Service manual

Selecta Control

Software version
up to ver. 3.26

487 03 29 31.04
GB

NOTICE TO SERVICE PERSONNEL

INSTALLATION

Improper installation of Wascomat laundry and wet cleaning equipment can result in personal injury and severe damage to the machine.

REFER INSTALLATION TO QUALIFIED PERSONNEL!

RISK OF ELECTRIC SHOCK

The equipment utilizes high Voltages. Disconnect electric power before servicing.
The use of proper service tools and techniques, and the use of proper repair procedures, is essential to the safety of service personnel and equipment users.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL!

RISK OF PERSONAL INJURY

This equipment contains moving parts, and some components that may have sharp edges. Improper or careless service procedures may result in serious injury to service personnel.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL!

ABOUT THIS MANUAL

This manual is intended to provide service guidance to qualified service personnel. Wascomat and its authorized dealers make no determination regarding the qualification of individuals requesting this service manual. The service provider assumes all risks inherent to the servicing of this equipment and any risks that arise as result of the lack of knowledge or ability of any person servicing this equipment.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL!

NOTE:

Improper installation or servicing of Wascomat equipment will void the manufacturer's warranty!

Service manual

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Programming is only to be carried out by qualified personnel.

IMPORTANT SERVICE NOTE!

Continuity and resistance measurements suggested by the procedures in this manual require that power to the dryer be disconnected, and that the device whose resistance is being measured be disconnected from all circuits that might affect the accuracy of the measurement.

Note! It is very important that the board is protected from static electricity

Remember!

- Always use an earthed wrist strap.
- Without the antistatic wrapping the board is unprotected.
- Keep all subjects away from the board which can cause static electricity.
- Subjects like plastic, foam plastic, nylon, or cellophane wrapping are all big dischargers of static electricity.
- Static electricity can not always be felt, heard or seen.
- Board components can be damaged by static electricity under 100V.
- Static electricity can not be felt, heard or seen till the voltage reaches 2500V.

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General

From factory, the dryer has been set to specific values for:
Time, temperature, cooling, reversing, etc.

The above parameters are changeable by reprogramming the print Process Module.

The dryer has 2 print boards:

- Process Module
- User Module

Process module

The location of the Process Module in the dryer depends on the dryer type.
See service manual for the dryer in question.

User module

The User Module is located on the back of the operating panel.
In order to reprogramme the dryer it is necessary to switch the User Module into programming mode.

In programming mode the buttons on the operating panel are used for changing the parameters. See section “Switching to service mode”.

Operating panel

There are different types of operating panels.

When the User Module is in programming mode the buttons on the panel get new functions. These functions will be described later in this section.

Main circuit board (Process Module)

Software version

Software version is printed on a label affixed to the print board, see fig.1.

On dryers with software version 3.20 more error codes are displayable than in later versions.

Hardware version

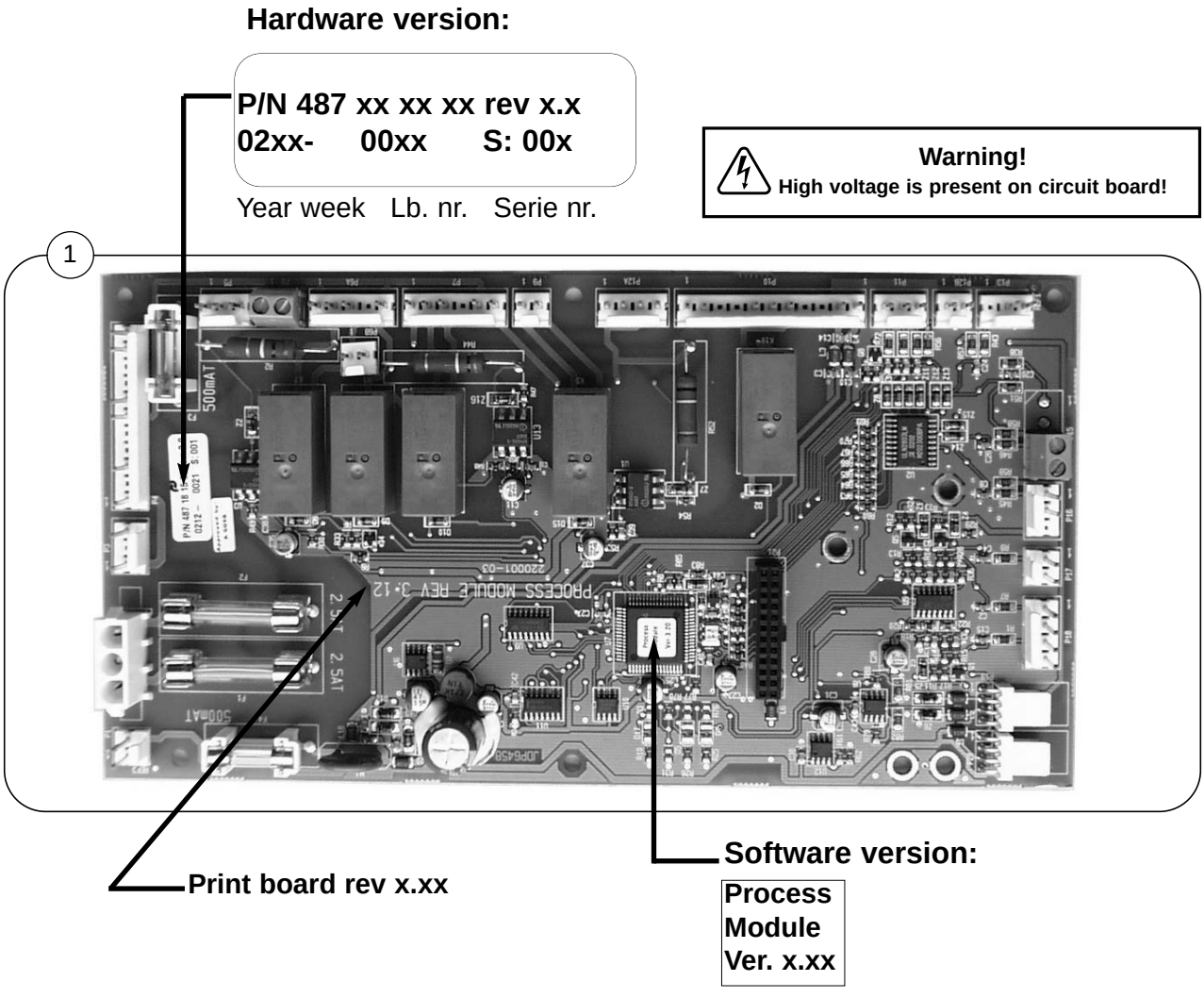
The hardware documentation is printed on a label affixed to the print board, see fig. 1.

Print board version

Rev. no is printet on the print board, see fig. 1.

Parameter version

The parameter version is only readable in Error log group 3, see section 4 “To access error log”.



Main circuit board (Process Module)

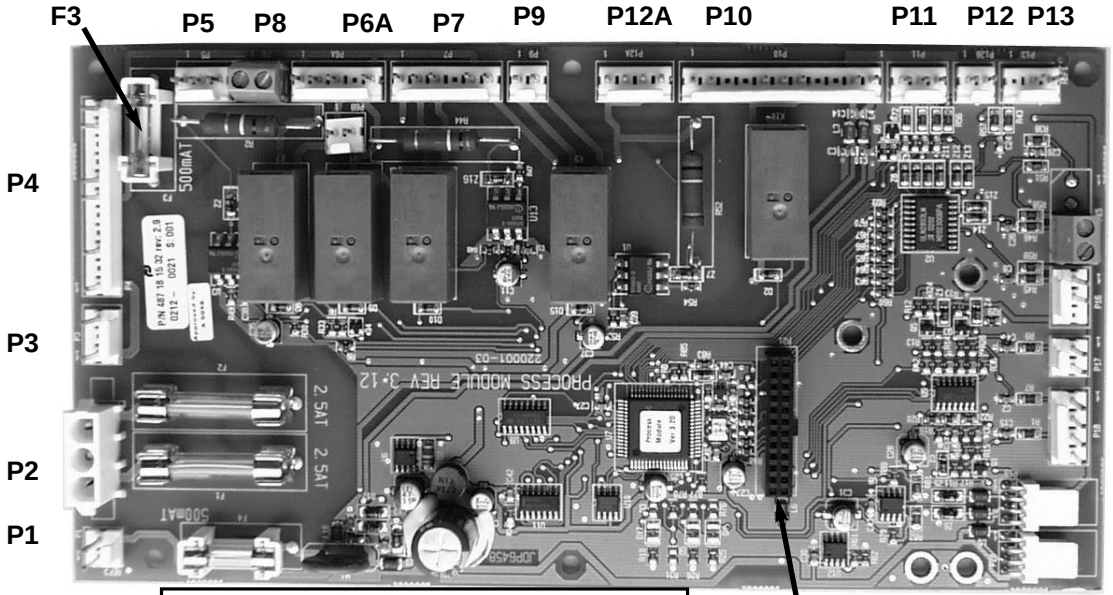
Connector numbers

In the error analyses in section 12 later in this manual connections P1-P20 are mentioned. The positionings of P1-P20 are shown below on fig. 2. The p-numbers are printed on the print board.

The usage of the connections appears from the wiring diagrams supplied the dryer.

Besides the connections described in the wiring diagrams, P8 is used for connecting external payment systems and P21 for connecting CMIS.

2



Warning!
High voltage is present on circuit board!

User module

Switching to programming mode

1. To gain access to the circuit board:

   Open the keypad panel or remove the top plate depending on the dryer type.

2. Fig. 1 Move the switch on the top of the circuit board to the programming mode (the position illustrated by the arrow in Fig. 1).

   Fig. 2 When switched to programming mode, the display shows: 0 - - .
   This indicates **Group 0** in area A.
   See Quick-diagram section 4.

   See the different keypad panels next page.

   The four keys <Up>, <Down>, <Return> and <Enter> can now be used to change the parameters.

