

User Manual

braxx ^{control} **BC321**

High Cycle Control Unit



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Preface with security notice

This operating manual is addressed to the operating company and maintenance personnel of this machine. The instructions are no substitute for a proper instruction in the operation of the machine. We therefore recommend instruction by qualified EDT EURODIMA GMBH personnel or by a dealer partner authorised by us.

All persons at the operator's company concerned with putting into operation, maintenance and/or repairs must have fully read and understood these instructions.

For any further questions, please consult EDT EURODIMA GMBH, or a dealer authorised by us.



Please observe our security advice in this document

Non-observance of these instructions may result in:

- **the arising of physical danger to the life of the user or any third person using this machine**
- **damage to the machine and other items of the user's assets**
- **damage caused to the building**
- **limitation to efficient working of the supply unit**

1 CONFORMITY DECLARATION

Manufacturer: EDT EURODIMA GMBH
Lagerstrasse 6
A-5071 Wals bei Salzburg

Labelling: Supply and control unit with remote control
incl. cable and transport frame

Type: braxx control BC321

Serial number: _____

We herewith declare that due to its conception and construction and our health requirements, the above-named machine conforms to the essential safety and health requirements of the following EU directives.

Low voltage directive 2006/95/EG
Electromagnetic compatibility 2004/108/EG
Machine directives 2006/42/EG

The following harmonized norms are applied

- EN 61010-1
- EN 61010-2
- EN 50081-1
- EN 50081-2
- EN 6100-series
- EN 614-1
- EN 894-series
- EN 954-1

The following documentation is available in full in the operating instructions

- Description of solutions for risk prevention (originating from the machine)
- Operating instructions of the machine

This declaration is rendered invalid if any changes at the system are done that are not approved by EDT EURODIMA GMBH.

Wals, 01.02.2010



Dipl.-Ing. Wolfgang Stangassinger
Managing director

2 FIELD OF USE

The supply and control unit braxx control BC321 of EDT EURODIMA GMBH may only be used with machines being mentioned at point 3, and with original EDT EURODIMA supply cables only. The electric connection must be done according to the national regulations.



Important Safety Notice

The EDT EURODIMA GMBH machines may not be combined with machines from other manufacturers unless the use was recommended or approved by EDT EURODIMA GMBH. In case of non-compliance, guarantee and product liability is rendered invalid.

3 USE OF THE SUPPLY AND CONTROL UNIT

The braxx control BC321 is the supply and control unit for the following machines:

Sawing motor tornado SB321, 32kW

for wall sawing or as a drive for:

Wire saw wire braxx WB12T

Wire saw wire braxx WB6

Circular saw circular braxx CB350

Combination motor engine braxx eb320, 32 kW

as drive for:

Wire saw wire braxx WB12T

Wall saw WM90

Combination motor engine braxx eb200, 20 kW

as drive for:

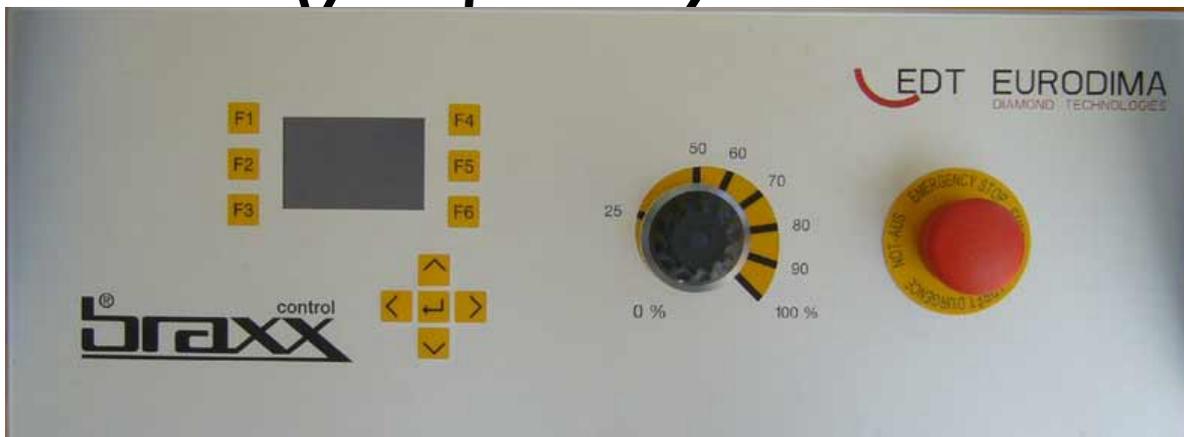
Circular saw ZS350

Wall saw WM90

Wall saw WM50

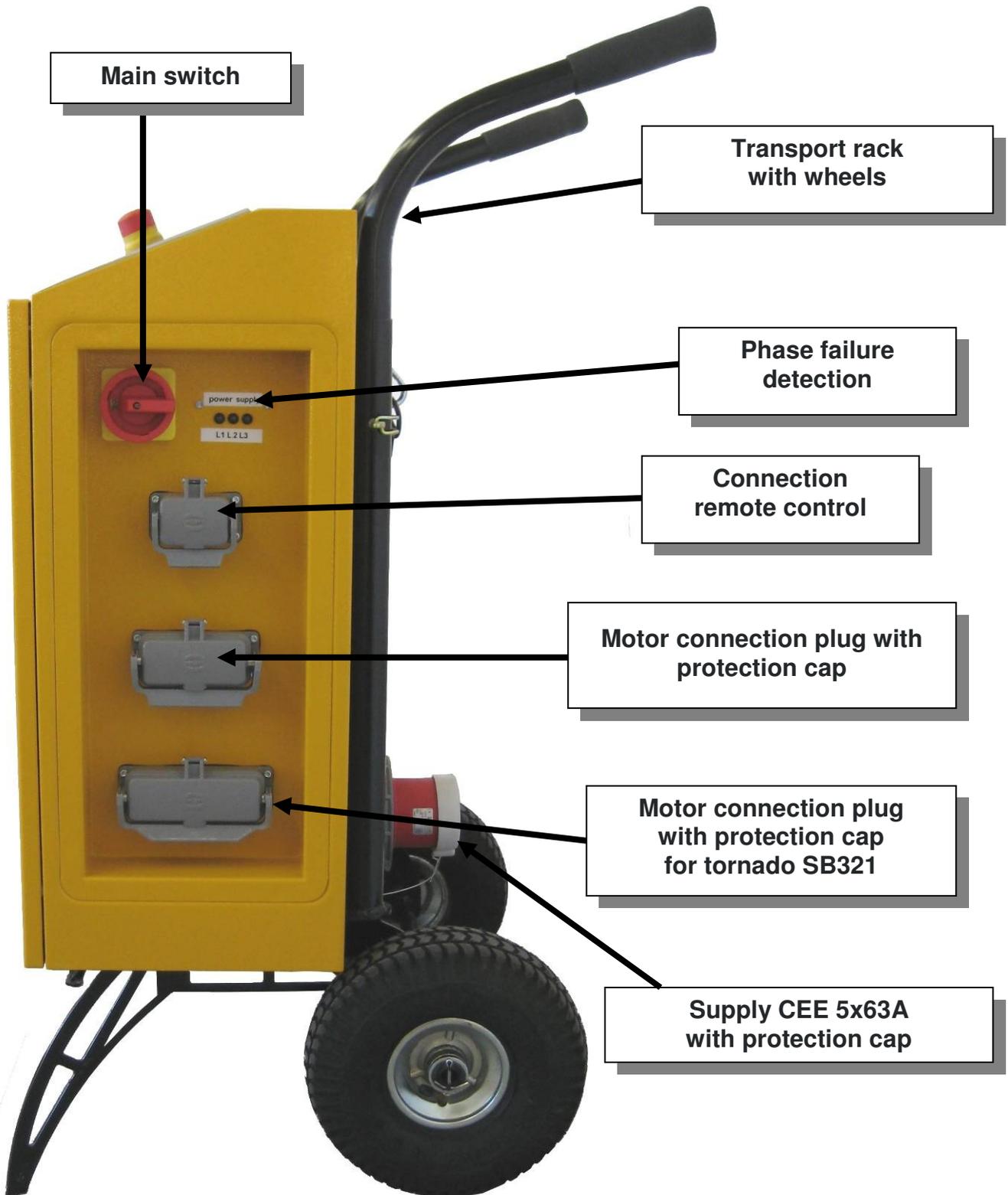
4 DESIGN OF THE SUPPLY AND CONTROL UNIT

Operating unit with display; function keys F1-F6; cursor keys; enter key



Potentiometer for revolution setting of main motor

Emergency stop pushbutton switch



4.1 OPERATING UNIT WITH DISPLAY; FUNCTION KEYS F1-F6; CURSOR KEYS; ENTER KEY

4.1.1 Operating unit with display

All information is shown on the display as plain text or graphically. The menu navigation is self-explanatory, i.e. all possible steps are shown with the associated function keys F1-F6.

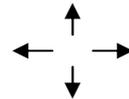
In the service menu, the background light can be switched over to an inverse mode.

4.1.2 Function keys F1-F6

All function keys are numbered (F1-F6). They are on the left (F1-F3) and on the right (F4-F6) side of the display. With them, all the system's menu items can be selected.

4.1.3 Cursor keys (arrow keys)

There are four cursor keys that are used for setting the date/time function and for the emergency operation. The upward arrow serves for increasing a value / the downward arrow for its reduction, the arrows to the right and to the left for navigation.



