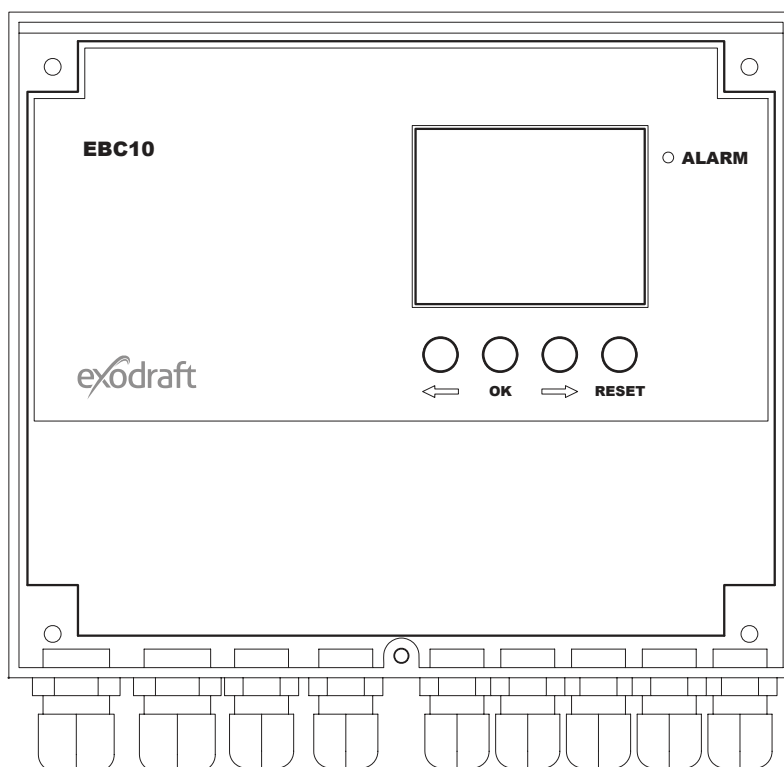


EBC10



Instructions for fitting, installation and operation

UK

Read and save these instructions!

exodraft

1.	Product information.....	4
1.1	Delivery	5
1.2	Accessories	5
1.3	Fitting.	5
1.3.1	Cable length	5
1.3.2	Connection diagram	6
1.4	Layout of the user interface	7
1.4.1	Panel	7
1.4.2	Light emitting diodes and terminal board.....	8
1.4.3	Display	9
1.5	Introduction to the user interface	10
1.6	Set-up.	11
1.6.1	Setting the chimney draft	11
1.7	Service menu	12
1.7.1	Overview of the service menu	13
1.7.2	Changing between the operating functions ( -  - ).....	15
2.	Pressure-controlled regulation of exodraft chimney fan.....	16
2.1	Use	16
2.2	Method of operation	16
2.3	Electrical connection	16
2.4	Sample wiring diagrams	16
2.4.1	Single boiler application.....	17
2.4.2	Single boiler application with potential free contact in boiler	18
2.4.3	Single boiler application with extra fail-safe protection using PDS	19
2.4.4	Solid fuel boiler with temperature sensor	20
2.5	User menu.	21
2.5.1	Layout of the user menu.....	21
2.5.2	Operating the user menu.....	21
2.6	Set-up.	21
2.7	Commissioning.	22
2.8	Special functions.	22
2.8.1	Turning the ventilator on and off by means of a temperature sensor in the flue.....	22
3.	List of alarms and troubleshooting	23
3.1	Alarm handling.	23
3.1.1	Resetting a current alarm.....	23
3.1.2	Resetting the alarm log.....	23
3.1.3	Alarm overview	24
3.2	More troubleshooting	25
3.2.1	Program running.....	25
3.2.2	Communication error	25
4.	Technical specifications.....	26
5.	EU declaration of conformity.....	27

Symbol Legend:

The following terms are used throughout this manual to bring attention to the presence of potential hazards or to important information concerning the product.

Prohibition symbol:

Failure to observe instructions marked with a prohibition symbol may result in serious injury or death.

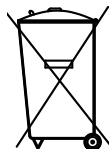
Danger symbol:

Failure to observe instructions marked with a danger symbol may result in personal injury and/or damage to the unit.



TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Use this unit in the manner intended by the manufacturer. If you have questions, contact the supplier at the address or telephone number listed on the back of the manual.
- Before servicing or cleaning the unit, switch off at service panel and lock service panel to prevent power from being switched on accidentally.
- Installation work and electrical wiring must be done by a qualified person(s) in accordance with applicable codes and standards.
- Follow the appliance manufacturer's guidelines and safety standards and the local code authorities
- This unit must be grounded.



No special requirements. Disposal should be carried out in accordance with statutory regulations related to the disposal of electronic waste.

Job name: _____

Fitter: _____

Installation date: _____

1. Product information

Description

The EBC10 (**exodraft** Boiler Control) is a specially designed control component for constant pressure regulation of chimney draft.

Layout of the instructions

The EBC10 can control an **exodraft** chimney fan.

There are five sections to the instructions:

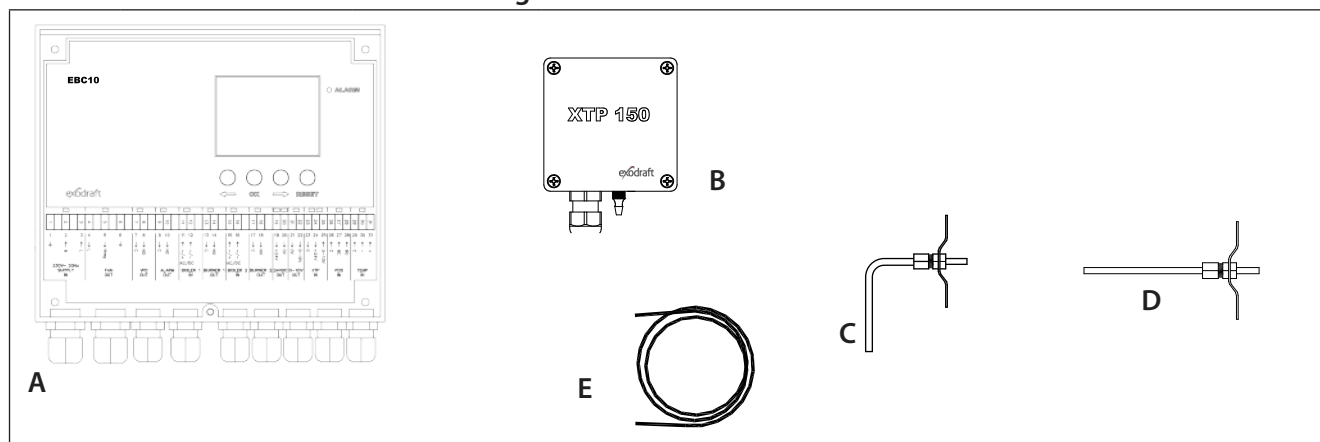
- Read section 1: "Product information".
- Read section 2: Pressure-controlled regulation of **exodraft** fans (factory-set)
- Read sections 3-5.

Section 2: Pressure-controlled regulation of **exodraft** chimney fans (default).

- The EBC10 ensures and monitors constant pressure in a chimney.
- The control system monitors chimney draft and shuts down the burner in the event of errors (the alarmdiode on the EBC10 will turn on).
- The control system is intended for solid fuel boilers.
- The EBC10 can control a chimney fan directly.