   During the programming process, the <Enter> key is used to save new settings.

   If you leave programming mode before pressing <Enter> to save a new setting, the original value will be retained.

3. Program the dryer as described in section 4.

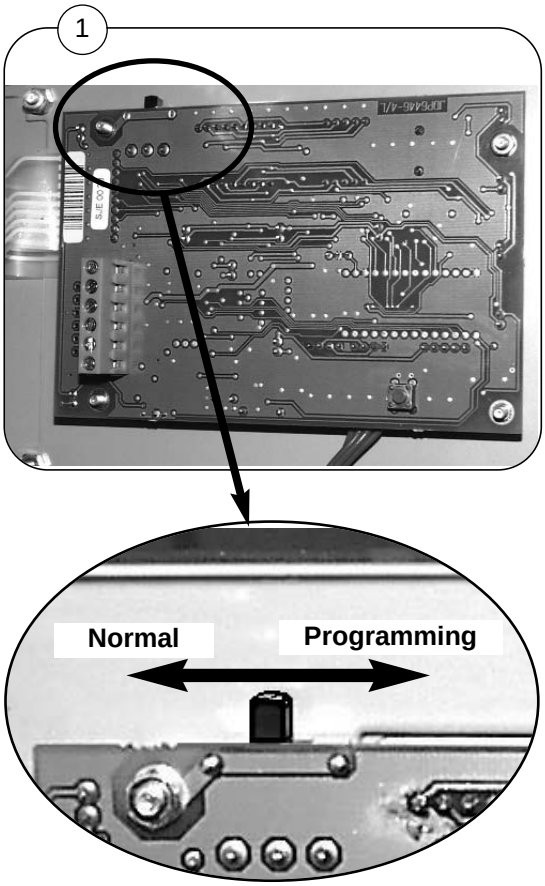
   Note! If you make a mistake or get confused while programming the dryer, move the switch back to Normal position and re-enter the service program.

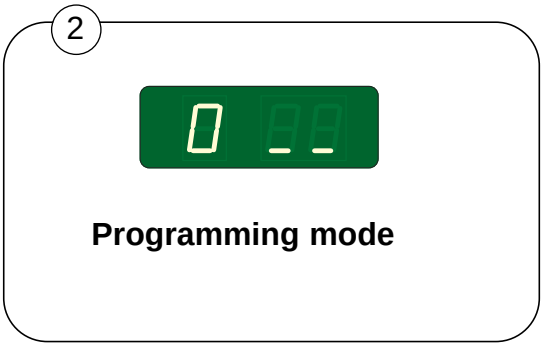
4. When the programming has been completed, move the switch back to the normal operating position.

Caution!

Static sensitive components!

Do not touch the circuit board.





Operating panels in programming mode

Tumble dryer with manual operation.

Fig. 1 AHL panel

Fig. 2 OPL panel

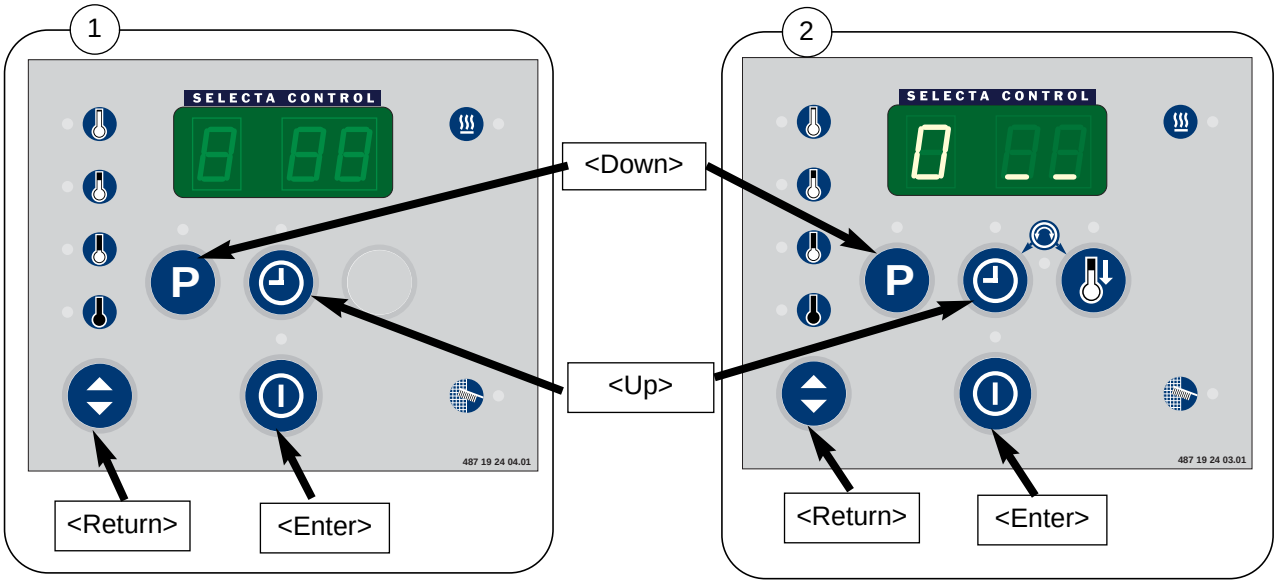


Fig. 3 Tumble dryer with coin or debit card payment system.

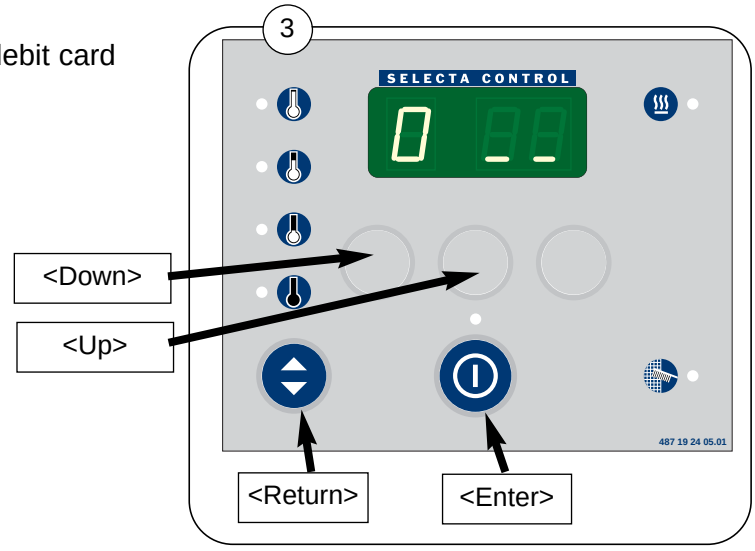
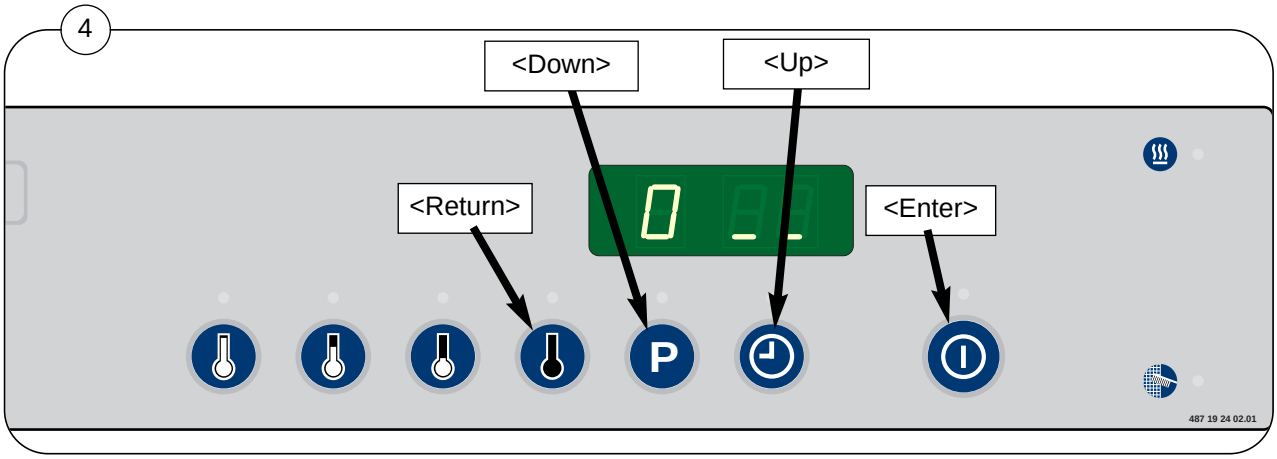


Fig. 4 Tumble dryer 3190 only.



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General

The Selecta Control parameter memory is divided into 2 areas.

Area A: General user level, eg. the owner or manager.

Contains: Group 0 and Group 1

Group 2

Group 0 and 1 are owner-accessible registers for setting time and temperature values, and reading operating timers.
See Selecta Control manual supplied the dryer.

Group 2 only serves as an access to Area B.