4.1.4 Enter key

The enter key has the international sign  and is used for confirming changed data and for starting the motor in emergency mode.

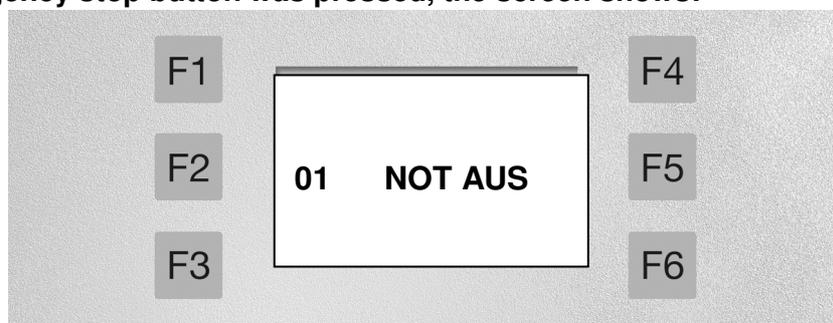
4.2 POTENTIOMETER FOR REVOLUTION SETTING OF MAIN MOTOR

With the potentiometer, the revolution of the main motor is being set according to the blade diameter. The chosen revolution is shown in the screen with xxx rpm.

4.3 EMERGENCY STOP MUSHROOM-HEAD PUSHBUTTON SWITCH

As a rule, only use the emergency stop button in case of emergency or during reconstructions at the connected drilling or sawing machines.

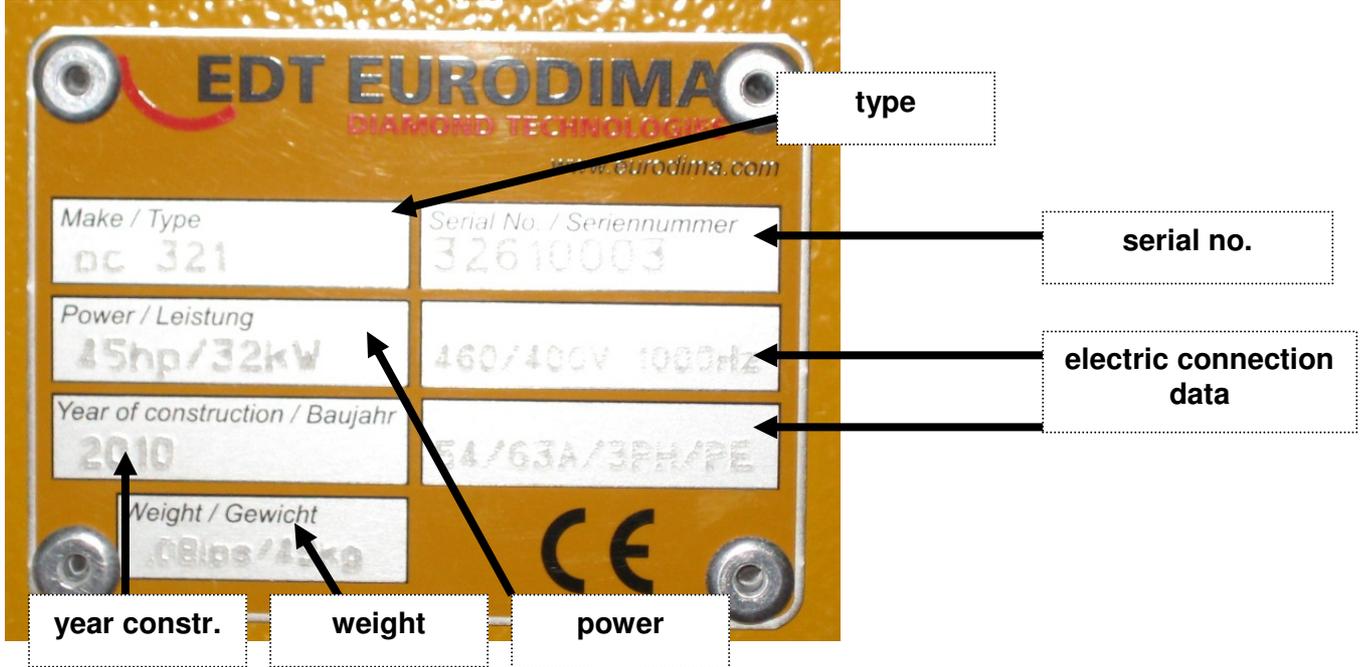
When the emergency stop button was pressed, the screen shows:



Furthermore, the red LED at the remote control lights. When releasing the emergency stop, the screen returns to the previously shown mask, and the red LED at the remote control extinguishes.

4.4 TYPE PLATE

At the type plate, the following data are shown:



4.5 MAIN SWITCH

The braxx control BC321 is switched on and off with the main switch. After the network connection, the indoor ventilation is turned on automatically. By pressing the main switch into the "ON" position, the BC321 control is activated. The start screen is shown and the lamp check function energizes all lamps for 5 seconds. Thus, the function of the lamps in the keys and the screen can be checked.

4.6 REMOTE CONTROL CONNECTION

Six-pin connection plug for remote control with locking bar and locking cap.

4.7 TRANSPORT FRAME INCL. WHEELS

4.8 MOTOR CONNECTION PLUG WITH PROTECTION CAP FOR TORNADO

4.9 MOTOR CONNECTION PLUG WITH PROTECTION CAP FOR TYPHOON

4.10 SUPPLY CONNECTION CEE 5X63A WITH PROTECTION CAP

5 DESCRIPTION OF REMOTE CONTROL



In general, this remote control is to be used for steering the wall saws tornado SB321 and typhoon SB200. For the wire saw WB12, no remote control is necessary. Therefore, the emergency stop plug (located in the tool case) must be plugged to the remote control connection.

5.1 4-WAYS-PUSH-BUTTON SWITCH

In order to preselect or change a function, the potentiometer must be set into zero position (counter clockwise rotation)

- Position up = swivelling clockwise
- Position down = swivelling counter clockwise
- Position right = feed right
- Position left = feed left
- Centre position = all functions inactive

5.2 FUNCTIONS WHEN MONITORING THE MOTOR BACKSIDE

- **Emergency stop**

Do not use for regular motor switch-off!

Used for quick system disconnection at an imminent danger situation. Using the break contact in the safety loop causes a drop-out of the motor switches and a galvanic disconnection of the frequency converter from the power system. The control remains still supplied. At the reconnection, the screen shows the previously selected mask.

- **Motor ON/OFF**

For starting / stopping the main motor

- **Potentiometer**

Adjusts the feed / cut-in speed of the saw body

- **LED green**

Illuminated when the remote control is ready to use

- **LED yellow**

If the yellow lamp blinks, work is at the threshold to overload. As a precaution, the feed must be reduced. If it is illuminated, the overload range is reached. The feed must necessarily be reduced. It is illuminated when the main motor is overloaded in sawing mode.

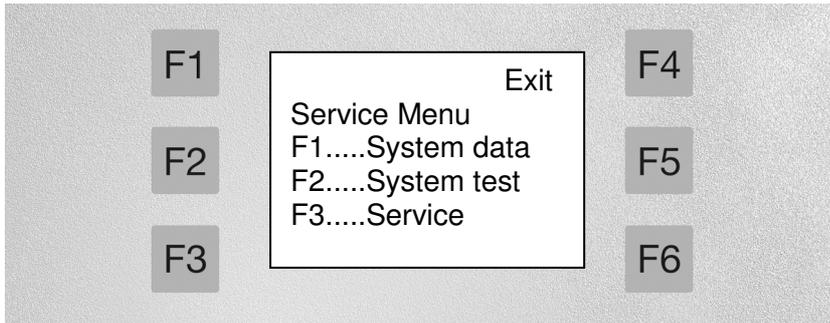
- **LED red**

If the red lamp is lighted, an error has occurred or the machine is overloaded. The type of error can be seen on the display.

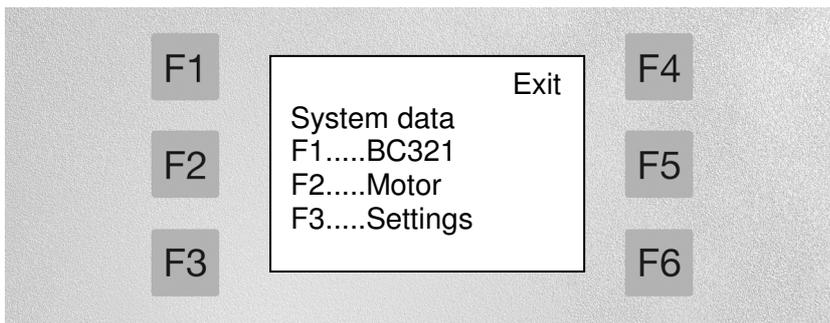
5.3 SERVICE MODE DISPLAY

When pressing the emergency stop button and the key combination *F5* and *F6* (keep *F5* down, press *F6* simultaneously), the system switches into the service mode. There is the possibility to show the error memory, operating hours, time resting in service interval etc.

