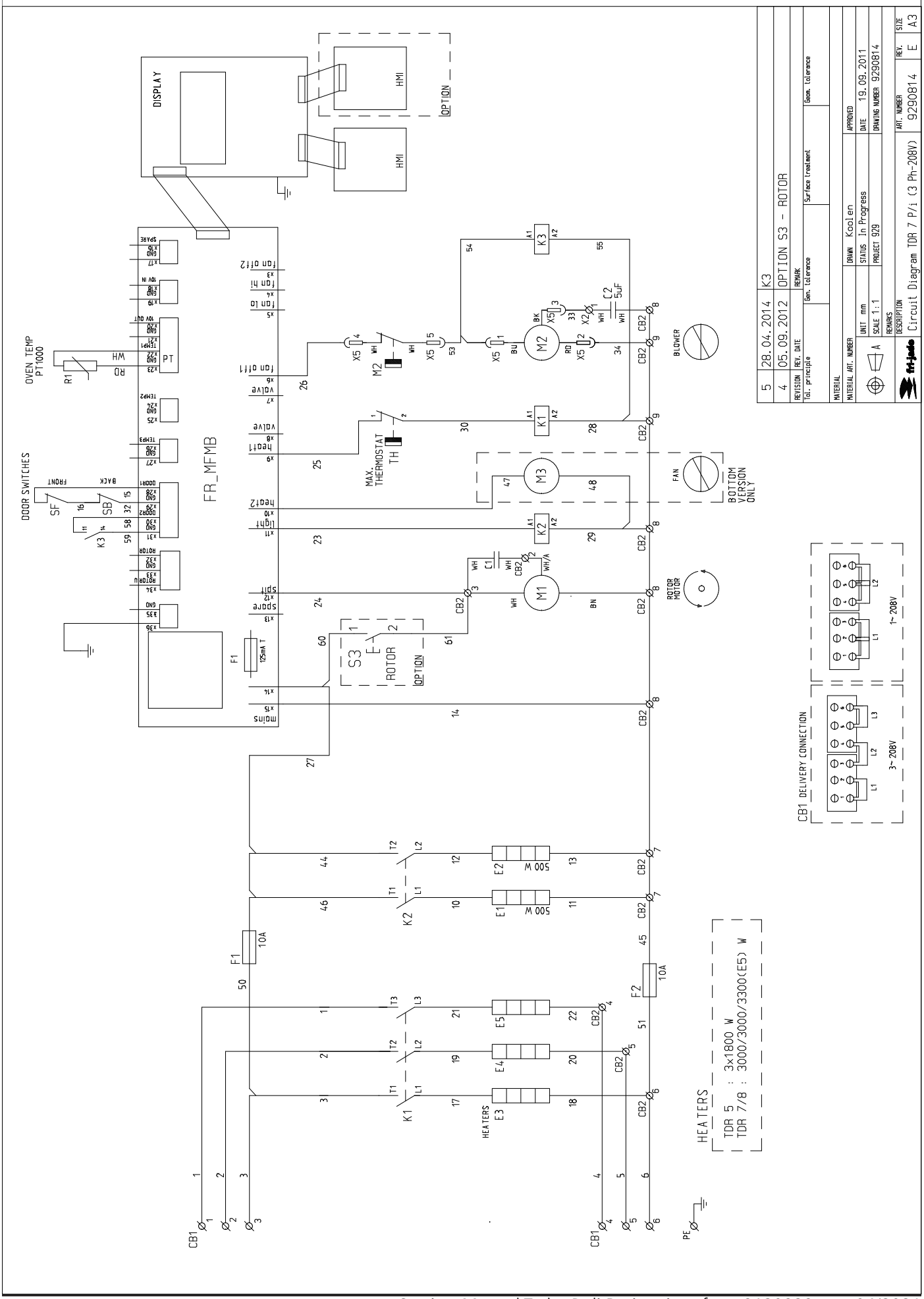
All relays, and the digital inputs J13 - J17 have LED's , showing the contact is closed or which relay is active.
Connectors and relays in red are always functional and in blue are optional.