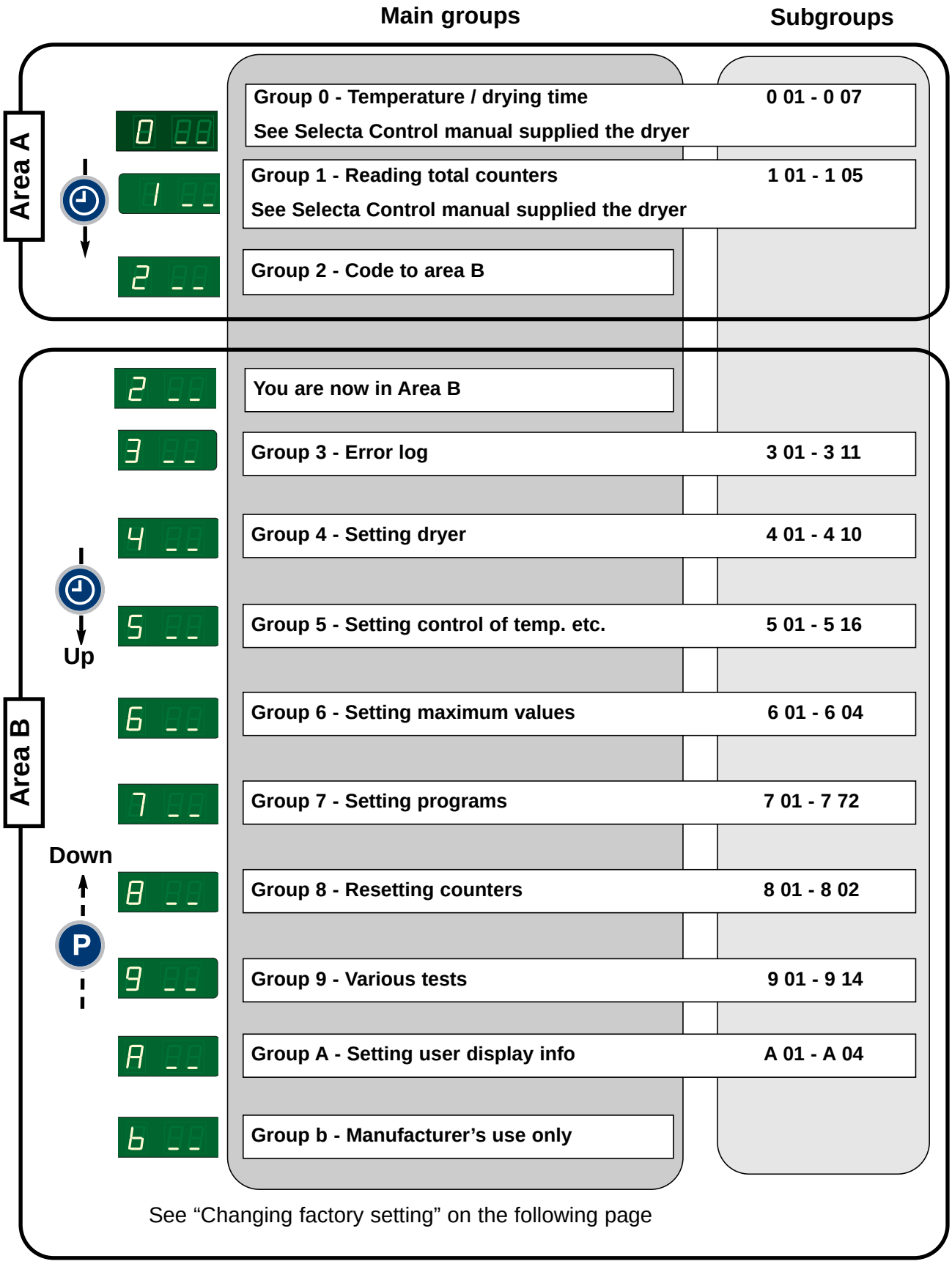
Area B: Service technicians.

Contains: Group 3 to group 9

Group A

Group b, manufacturer’s use only

Quick-diagram



See "Changing factory setting" on the following page

Changing factory settings

In order to clarify things a step by step instruction of how to move within a main group follows.

Based on an example the instruction shows how to change the residual moisture factory setting in program 4 (See Overview of factory setting Group 7).

Start

1. Switch the user module to programming mode (See section 3).

2. Move to **Area B** (See “To Access Area B” in group 2).

3. Step forward using  to **7**_ _

4. Press **<enter>**  to enter subgroups within main groups **7 01**

5. Step forward from 7 01 using  to **7 04** and then press **<enter>** 

Note! The factory setting is displayed.

6. Press **<enter>** 

Note! The factory setting flashes and is changeable.

7. Step forward using  till the setting is reached.

8. Accept the setting using  All values are stored when the display stops flashing.

When the programming has been completed, move the switch back to normal position.

Or if further changes are to be carried out

9. Press **<return>**  to Subgroup **7 04**.

10. Press **<return>**  to Main group **7** _ _**.**

11. Press <**up> or <down>**  depending on the Main group number in which changes are to be carried out.

Resetting new settings

To delete all special settings and return to the factory settings follow the steps below:

Return to factory settings

Return to factory settings is done in **Group 4 - Setting dryer**, parameter group 4 06.

1. Step forward to group **4**_ _

2. Step **<up>**  to **4 06** 

3. Press **<enter>** twice,  the display reads **00** blinks 

4. Press **<up>** 

   00 = nothing

   01 = reset (return to factory settings)

5. Press **<enter>**  display shows the chosen setting

6. Press **<return>**  the display shows **4 06** 

Group 2 - To access “Area B”

To access “Area B” (where parameter group 3 to 9 + group A are located), the passcode "01" must be entered into parameter register 2 01, as follows:

Passcode to Area B

1. Press <Down>		the display reads	**2** _ _	
2. Press <**Enter**> 3 times		the display reads	**00** (blinks)	
3. Press <**Up**>		the display reads	**01** (blinks)	
4. Press <**Enter**>		the display reads	_ **01**	
5. Press <**Return**> twice		the display reads	**2** _ _	
	or			
		Dryer 3190 only		

You are now in "Area B".

Group 3 - Error log

Readable parameters

All error codes are registered in the error log (Except E99 ver. 3.20).

Beside error codes E 01 - E 18, there are a number of internal error codes which are not displayed but only registered in the error log.

Error codes registred in the log that are not on the error code list (E 01-E 18) in this manual should be reported to the manufacturer.

Para-meter / group	Designation	Range	Step	Factory setting	Comments
3 01	Last error log n		-	info.	Shows last occured error and time
3 02	Error log (n-1)		-	info.	Second latest error code and time
3 03	Error log (n-2)		-	info.	Third latest error code and time
3 04	Error log (n-3)		-	info.	Fourth latest error code and time
3 05	Error log (n-4)		-	info.	Fifth latest error code and time
3 06	Option				
3 07	Process software version		-	info.	Software version
3 08	User panel software version			info.	Software version
3 09	Identification of version part 1			info.	Identification of version
3 10	Identification of version part 2			info.	Identification of version

See example on the next page which shows the latest error code **E08** which occurs after 220 hours of operation.

Group 3 - Reading the Error log

Example

1. Press <**Up**>		the display reads	**3** _ _	
2. Press <**Enter**>		the display reads	**3 01**	
3. Press <**Enter**>		the display reads eg.	**08**	

The display shows the error code. The following steps shows the running time where the error occured.

4. Press <**P**>		the display reads	– **02**	
5. Press <**P**>		the display reads	_ **20**	

The example shows the latest error code **E08** which occurred after 220 hours of operation.

Now the second latest error code can be read etc.

6. Press <**Return**>		the display reads	**3 01**	
7. Press <**up**>		the display reads	**3 02** etc.	

Group 4 - Setting dryer - software version up to 3.20 only

Adjustable parameters

Para-meter / group	Designation	Range	Step	Factory setting	Comments
4 01	Reversing	0 - 1	1	0 / 1	0 = OFF / 1 = ON
4 02	Type of heating	01 -0 5	1	01	Electric
				02	Gas (normal)
				03	Gas (Japan, USA)
				04	Steam / LE
				05	Option
4 03	Payment setting	00 - 08	1	00	No paying.
				01	Coin 1 positive (NC, coin sensor)
				02	Coin 1 negative (NO)
				03	Coin 1-2 positive (NC, coin sensor)
				04	Coin 1-2 negative (NO)
				05	CP Time
				06	Single System
				07	CP coin
				08	Master System
4 04	Type of Control Panel	00 - 04	1	00	Dryer type 3190
				01	Coin
				02	AHL
				03	OPL
				04	Japan
4 05	Programme	00 - 04	1	00	Coin
				01	OPL RMC
				02	AHL RMC
				03	OPL Auto Stop
				04	AHL Auto Stop
4 06	Factory setting	00 - 01	1	01	01 = Establish default setting (reset) **Note!** The resetting deletes all changes made since the dryer left the factory

Group 4 - Setting dryer - software version from 3.21 to 3.26

Adjustable parameters 4 01 and 4 02

Para-meter / group	Designation	Range	Step	Factory setting	Comments
4 01	Reversing	00 - 01	1	0 / 1	0 = OFF / 1 = ON

Para-meter / group	Dryer type	Heating	Step	Factory setting
4 02	**3190**	Electric	1	01
		Gas normal	1	02
		Gas (JP+US)	1	03
	3250/3350	Electric	1	01
		Gas normal	1	02
		Gas (JP+US)	1	03
		Steam	1	04
	3300/30•30	Electric	1	06
		Gas normal	1	02
		Gas (JP+US)	1	03
	3300 LE	Low energy	1	04
	3290/3530/3650	Electric	1	12
		Gas normal	1	13
		Gas (JP+US)	1	14
		Steam (3530)	1	04
		Steam (3290 / 3650)	1	05
	3900/31200/100/135	Electric 60kW	1	15
		Other Electric	1	09
		Gas normal	1	10
		Gas (JP+US)	1	11
		Steam/Non heated	1	05
	4250/4350	Electric	1	06
		Gas normal	1	07
		Gas (JP+US)	1	08
		Steam	1	04

Group 4 - Setting dryer

Adjustable parameters 4 03 to 4 06

Para-meter / group	Designation	Range	Step	Factory setting	Comments
4 03	Payment setting	00 - 08	1	00	No paying
				01	Coin 1 positive (NC, coin sensor)
				02	Coin 1 negative (NO)
				03	Coin 1-2 positive (NC, coin sensor)
				04	Coin 1-2 negative (NO)
				05	CP Time
				06	Single System
				07	CP coin
				08	Master System
				09	LM10
4 04	Type of Control Panel	00 - 04	1	00	Dryer type 3190
				01	Coin
				02	AHL
				03	OPL
				04	Japan
4 05	Type of Programme	00 - 04	1	00	Coin
				01	OPL RMC
				02	AHL RMC
				03	OPL Auto Stop
				04	AHL Auto Stop
4 06	Factory setting	00 - 01	1	01	01 = Establish default setting (reset) **Note!** The resetting deletes all changes made since the dryer left the factory