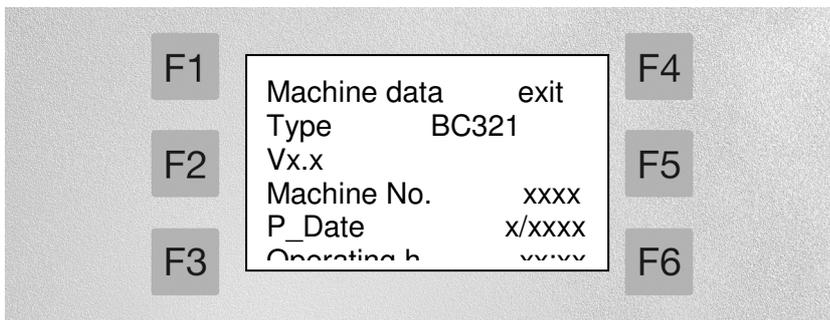
After activating the service mode, the display shows the main menu with its three sub menus.



a) Pressing *F1* activates submenu 1st level system data

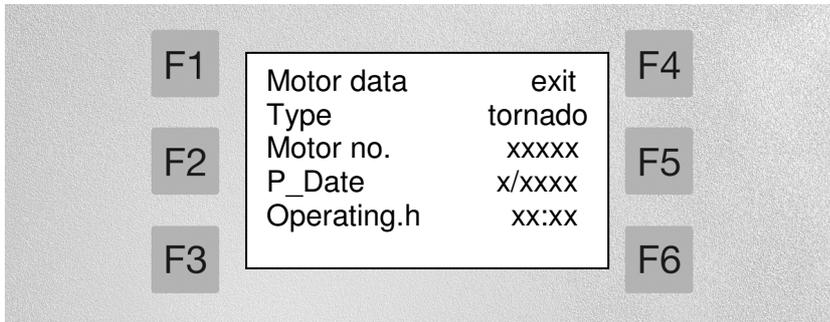


- Pressing *F1* again, the submenu 2nd level BC321 is shown



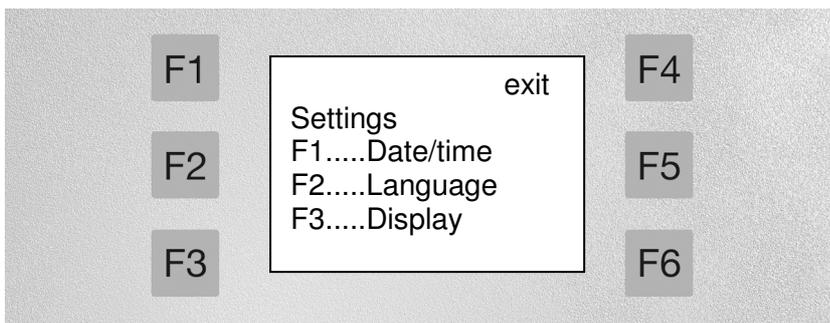
- type with software version e.g. version 1.2
- machine number (serial number) BC321 e.g. 06008
- production date BC321 e.g. 35/2006
- Operating hours / minutes BC321 e.g. 48:59

- Pressing *F2*, the submenu 2nd level motor is shown:



- the connected motor type e.g. tornado
- Machine number (Serial number) of the connected motor e.g. 06010
- Production date of the connected motor e.g. 27/2006
- Operating hours / minutes of the connected motor e.g. 66:59

- Pressing *F3*, the submenu 2nd level settings is shown

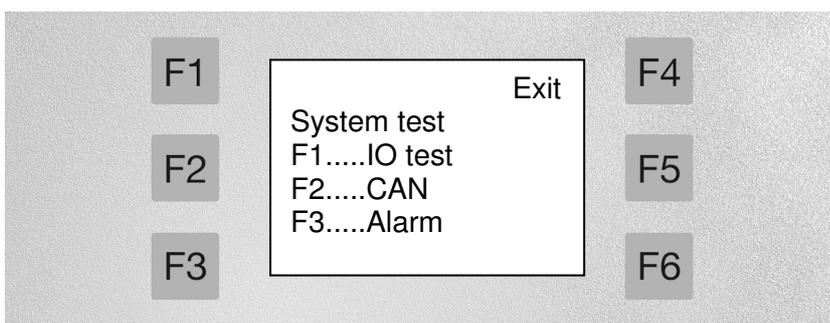


If *F1.....Date/time* was selected with *F1*, the date and time can be set by the cursor keys (see 4.1.3). The changes are confirmed with the enter key.

If *F2.....Language* was selected with *F2*, the display language can be changed with *F1* (German) *F2* (English) or *F3* (French).

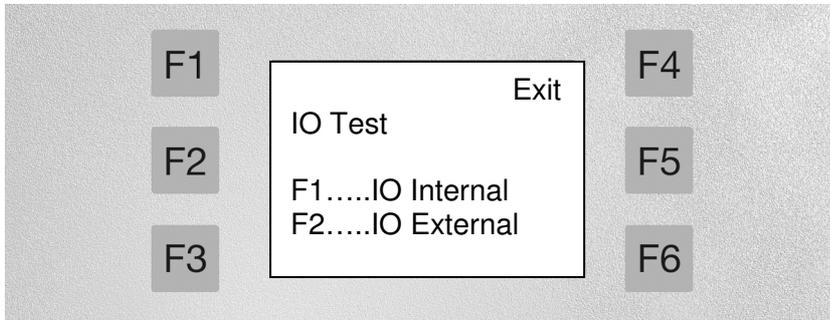
If *F3.....Display* was selected, the backlight can be selected with *F1* (normal) or *F2* (inverse).

b) Pressing *F2* activates submenu 1st level system test



Here are also three options:

- Pressing **F1**, the submenu 2nd level IO test is shown



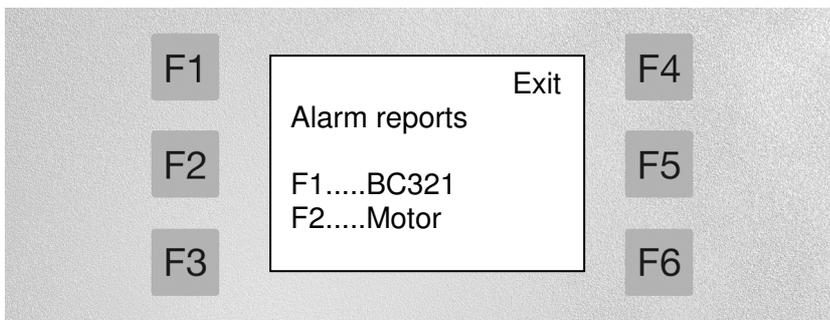
If F1.....IO Internal was selected, the control release can be checked with the enter key and the function of the potentiometer at the control console can be verified.

If F2.....IO External was chosen, the functions of the 4-ways switch (joystick), the motor on/off key and the potentiometer at the remote control can be checked.

- Pressing **F2**, the submenu 2nd level CAN is shown

This menu is reserved for the service technicians of EDT EURODIMA GMBH.

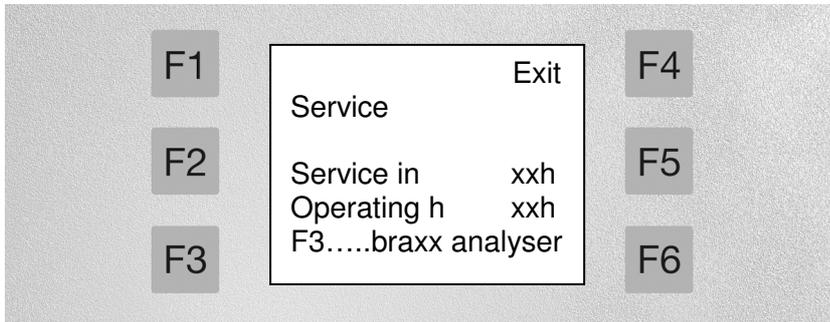
- Pressing **F3**, the submenu 2nd level Alarms is shown



If F1.....BC321 was selected, the error history of the BC321 (the last 30 errors with date, time and the error number code) can be read off.

If F2.....Motor was selected, the error history of the connected motor (the last 30 errors with date, time and the error number code) can be read off.

c) Pressing **F3** activates the submenu 1st level service



The service screen shows the hours remaining until the next service is due and the operating hours of the motor.

The braxx analyser is reserved for the service technicians of EDT EURODIMA GMBH.



**Operations in service mode may only be conducted after consulting the EDT EURODIMA Service department, otherwise, data which are relevant for operation may be changed and the functions affected.
Phone number EDT EURODIMA +43 662 42 42 48-0**



Never try to plug in using force!

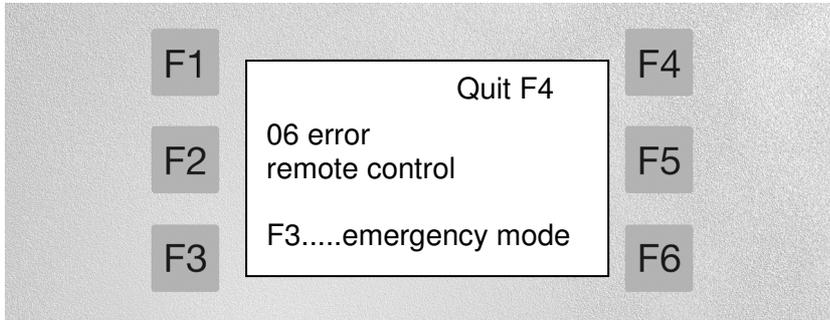
Fix all plugs, always use protection caps

**The more careful you treat the plugs,
the longer your sawing unit works smoothly.**

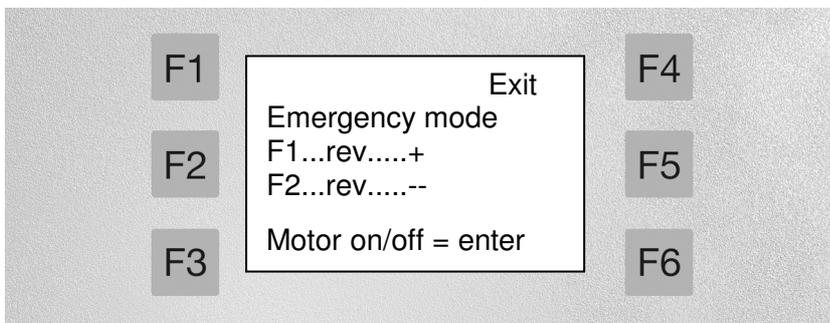
**Only plug in when the emergency stop switch is pressed
or the control is idle.**

5.4 OPERATION IN EMERGENCY MODE

The system has an emergency mode for the case of a defective remote control. After the emergency stop plug is plugged in, this screen is shown (when a wall saw tornado sb320 / typhoon sb170 is connected).