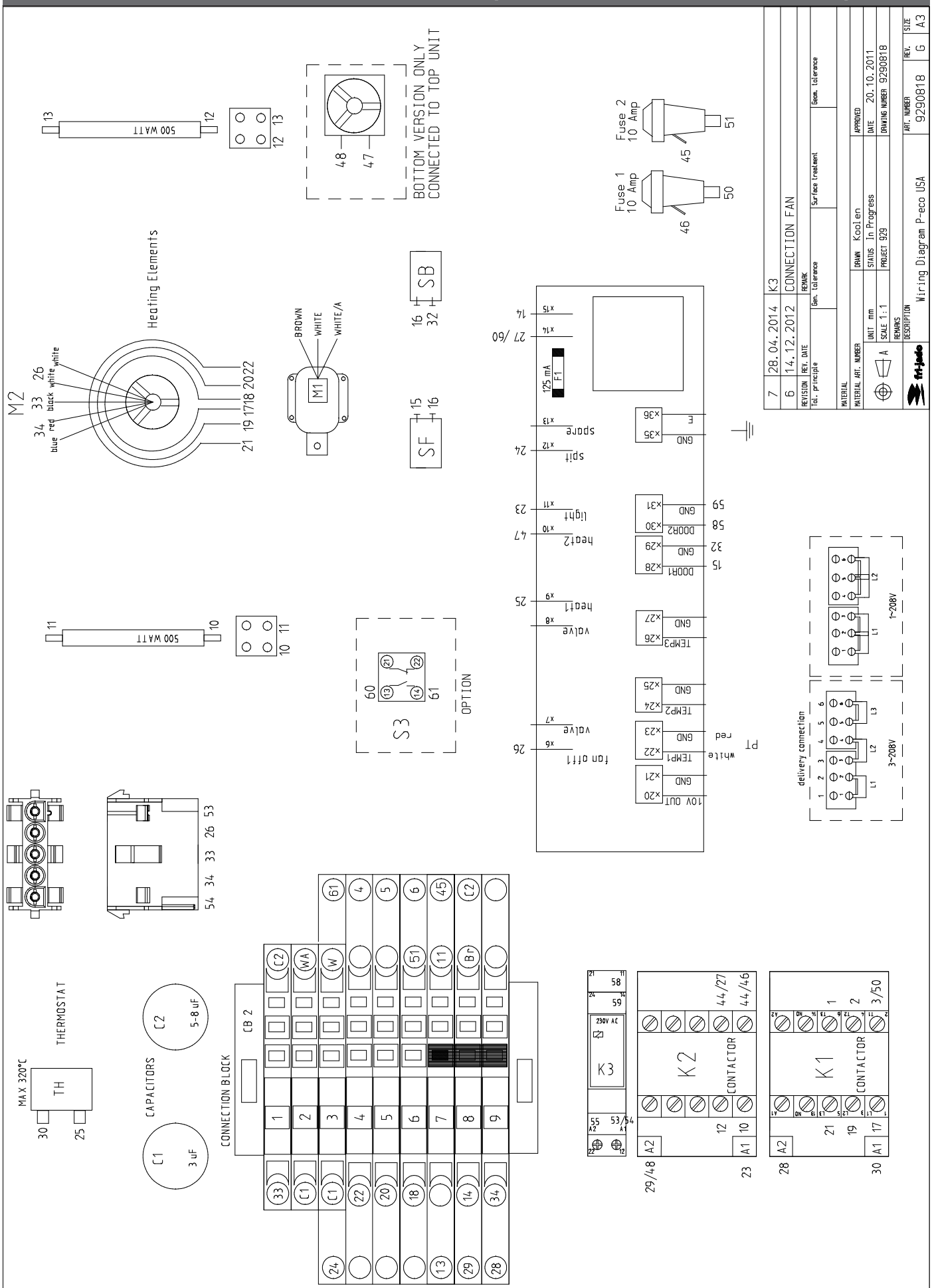




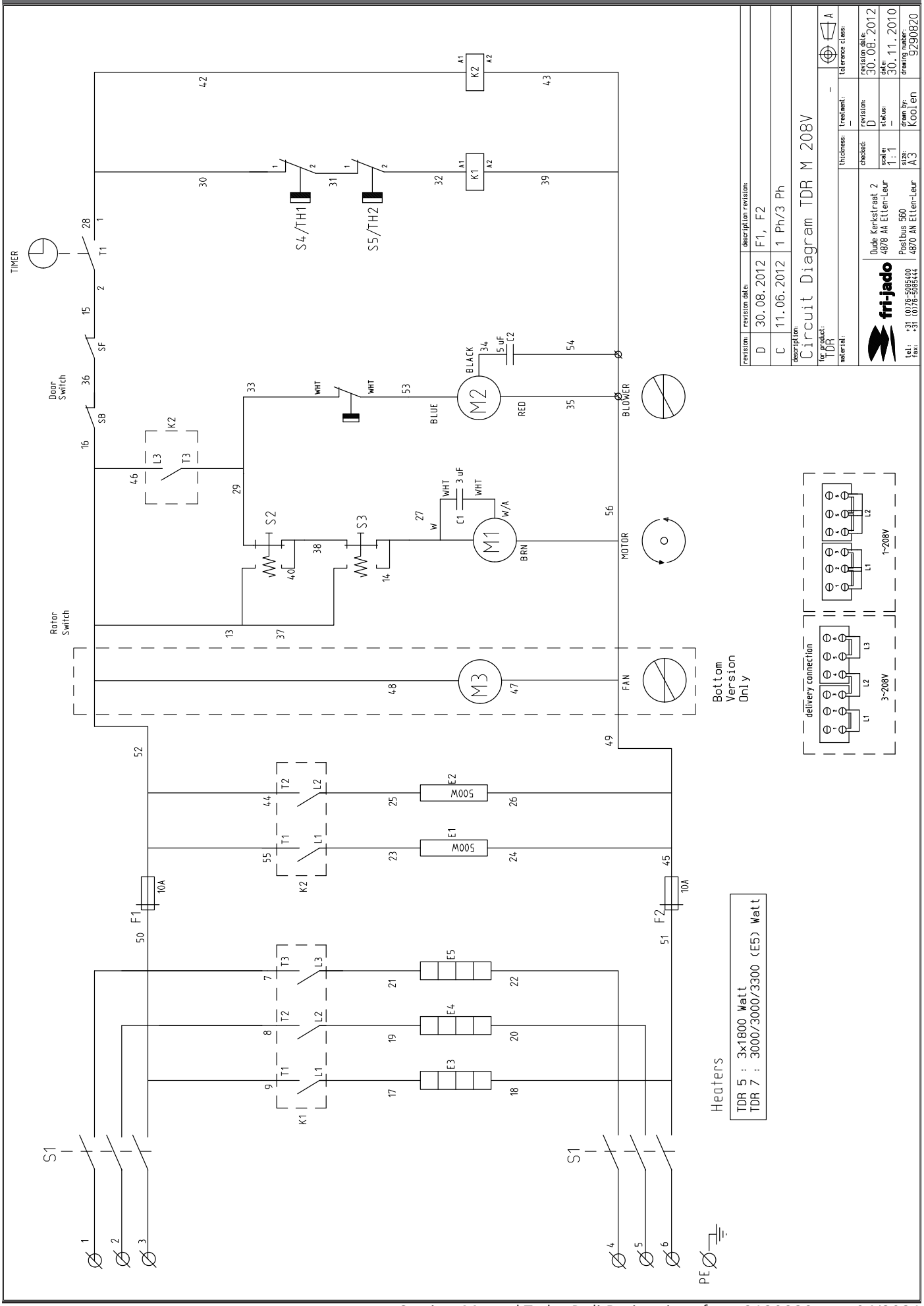
CIRCUIT DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NR. 100097687)



WIRING DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NR. 100097687)



CIRCUIT DIAGRAM TDR 5M AND 7M

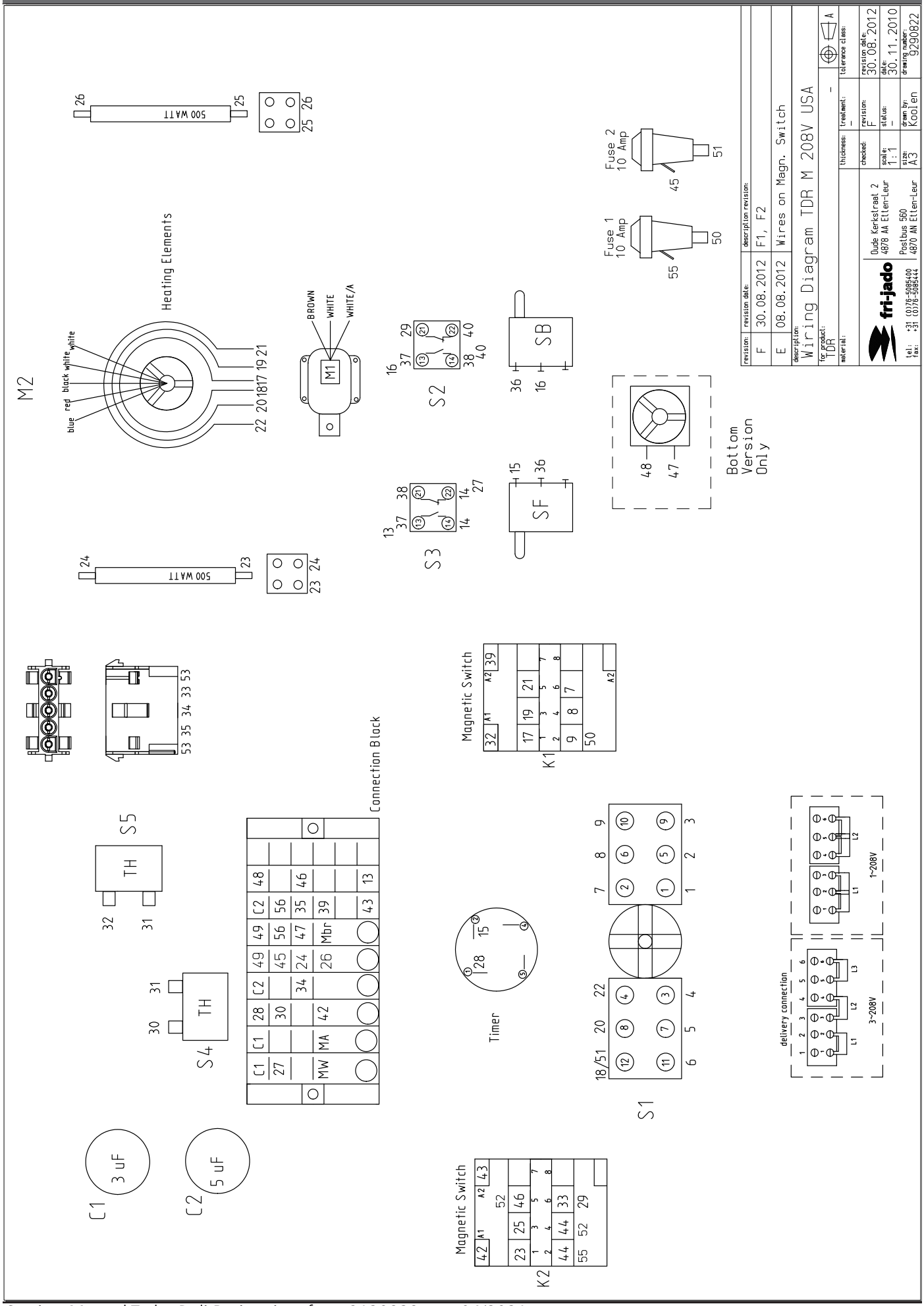


description revision:
D 30.08.2012 F1, F2
C 11.06.2012 1 Ph/3 Ph

description: Circuit Diagram TDR M 208V
for product: TDR
material: – treatment: – tolerance class:
checked: revision: D revision date: 30.08.2012
scale: 1:1 status: – date: 30.11.2010
size: A3 drawn by: Kooien drawing number: 9290820

fri-jado
Oude Kerkstraat 2
4878 AA Etten-Leur
Postbus 560
4870 AN Etten-Leur
tel: +31 (0)76-5085400
fax: +31 (0)76-5085444

WIRING DIAGRAM TDR 5M AND 7M



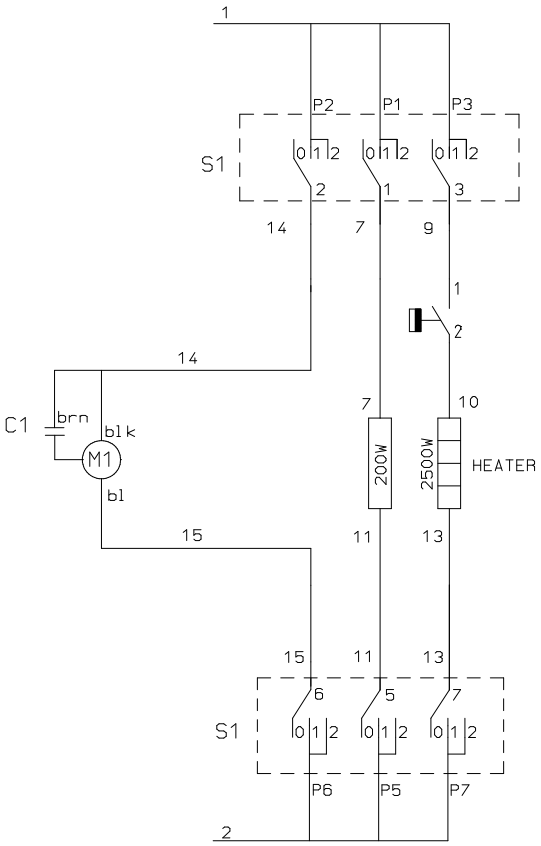
revision:	revision date:	description revision:
F	30.08.2012	F1, F2
E	08.08.2012	Wires on Magn. Switch