1.1 Delivery

The EBC10 is delivered with the following:



Pos.	Part	Item no.	Function
A	EBC10	EBC10EU01	Controls exodraft fans and chimney fans. For indoor installation
B	Pressure transducer (XTP)	XTP150	Measures difference air pressure in the boiler room or chimney, or outdoor atmospheric pressure.
C	Measuring probe	3200814	Measures pressure in the chimney.
D	Measuring probe	3200813	Measures pressure in the chimney. (Outdoor installation)
E	2 m silicone hose	2000335	Supplies the pressure transducer (XTP) with reference pressure from the measuring probe or from outdoors
	Instructions	3120049	Instructions for fitting, installation and operation

1.2 Accessories

Part	Item no.	Function
Extern PDS	PDSBOX	Measures pressure in chimney.
Isolation switch	REP-AFB	Isolation switch
Temperature sensor	1100755	Measures the temperature in the chimney

1.3 Fitting

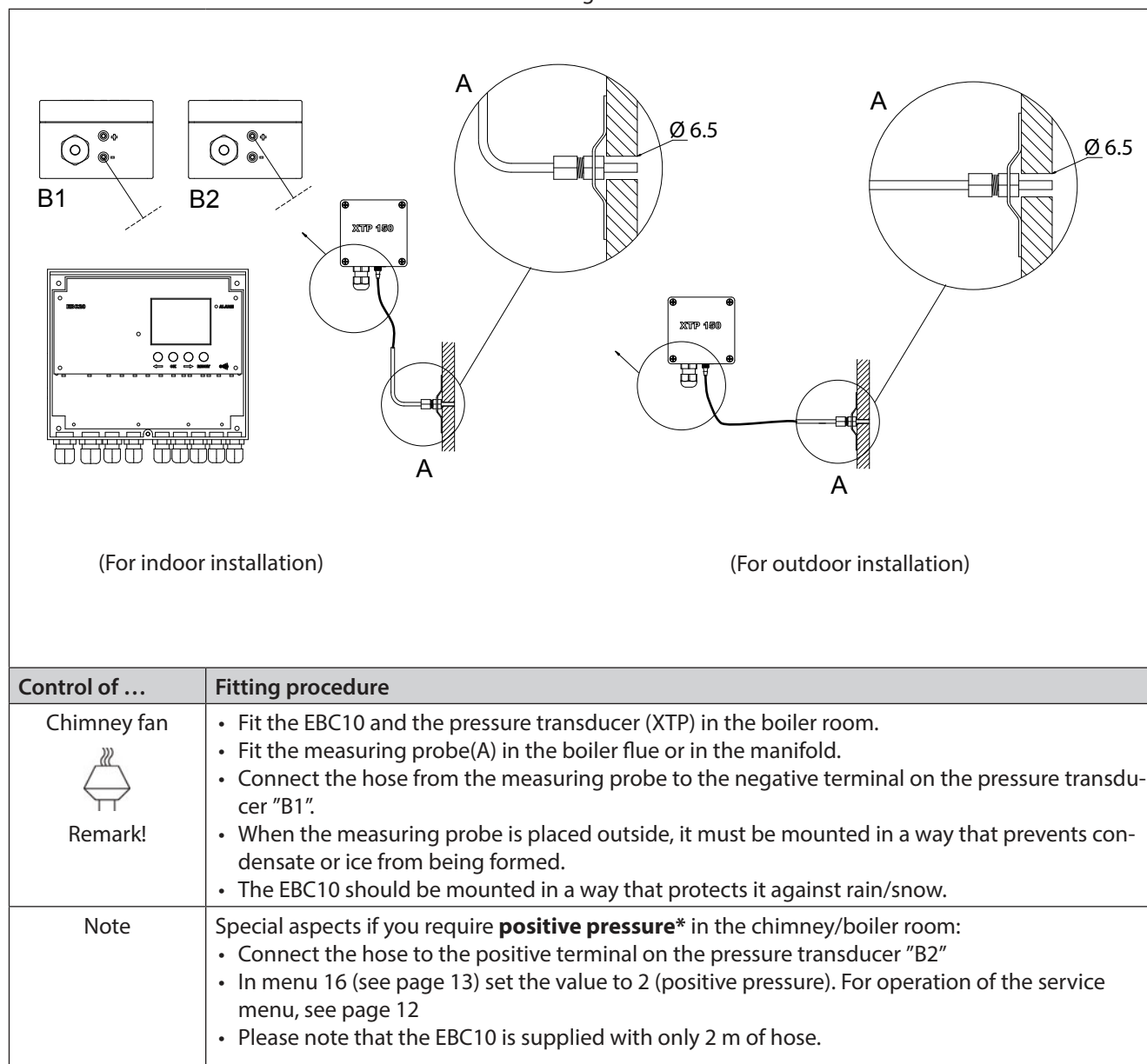
1.3.1 Cable length

Max. cable length between EBC10 and XTP: 100 m.

Max. cable length between EBC10 and chimney fan / fan: 100 m.

1.3.2 Connection diagram

The EBC10 is to be fitted and connected as shown in the diagram below.



NB!



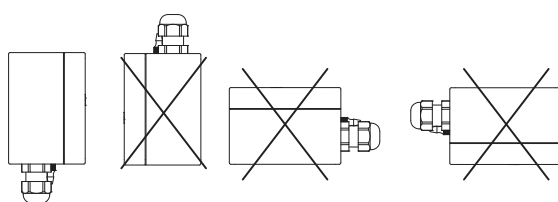
***The default setting of the EBC10 is for negative pressure regulation, but local authority requirements may state that positive pressure must be maintained.**



The pressure transducer cannot be mounted inside an air tight enclosure. It uses the atmospheric pressure as reference pressure.



Make sure to position the pressure transducer the right way up.



NB

Do not blow into the valves on the XTP.

Outdoor fitting of the pressure transducer (XTP)

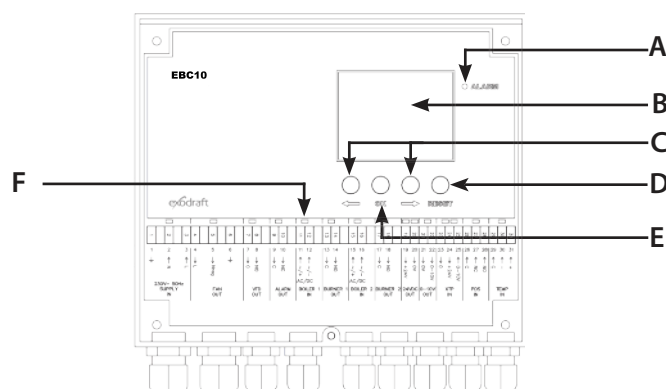


When fitting the pressure transducer outdoors, make sure to position it in a place where it is not affected by wind, rain, etc. When fitted outdoors, the pressure transducer should ideally be positioned in a box with a hole (dia. 2 mm) in the bottom. The purpose of this box is to assure correct reference pressure – through the hole – and to keep water out.

If the pressure transducer is positioned in a place where insects have access to the free end, fitting a sinter filter is recommended.

1.4 Layout of the user interface

1.4.1 Panel



Pos.	Part	Function
A	Alarm	indicates alarms
B	Display	- displays operation and changes in the user interface (menu system) - indicates alarms - shows normal operation status
C	 and 	- forward or back in the menu system - increase/reduce set point
D		- reset alarm - return to operation screen
E		- select menu item - confirm/save changes of set point or parameters
F	Light emitting diodes	shows status of inputs and outputs