When pressing F3.....emergency mode, this screen is shown:



The revolution of the main motor can be set with $F1 = +$ and $F2 = -$ and the motor is started with the enter key. Revolution can be changed during operation.

When the arrow keys upwards and downwards are **being pressed (dead man's control)**, swivelling left or right is preselected. With the potentiometer, the swivel speed can be changed at the control unit.

Please note: The rotating direction can only be preselected if the potentiometer is on position 0.

When the arrow keys left and right are **being pressed (dead man's control)**, feed right or feed left is preselected. With the potentiometer, the swivel speed can be changed at the control unit.

Please note: The rotating direction can only be preselected if the potentiometer is under 70 %.

Caution – dangerous voltage!
Your safety is at stake!

When connection contacts / pins are twisted or broken, they have to be replaced by new ones. The exchange may only be done by EDT EURODIMA GMBH!

5.5 ELECTRIC CONNECTION

The braxx control power is supplied by a 63A-CEE plug connection at the back side.

The special regulations of the local electricity network are to be complied with. The voltage may not exceed or fall below the following values as the frequency converter would not release:

Voltage: min. 380 Volt (-10 %)
 max. 440 Volt (+10 %)

The amperage (according the upstream fuse) that is available on the construction site can be set with the power setting mode. Default amperage is 32A.



The control unit braxx control is a system with integrated frequency converters. As there are upstream residual-current-operated protective devices with most power supplies, we recommend to use residual-current-operated protective devices for a residual current >30mA. Otherwise, unintended triggering can occur.

The plug caps must always be locked! When laying out the cables, avoiding loops must be considered!



**Always consider the right order when plugging in:
When starting, first motor cable and remote control,
then power plug.
After shutdown, first power plug,
then motor cable and remote control.**



It is not allowed to use any machines not produced or authorized by EDT EURODIMA with these sockets.

5.6 COOLING WATER SUPPLY

When necessary, the water stream can be interrupted by a stop valve (ball valve). Absolutely important is the use of clean water (at least filtered and clear). Otherwise, the coolant bores in the sawing motors can be blocked, leading inevitably to a system breakdown.

Water pressure must be 2 bar minimum and 8 bar maximum.



All pipe couplings are marked with a colored and distinctive coding.



Enough water for cooling the motor and the gear has to be available.



**Water pressure must be 2 bar minimum and 8 bar maximum!
The temperature of the coolant must be 20 °C (+/- 5 °C).**



Prior to starting, the water must run through the whole system in order to check the correct plugging of all connections!



In order to avoid motor damages, the coolant must run through with plugged power plug for 10 minutes after every interruption (pause) and after finishing the application.

6 TECHNICAL DATA

Power connection	400V; 50/60 Hz; 3PH, N, PE; optionally 16A, 32A or 63A
Frequency range	high frequency controlled , 0-1000Hz
Performance	32kW, high frequency controlled
Kind of guard	IP 67
Dimensions	540x898x534 mm
Total weight	49 kg

Control:

Type EDT EURODIMA braxx control BC321, control voltage 24 VCD

Consisting of:

- K1-control integrated in case cover with graphic display
- 6 pc. functional keys, 4 cursor keys and an enter key

- Voltage supply 400VAC-35VAC-18VAC_24VDC on subplate
- Voltage supply contactor 4 kW / 24VDC
- Safety relay PNOZS3

Frequency converter max. 32 kW

Make Unidrive SP

Interior ventilation: air cooling

7 INITIAL OPERATION BRAXX CONTROL BC321

Prior to initial operation, the user manual and the security advices must be read carefully and adhered to. The safety equipment must be inspected.



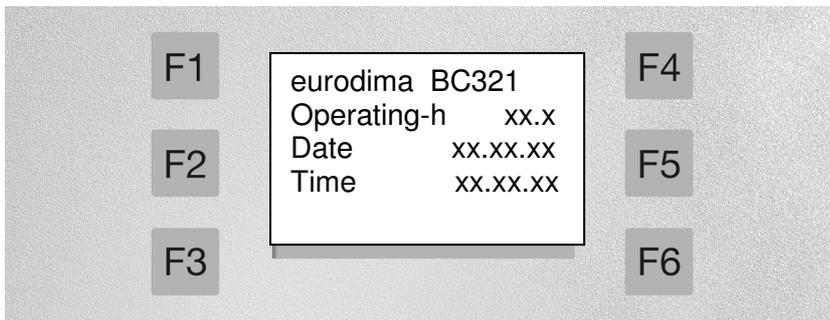
Only start the system when all electric and all water connections are plugged in properly and the coolant runs through the braxx control BC321 and sawing device.

A persistent motor shutdown with the emergency stop button causes a shorter lifespan of the whole system, as the electronic components are excessively stressed. The shutdown should be done by the motor on/off key at the remote control.



For exchanging tools, the emergency stop key must be pressed.

When starting the system using the main switch, the display indicates “eurodima BC321” as well as the operating hours of the motor, the time and the date.



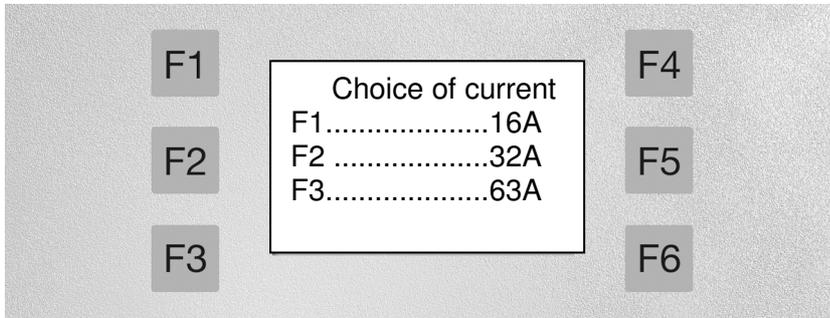
After approx. 10 seconds, the display changes to the screen, provided that the emergency stop button is not active, a motor is connected and the system is within the period of guarantee. If the guarantee time is expired, a screen like the following is shown:



In this case, EDT EURODIMA GMBH has to be contacted for a service date. EDT EURODIMA GMBH assumes no liability for damages which occur after guarantee time (150 operating hours of the motor) has expired.

Preselecting the current

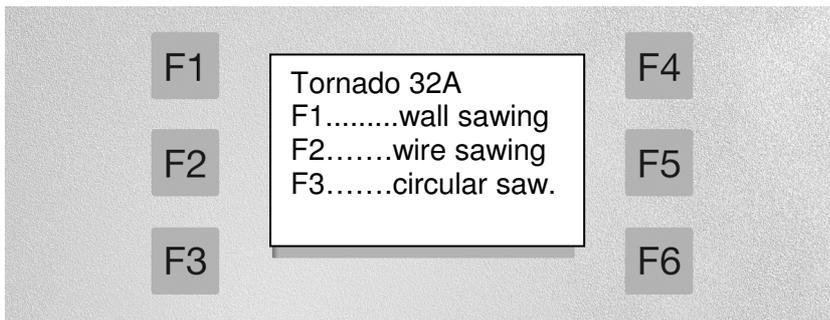
Herewith, the available amperage is set. If no setting is chosen within 5 seconds, 32A will be preset automatically. If the amperage is too high, the upstream overload fuses may be triggered.



Please note: For the first time, the self-explanatory menu navigation is used. I.e. every option is indicated with the corresponding function key (F1-F6) and can be selected.

After the current was preselected, the following screen is shown:

Selecting the function



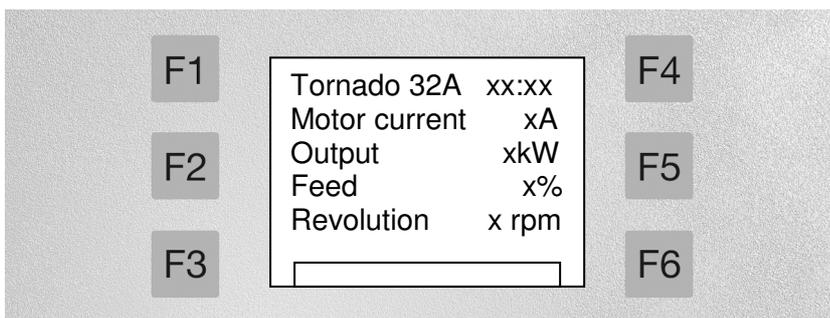
Please note: The user has to decide the required operations mode.