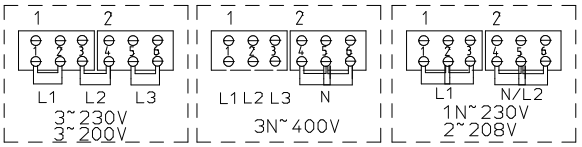
description: Wiring Diagram TDR M 208V USA
for product: TDR
material: – thickness: – treatment: – tolerance class: –

fri-jado
Oude Kerkstraat 2
4878 AA Etten-Leur
Postbus 560
4870 AN Etten-Leur
tel: +31 (0)76-5085400
fax: +31 (0)76-5085444

checked: – revision: F revision date: 30.08.2012
scale: 1:1 status: – date: 30.11.2010
size: A3 drawn by: Kooleen drawing number: 9290822

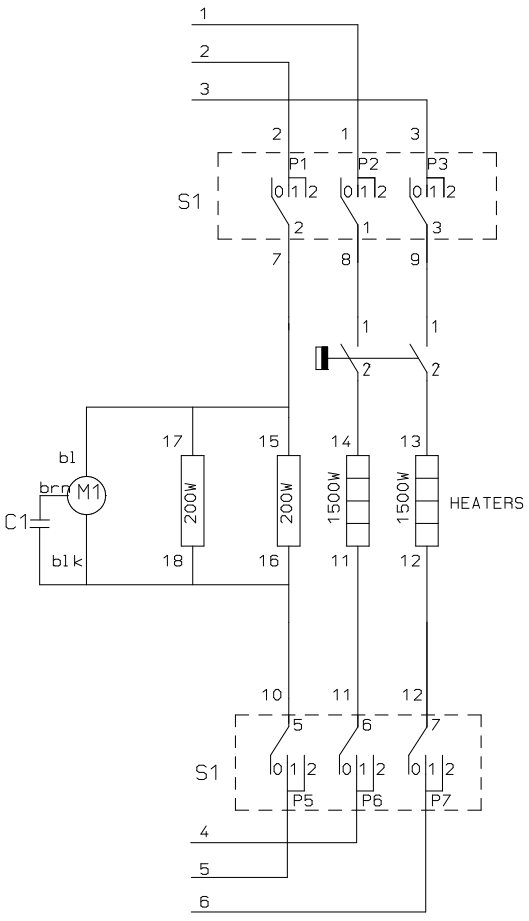
CIRCUIT DIAGRAM TDW 5

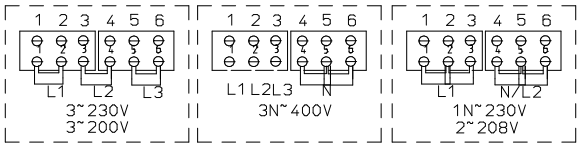




9290850

CIRCUIT DIAGRAM TDW 7

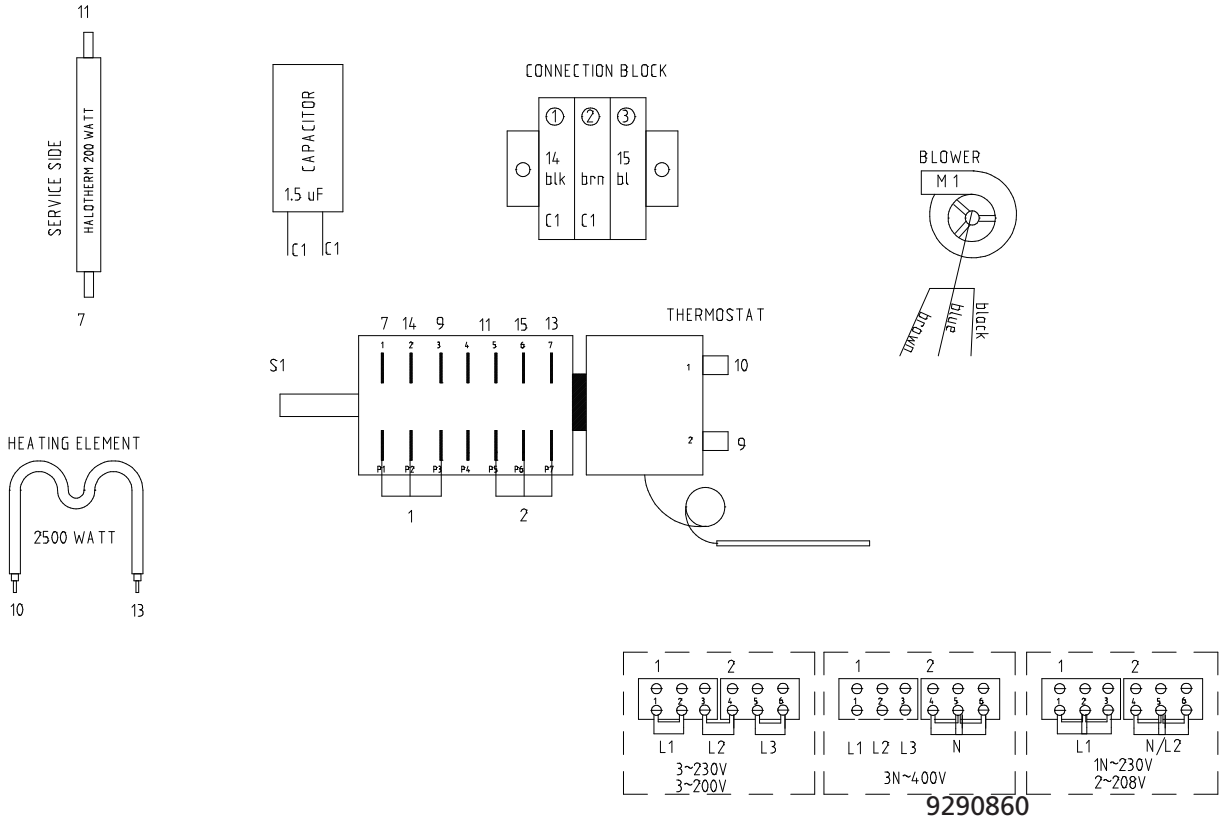




Delivery connections

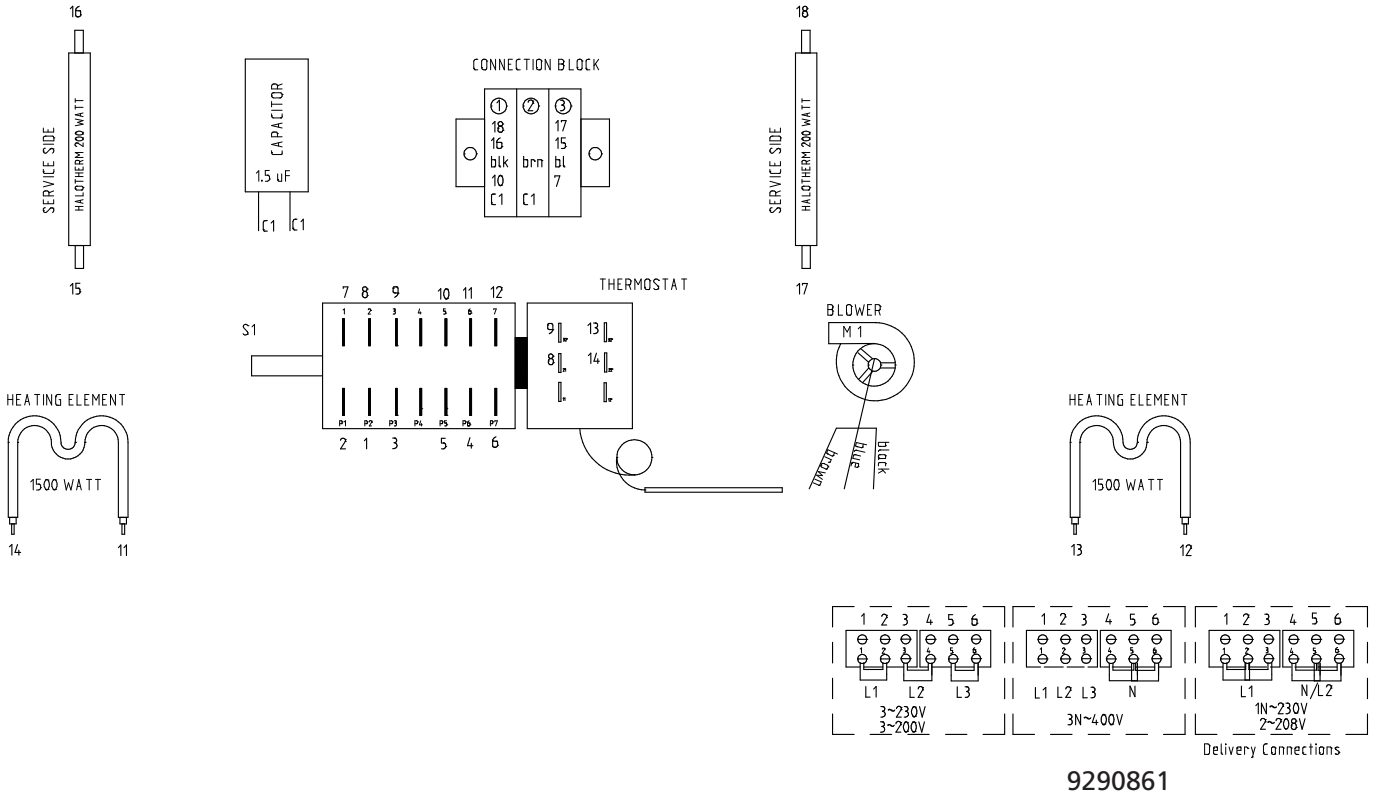
01	25.10.2013	Connections			
REVISION	REV. DATE	REMARK			
Tol. principle		Gen. tolerance	Surface treatment	Geom. tolerance	
MATERIAL					
MATERIAL ART. NUMBER		DRAWN Koolen		APPROVED	
A	UNIT mm	STATUS In Progress		DATE 08.07.2011	
	SCALE 1:1	PROJECT 929		DRAWING NUMBER 9290851	
REMARKS					
fri-jado	DESCRIPTION Circuit Diagram TDW8			ART. NUMBER 9290851	REV. A / SIZE A3