1.4.2 Light emitting diodes and terminal board

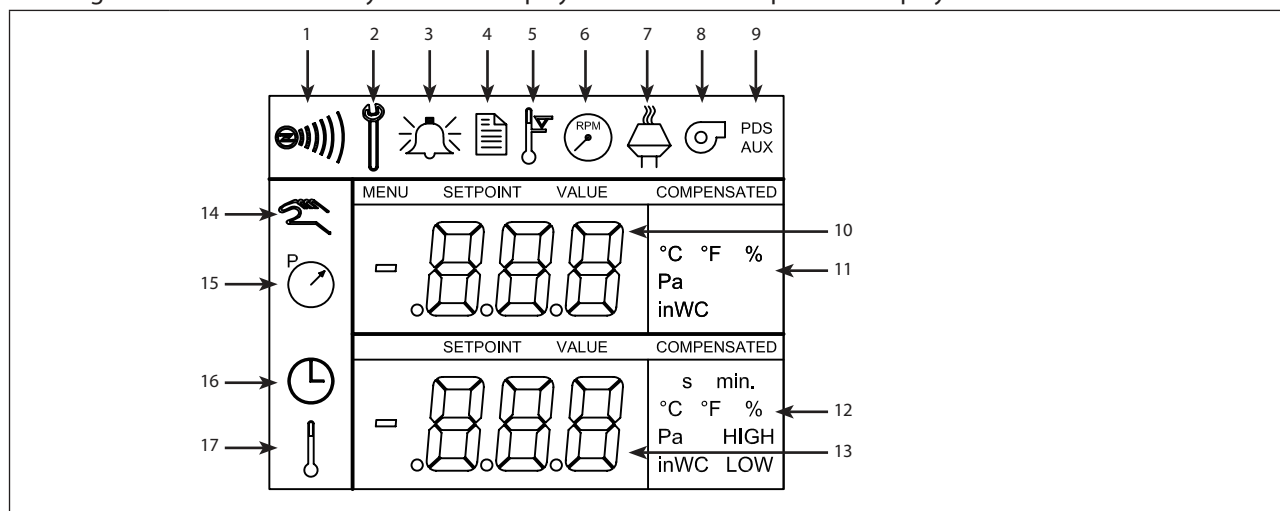
The chart below lists the connection options for the terminal boards and explains the various colours of the light emitting diodes.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
1 ⌋	2 ↑ N	3 ↑ L	4 ↓ L	5 → N ^{neg}	6 ⌋	7 → C	8 → NO	9 → C	10 → NC	11 ↑ ~ +	12 ↑ ~ - AC/DC	13 → C	14 → NO	15 ↑ ~ +	16 ↑ ~ - AC/DC	17 → C	18 → NO	19 → +24V	20 → 0V	21 → 0V	22 → 0-10V	23 → 0	24 → +24V	25 → 0-10V	26 ↑ C	27 ↑ NC	28 ↑ NO	29 ↑ C	30 ↑ -	31 ↑ +			
230V~ 50Hz SUPPLY IN			FAN OUT			VFD OUT		ALARM OUT		BOILER 1 IN		BURNER OUT 1		BOILER 2 IN 2		BURNER OUT 2		24VDC OUT		0-10V OUT		XTP IN		PDS IN		TEMP IN							
No.	Designation		Max. load		Meaning when the light diode is ...																												
1, 2 & 3		SUPPLY IN		230-240VAC +/- 10%		green: the EBC10 is connected to a power supply																											
4, 5 & 6		FAN OUT		3A		green: the triac output is active																											
7 & 8		VFD OUT		Not active																													
9 & 10		ALARM OUT		250VAC, 8A, AC3		red: the relay is open																											
11 & 12		BOILER 1 IN		18 - 230VDC / VAC		green: the input is active																											
13 & 14		BURNER 1 OUT		250VAC, 4A, AC3		green: the relay is connected																											
15 & 16		BOILER 2 IN		Not active																													
17 & 18		BURNER 2 OUT		Not active																													
19 & 20		24 VDC OUT		100mA		green: power supply OK red: overload																											
21 & 22		0 - 10 V OUT		Not active																													
23, 24 & 25		XTP IN				green: XTP connected red: return voltage >12 VDC																											
26, 27 & 28		PDS IN *				green: C & NO are connected																											
29, 30 & 31		TEMP IN				green: temperature sensor connected																											

* Terminals 26, 27 & 28 can however also be used for connecting other auxiliary surveillance equipment.

1.4.3 Display

The diagram below shows the layout of the display on the EBC10. All possible display values are stated:



Pos.	Shows ...
1	Symbol indicating the connection of Z-wave (Not included in EBC10)
2	Symbol for service menu
3	Symbol for alarms. Displayed in the event of an alarm, along with the illumination of the alarm diode.
4	Symbol for the operational settings of the service menu (see section 1.7) and the alarm log.
5	Symbol for overheating
6	Symbol for 2-stage speed regulation of exodraft chimney fan
7	Symbol for pressure-controlled regulation of exodraft chimney fan
8	Symbol for pressure-controlled regulation of exodraft supply air fan
9	Symbol indicating: • PDS error • PDS check (flashing)
10	• Operation screen: current pressure • Menu screen: current menu
11	Units
12	Units
13	Menu screen ("VALUE" and, in some cases, "SETPOINT" displayed): Setpoint for the menu item in question
14	Temperature symbol, indicates: • Operation screen: current temperature • Menu screen: temperature parameter setting
15	Timer indicator
16	Pressure symbol indicating that: • Operation screen: Pos. 10 is displaying pressure • Menu screen: You are currently altering a pressure parameter
17	Symbol for commissioning

1.5 Introduction to the user interface

Display

The purpose of the display (see previous page) is to present:

- Operating information (pressure, etc.)
- Alarms
- Setpoints
- Parameters

Menu structure

The menu system in the EBC10 contains:

- User menu (for operation by daily users).
- Service menu (for operation by qualified technical staff).

Layout of the user interface

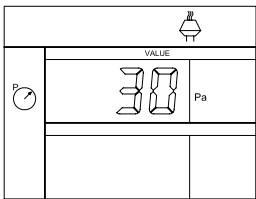
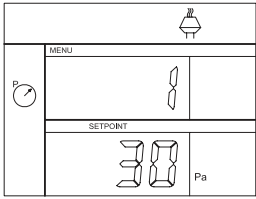
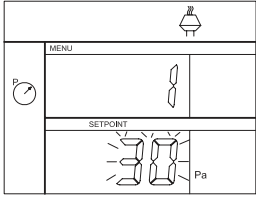
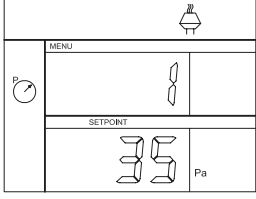
The user interface is operated through four buttons with the following functions:

Button	Function
	• Activate the user menu • Edit and save settings • Activate service menu (press and hold for 3 seconds)
 and 	• Go to menu item, and adjust value
	• Return to operation screen from any point in the menu system • Reset alarm when manual reset is selected in menu 25, see page 13

1.6 Set-up

1.6.1 Setting the chimney draft

To set the pressure in the chimney, follow the procedure detailed below.

Step.	Action...	The display shows...
1	- Start the heating system. - The EBC10 displays the actual pressure (in this example 30 Pa)	
2	Briefly press OK to enter the user menu	
3	- Press OK - Press ← and → until the required pressure appears in the lower display	
4	Press OK to confirm the setting	
5	To finish and return to the operation screen, press RESET	

NB

This procedure only applies to setting up the chimney draft.

1.7 Service menu



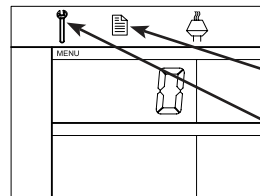
The service menu is only to be operated by qualified staff.

For an overview of the **service menu**, see page 13.

Operation of the **user menus** is described in sections 2.

Navigation in the service menu

- To activate the service menu, press and hold **OK** for 3 seconds.



The service menu
operation settings

Service menu

- Operation is carried out using the buttons as described in section 1.5 Introduction to the user interface, page 10
- The upper display (pos. 10 on page 9) presents the number of the menu, with the set point for this menu being shown in the lower display (pos. 13 on page 9)
- Menus whose last digit is "0" are exit menus. These are used to navigate one level back.
To do so, press **OK**
- To activate the editing options for a menu item, press **OK**. The set point will start flashing
- Confirm and save selection with **OK**
- To exit the service menu, press **RESET**. This will take you back to the operation screen. Alternatively, you can navigate back one level at a time if you wish to set multiple menu items.