7.1 WITH TORNADO SB320 WALL SAW

If the **wall sawing** option was chosen, the following screen is shown:

Operation

with the following indications



Then, the main motor can be started with the motor on/off key at the remote control. The indications motor current and output as well as the performance bar change according to the load of the main motor. For further explanations see the chapter remote control.



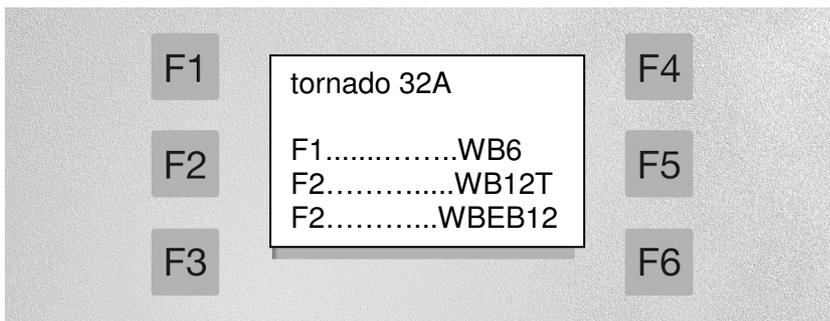
To avoid any uncontrolled motor start, the emergency stop key has to be pressed for working at the machine.



After end of work, always:
cool after for 10 min. minimum,
blow out coolant,
screw or mount all plug protection caps.

7.2 WITH WIRE SAWING

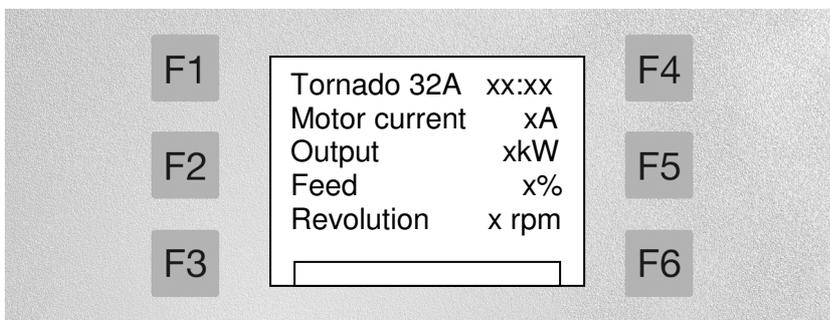
If the **wire sawing** option was chosen, the following screen is shown:



At this point the user must decide which control mode he wants to select.

7.2.1 WITH WIRE SAWING WB6

After selecting mode **WB6** display will show **operation** with the following indications:

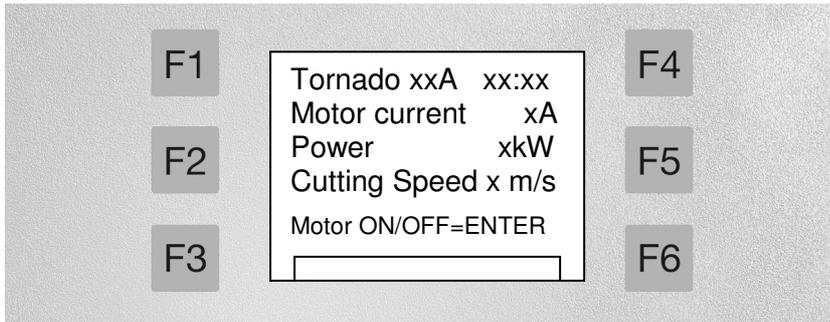


Please note: Swiveling left/right is possible with deactivated main motor only!

Only now the main motor can be started by pushing on/off button on your remote control. The indications motor current and output will change as well as the performance bar according to the load of the main motor. Further instructions are explained in chapter remote control.

7.2.2 WITH WIRE SAWING WB12T

After selecting mode **WB12T** display will show **operation** with the following indications:



Now, the main motor can be turned on with the motor on/off button at the remote control. The indications motor current and power change according to the load of the main motor, also the power bar at the display bottom. For further explanations, please see chapter remote control.



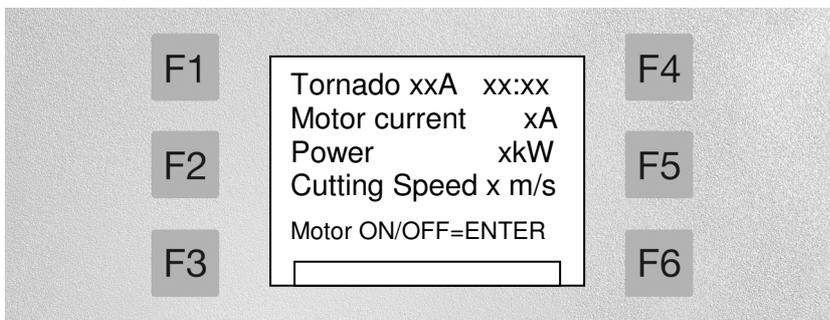
To avoid any uncontrolled motor start, the emergency stop button always has to be pressed for working at the machine.



**After end of work, always:
cool after for 10 min. minimum,
blow out coolant,
screw or mount all plug protection caps.**

7.2.3 WITH WIRE SAWING WBEB12

After selecting mode **WBEB12** display will show **operation** with the following indications:



Now, the main motor can be turned on with the motor on/off button at the remote control. The indications motor current and power change according to the load of the main motor, also the power bar at the display bottom. For further explanations, please see chapter remote control.

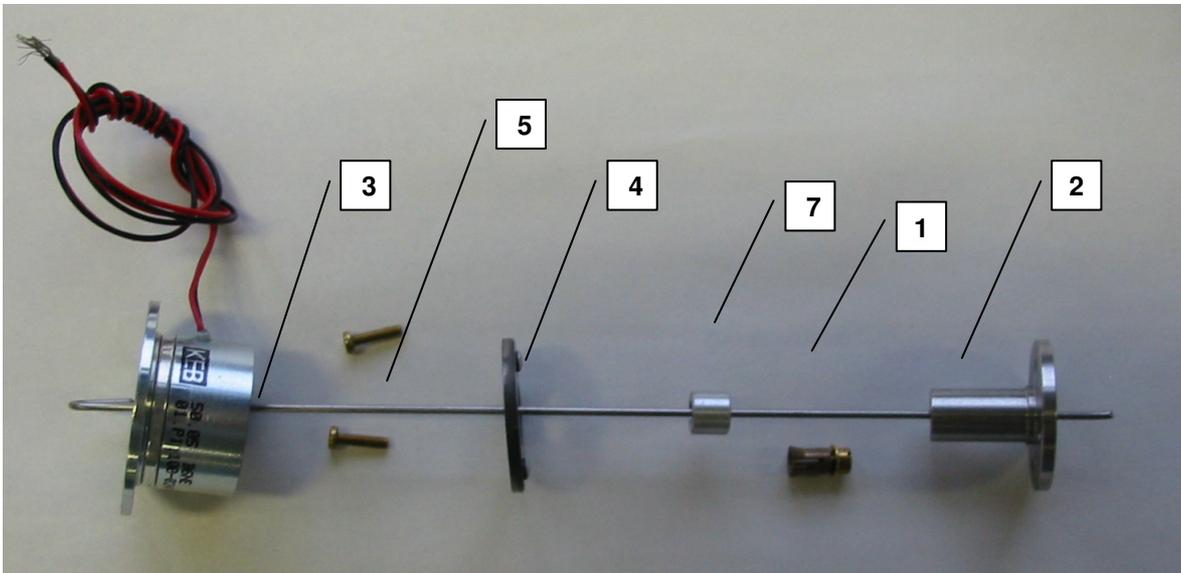


To avoid any uncontrolled motor start, the emergency stop button always has to be pressed for working at the machine.



After end of work, always:
cool after for 10 min. minimum,
blow out coolant,
screw or mount all plug protection caps.

8 BRAKE SYSTEM

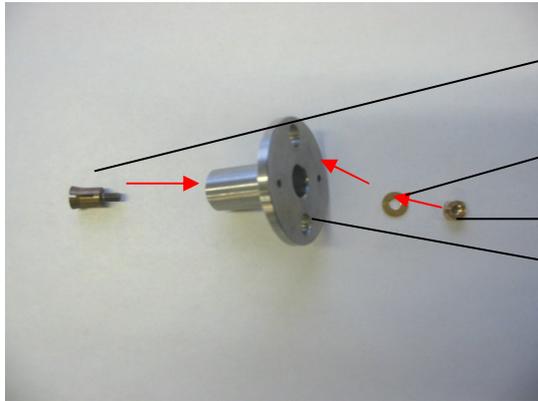


Parts list

Pos.	Order number	Item	pcs
1	6b320305	Brake tongs (collet)	1
2	6b320306	Brake disc holder	1
3	6b320300	Magnetic brake	1
4	6b320301	Brake disc for magnetic brake	1
5	2NTS84M2x10	Screws	2
6	Widerstand18Ohm	Resistor	1
7	6b320	Brake sleeve	1