WIRING DIAGRAM TDW 5



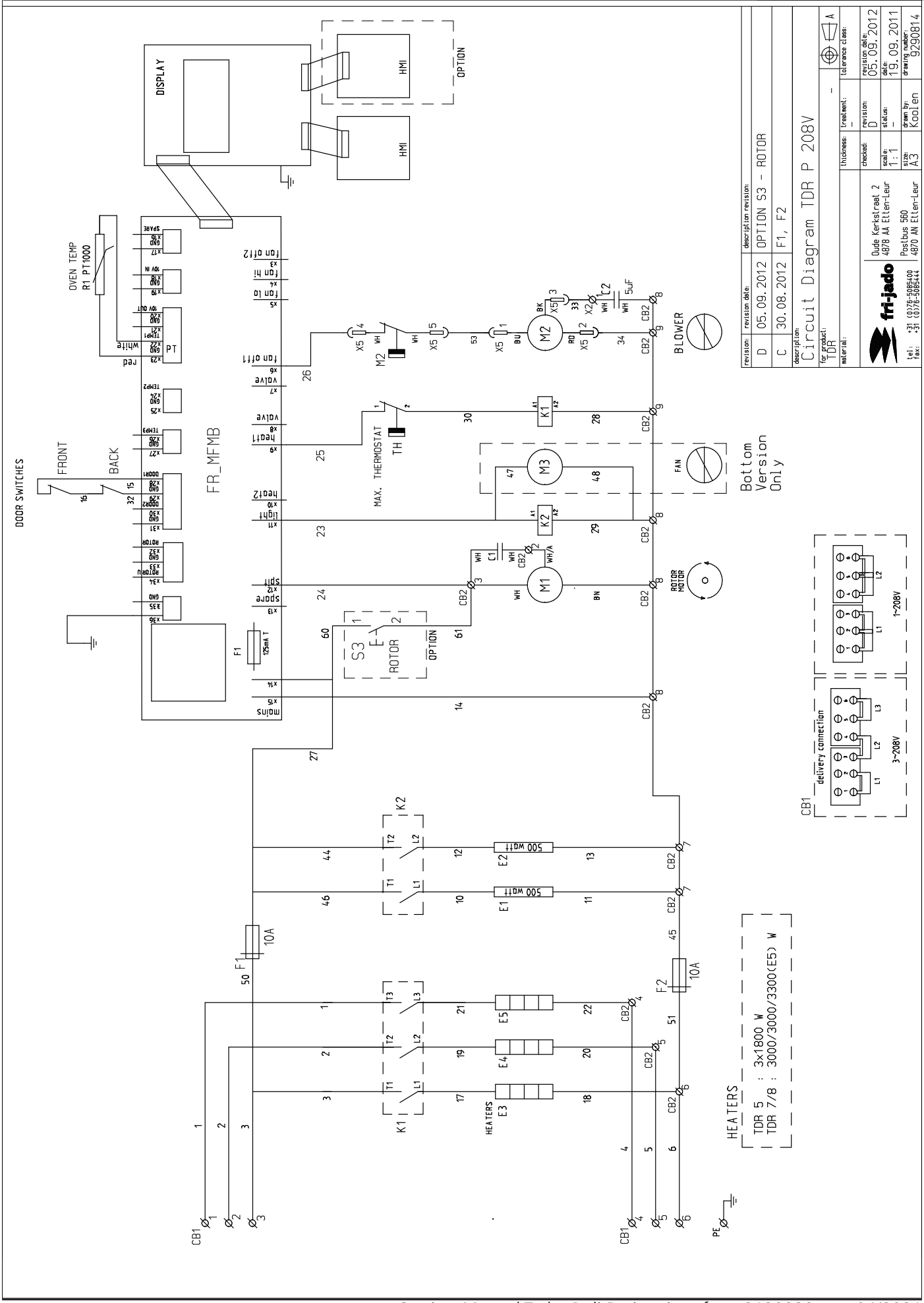
9290860

WIRING DIAGRAM TDW 7

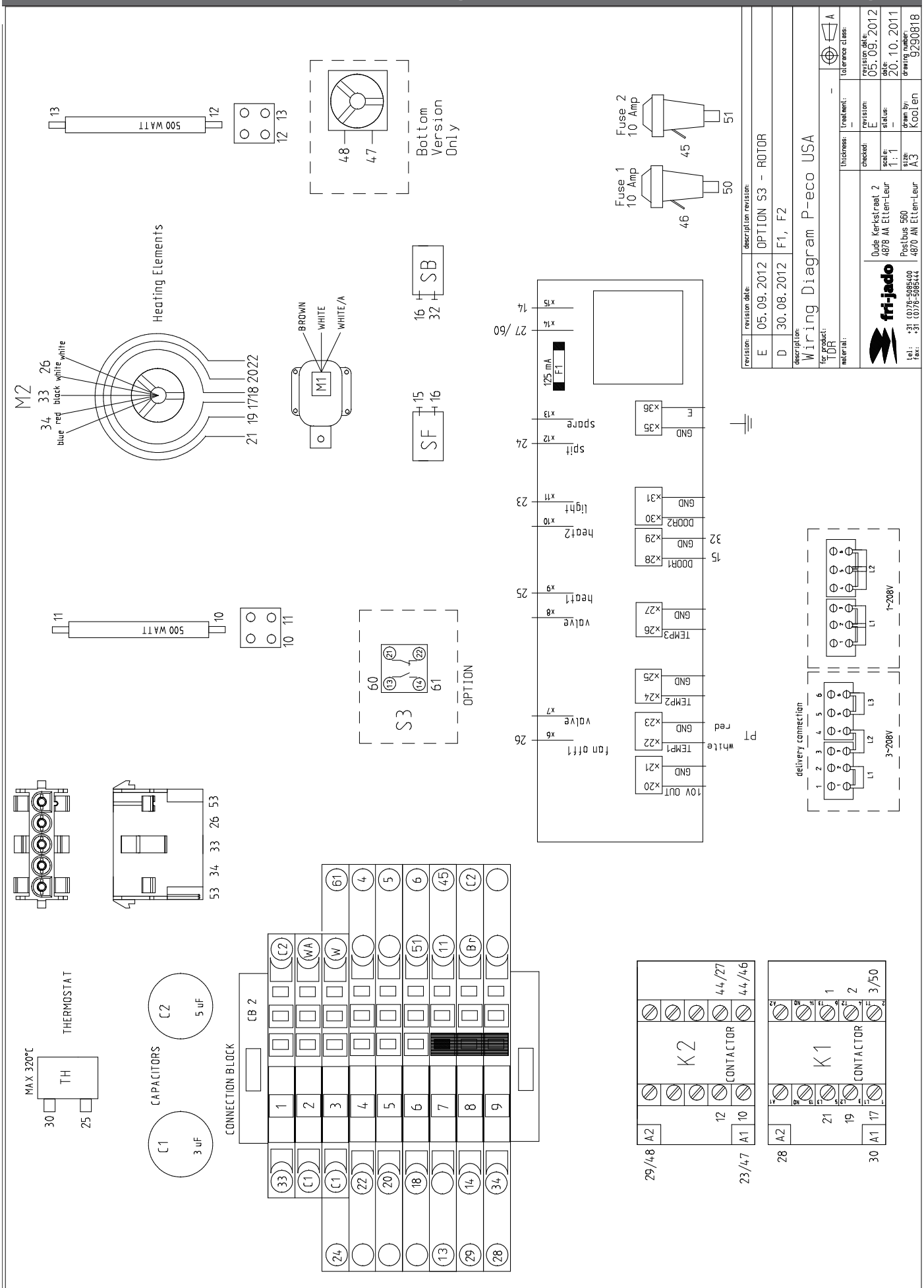


9290861

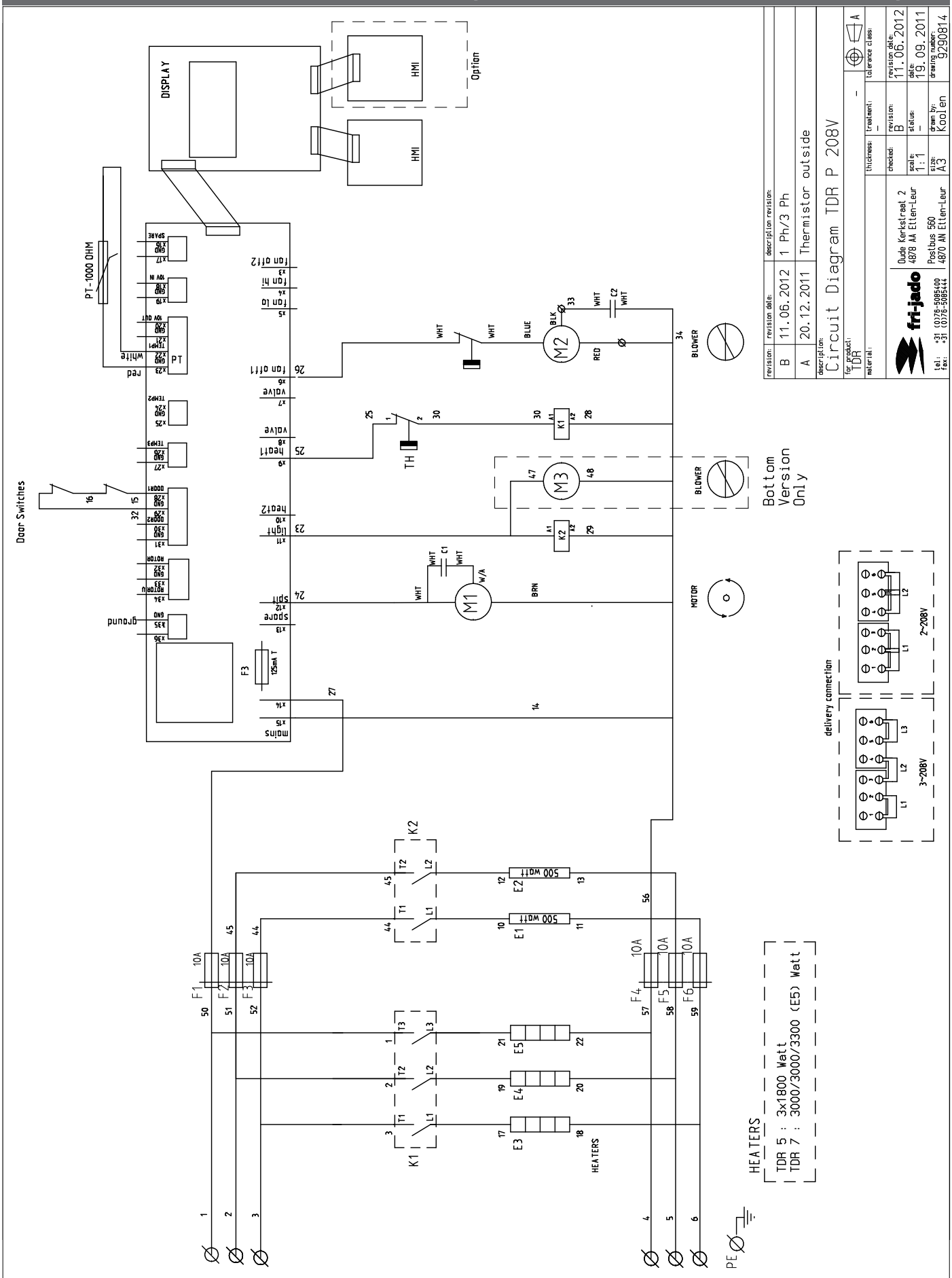