For examples of how to use the service menu, see 1.7.2 on page 15

1.7.1 Overview of the service menu

The service menu is built up in four levels:

Menu level 1		Menu level 2		Menu level 3		Function	Base settings for the three applications		
							 Default		
0	Exit Service menu					Return to operation screen			
1	Operation settings	10	Exit operation settings						
		11	Operating mode			Setting of control/operating function 1 = Pressure-controlled regulation  2 = 2-stage speed regulation  3 = Supply air regulation 	1		
		12	°C/°F			Select measuring unit for temperature 1 = °C, 2 = °F	1 (°C)	1 (°C)	1 (°C)
		13	Pa/inWC			Measuring unit for pressure: 1 = Pa, 2 = inWC	1 (Pa)	1 (Pa)	1 (Pa)
		14	Software versions	140	Exit				
				141	Controller version	View Controller software version	x.xx	x.xx	x.xx
				142	Safety version	View Safety software version	x.xx	x.xx	x.xx
				143	Display version	View Display software version	x.xx	x.xx	x.xx
		15	Select XTP measurement range	150	Exit				
				151	Set Low XTP value	from -500 Pa to 0 Pa	0 Pa	N/A	0 Pa
				152	Set High XTP value	from 0 Pa to 500 Pa	150 Pa	N/A	150 Pa
		16	Positive/negative pressure			1 = negative pressure 2 = positive pressure	1	N/A	1
		17	OEM functions	170	Exit				
				171	Cooker function	Switch Cooker function ON and OFF	N/A	OFF	N/A
		18	Reset to defaults			Reset to defaults. If you select "YES", a 10-second countdown will start, during which you can cancel your choice by pressing any button.	NO	NO	NO
2	Alarm	20	Exit Alarm						
		21	Alarm Log	210	Exit				
				211-219		The 9 most recent alarms			
		22	Reset alarm log			Resets alarm log	NO	NO	NO
		23	Flow Alarm limit			Set Flow Alarm limit in %: 50-80 %  (Alarm when pressure is below xx%) 100-300 %  (Alarm when pressure is above xx%)	64 %	N/A	300 %
		24	Flow Alarm delay			Set Flow Alarm delay, 10–60 s	15 s	15 s	15 s
		25	Reset auto / manual			1 = automatic, 2 = manual	1 (Auto)	1 (Auto)	1 (Auto)

The service menu is built up in four levels:

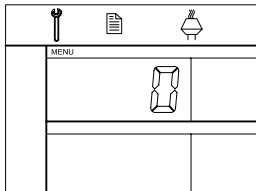
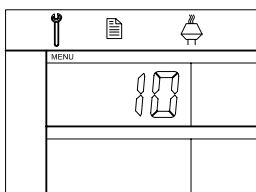
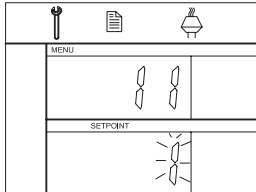
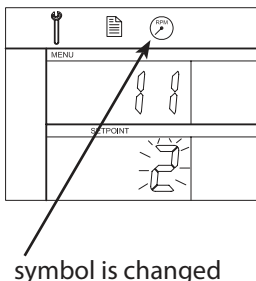
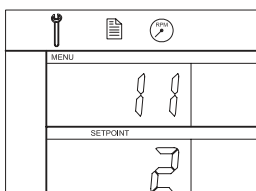
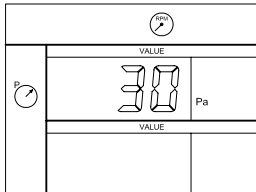
				Base settings for the three applications		
Menu level 1	Menu level 2	Menu level 3	Function	 Default		
3 Configuration	30 Exit settings					
	31 PDS/AUX config		1 = PDS, 2 = C-NO	2 (C-NO)	1 (PDS) (Locked)	2 (C-NO)
	32 Triac settings	320 Exit				
		321 U_{min}	Min. output voltage in % of 230 V AC, 35-100 %	35 %	N/A	35 %
		322 U_{max}	Max. output voltage in % of 230 V AC, 35-100 %	100 %	N/A	100 %
	33 0-10 V settings (Not active)	330 Exit				
		331 U_{min}	Min. output voltage in % of 10 V DC, 0-100 %	0 %	N/A	0 %
		332 U_{max}	Max. output voltage in % of 10 V DC, 0-100 %	100 %	N/A	100 %
	34 Manual fan mode	340 Exit				
		341 Manual Fan mode on/off	Switch Manual Fan mode on and off	OFF	OFF	OFF
		342 Manual Fan mode speed	Set the motor manually, 35-100 %	35 %	35 %	35 %
	35 Regulation parameters	350 Exit				
		351 Amplification X_p	Set proportional amplification, 0.2 to 5	2,2	N/A	1,2
		352 Integration time T_i	Set integration time from 1 to 30 s	5	N/A	3
		353 Differential time T_d	Set differential time from 1 to 30 s	1	N/A	5
		354 Sample time	Set sample time from 1 to 999 ms	300 ms	N/A	300 ms
4 Temperature sensor	40 Exit temperature sensor					
	41 Sensor ON/OFF		Sensor ON or OFF	OFF		OFF
	42 Autostart/-stop	420 Exit				
		421 ON/OFF	Sensor ON or OFF	OFF		OFF
		422 Start temperature	Set start temperature between 5-450 °C	40 °C		40 °C
		423 Stop temperature	Set stop temperature between 0-445 °C	35 °C		35 °C
	43 Pressure function	430 Exit				
		431 ON/OFF	Pressure function ON or OFF	OFF		OFF
		432 Temperature limit	Set temperature limit between 5-450 °C	250 °C		50
	44 Alarm	440 Exit				
		441 ON/OFF	Alarm ON or OFF	OFF		OFF
		442 Temperature limit	Set temperature limit between 25-450 °C	450 °C		450 °C
		443 Alarm delay	Set delay for temperature limit alarm between 0-60 sec.	5		5

1.7.2 Changing between the operating functions (- -)

Default operating function

As its base function, the EBC10 is factory set to pressure-controlled regulation of **exodraft** chimney fans (operating function 1 )

How to change the operating function:

Step	Action...	The display shows...									
1	Press and hold  for 3 seconds										
2	- Press  to go to menu 1 - Press  to go to menu 10										
3	- Press  to go to menu 11 - Press 										
4	Press  until the symbol and number for the operating function you require is displayed. The three operating functions are: <table border="1" data-bbox="263 1310 869 1556"> <tbody> <tr> <td>1</td><td>Pressure-controlled regulation of exodraft chimney fans (default)</td><td></td></tr> <tr> <td>2</td><td>2-stage speed regulation of exodraft chimney fans</td><td></td></tr> <tr> <td>3</td><td>Pressure-controlled regulation of exodraft supply air fan</td><td></td></tr> </tbody> </table>	1	Pressure-controlled regulation of exodraft chimney fans (default)		2	2-stage speed regulation of exodraft chimney fans		3	Pressure-controlled regulation of exodraft supply air fan		 symbol is changed
1	Pressure-controlled regulation of exodraft chimney fans (default)										
2	2-stage speed regulation of exodraft chimney fans										
3	Pressure-controlled regulation of exodraft supply air fan										
5	Press  to confirm and save selection										
6	To finish and return to the operation screen, press 										



2. Pressure-controlled regulation of exodraft chimney fan

2.1 Use

Area of use

- The EBC10 can also be used for boiler systems with modulating burners.
- The control system is intended for:
 - ♦ solid fuel boilers
 - ♦ atmospheric gas boilers
 - ♦ forced draft boilers for oil and gas
 - ♦ condensing boilers
- The EBC10 can control a chimney fan directly.

2.2 Method of operation

General function

- The control system monitors chimney draft and disconnects the burner in the event of errors (the alarm-diode on the EBC10 will turn on)
- When the boiler thermostat demands heat, the chimney fan will start at max. voltage, the burner start is delayed
- When the EBC10 registers sufficient chimney draft, the burner is released.
- The EBC10 maintains the set pressure by regulating the voltage. The pressure is shown in the display
- In the event of an insufficient pressure the burner will be disconnected after 15 seconds. "Insufficient pressure" is less than 64% of the set value, corresponding less than 80% flow
- When the boiler switches off, the chimney fan is also stopped. However, it is possible to set a post-purge period for the chimney fan (see page 21).