Group 4 - Connecting CMIS (Option)

Adjustable parameters 4 07 to 4 10

Para-meter / group	Designation	Range	Step	Factory setting	Comments
4 07	ELS Network address	0 - 127	1	0	0 = No network
4 08	ELS Network baud rate	0 - 3	1	0	38400 baud
				1	2400 baud
				2	9600 baud
				3	38400 baud
4 09	ELS Network time out setting	0 - 99	1	10	CMIS: 10 sec (Error code E21)
				90	LM10: 90 sec (Error code E22)
4 10	Dryer type	1-13	1	1	-
				2	Dryer type 3190
				3	Dryer type 3250
				4	Dryer type 3350
				5	Dryer type 3300/30•30
				6	Dryer type 3290
				7	Dryer type 3530
				8	Dryer type 3650
				9	-
				10	Dryer type 4250
				11	Dryer type 4350
				12	Dryer type 3900/100
				13	Dryer type 31200/135

Group 5 - Setting control of temperature, drum and buzzer

Adjustable parameters

Para-meter / group	Designation	Range	Step	Factory setting	Comments
5 01	Temperature °C / °F	0 - 1	0 / 1	0 / 1	0 = °C / 1 = °F
5 02	Temperature hysteresis	01 – 10 °K	1	2	Hysteresis in °K
5 03	Rotation clockwise	01 – 99 minutes	1	5(25)	Only if reversing is ON (T3190 = 25)
5 04	Pause between reversing	01 – 99 seconds	1	3	Only if reversing is ON
5 05	Reversing (T3190)	01 – 99 seconds	1	15	seconds
- -	Reversing (T3900/T31200)	01 – 99 seconds	1	12	seconds
- -	Reversing	01 – 99 minutes	1	5	minutes
5 06	Anticrease	00-01	0/1	1	0 = OFF / 1 = ON
5 07	Beep on key press	00-01	0/1	1	0 = OFF / 1 = ON
5 08	Beep at cycle end	0 – 60 seconds	1	10	
5 09	Cooling, time, High temp.	1-20 min	1 1	3 1	Non-coin operated machines Coin operated machines
5 10	Cooling, time, Med. temp.	1-20 min	1 1	3 1	Non-coin operated machines Coin operated machines
5 11	Cooling, time, Low temp.	1-20 min	1 1	3 1	Non-coin operated machines Coin operated machines
5 12	Option 1	1-20 min			
5 13	Cooling, temp. (High)	30-85°C / 85-185°F	1	45 / 115	(45°C / 115°F)
5 14	Cooling, temp. (Medium)	30-85°C / 85-185°F	1	45 / 115	(45°C / 115°F)
5 15	Cooling, temp. (Low)	30-85°C / 85-185°F	1	45 / 115	(45°C / 115°F)
5 16	Option 2	30-85°C			

Group 6 - Setting maximum values

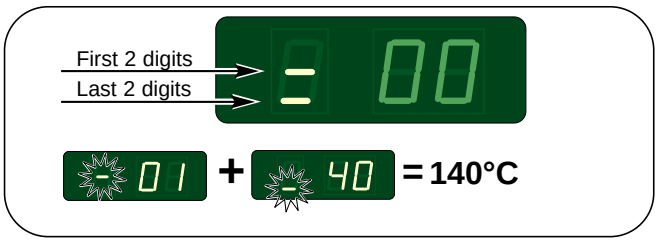
Adjustable parameters

Parameter / group	Designation	Range	Step	Factory setting	Comments
6 01	**Number of P programmes**	1 – 9	1	0	Coin
				2	AHL AutoStop
				3	AHL RMC
				5	OPL AutoStop
				9	OPL RMC

Parameter / group	Designation	Dryer/heating type		Range	Step	Factory setting
6 02	**Inlet temperature**	**3190**	Electric	80-140°C / 175-285°F	1	140°C / 285°F
			Electric (SE)	80-130°C	1	130°C
			Gas	80-190°C / 175-375°F	1	190°C / 375°F
		3250/3350	Electric	80-150°C / 175-300°F	1	150°C / 300°F
			Gas	80-160°C / 175-320°F	1	160°C / 320°F
		3300/30•30	Electric	80-155°C / 175-310°F	1	155°C / 310°F
			Gas	80-160°C / 175-320°F	1	160°C / 320°F
		3300LE			-	0
		3290/3530/3650			-	0
		3900/31200/100/135	Electric	80-160°C / 175-320°F	1	160°C / 320°F
			Gas	80-160°C / 175-320°F	1	160°C / 320°F
		4250/4350	Electric	80-155°C / 175-310°F	1	155°C / 310°F
		All	steam		-	0

Parameter / group	Designation	Range	Step	Factory setting	Comments
6 03	Max. time on time control	10 – 90 min	1	90	Max. time which can be selected (also coin)
6 04	Max. time on P programs	30 – 90 min	1	90	Max. time on AutoStop or RMC

Example



Warning!

Incorrect parameter setting can damage the dryer.

Group 7 - Setting programs

Adjustable parameters

Residual moisture control (RMC) for programmes P1 - P9

Parameter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL RMC	OPL Auto-Stop	OPL RMC
7 01	Residual moisture P1	0 – 57%	1%	0	0	0	0	0
7 02	Residual moisture P2	0 – 57%	1%	0	0	0	0	0
7 03	Residual moisture P3	0 – 57%	1%	15	0	15	0	5
7 04	Residual moisture P4	0 – 57%	1%	10	0	10	0	10
7 05	Residual moisture P5	0 – 57%	1%	15	0	15	0	15
7 06	Residual moisture P6	0 – 57%	1%	20	20	20	20	20
7 07	Residual moisture P7	0 – 57%	1%	0	0	0	0	0
7 08	Residual moisture P8	0 – 57%	1%	0	0	0	0	0
7 09	Residual moisture P9	0 – 57%	1%	0	0	0	0	0

= Setting is not relevant

Group 7 - Setting programs

Adjustable parameters

Extra drying time for programmes P1 - P9

Para-meter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL RMC	OPL Auto-Stop	OPL RMC
7 10	Extra drying time P1 *	00 – 90 min	1	5	5	5	5	5
7 11	Extra drying time P2 **	00 – 90 min	1	0	0	0	0	0
7 12	Extra drying time P3	00 – 90 min	1	0	0	0	0	0
7 13	Extra drying time P4	00 – 90 min	1	0	0	0	0	0
7 14	Extra drying time P5	00 – 90 min	1	0	0	0	0	0
7 15	Extra drying time P6	00 – 90 min	1	0	0	0	0	0
7 16	Extra drying time P7	00 – 90 min	1	0	0	0	0	0
7 17	Extra drying time P8	00 – 90 min	1	0	0	0	0	0
7 18	Extra drying time P9	00 – 90 min	1	0	0	0	0	0

= Setting is not relevant

* 7 10	Extra drying time P1	Factory setting LE (= Heat Pump):	10 min.
	Extra drying time P1	Factory setting T3290/3530/3650 OPL, RMC with reversing:	7 min.
** 7 11	Extra drying time P2	Factory setting LE (= Heat Pump):	5 min.
	Extra drying time P2	Factory setting T3290/3530/3650 OPL, RMC with reversing:	2 min.

Group 7 - Setting programs

Adjustable parameters

Time / Automatic for programmes P1 - P9

Parameter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL RMC	OPL Auto-Stop	OPL RMC
7 19	Time/Automatic control P1	00 –01	0/1	1	1	1	1	1
7 20	Time/Automatic control P2	00 –01	0/1	1	1	1	1	1
7 21	Time/Automatic control P3	00 –01	0/1	1	1	1	0	1
7 22	Time/Automatic control P4	00 –01	0/1	0	1	0	0	1
7 23	Time/Automatic control P5	00 –01	0/1	0	1	0	0	1
7 24	Time/Automatic control P6	00 –01	0/1	0	1	0	0	1
7 25	Time/Automatic control P7	00 –01	0/1	0	0	0	0	0
7 26	Time/Automatic control P8	00 –01	0/1	0	0	0	0	0
7 27	Time/Automatic control P9	00 –01	0/1	0	0	0	0	0

= Factory setting is not relevant

Group 7 - Setting programs

Adjustable parameters

Air outlet temperature for programmes P1-P9

Para-meter / group	Designation	Range	Step	Factory setting	
				Coin	AHL / OPL
T3190, T3250 / 3350, T4250 / 4350, T3300S, T3300LE					
7 28	Temperature for P1	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 29	Temperature for P2	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 30	Temperature for P3	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 31	Temperature for P4	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 32	Temperature for P5	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 33	Temperature for P6	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 34	Temperature for P7	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 35	Temperature for P8	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
7 36	Temperature for P9	30-70°C / 86-160°F	1	70°C / 160°F	70°C / 160°F
T3290, T3530, T3650, T3900, T31200					
7 28	Temperature for P1	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 29	Temperature for P2	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 30	Temperature for P3	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 31	Temperature for P4	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 32	Temperature for P5	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 33	Temperature for P6	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 34	Temperature for P7	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 35	Temperature for P8	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
7 36	Temperature for P9	30-80°C / 86-176°F	1	80°C / 176°F	80 / 176°F
Coin machines USA, only					
7 28	Temperature for P1	86-160°F	1	151°F	
7 29	Temperature for P2	86-160°F	1	151°F	
7 30	Temperature for P3	86-160°F	1	151°F	
7 31	Temperature for P4	86-160°F	1	151°F	
7 32	Temperature for P5	86-160°F	1	151°F	
7 33	Temperature for P6	86-160°F	1	151°F	
7 34	Temperature for P7	86-160°F	1	151°F	
7 35	Temperature for P8	86-160°F	1	151°F	
7 36	Temperature for P9	86-160°F	1	151°F	

= Factory setting is not relevant

Group 7 - Setting programs

Adjustable parameters

Drying time for Time programmes P1 - P9

Parameter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL RMC	OPL Auto-Stop	OPL RMC
7 37	Drying time P1	00 – 90 min	1	20	20	20	20	20
7 38	Drying time P2	00 – 90 min	1	20	20	20	20	20
7 39	Drying time P3	00 – 90 min	1	20	20	20	10	20
7 40	Drying time P4	00 – 90 min	1	10	20	10	20	20
7 41	Drying time P5	00 – 90 min	1	20	20	20	30	20
7 42	Drying time P6	00 – 90 min	1	30	20	30	20	20
7 43	Drying time P7	00 – 90 min	1	10	10	10	10	10
7 44	Drying time P8	00 – 90 min	1	20	20	20	20	20
7 45	Drying time P9	00 – 90 min	1	30	30	30	30	30

= Setting is not relevant

Group 7 - Setting programs

Adjustable parameters

The dryer ends the cooling down program when the chosen time has run out (3 min) and when the chosen temperature (45°C) is reached.