CIRCUIT DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100069000)



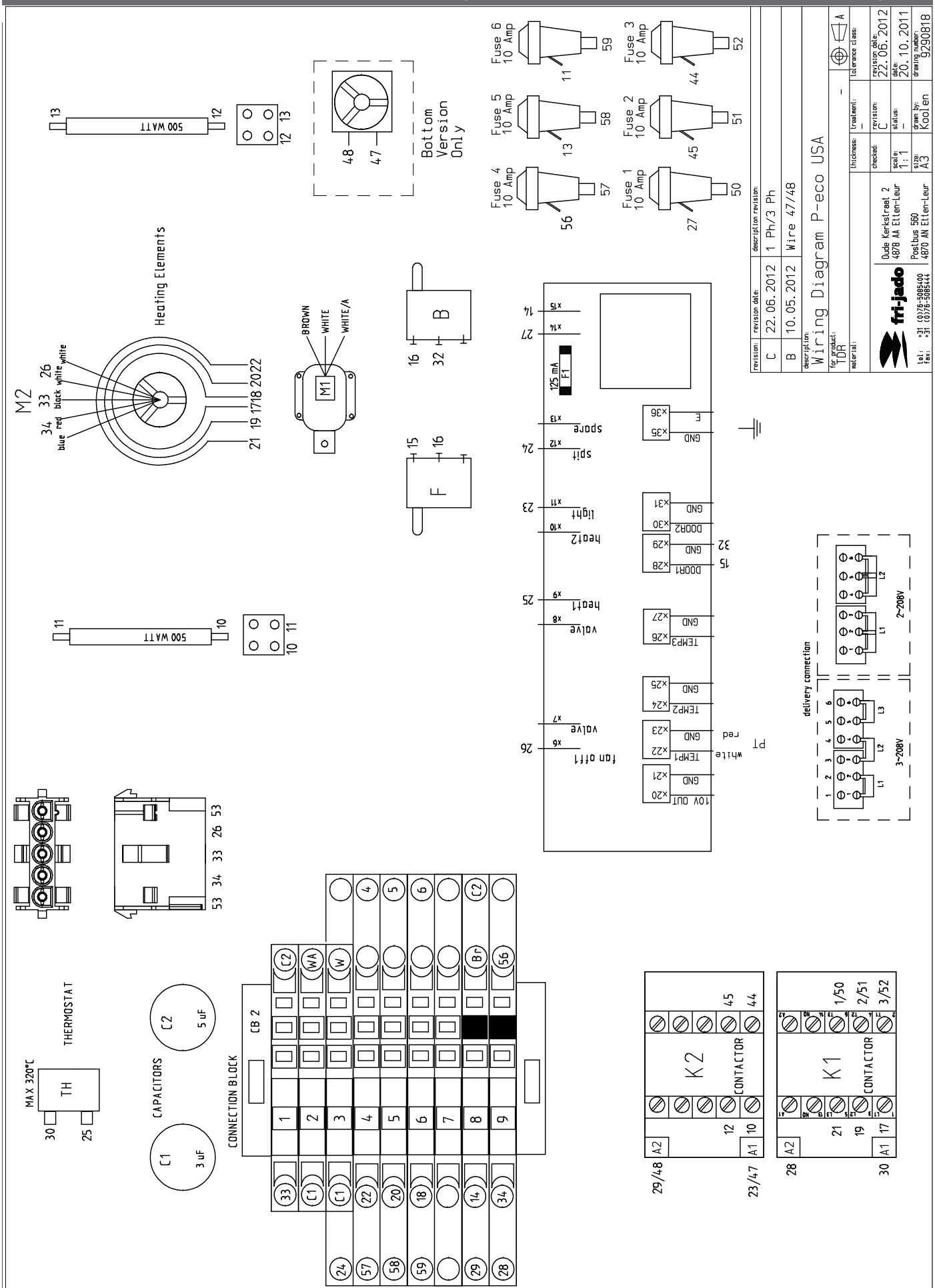
WIRING DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100069000)