Light emitting diodes and output signals

All inputs and outputs are linked to light emitting diodes for the monitoring and service of the system (1.4.2 Light emitting diodes and terminal board, page 8).

2.3 Electrical connection



This work must be performed by a qualified electrical engineer, in accordance with locally applicable rules and legislation.



The installation of the supply cable must be carried out in accordance with applicable regulations and legislation.

The earth terminal () must always be connected.

When connecting pressure transducer (XTP), shielded cable must be used.

Isolation switch



exodraft stresses that according to EU's Machinery Directive an isolation switch must be set up in the fixed installation.

The isolation switch is not supplied by **exodraft**. Available as an extra.

2.4 Sample wiring diagrams

As a constant pressure regulator for **exodraft** chimney fans, the EBC10 can be connected to a range of different signals. The following pages are sample wiring diagrams, and show the following:

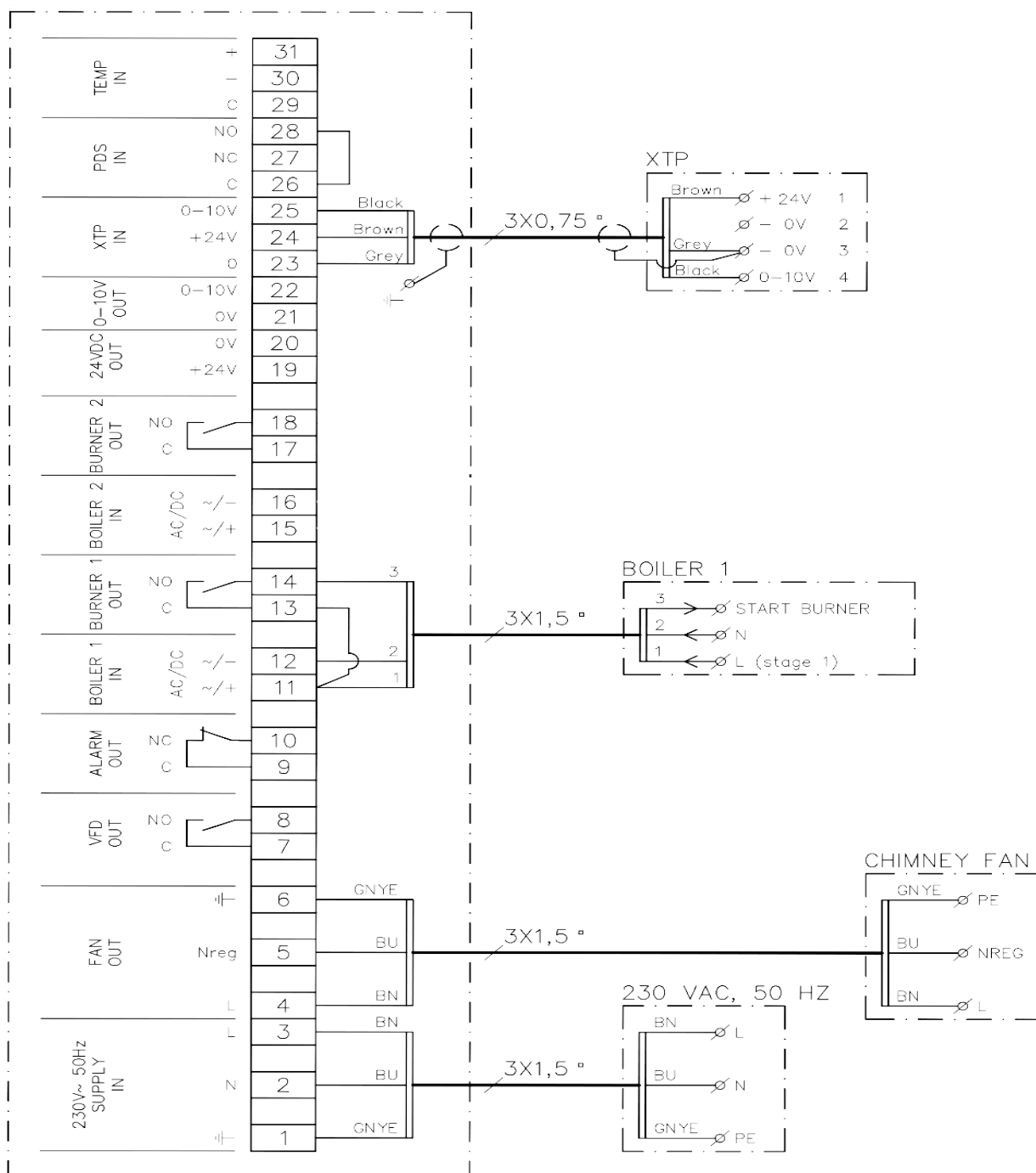
- 2.4.1 Single boiler application, page 17
- 2.4.2 Single boiler application with potential free contact in boiler, page 18
- 2.4.3 Single boiler application with extra fail-safe protection using PDS, page 19
- 2.4.4 Solid fuel boiler with temperature sensor, page 20



exodraft recommends that you contact the boiler manufacturer for details of correct connection of the boiler control system.