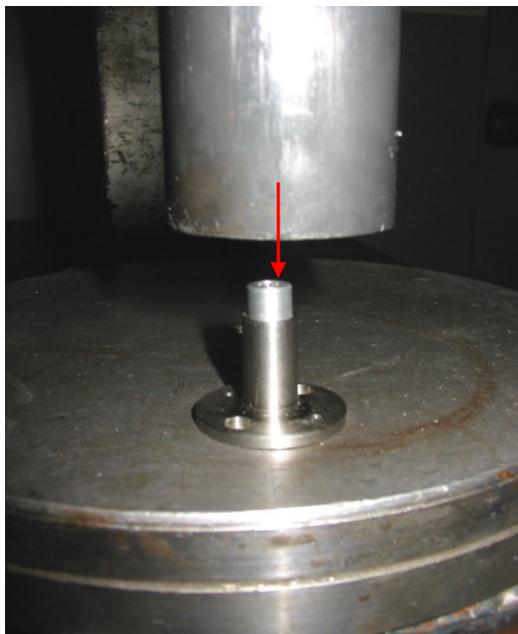
Tools needed

- Plastic hammer
- Slot-screw driver
- Special screw driver
- Tapping glue
- Sensing device
- File
- Grease gun
- Hexagon key SW4

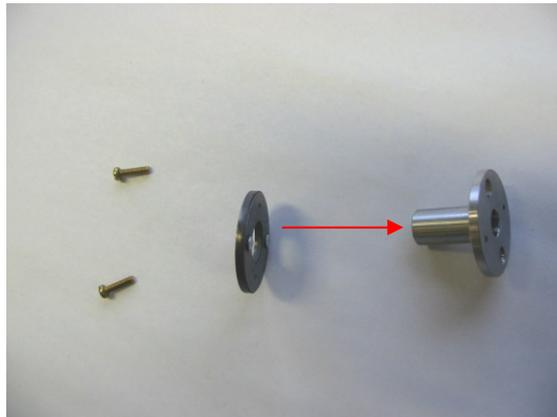
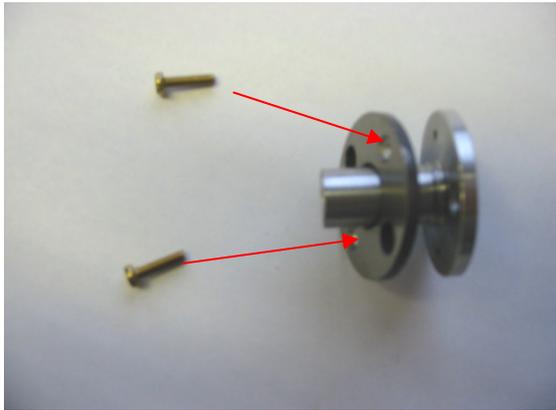


1. Dismantle tongs (collet) and build them into the brake disc holder from the front
2. washer
3. screw
4. continue with tightening screw

Press tongs (collet) in according to the picture

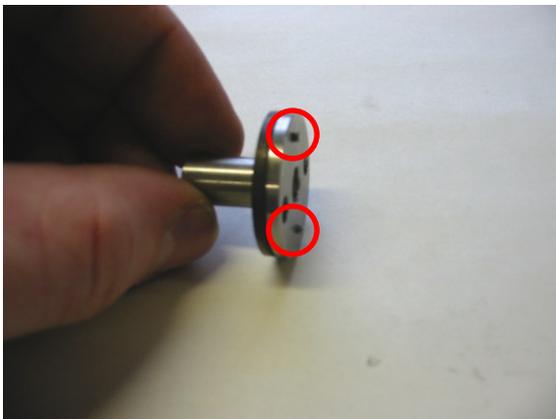


Assemble by force-fitting tongs (collet)



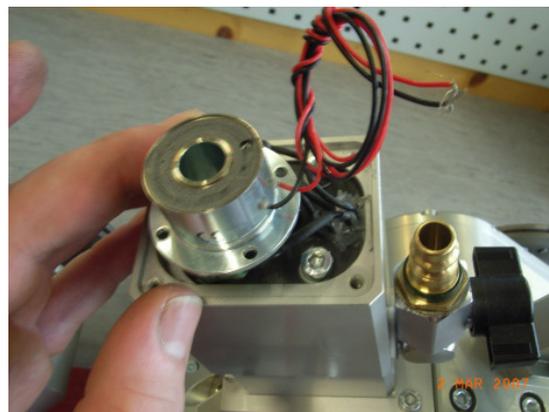
Fit the brake disc on to brake disc holder. (mind hole pattern)

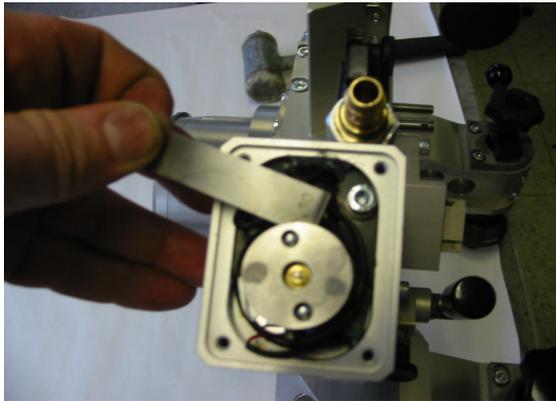
Then, glue in the screw.



Material that is standing over has to be surfaced

Centre the magnetic brake onto the motor shaft and fix it with tongs.

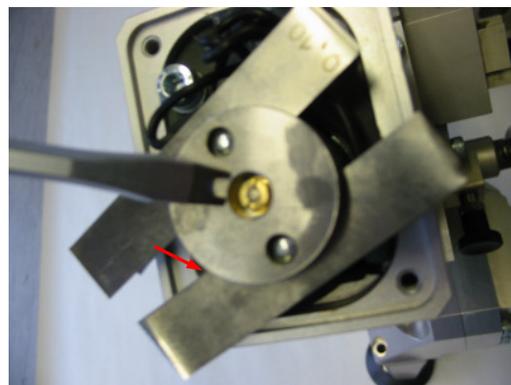




Then, assemble the entire brake disc holder onto the motor shaft.

Attention: Distance between magnetic brake and friction brake must be 0.3 mm.

Fit tongs (collet) with special screwdriver: push downwards and fix it by clockwise turns.



Remove all appliances and conduct test run.

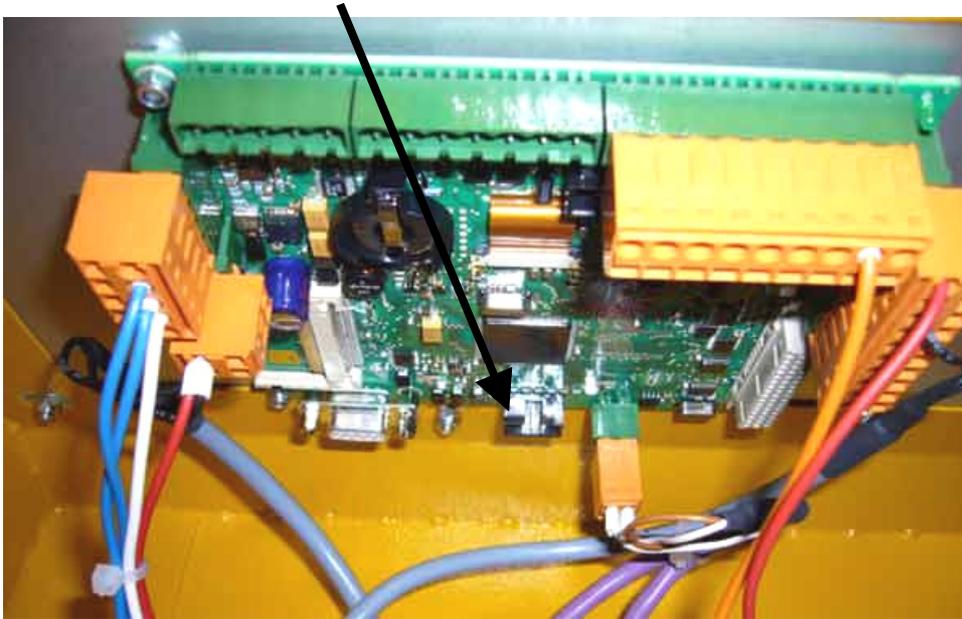
9 SOFTWARE UPDATE

9.1 SOFTWARE INSTALLATION

1. Choose the folder „Daten Moped“ from the CD and copy it to the hard drive
2. Open the copied folder from the hard drive and install the file “Windows Installer”
3. Then install the file “dotnetfx”
4. Put a shortcut to the file “BraxxAnalyzer” onto the desktop

9.2 CPU/K1 UPDATE

1. Configure the braxx System
2. Disconnect the main switch at the BC321
3. Plug the wire with the marking “Programm Fix” to COM1 of the computer and to CPU/K1