CIRCUIT DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100059841)



WIRING DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100059841)



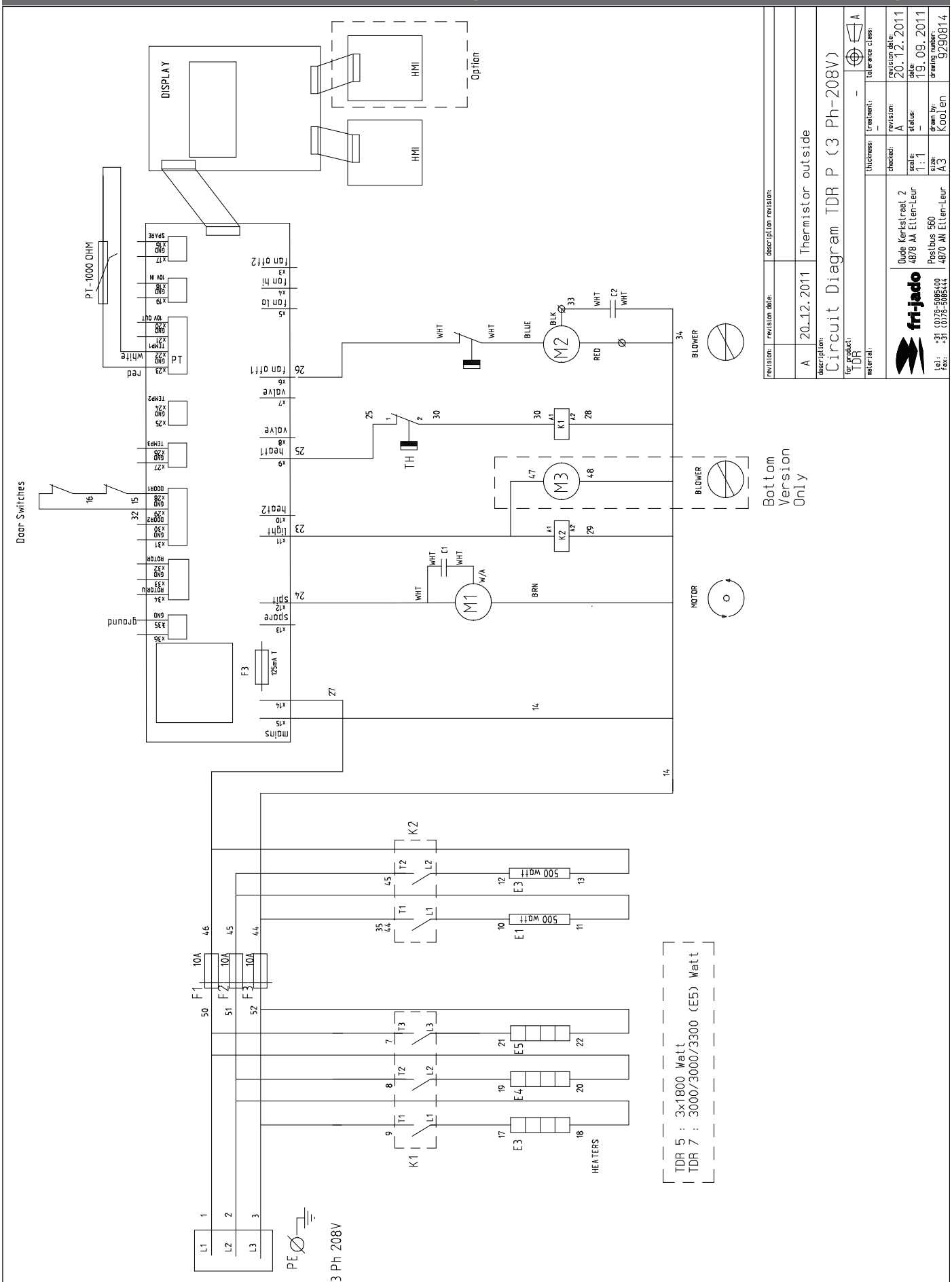
revision:	revision date:	description revision:
C	22.06.2012	1 Ph/3 Ph
B	10.05.2012	Wire 47/48

description: Wiring Diagram P-eco USA
for product: TDR
material:
thickness: | treatment: - | tolerance class:

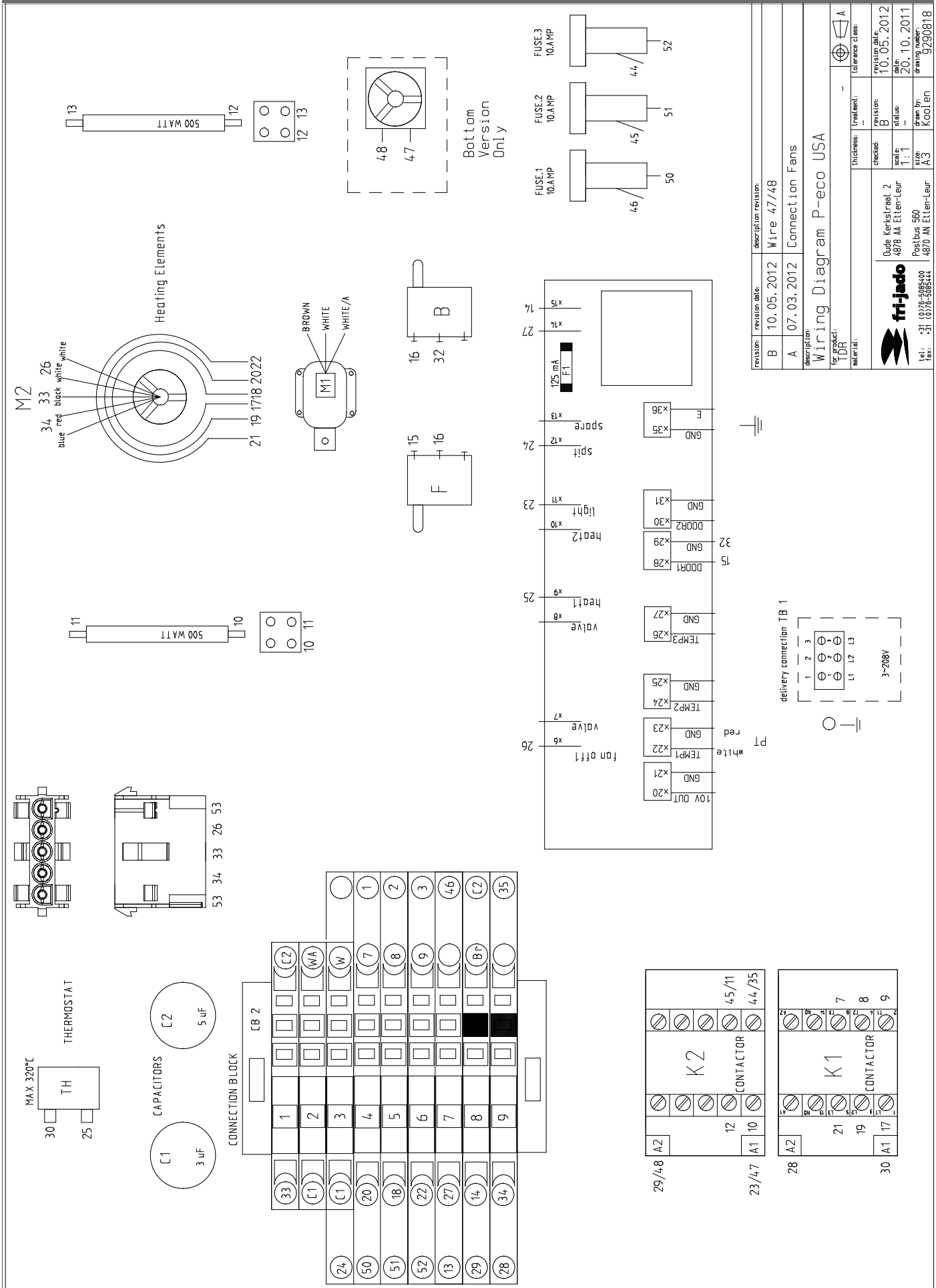
fri-jado
Oude Kerkstraat 2, 4878 AA Etten-Leur, tel.: +31 (0)76-5085400
Postbus 560, 4870 AN Etten-Leur, fax: +31 (0)76-5085444

checked: | revision: C | revision date: 22.06.2012
scale: 1:1 | status: - | date: 20.10.2011
size: A3 | drawn by: Kooleen | drawing number: 9290818

CIRCUIT DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100058736)