2.4.1 Single boiler application

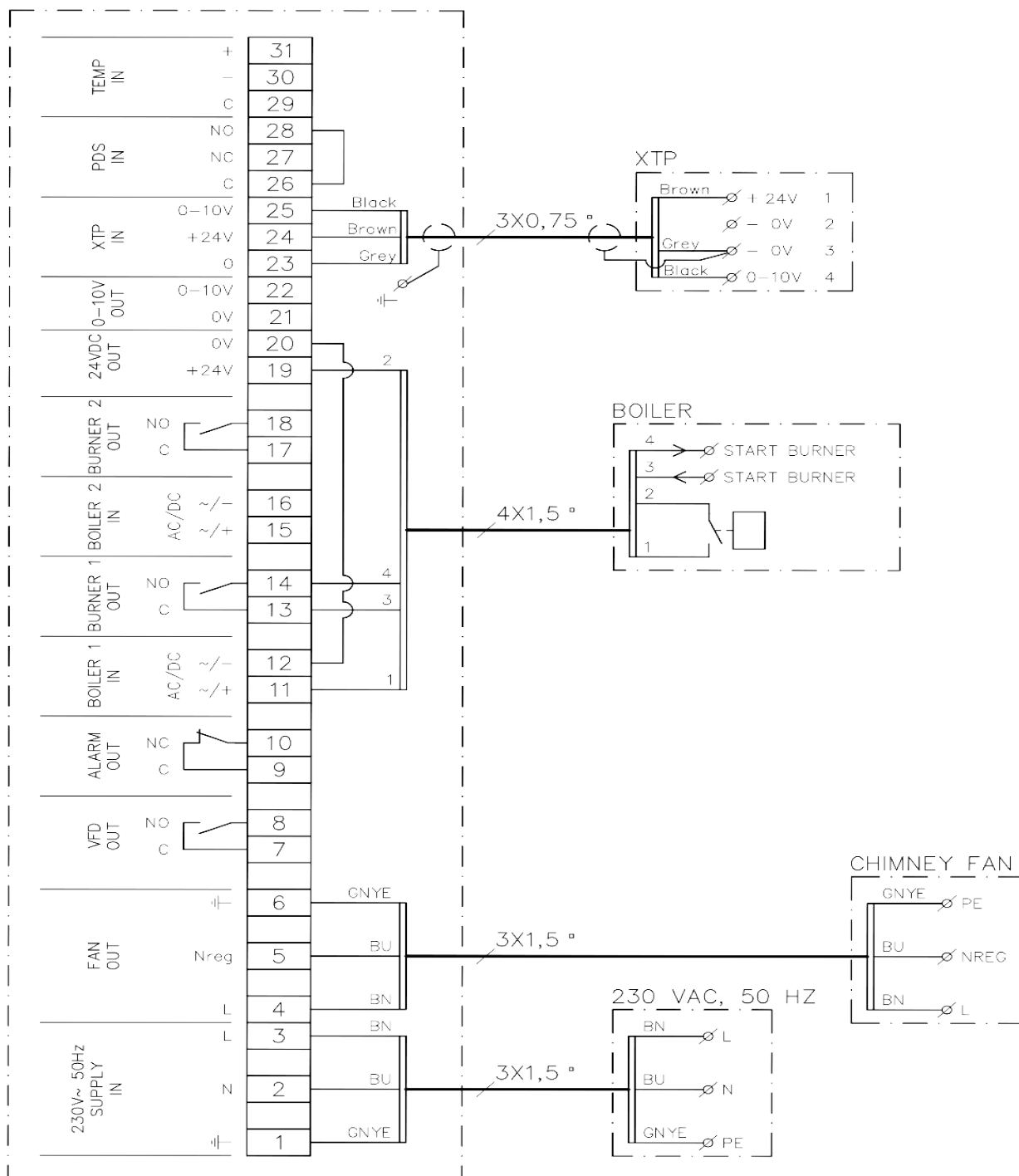


This example shows how to connect a voltage signal (18–230 V AC/DC) for the EBC10 to start/stop the fan from the boiler:

- Connect the supply voltage to terminals 1–3
- Connecting the boiler:
 - ♦ Connect the burner start signal (L) to terminal 11
 - ♦ Connect the neutral wire to terminal 12
 - ♦ The start signal for the burner is sent from terminal 14
- Loop terminals 11 and 13
- Connect the chimney fan to terminals 4–6
- Connect the pressure transducer (XTP) to terminals 23–25 using a a shielded cable 3x0,75 mm² and connect the cable shielding to the cable bracket



2.4.2 Single boiler application with potential free contact in boiler

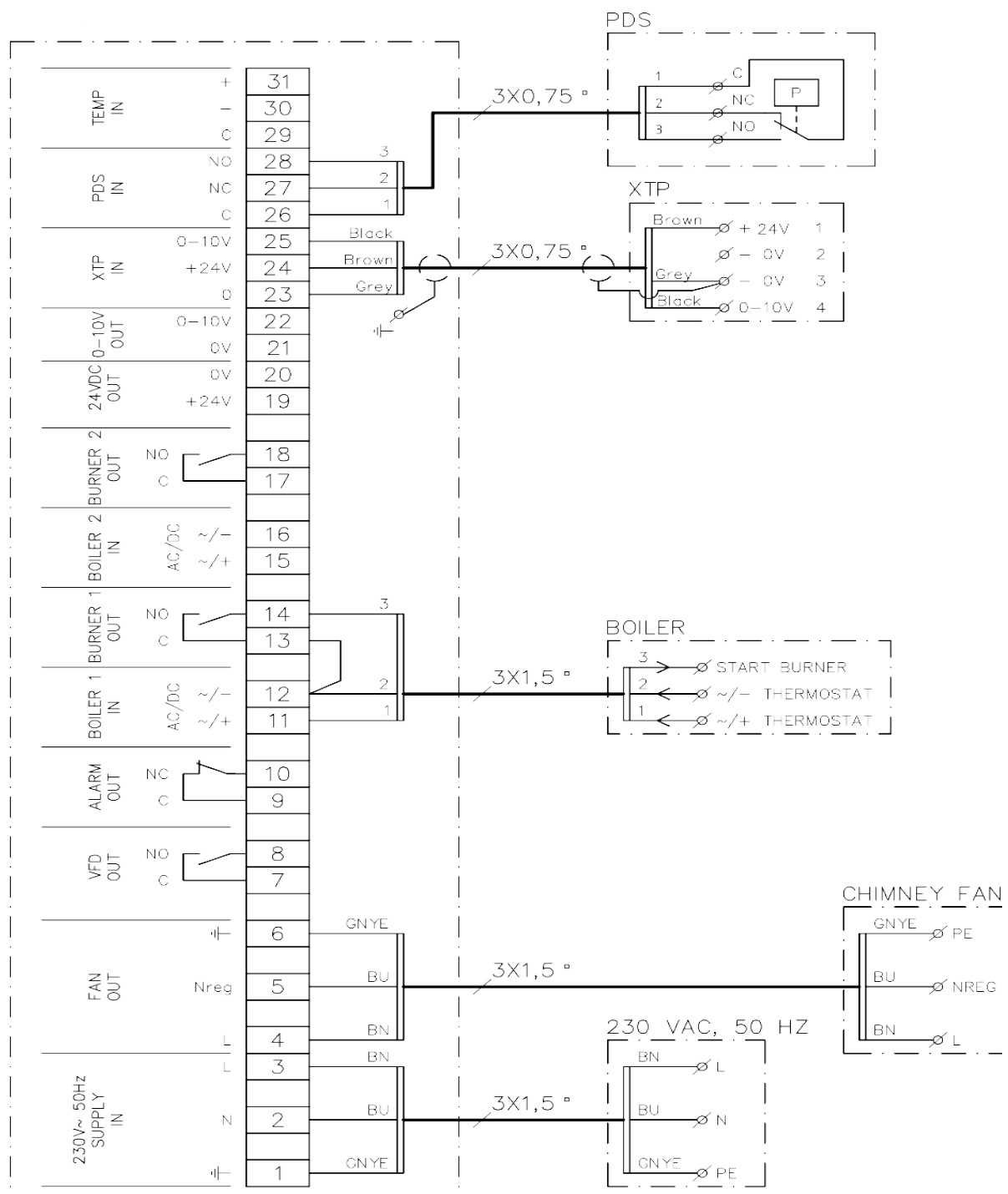


This example shows how to connect a potential free contact to the EBC10 to start/stop the fan:

- Connect the supply voltage to terminals 1–3
- Connection to the boiler:
 - ♦ Connect the potential free contact to terminals 11 & 19
 - ♦ Loop terminals 12 & 20
 - ♦ Connect the burner start signal to terminals 13 & 14
- Connect the chimney fan to terminals 4–6
- Connect the pressure transducer (XTP) to terminals 23–25 using a shielded cable 3x0,75 mm² and connect the cable shielding to the cable bracket