Cooling down <u>temperature</u> for programmes P1 - P9

Parameter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL	OPL Auto-Stop	OPL RMC
7 46	Cooling down P1	30-85°C / 85-185°F	1	45	45	45	45	45
7 47	Cooling down P2	30-85°C / 85-185°F	1	45	45	45	45	45
7 48	Cooling down P3	30-85°C / 85-185°F	1	45	45	45	45	45
7 49	Cooling down P4	30-85°C / 85-185°F	1	45	45	45	45	45
7 50	Cooling down P5	30-85°C / 85-185°F	1	45	45	45	45	45
7 51	Cooling down P6	30-85°C / 85-185°F	1	45	45	45	45	45
7 52	Cooling down P7	30-85°C / 85-185°F	1	45	45	45	45	45
7 53	Cooling down P8	30-85°C / 85-185°F	1	45	45	45	45	45
7 54	Cooling down P9	30-85°C / 85-185°F	1	45	45	45	45	45

= Setting is not relevant

Cooling down <u>times</u> for programmes P1 - P9

Parameter / group	Designation	Range	Step	Factory setting				
				Coin	AHL Auto-Stop	AHL	OPL Auto-Stop	OPL RMC
7 55	Cooling down P1	30-85°C / 85-185°F	1	3	3	3	3	3
7 56	Cooling down P2	30-85°C / 85-185°F	1	3	3	3	3	3
7 57	Cooling down P3	30-85°C / 85-185°F	1	3	3	3	3	3
7 58	Cooling down P4	30-85°C / 85-185°F	1	3	3	3	3	3
7 59	Cooling down P5	30-85°C / 85-185°F	1	3	3	3	3	3
7 60	Cooling down P6	30-85°C / 85-185°F	1	3	3	3	3	3
7 61	Cooling down P7	30-85°C / 85-185°F	1	3	3	3	3	3
7 62	Cooling down P8	30-85°C / 85-185°F	1	3	3	3	3	3
7 63	Cooling down P9	30-85°C / 85-185°F	1	3	3	3	3	3

= Setting is not relevant

Group 7 - Setting programs

Adjustable parameters

Reversing on/off for programmes P1 - P9

Para-meter / group	Designation	Range	Step	Factory setting *				
				Coin	AHL Auto-Stop	AHL RMC	OPL Auto-Stop	OPL RMC
7 64	Reversing P1	00 - 01	0/1	1	1	1	1	1
7 65	Reversing P2	00 - 01	0/1	1	1	1	1	1
7 66	Reversing P3	00 - 01	0/1	0	0	0	1	0
7 67	Reversing P4	00 - 01	0/1	0	0	0	1	0
7 68	Reversing P5	00 - 01	0/1	0	0	0	1	0
7 69	Reversing P6	00 - 01	0/1	1	1	1	1	1
7 70	Reversing P7	00 - 01	0/1	1	1	1	1	1
7 71	Reversing P8	00 - 01	0/1	1	1	1	1	1
7 72	Reversing P9	00 - 01	0/1	1	1	1	1	1

= Setting is not relevant

* Machines without reversing always: 0

Group 8 - Setting programs

Adjustable parameters

Resetting counters

Parameter / group	Designation	Range	Step	Factory setting	Comments
8 01	Reset service counter	00 - 01	00/01		01 = Reset counter
8 02	Reset trip counter	00 - 01	00/01		01 = Reset counter

Group 9 - Setting programs

Adjustable parameters

Various tests

Para-meter / group	Designation	Range	Step	Factory setting	Comments
9 01	Test output 0	01	00/01		01 = Heat on in 3 seconds
9 02	Test output 1	01	00/01		01 = Drum left active in 3 seconds
9 03	Test output 2	01	00/01		01 = External signal active in 3 seconds
9 04	Test output 3	01	00/01		01 = Fan active in 3 seconds
9 05	Test output 4	01	00/01		01 = Drum right active in 3 seconds
9 06	Test input 0	00 - 01	0/1	0/1	Control of door switch 0 = Open, 1 = closed
9 07	Test input 1	00 - 01	0/1	0/1	Control of vacuum switch 0 = Open, 1 = closed
9 08	Test input 2	00 - 01	0/1	0/1	Control of external switch 0 = Open, 1 = closed
9 09	Test input 3	00 - 01	0/1	0/1	Control of condensation filter switch 0 = Open, 1 = closed
9 10	Test input 4	00 - 01	0/1	0/1	Control of filter door switch 0 = Open, 1 = closed
9 11	Test input 5	00 - 01	0/1	0/1	Control of overheating 0 = OK, 1 = Error
9 12	Test input 6	00 - 01	0/1	0/1	Control of gas error inlet 0 = OK, 1 = Error
9 13	Test input 7	00 - 01	0/1	0/1	Control of motor 1 overheating 0 = OK, 1 = Error
9 14	Test input 8	00 - 01	0/1	0/1	Control of motor 2 overheating 0 = OK, 1 = Error

Group A - Setting programs

Adjustable parameters

Customized user panel

Para-meter / group	Designation	Range	Step	Factory setting	Comments
A 01	Standby value	000 - 0999	1		Value shown when dryer is free
A 02	Standby value blinks	00/01	1	01/00	01 = Value blinks when dryer is free
A 03	Final blinks	00/01	1	01/00	01 = Final symbol blinks
A 04	Show temperature	00/01	1	01/00	01 = Temperature is displayed when temp. key is activated.

Changing P-programs

Following parameters determine how eg. program P1 is executed.

Parameter	Explanation
7.01	**Residual moisture level** in %.
7.10	**Extra drying time**, for how long the drying must carry on after 0% is reached.
7.19	**Time / Automatics**, the program can be set with a specified time period or with a non-time determined drying via the built-in automatics.
7.28	**Max outlet air temperature set-up**, roughly represents the temperature of the garments.
7.37	**Drying time** which might be set in 7.19.
7.46	**Cooling down condition for temperature**, the cooling down of the garments stops when both conditions (7.46 / 7.55) are met.
7.55	**Cooling down condition for time**, the cooling down of the garments stops when both conditions (7.46 / 7.55) are met.
7.64	**Reversing** during P-program on/off.

Example: Changing P1

Program P1 can be adjusted to the individual textiles which are to be used in the dryer.

The below example shows how to change the set up of program for drying thick lining boiler suits in mixed fabric 65/35 with polyester lining.

7.01	00	factory setting = 00% is maintained
7.10	15	extra drying time is set to 15 min
7.19	01	automatic program is maintained
7.28	60	outlet air temperature is set to 60°C (140°F)
7.37	20	factory setting = 20 min is maintained
7.46	35	max outlet air temperature is set to 35°C (95°F)
7.55	10	cooling down time is set to 10 min
7.64	01	factory setting = 01 is maintained

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General

The dryer is equipped with an automatic diagnostic system.

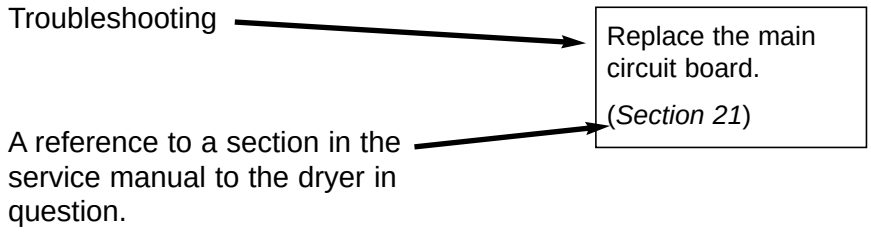
Operating problems are displayed as blinking error codes. Whenever an error occurs, the dryer stops operating.

Except where noted, error codes are cleared by disconnecting the power or by entering the service program.

Error analysis

A diagnostic procedure is provided for each error code. If an error has not been corrected after the procedure, please contact the manufacturer for additional assistance.

Explanation to error analyses



Check list - error codes related to overheating

General note regarding error codes related to overheating:

Before troubleshooting the electronic systems of the machine, examine the dryer to determine if the airflow is normal.

Insufficient airflow due to over-filling the machine, lint-obstructed screens, air passages and ducts, or improper exhaust venting are all possible causes of various errors.

Items concerning the necessary air flow

1. Check that the fresh-air intake to the room and the exhaust ducts/pipes from the room are not clogged by lint/dust or blocked in any other way.
2. Check that the dryer receives the necessary quantity of fresh air. (*See installation manual*).
3. Check that the fresh-air intake preasure drop does not exceed 10 Pa (applies only to air-intake duct kit, if installed - *See installation manual*).
4. Check that the pressure drop in the air outlet ducts does not exceed the value printed on the data sheet in the Service Manual for the specific dryer. (Measurement is done with cold air (20°C/ 68°F).
5. Check that the air inlet screen on the rear of the dryer is not clogged by lint or dust (*See Section 11*).
6. Check that the lint screen in the drawer is clean and in good condition *(See Section 11, exept 3190*).
7. Check that the secondary lint screen behind the lint drawer has not become blocked with lint or other debris (*See Section 11*).
8. Check that the blower compartment and blower wheel have not become blocked with lint or other debris (*See Section 11*).
9. Check that the fan wheel is in good condition, and that it is tightly secured to the motor shaft.
10. Check for severely overloaded dryer. Remove some items as appropriate.