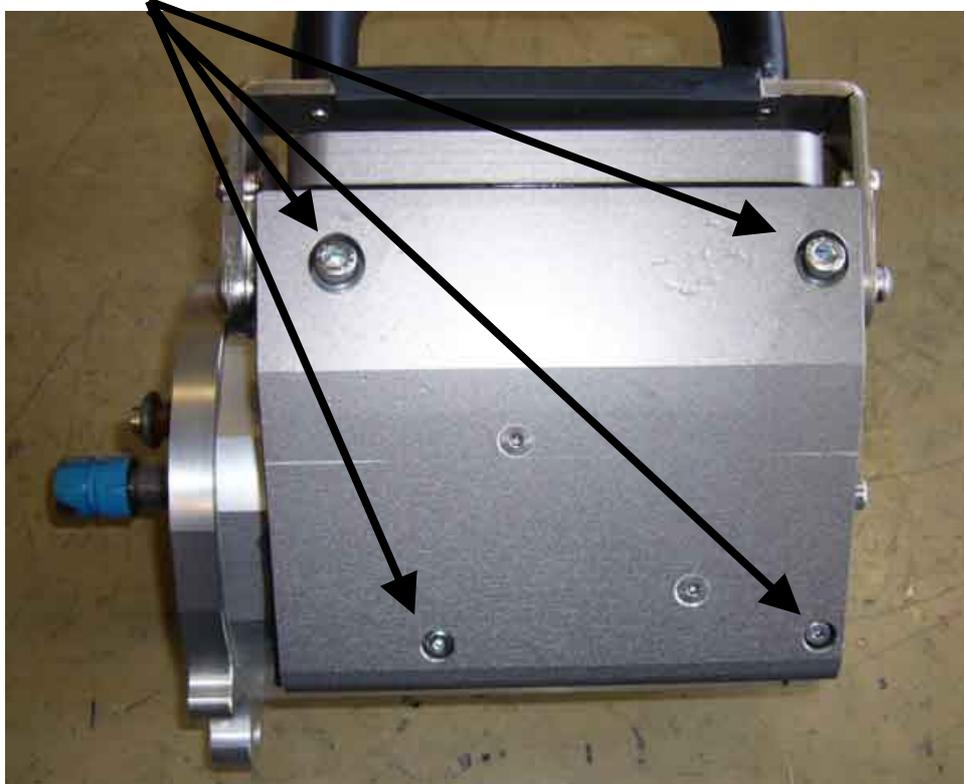
4. Activate the main switch on BC321
5. Open the file “BraxxAnalyzer” and mouse click the symbol “close port” (hang up)
6. Open the menu “Datei” and choose “Software übertragen”
7. In window “Select FDT Workspace”, first open the folder “Daten Moped” and then the folder “K1”
8. Open the file “K1” in folder “K1” (flash symbol)
9. The window “FDT Simple Interface” appears
10. Activate the button “Programm Flash”
11. The software will be transmitted to CPU/K1
12. Press the button “Disconnect” and close the screen window with the button “exit”
13. Disconnect the main switch on BC321 and remove the programming cable

Checking the update:

Check the current version at chapter 5.3 of the user manual.

9.3 MOTOR PCB UPDATE

1. Open motor casing



2. Configure the braxx System
3. Switch off the main switch at the BC321
4. Plug the wire with the marking „Nullmodem“ including the programming adapter and delivery card to COM1 of the computer and into the motor PCB (short ribbon cable)



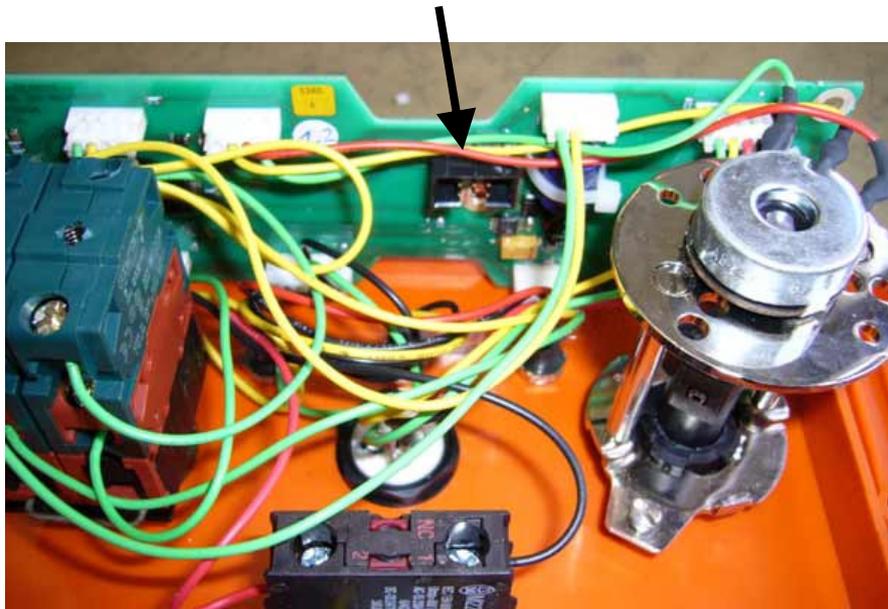
5. Activate the main switch at BC321
6. Open the file "BraxxAnalyzer" and mouse-click the symbol "close port" (hang up)
7. Open the menu "file" and choose "Software übertragen"
8. In the window "Select FDT Workspace" open the folder "Daten Moped" and then open the folder "motor PCB"
9. Open the file "motor PCB" (flash symbol) in the folder "motor PCB"
10. The window "FDT Simple Interface" pops up
11. Activate the button "Programm Flash"
12. The software will be transmitted via the CPU/K1 to the motor PCB
13. Then, press the button "Disconnect" and close the window with the "exit" button
14. Disconnect the main switch on BC321 and remove the programming cable

Checking the update:

Check the current version at chapter 5.3 of the user manual.

9.4 UPDATE REMOTE CONTROL

1. Open the remote control and plug in at the BC321
2. Configure the braxx System
3. Disconnect the main switch at the BC321
4. Plug the cable marked with "Nullmodem" including the programming adapter to COM1 of the computer and to the remote PCB



5. Activate the main switch of the BC321
6. Open the file "BraxxAnalyzer" and mouse-click "close port" (hang up)
7. Open the menu "Datei öffnen" and click " Software übertragen ..."
8. In the window "Select FDT Workspace", open the folder "Daten Moped", and then the folder "Fernbedienung"
9. Open the file "Fernbedienung" (flash symbol) in the folder "Fernbedienung"
10. The window "FDT Simple Interface" opens
11. Activate the button "Programm Flash"
12. The software will be transmitted via CPU/K1 to the remote control
13. After transmission is finished, press the button "Disconnect" and close the window with "exit"
14. Disconnect the main switch on BC321 and remove the programming cable

9.5 UPDATE FEED/TURN CONTROL

1. Configure the braxx System
2. Disconnect the main switch at BC321
3. Plug the wire marked "Nullmodem" including the programming adapter to COM1 at the computer and into the Travel/Turn PCB (MCDC3)



4. Activate the main switch of the BC321
5. Open the file "BraxxAnalyzer" and mouse-click "close port" (hang up)
6. Open the menu "Datei öffnen" and choose "Software übertragen..."
7. In the window "Select FDT Workspace" open the folder "Daten Moped" and then the folder "motorplatine"
8. Open the file "motorplatine" (flash symbol) in the folder "motorplatine"
9. The window "FDT Simple Interface" opens
10. Press the button "Programm Flash"
11. The software will be transmitted
12. Press the button "Disconnect" and close the window with "exit"
13. Disconnect the main switch at the BC321 and remove the programming cable

10 SECURITY ADVICE

The whole braxx system is equipped with safety installations, though, when handling incorrectly or misusing the system, there is imminent danger.

At the operation of electric systems, some parts are, inevitably, dangerously energized. All persons who are connected to the set-up, the starting, the operation and the maintenance of this system, must have carefully read the following advice and adhere to it.

Emissions

The whole system was tested for electromagnetic compatibility and complies with the EU norms. For further details please see the conformity declaration (point 1).

Work place

The braxx control BC321 must be installed distantly on the side of the saw, out of the danger area. The user must always hold the remote control in his hands so that the emergency stop button could be used in emergency situations.

Allowed users

This system may only be used, maintained and set-up by instructed persons who are familiar to it and aware of potential hazards. This user manual has to be adhered to and should always be available.



Youths under the age of 16 or not instructed persons may not use the sawing system unless it is done under surveillance of qualified personnel for training purposes.

The operating company must access the user manual to the user. He must also make sure that the user has read and understood the manual. Only then, the system may be started.

The responsibilities for the different tasks at the system must be clearly defined and adhered to. There may not be any lacks of clarity concerning the competencies as this might put the safety of the user at risk.

The operating company must ensure that only authorized users work at the machine. In the work area, it is responsible for any incidents concerning third parties.

Liability / warranty

Reconstructions and modifications at the system without EDT EURODIMA's authority and approval as well as non-compliance to the user manual exclude any liability for resulting loss or damage and are strictly forbidden.

11 STORAGE AND TRANSPORT

When not in use, a frost resistant storage for the unit has to be ensured.

The braxx control BC321 may only be transported in upright position (either in a transport cart or separately). Make sure that it cannot topple over. Therefore, clamp the BC321 securely, either in the transport cart or at the handle.

Setting up the bc230 on-site with the crane:

The BC321 may only be lifted in the transport cart. There, the belt must entwine around the upper bar/load hook of the BC321 – it is forbidden to use any other bar! Only appropriate and technically acceptable hoisting devices and load-carrying equipment with sufficient load capacity may be used.



Do not stay or work under floating loads!

Furthermore, pay attention to correct hooking in and locking.



The shipping of the braxx control via forwarding agency or parcel service is only permitted in original packaging.

12 MAINTENANCE, SERVICE AND SUPPORT

Keep the BC321 clean, wipe with a dry or damp cloth only.



Never use a water jet or high pressure cleaner for cleaning.

13 TROUBLE-SHOOTING

Occurring problems at construction site are often due to lossy network which may have following reasons and effects.

Current conditions

The frequency converter works at 380 – 480V +/- 10%, means a working range between 340V and 530V. If these electrical parameters are beyond this range, the system will show an error. If the system shows low performance, a phase deficiency may be the cause.