2.4.3 Single boiler application with extra fail-safe protection using PDS

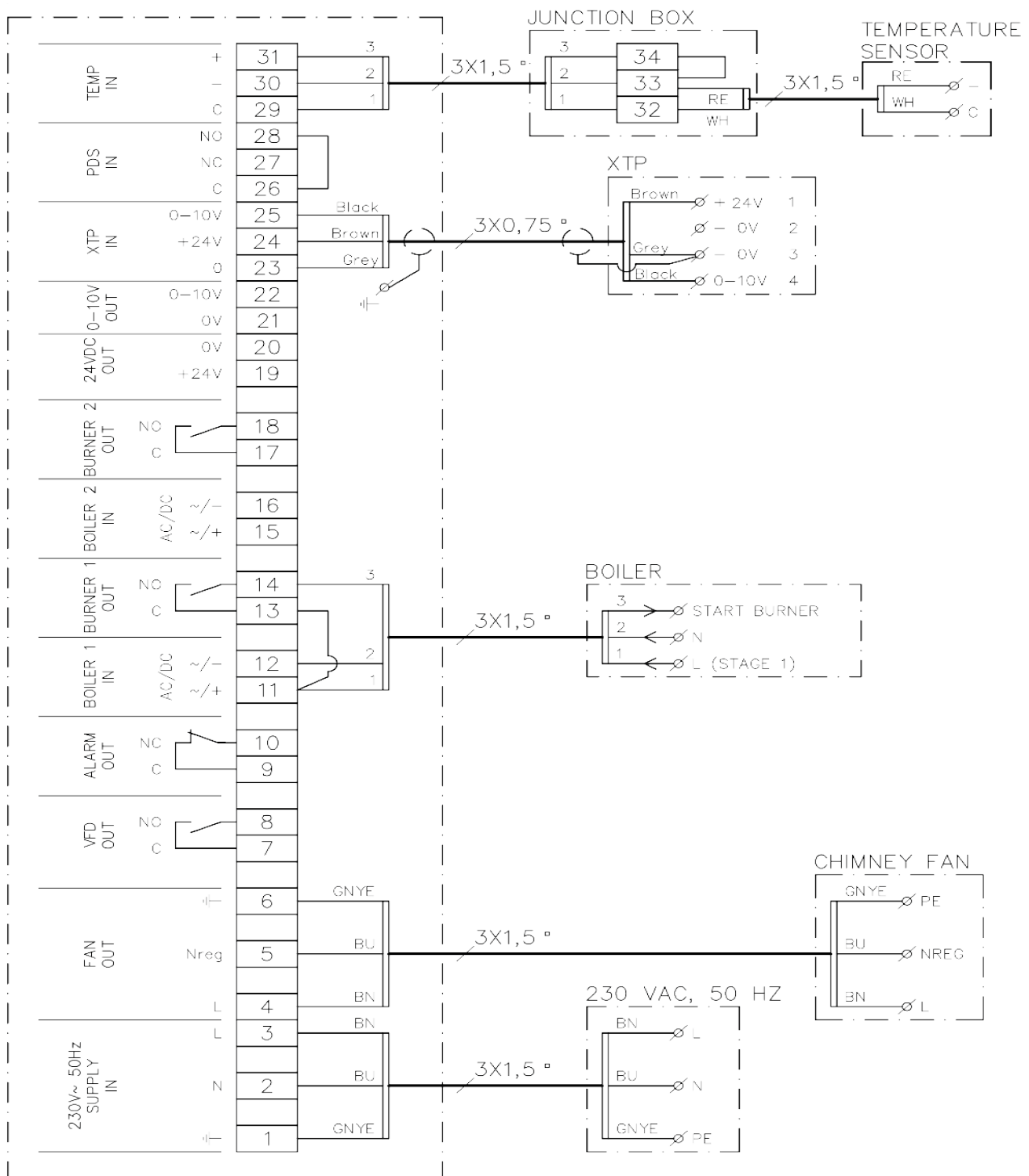


This example shows how to connect a PDS to the EBC10. The PDS carries out extra fail-safe protection.

- Connecting a PDS:
 - ♦ Remove the factory fitted loop between terminals 26 and 28
 - ♦ Connect the PDS between terminals 26 and 28
- Connect the supply voltage to terminals 1–3
- Connect the burner startsignal (-) to terminal 12
- The start signal to the burner comes back on terminal 14
- Connect the burner start signal (+) to terminal 11
- Loop terminals 12 and 13
- Connect the chimney fan to terminals 4–6
- Connect the pressure transducer (XTP) to terminals 23–25 using a a shielded cable 3x0,75 mm² and connect the cable shielding to the cable bracket
- Set the value in menu 31 to 1 (PDS connected).
- NB: If ^{PDS}AUX is flashing, the EBC10 is preparing for a PDS-check.



2.4.4 Solid fuel boiler with temperature sensor



The example shows how to connect the temperature sensor to the EBC20 in order to stop and start the fan through the temperature in the chimney

- Connect the supply voltage to terminals 1–3.
- Connecting the boiler:
 - ♦ Connect the burner start signal (L) to terminal 11.
 - ♦ Connect the neutral wire to terminal 12.
 - ♦ Loop terminals 11 and 13.
 - ♦ The start signal from the burner comes from terminal 14.
- Connect the ventilator to terminals 4 and 6.
- Connect the pressure transducer (XTP) to terminals 23 and 25.
- Using a junction box connect the temperature sensor to terminals 29 and 31.
- Set menu 41 to "ON". Other settings should be chosen from menu 4.



2.5 User menu

2.5.1 Layout of the user menu

The user menu consists of a single level and provides access to 4 parameters:

Menu	Function	Range
1	Setting the required pressure	Depending on the XTP-range set in menus 151 and 152
2	Setting pre-purge period	0-999 s
3	Setting post-purge period	0-60 min
4	Displaying current alarm (see alarm overview page 24)	-

When the instructions refer to the menu numbers 1,2,3 and 4 it is understood that these numbers refer to the user menus.

2.5.2 Operating the user menu

Adjust the set point for user menu items 1–4 in the same way as shown in the example in page 11

To operate menu items 1–4, use the buttons as follows:

Step	Press...	To...
1		Activate the user menu
2	 and 	Go to the menu item you wish to edit
3		Edit the menu item selected
4	 and 	Adjust the required set point
5		Confirm and save the required set point
6		Return to operation screen. NB: If you do not press  the EBC10 will automatically return to the operation screen after 30 seconds

You can always undo an action (that you have not confirmed by pressing ) and return to the operation screen by pressing .

Alarms

For alarm handling (menu 4), see page 23.

2.6 Set-up

For setting up the EBC10, see section 1.6 Set-up, page 11.



2.7 Commissioning

Commissioning on the EBC10 must be carried out to ensure a correct draft from the system.



Commissioning should be carried out by staff with the appropriate training, and with the authorisation to do so according to local legislation.

Do as follows:

Step	Action...
1	Provisional draft setting (negative pressure): • Press  to go to Menu 1 • Press  • Press  or  until the negative required pressure appears in the display • Press  to confirm and save the set point • Press  to return to the operation screen
2	• Start the system. • Wait until the boiler starts and the draft has stabilised. The current draft will be shown in the display
3	Final adjustment of draft: • Check the draft on the boiler • If draft is not correct, repeat the procedure from step 1
4	Check that the monitoring system shuts off the boiler To simulate an error situation, disconnect the hose from the pressure transducer (XTP). Burner is switched off (diode switches off) and the alarm diode illuminates
5	After completing the commissioning, check the start-up function by restarting the system

For the set point values, please refer to the data for the boiler in question. However, the following values can be considered typical:

- Boilers with forced draft: typically 20–30 Pa
- Boilers with atmospheric burners: typically 5–10 Pa

Set up according to site conditions can be determined by boiler commissioning engineer.

2.8 Special functions

2.8.1 Turning the ventilator on and off by means of a temperature sensor in the flue

The EBC10-boiler control can turn the ventilator on and off automatically by means of the temperature sensor, however the ventilator can also be turned on and off manually.



3. List of alarms and troubleshooting



Some systems require a special start-up procedure following safety shut-down. Follow this procedure before pressing the  button.

3.1 Alarm handling

There are two levels of alarm handling:

- Resetting a current alarm (user menu)
- Resetting the alarm log (service menu)

3.1.1 Resetting a current alarm

An alarm situation in the system is indicated by the illumination of the EBC10 alarm diode (see page 7), and by the appearance of the alarm symbol  in the display.

Automatic reset

If menu 25 is set to automatic reset (1), the EBC10 will attempt to reset an alarm every 10 seconds. If error persists, check the alarm overview (next page) for solution.

Manual reset

If menu 25 is set to manual reset (2), alarms must be manually reset.

In the event of an alarm, undertake the following procedure:

Step	Action...
1	Go to menu 4 (menu 5 for operating function 2, ) to display the current alarm
2	Check the alarm overview (next page) to identify the alarm number
3	Solve the error.
4	Press  to reset the alarm* The alarm diode will switch off, and the alarm symbol  will disappear from the display.
5	Restart the system if necessary

*The EBC10 will automatically return to the main screen if no buttons are pressed for 30 seconds. If this happens, repeat step 1.

3.1.2 Resetting the alarm log

The alarm log (menus 211–219) is a list of the 9 most recent alarms.

To reset the alarm log, do the following:

Step	Action...
1	Go to menu 22 and select YES
2	A 10-second countdown will start. Within these 10 seconds, you can cancel your choice by pressing any button. If you do not press any buttons, the alarm log will be reset
3	Press  to return to the main screen



3.1.3 Alarm overview

The table below presents an overview of the alarms that may occur (the alarm numbers are displayed in the alarm menu).