Items concerning gas connection

1. Check that the gas type corresponds with the dryer’s data plate.
2. Check gas inlet and nozzle pressures.

Error code	Description
E 01	**Inlet air - input temperature is too high** The temperature of the air entering the drum is too high.
E 02	**Outlet air - Output temperature is too high** The temperature of the air leaving the drum is too high.
E 03	**Inlet air - Sensor has short-circuited** The thermistor element measuring the air inlet temperature to the drum, or the wiring to the sensor has shorted.
E 04	**Outlet air - Sensor has short-circuited** The thermistor element measuring the air outlet temperature from the drum, or the wiring to the sensor has shorted.
E 05	**Blower motor** Motor 1: The thermal protection switch in the motor, or its harness, is open.
E 06	**Drum motor** – Motor 2: The thermal protection switch in the motor, or its harness, is open.
E 07	**Option** Not in use.
E 08	**Inlet and Outlet air protection thermostats** One of the proctection thermostats has opened due to overheating.
E 09	**Lint drawer** Lint drawer must be emtied before start.
E 10	**Setting** Programming error / incorrect or missing parameter(s).
E 11	**Drying error** Maximum allowable RMC time exceeded (non-coin operated models only).
E 12	**Drying error** Maximum allowable Autostop time exceeded (non-coin operated models only).
E 13	**Drying error -** Requested drying time is longer than maximum allowed.(dryer connected to a payment system).
E 14	**Gas error** - A flame was not detected on gas heated dryers.
E 15	**Vacuum switch** The vacuum switch does not shut within 5 seconds after the dryer is started.
E 16	**Vacuum switch** The vacuum switch was already closed when an attempt to start the dryer was made.
E 17	**Input sensor disconnected** The inlet thermistor or wiring to the thermistor is open.
E 18	**Output sensor disconnected** The outlet thermistor or wiring to the thermistor is open.
E 19	**Option** Not in use.

Error code	Description
E 20	**CMIS out of operation** The dryer is put out of order in the PC programme.
E 21	**CMIS com board poll error** The PC does not poll the dryer within the time out.
E 22	**LM10 com board poll error** The PC does not poll the dryer within the time out.
E 99	**Communication error** The user module does not recieve communication from the main board (user module and main board).

From version 3.22 not all error codes are displayed.
All error codes are registered in the error log.

E 01 - Inlet air - Input temperature is too high

Error description

The input temperature exceeds 70°C (158°F) for more than 10 sec.

The air thermistor is a "negative temperature coefficient" (NTC) sensor. As a result of this the resistance decreases as its temperature increases.
The dryer stops operating.

Error analysis, only displayed in software version 3.20

Electric heated dryers only

1. Missing air flow.
See check list Error codes

Are there any errors according to the list?

YES → Correct the error from the check list.

NO → Go to step 2.

2. Defective NTC sensor?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness and measure the resistance on the NTC sensor.
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES → Go to step 3.

NO → Replace NTC sensor. (*Section 27*)

3. Defective NTC harness?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness.

Measure resistance between P18-1 and P18-2 on main circuit board. Is the circuit open (infinite resistance)?

YES → Go to step 4.

NO → Replace harness

4. Too high heating effect?

Is the measured electric effect correct according to the data sign?

YES → Go to step 5.

NO → Are the rated output and the connection on the heating units okay?

NO → Change when necessary.

YES → Go to step 5

5. Defective NTC interface on main circuit board?

YES → Replace the main circuit board. (*Section 21*)

For instructions on entering programming mode see section 3.

E 01 - Inlet air - Input temperature is too high

Error description

The input temperature exceeds 220°C (428°F) for more than 10 sec.

The air thermistor is a "negative temperature coefficient" (NTC) sensor. As a result of this the resistance decreases as its temperature increases.
The dryer stops operating.

Error analysis, only displayed in software version 3.20

Gas heated dryers only

1. Missing air flow.
See check list. page 12.4

Are there any errors according to the list?

YES Correct the error from the check list.

NO Go to step 2.

2. Defective NTC sensor?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness and measure the resistance on the NTC sensor.
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES Go to step 3.

NO Replace NTC sensor.
(*Section 27*)

3. Defective NTC harness?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness.

Measure resistance between P18-1 and P18-2 on main circuit board at room temperature. Is the circuit open (infinite resistance)?

YES Go to step 4.

NO Replace harness.

4. Burner power too high?

Is the nozzle and the nozzle pressure correct according to the gas type printed on the data sign?

YES Go to step 5.

NO Replace the nozzle and adjust the nozzle pressure.
(Installation manual)

5. Defective NTC interface on main circuit board?

YES Replace the main circuit board.
(*Section 21*)

For instructions on entering programming mode see section 3.

E 02 - Outlet air - Output temperature is too high

Error description

The output temperature exceeds 85°C (185°F) for more than 30 sec.

The air thermistor is a "negative temperature coefficient" ("NTC") sensor. As a result of this the resistance decreases as its temperature increases.
The dryer stops operating.

Error analysis

1. Missing air flow.

See check list. page 12.4

Are there any errors according to the list?

YES Correct the error from the check list.

NO Go to step 2.

2. Defective NTC sensor?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness and measure the resistance on the NTC sensor
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES Go to step 3.

NO Replace NTC sensor.

(Section 27)

3. Defective NTC harness?

Disconnect NTC sensor at its terminal-block connection to dryer wiring harness.

Measure resistance between P18-3 and P18-4 on main circuit board. Is the circuit open (infinite resistance)?

YES Go to step 4.

NO Replace harness.

4. Defective NTC interface on main circuit board?

YES Replace the main circuit board.

(Section 21)

E 03 - Inlet air - Sensor has short-circuited

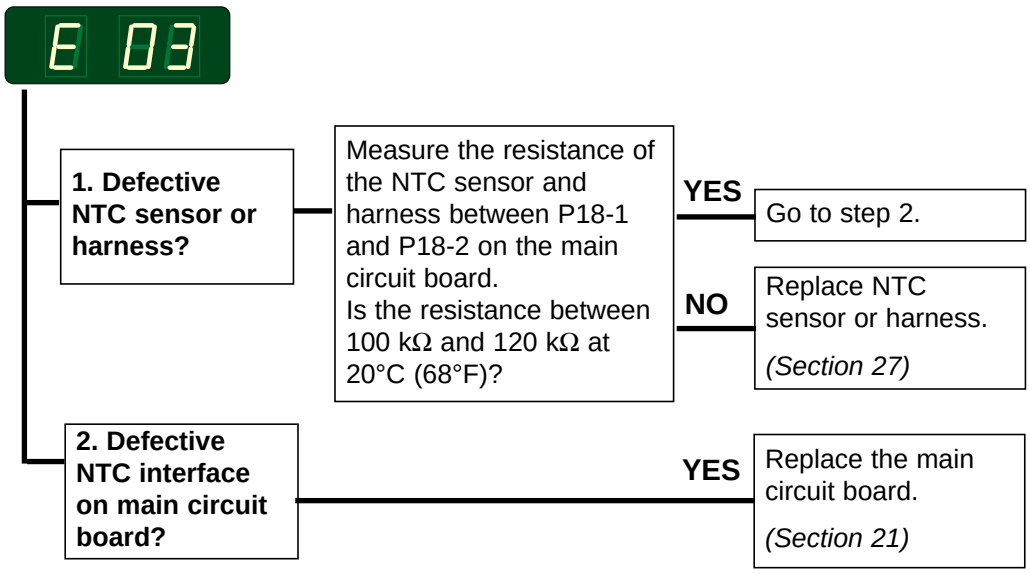
Error description

This error code indicates that the inlet air thermistor, connected to P18-1 and P18-2 on the main circuit board, or the harness from the main circuit board to the thermistor, has short circuited.

A defective detection circuit in the main circuit board can also cause this error.

The dryer stops operating.

Error analysis



E 04 - Outlet air - Sensor has short-circuited

Error description

This error code indicates that the outlet air thermistor, connected to P18-3 and P18-4 of the main circuit board, or the harness from the board to the thermistor, has short circuited.
A defective main circuit board can also cause this error.
The dryer stops operating.

Error analysis

1. Defective NTC sensor or harness?

Measure the resistance of the NTC sensor and harness between P18-3 and P18-4 on main citcuit board.
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES → Go to step 2.