WIRING DIAGRAM TDR 5P AND 7P (UNTILL SERIAL NUMBER 100058736)



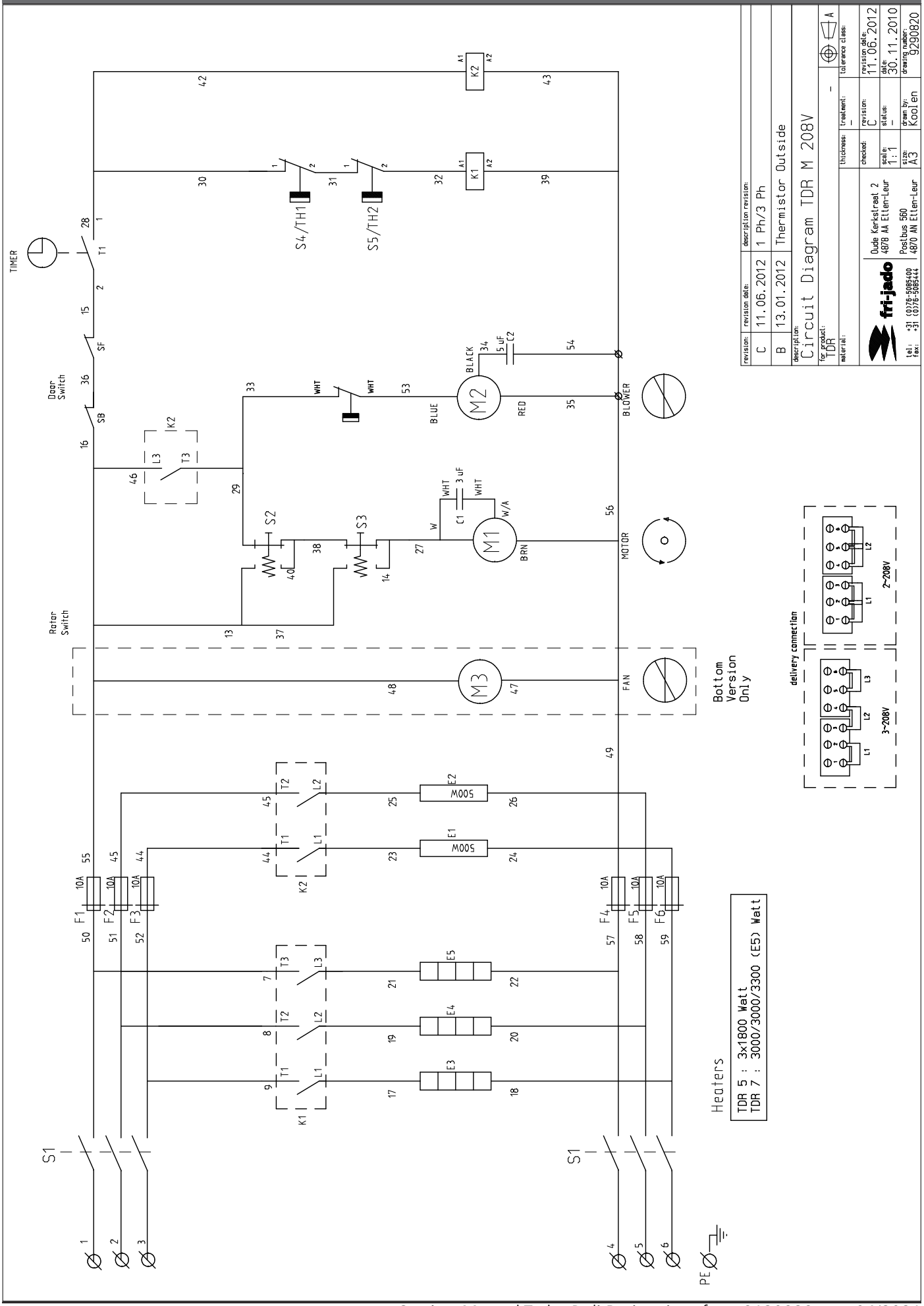
revision:	revision date:	description revision:
B	10.05.2012	Wire 47/48
A	07.03.2012	Connection Fans

description: Wiring Diagram P-eco USA
for product: TDR
material: – | thickness: – | treatment: – | tolerance class: A

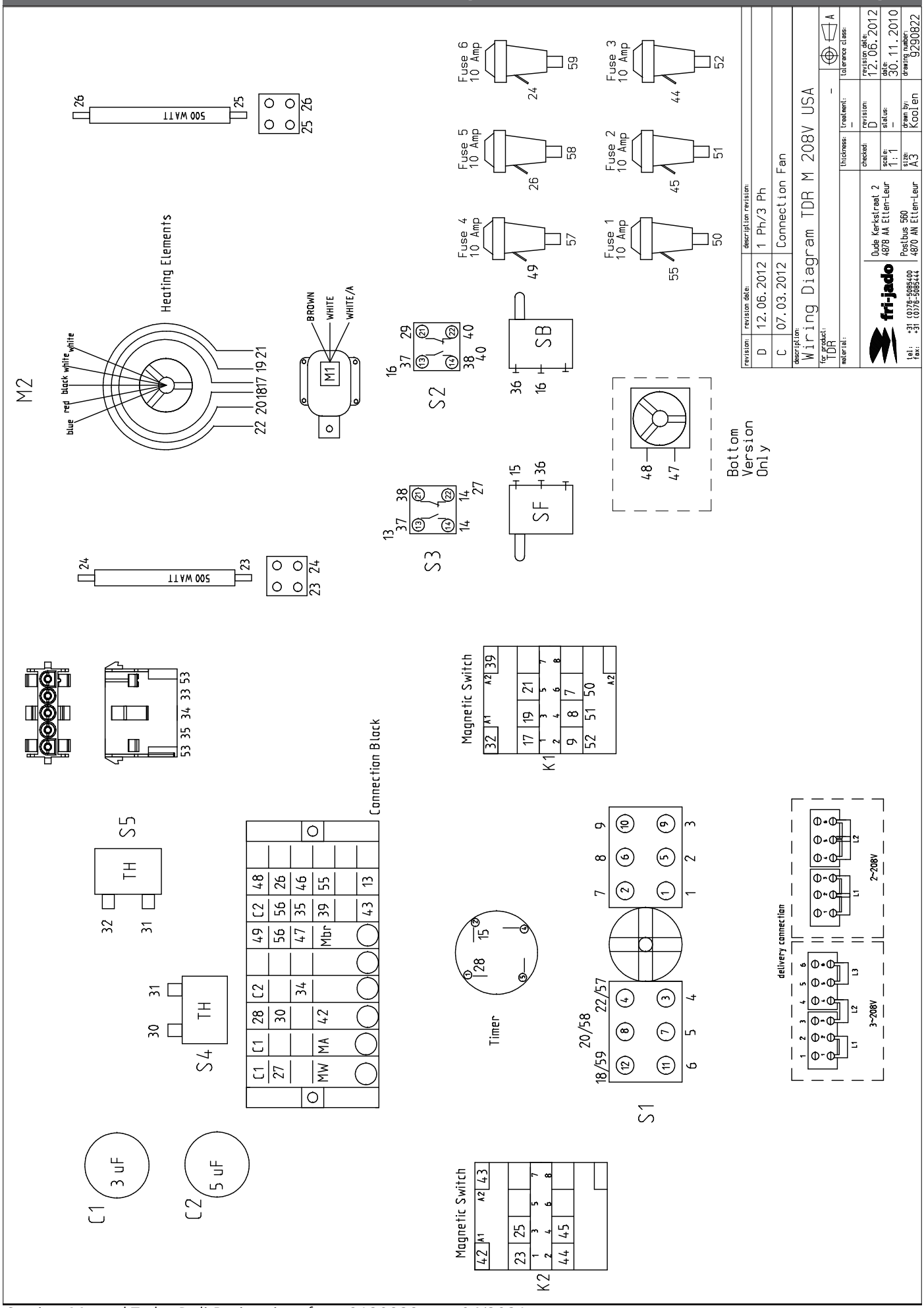
fri-jado
Oude Kerkstraat 2, 4878 AA Etten-Leur
Postbus 560, 4870 AN Etten-Leur
tel.: +31 (0)76-5085400
fax: +31 (0)76-5085444

checked: | revision: B | revision date: 10.05.2012
scale: 1:1 | status: – | date: 20.10.2011
size: A3 | drawn by: Koolen | drawing number: 9290818