Alarm	Error type	Solution
A00	No error	
A01	XTP flow alarm. Defaults (menu 23): Chimney fan: < 64% of set pressure Air supply fan: > 300% of set pressure	Check: The flue, the chimney and the chimney fan for blockages. The commissioning. That the measuring probe and the spigots on the pressure transducer are not blocked.
A02	PDS check error	Check: The setting of the monitoring unit (the PDS). The connection to the PDS. The PDS's switch function.
A03	PDS error (flow error)	Check that: The PDS is connected. The PDS is correctly adjusted in relation to the set point. Menu 31 has been set correctly (1).
A04	XTP Start Timer error (flow error)	Check: the hose to the pressure transducer. the commissioning. the chimney fan is of sufficient capacity.
A10	XTP not connected	
A11	PDS not connected	Check the PDS connection.
A13	AUX alarm (alarm for terminals 26–28)	Check: the connections to terminals 26–28. the setting in menu 31 (2) the loop between terminals 26 and 28. If XTP is connected : power off/on the unit. If error persist contact dealer (defective unit).
A14	Temperature sensor not connected	
A16	24 VDC overloaded	Check: the load on terminals 19-20. If error persists, contact dealer (defective unit).
A17	XTP connected (error only for the 2-stage speed regulation function )	Remove the XTP. The XTP must not be fitted in speed-regulation mode.
A18	XTP overload	Check if XTP is defective.
A81	E2prom read failure	Reset to defaults (menu 18). Turn the EBC10 off. Restart again. If error persists, contact dealer (defective unit).
A82	Error in Safety relay circuit	
A83	Error in Safety relay circuit	
A84	Error in Safety relay circuit	
A85	Safety No HeartBeat	
A86	Safety input circuit error	
A87	Safety input circuit error	
A88	Safety input circuit error	
A89	Faulty heartbeat from safe processor detected	Reset to defaults (menu 18). Turn the EBC10 off. Restart again. If error persists, contact dealer (defective unit).
A98	Faulty main processor	
A99	Faulty main processor	



3.2 More troubleshooting

3.2.1 Program running

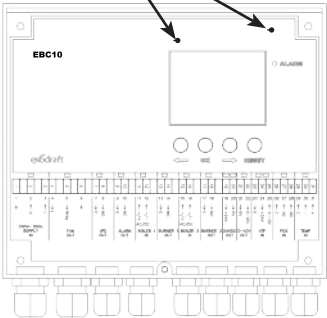
If there is doubt about whether the EBC10 is running: Check if the control LEDs are flashing.

To view the control LEDs: Remove the front panel.



This work must be performed by a qualified electrical engineer.

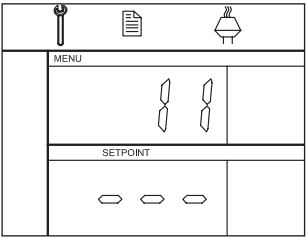
control LEDs



3.2.2 Communication error

If the display shows three horizontal lines in the lowest display box:

Press  and repeat the setting.



If the error persists, then the EBC10 is faulty. Contact dealer.



4. Technical specifications

General

Height x width x depth:	204.3 mm x 239.5 mm x 77.2 mm
Weight:	1.62 kg
Protection class:	IP54
Casing material:	ABS PA 758
Supply voltage:	230–240 VAC +/- 10 %, 50 Hz +/- 1 %
Power consumption:	Max. 475 W
Stand by consumption	Max. 2 W
Fuse:	T4 A
Ambient temperature:	-20 °C to 60 °C
Regulation range:	-500 Pa to 500 Pa
Wiring from EBC10 to chimney fan / fan	Max. 100 m.

Inputs

Digital inputs (BOILER 1 IN):	18 to 230 VAC / VDC
Pressure sensor-input (XTP IN):	0 to 10 VDC, 20 mA
Pressure switch input (PDS IN):	24 VDC, 20 mA
Temperature sensor (TEMP IN):	-30 °C to +500 °C

Outputs

Digital output relays (BURNER1 OUT):	250 VAC, 4 A, AC3
Motor regulator (FAN OUT):	Supply voltage -3 %, Max. 3 A, AC3
24 VDC supply (24VDC OUT):	100 mA
Alarm output relay (ALARM OUT):	250 VAC, 8 A, AC3

Pressure transducer (XTP)

Height x width x depth:	80mm x 82mm x 55.5mm
Protection class:	IP54
Ambient temperature:	0 °C to 70 °C
Wiring to EBC10	Max. 100 m. shielded cable



5. EU declaration of conformity

Declaration of Conformity



DK: EU-Overensstemmelseserklæring GB: Declaration of Conformity DE: EU-Konformitätserklärung FR: Déclaration de conformité de l'Union Européenne NO: EU-Samsvarserklæring	NL: EU-Conformiteits verklaring SE: EU-Överensstämmelsedeklaration FI: EU-Vaatimustenmukaisuusvakuutus IS: ESS-Samræmisstaðfesting IT: Dichiarazione di Conformità Unione Europea
exodraft a/s C.F. Tietgens Boulevard 41 DK-5220 Odense SØ	
-erklærer på eget ansvar, at følgende produkter: -hereby declares that the following products: -erklärt hierdurch auf eigene Verantwortung, daß folgende Produkte: -déclare, sous sa propre responsabilité, que les produits suivants: -erklærer på eget ansvar at følgende produkter:	-veklaart dat onderstaande producten: -deklarerar på eget ansvar, att följande produkter: -vastaa siltä, että seuraava tuote: -Staðfesti à eigin ábyrgð, að eftirfarandi vörur: -dichiara con la presente che i seguenti prodotti:
EBC10	
-som er omfattet af denne erklæring, er i overensstemmelse med følgende standarder: -were manufactured in conformity with the provisions of the following standards: -die von dieser Erklärung umfaßt sind, den folgenden Normen: -auxquels s'applique cette déclaration sont en conformité avec les normes ci-contre: -som er omfattet av denne erklæring, er i samsvar med følgende standarder:	-zijn vervaardigd in overeenstemming met de voorschriften uit de hieronder genoemde normen en standaards: -som omfattas av denna deklaration, överensstämmer med följande standarder: -jota tämä selvitys koskee, on seuraavien standardien mukainen: -sem eru meðtalin í staðfestingu Pessari, eru i fullu samræmi við eftirtalda staðla: -sono stati fabbricati in conformità con le norme degli standard seguenti:
EN 60335-1, EN60335-2-102, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 301489-1, EN 301489-3, EN 14459:2008	
-i.h.t bestemmelser i direktiv: -in accordance with -entsprechen gemäß den Bestimmungen der folgenden Richtlinien: -suivant les dispositions prévues aux directives: -i.h.t bestemmelser i direktiv:	-en voldoen aan de volgende richtlijnen: -enligt bestämmelserna i följande direktiv: -seuraavien direktiivien määräysten mukaan: -med tilvisun til ákvarðana eftirlits: -in conformità con le direttive:
-Lavspændingsdirektiv: -the Low Voltage Directive: -Niederspannungsrichtlinie: -Directive Basse Tension: -Lavspenningsdirektivet:	-de laagspanningsrichtlijn: -Lågspänningsdirektiv: -Pienjännitedirektiivi: -Smáspennueftirlitið: -Direttiva Basso Voltaggio:
2006/95/EC	
-EMC-direktiv: -and the EMC Directive: -EMV-Richtlinie: -Directive Compatibilité Electromagnétique: -EMC-direktiv:	-en de EMC richtlijn: -EMC-direktiv: -EMC-direktiivi: -EMC-efirlitið: -Direttiva Compatibilità Elettromagnetica:
2004/108/EC	
Odense, 01.09.2015 -Adm. direktør -Managing Director Jørgen Andersen 	-Algemeen directeur -Geschäftsführender Direktor -Président Directeur Général -Verkställande direktör -Toimitusjohtaja -Framkvemdastjóri -Direttore Generale



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