NO → Replace NTC sensor or harness. *(Section 27)*

2. Defective NTC interface on main circuit board?

YES → Replace the main circuit board. *(Section 21)*

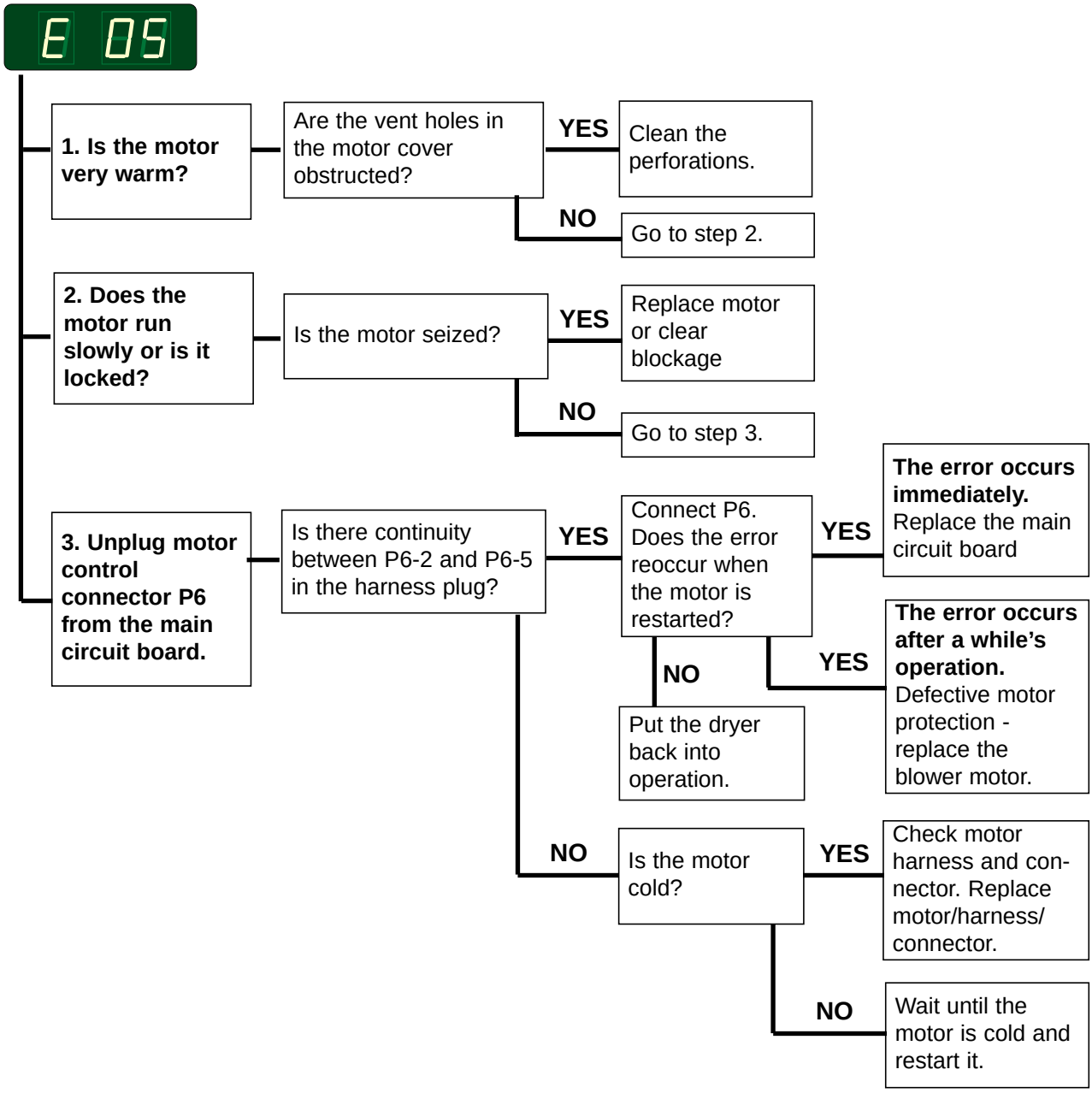
E 05 - Blower motor - Overheating protection (motor 1)

Error description

The thermal protection switch inside the blower motor is connected between P6-2 and P6-5 of the main circuit board.
This error indicates that the thermal protection switch, or the harness between the board and the switch, has opened.
A defective main circuit board can also cause this error.
The dryer stops operating.

The error is only detected when the door is closed.

Error analysis



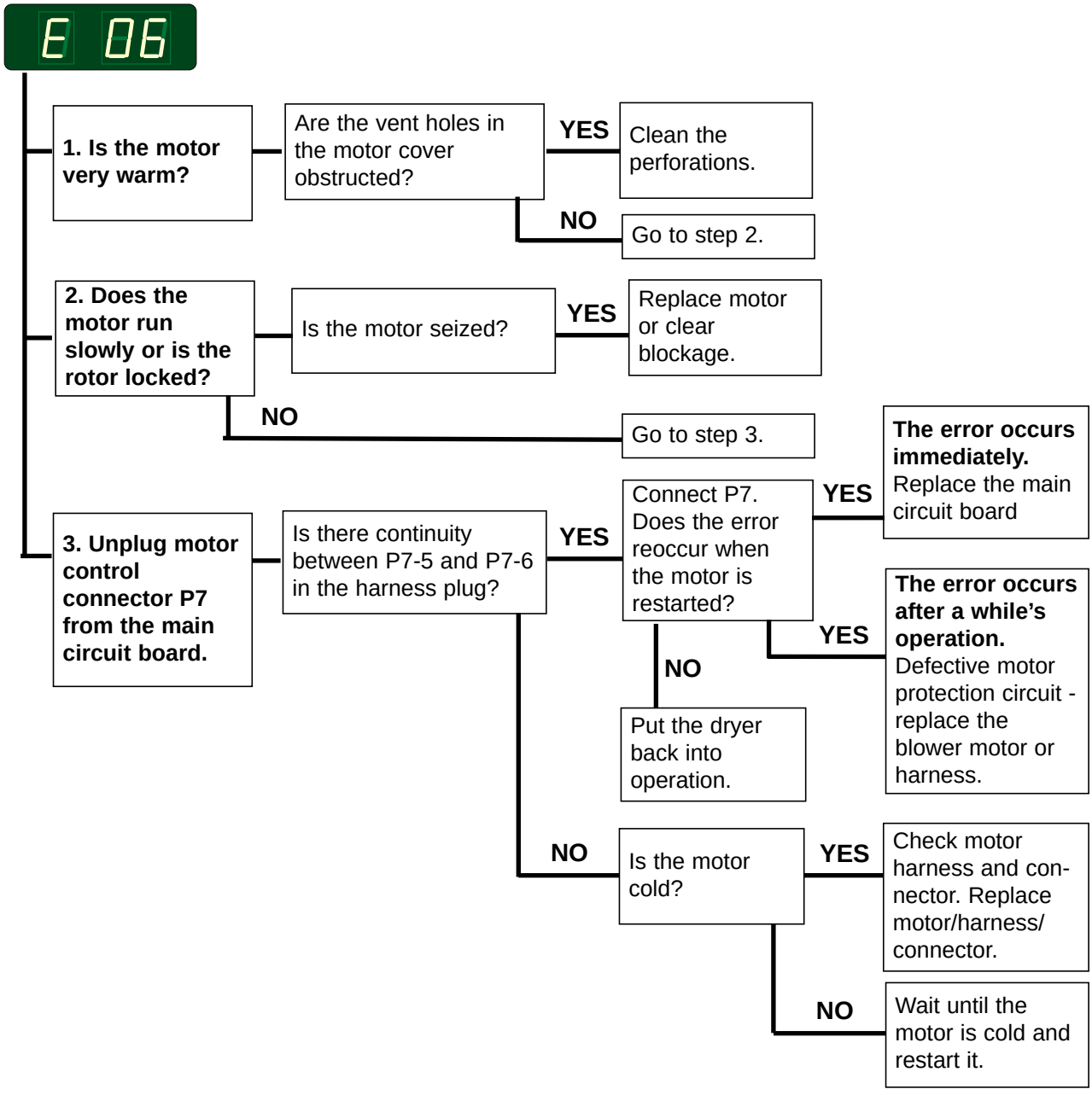
E 06 - Drum motor - Overheating protection (motor 2)

Error description

The thermal protection switch inside the drum motor is connected between P7-5 and P7-6 of the main circuit board.
This error indicates that the thermal protection switch, or the harness between the board and the switch, has opened.
A defective main circuit board can also cause this error.
The dryer stops operating.

The error is only detected when the door is closed.