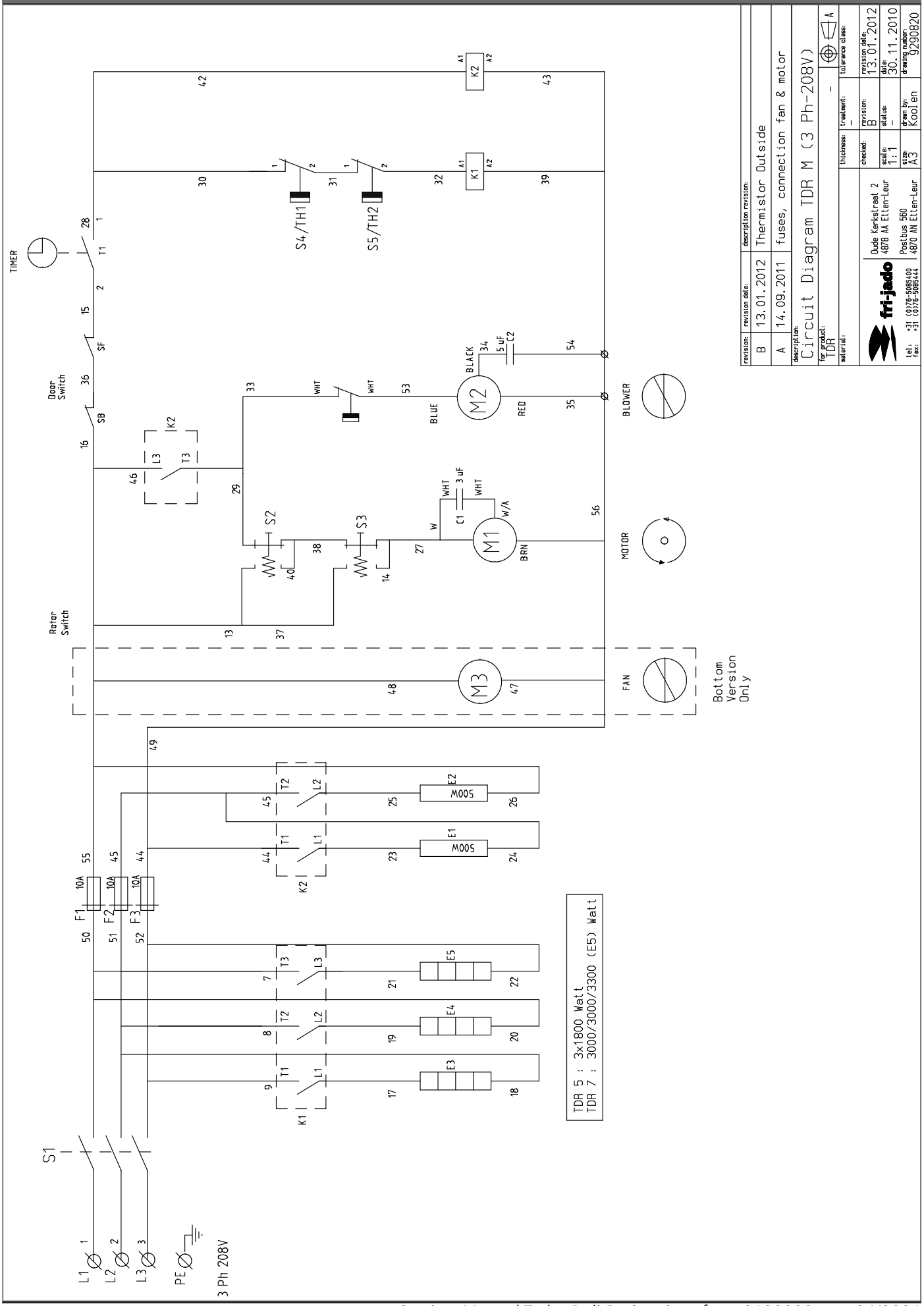
CIRCUIT DIAGRAM TDR 5M AND 7M (UNTILL SERIAL NUMBER 100059841)



WIRING DIAGRAM TDR 5M AND 7M (UNTILL SERIAL NUMBER 100059841)



CIRCUIT DIAGRAM TDR 5M AND 7M (UNTILL SERIAL NUMBER 100058736)



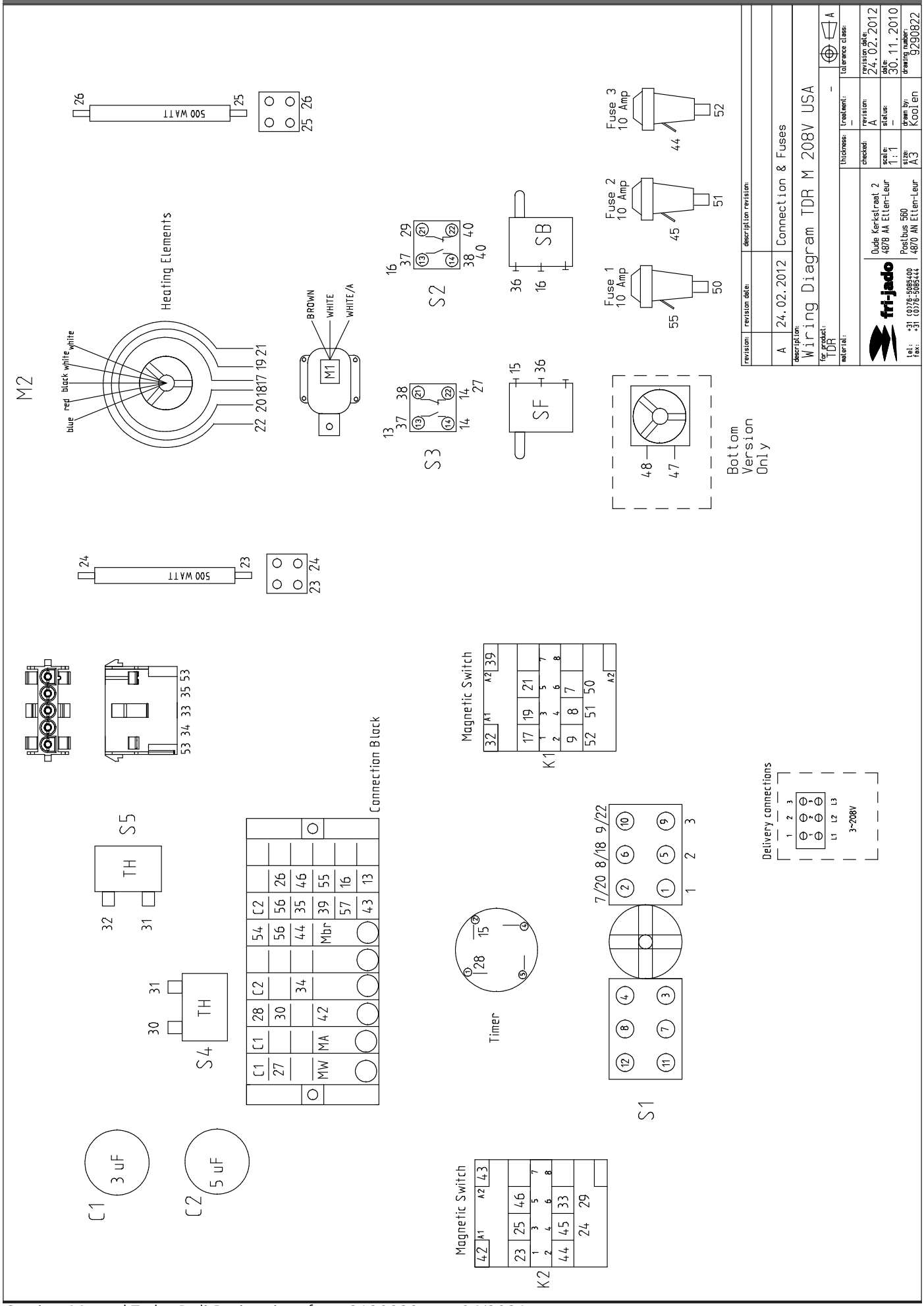
revision:	revision date:	description revision:
B	13.01.2012	Thermistor Outside
A	14.09.2011	fuses, connection fan & motor

description: Circuit Diagram TDR M (3 Ph-208V)
for product: TDR
material: – thickness: – treatment: – tolerance class: –

fri-jado
Oude Kerkstraat 2, 4878 AA Etten-Leur
PostBus 560, 4870 AN Etten-Leur
tel.: +31 (0)76-5085400
fax: +31 (0)76-5085444

checked: – revision: B revision date: 13.01.2012
scale: 1:1 status: – date: 30.11.2010
size: A3 drawn by: Kooleen drawing number: 9290820

WIRING DIAGRAM TDR 5M AND 7M (UNTILL SERIAL NUMBER 100058736)



For technical support call: +1 877 374 5236

fri-jado
Fri-Jado Inc. • 1401 Davey Road • Suite 100 • Woodridge IL 60517 • USA • fax +1 630 689 1424
• us.info@frijado.com • www.frijado.com • USA • toll free 877-FRI-JADO