The primary winding of current transformer has to be clamped for network conditions Europe (400V) or America (480V). Otherwise, failure at feeding motor with permanent magnetic brake system can occur (will not open anymore).

Error indicator on the display:

All errors and failures are indicated with number code and plain text on the display. Except for “01 NOT AUS / emergency stop” (self-quitting), all errors can be quitted with **F4** as soon as the error is not active any more.

Indicated errors / failures and their causes and debugging:

screen display	triggers / problem	causes	possible solution
01 Emergency stop	System shows Not-Aus	activated Not Aus; defected Not Aus (control system or remote control)	Disengage Not Aus; checking plug in connections and remote control; contact EDT EURODIMA service hotline +43 662 424248-417
02 Motor temperature	Overheating main motor	Cable breakage motor thermostatic relay	Check cooling system water temperature, coolant pressure and circuit, continuity test of thermostatic relay (see attached plan); contact EDT EURODIMA service hotline +43 662 424248-417
03 Feed control	Overload Feed control	Feed load chosen to high; Magnetic brake system will not open working voltage is to high/low	Set feeding control potentiometer to zero, continuing with low pressure; contact EDT EURODIMA service hotline +43 662 424248-417
04 Memory full	Feeding memory at cable saw stands at mechanical stop	slide touches mechanical stop	Bring cable occupancy up to next higher memory level; shorten cable, contact EDT EURODIMA service hotline +43 662 424248-417
05 malfunction motor	Communication to motor is disrupted	Motor not connected; Plug in connections or pilot wire defect	Connect Motor check plug-ins / pilot wire; contact EDT EURODIMA service hotline +43 662 424248-417

06 error remote control	Remote control does not work	Remote control not connected or either Plug-ins or wires defect	check plug-ins / pilot wire; emergency mode (explained in chapter emergency mode 5.4) contact EDT EURODIMA service hotline +43 662 424248-417
07 Feeder circuit board	communication feeder circuit board disrupted	error in BUS communication	contact EDT EURODIMA service hotline +43 662 424248-417
08 2 Motors	Entire system does not work	2 motors are connected to the System	Disconnect surplus motor contact EDT EURODIMA service hotline +43 662 424248-417
09 Frequency converter	various causes	Error code are shown at converter display	Note error code and contact EDT EURODIMA service hotline +43 662 424248-417
10 = Reserve			
11 Communication FU	Communication to frequency converter disrupted	automatic cut-out of frequency converter released	reset automatic cut-out, contact EDT EURODIMA service hotline +43 662 424248-417
12 = Reserve			
13 = Reserve			
14 = Reserve			
15 = Reserve			
16 = Reserve			

for 09 = frequency converter:

Keypad frequency converter

At this keypad, the error codes of the frequency converter can be read off and analysed with the error code table. The keypad is double-line where the first line indicates the error (trip) and the second line shows the type of code. It can be specified in the table below.

In this case, EDT EURODIMA GMBH must be contacted (+43 662 424248-417).



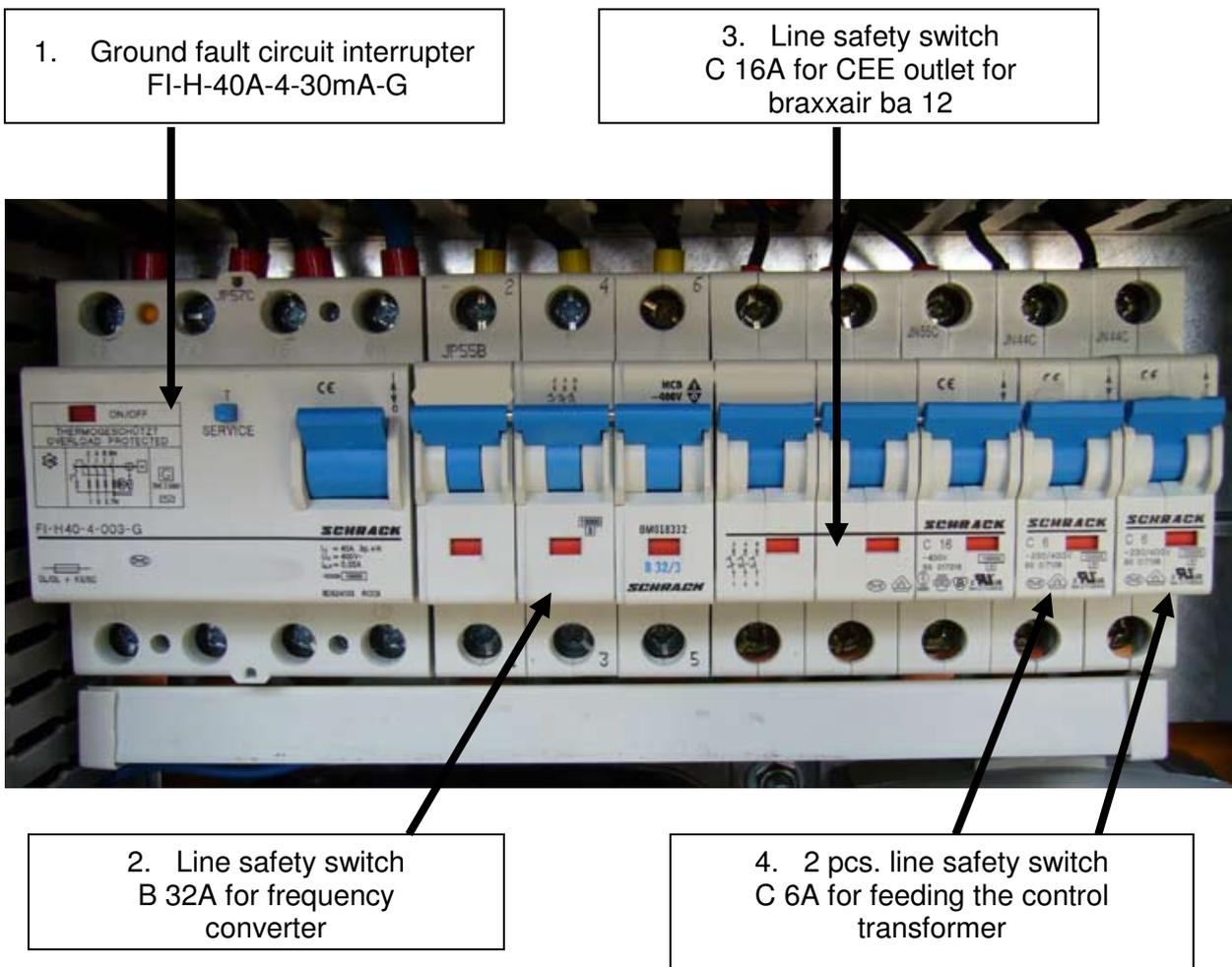
Abstract of the error diagnosis - converter manual

Error code	Error number	Meaning	Possible Cause
UU	1	Low voltage in intermediate circuit	Regular power off Short-fallen intermediate circuit voltage supplied if done from an external DC source
OV	2	Overvoltage in intermediate circuit	Regenerative moment too high or delay ramp during brake application too short
OI.AC* *	3	Overcurrent in converter exit	Acceleration or delay ramp too short; Short-circuit at drive exit phase-to-phase or phase-to-end; Automatic tuning necessary Changed motor or motor connections, redo automatic tuning (see parameter 38).
O.SP	7	Overload revolution	Revolution overshooting when breaking in to target; Load rejection (relieving at high torque)
It.AC	20	Motor overload through current x time	Mechanical load too high, High impedance phase-to-phase or short circuit phase-to-end at converter exit; Automatic tuning to motor required; Motor or motor connections changed, redo automatic tuning (see parameter 38)
Oht1	21	Excess temperature	Excess temperature of output stage
Oht2	22	Excess temperature at cooling element thermistor	Temperature of cooling element > 95 °C (203 °F)
O.CtL	23	Excess temperature of converter circuit board	Check control cabinet / converter ventilator for correct function
th	24	Excess temperature at motor	Triggered by motor PTC thermistor
Oht3	27	Converter excess temperature (identification from thermal model)	Check control cabinet / converter ventilator for correct function
Ph	32	Phase failure in the supply voltage or high phase unsymmetry	Make sure that all phases abut and are symmetric Check that all input voltages abut properly at full load
Oht2.P	105	Power stack cooling element excess temperature	Check control cabinet / converter ventilator for correct function
Ph.P	107	Power stack phase failure detected	Make sure that all phases abut and are symmetric Check that all input voltages abut properly at full load
OidC.P	109	Power stack over current in converter exit	Vce-IGBT monitoring responded. Check motor cable and insulation.
SLX.df	204, 209, 214	Error shut-down at solution module slot X: the solution modul from slot X has been exchanged	Check the correct plug connection of the solution module
Inh0	00	Everything OK, START	

14 PROTECTION EQUIPMENT OF THE BC321

Ground fault circuit interrupter and automatic cutout

The BC321 is equipped with the following protection facilities:



1. Ground fault circuit interrupter

The whole system is secured by a selective 4-pole 30mA ground fault circuit interrupter.

2. Line safety switch B 32A

This 3-pole safety automatic protects the frequency converter unidrive SP3404.

3. Line safety switch C 16A

This 3-pole safety automatic is the protection for the CEE socket for braxx air ba12.

4. Line safety switch C 6A

These 2 pcs of 1-pole safety automatic secures the feed of the control transformer.

Control transformer

The micro-fuse of the transformer protects the 24VDC supply of the whole system.

Delay micro-fuse
1,6A