Error analysis



E 06 - Drum- and blower motor - Overheating protection

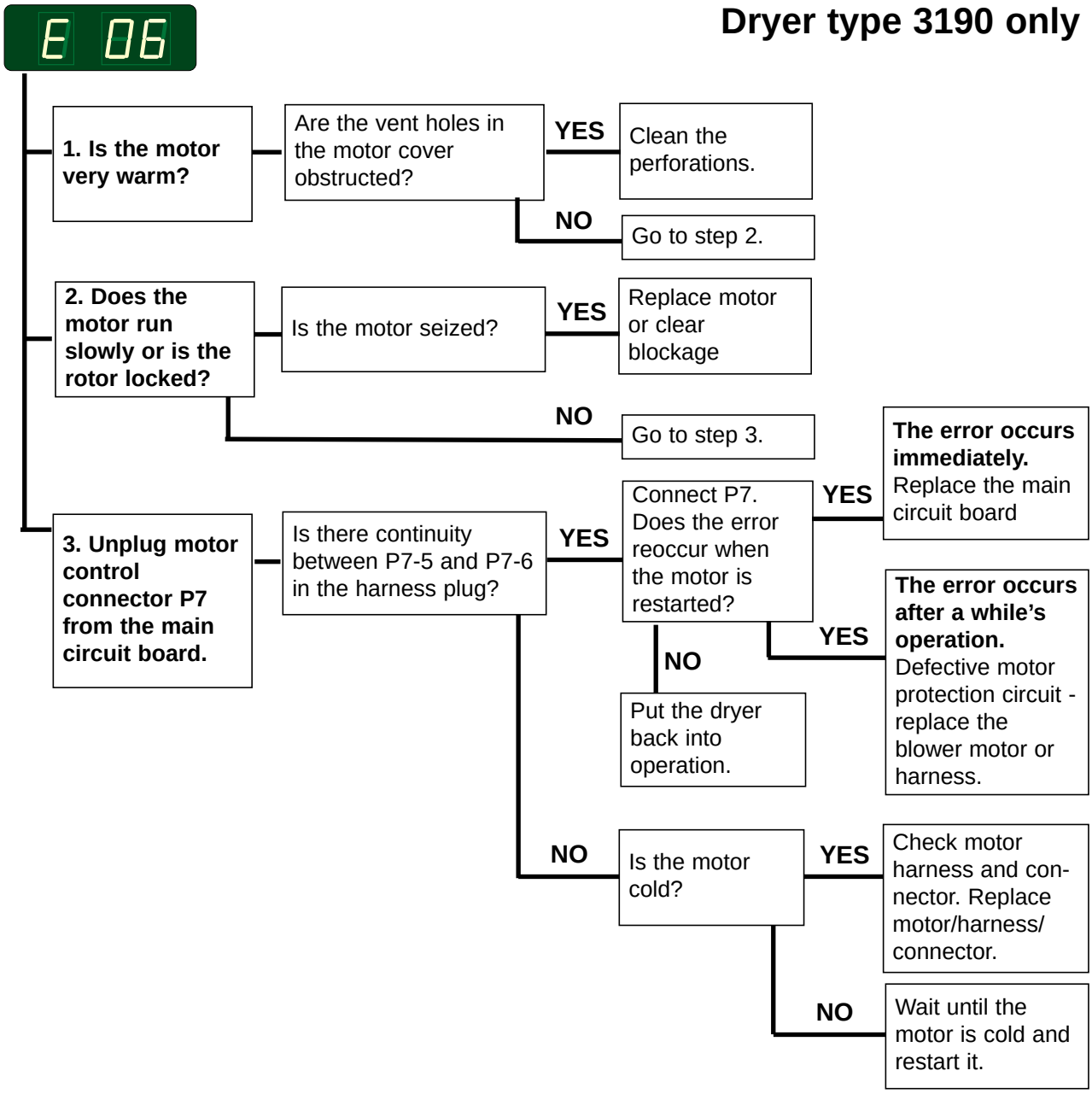
Error description

The thermal protection switch inside the drum- and blower motor is connected between P7-5 and P7-6 of the main circuit board.
This error indicates that the thermal protection switch, or the harness between the board and the switch, has opened.
A defective main circuit board can also cause this error.
The dryer stops operating.

The error is only detected when the door is closed.

Error analysis

Dryer type 3190 only



E 07 - Option, not in use

E 08 - Inlet air and outlet air - Overheating thermostat

Error description

Two normally-closed, manual-reset high limit thermostats, one measuring the inlet air temperature, and one measuring the outlet air temperature, are connected in series between P4-6 and P4-10 of the main circuit board.
This error indicates that one of the two thermostats, or the connecting harness has opened.
A defective main circuit board can also cause this error.
The dryer stops operating.

The error is only detected when the door is closed.

Error analysis

For dryer type 3190 see pages regarding this

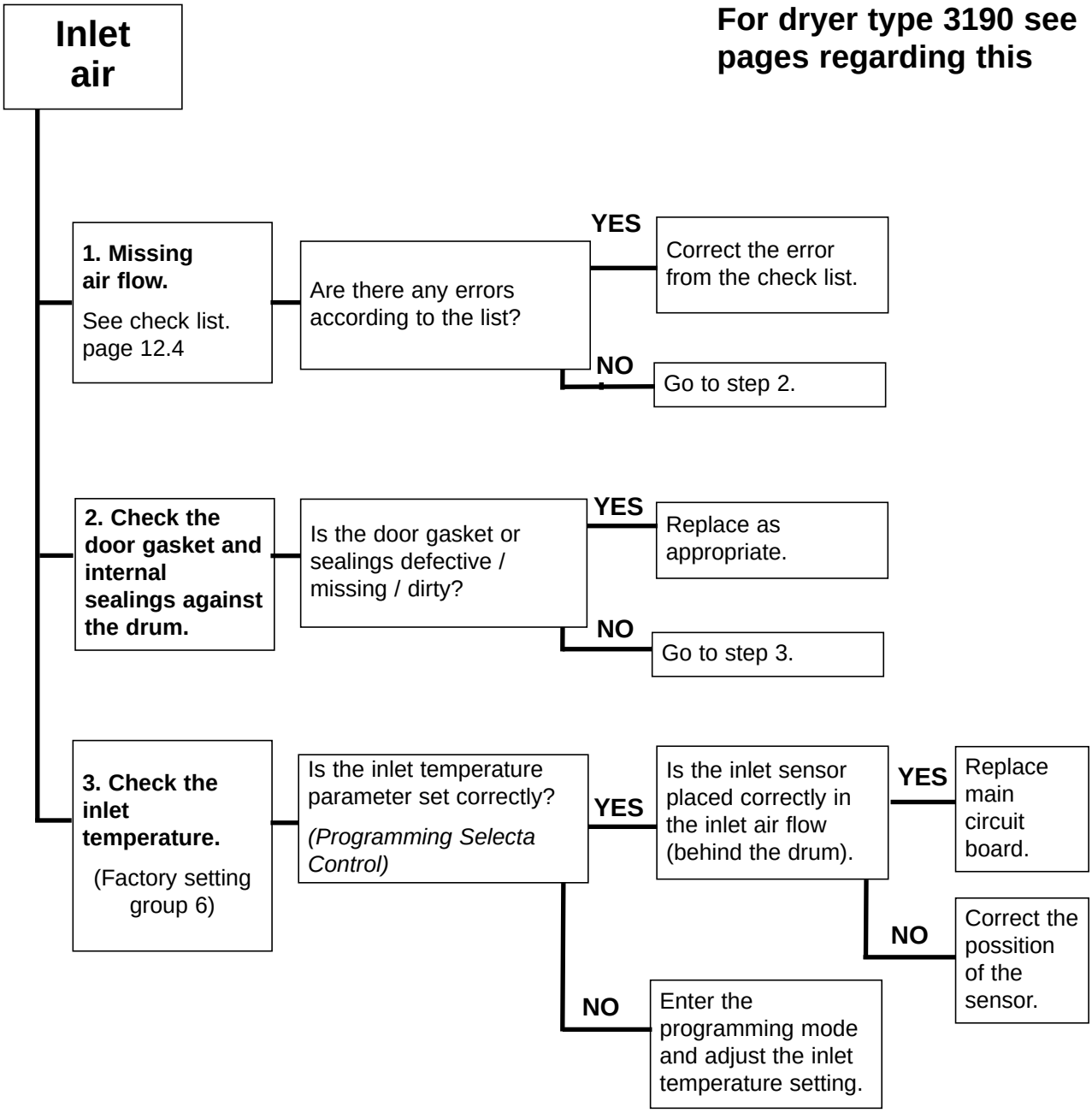
1. Has fuse F3 blown?
- **YES** → Replace the fuse and restart the dryer.
- **NO** → Go to step 2.

2. Disconnect P4 from the main circuit board. Check for continuity between pin 6 and pin 10. Is the circuit closed?
- **YES** → Replace main circuit board.
- **NO** → Go to step 3.

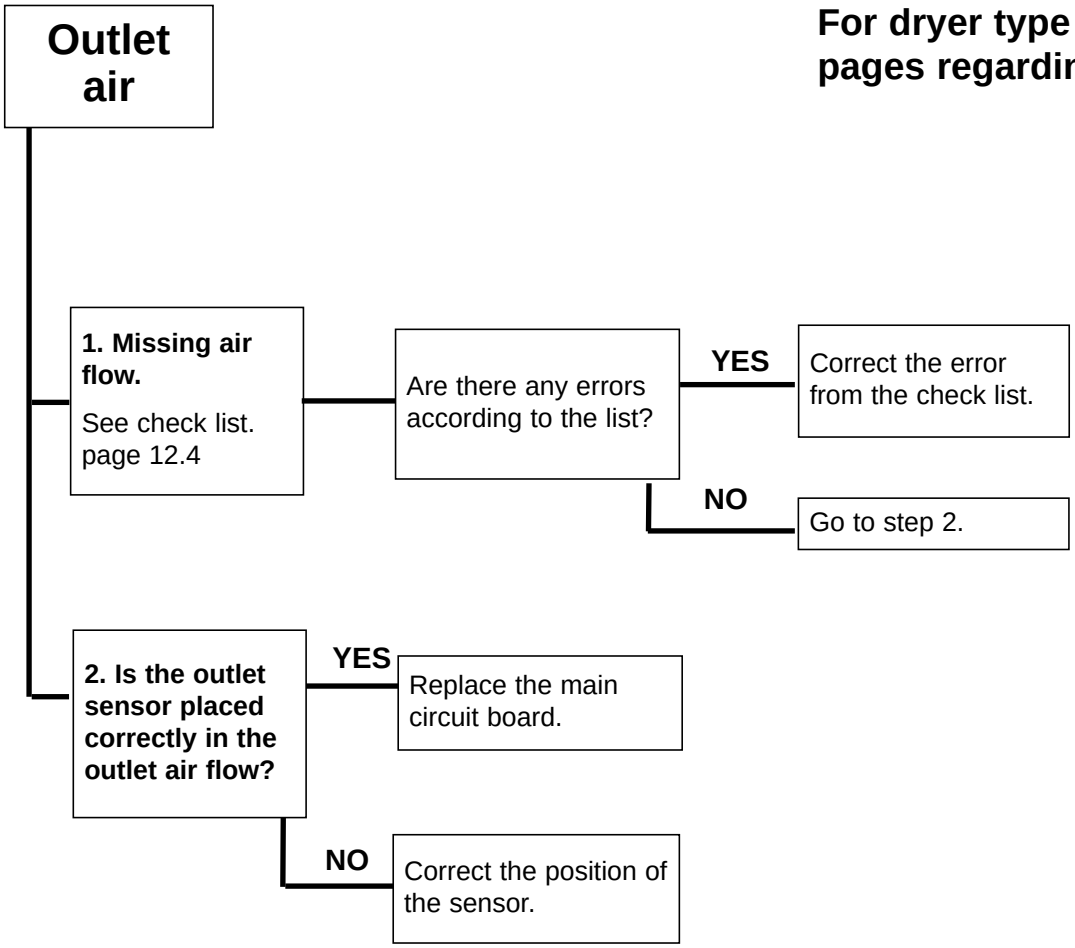
3. Has the high-limit protection thermostat near the heating unit tripped?
- **YES** → See **Inlet air** next pages.
- **NO** → Go to step 4.

4. Has the high-limit protection thermostat near the blower tripped?
- **YES** → See **Outlet air** next pages.
- **NO** → Check for bad connections in thermostat(s) or harness and replace as appropriate.

E 08 - Inlet air - Overheating thermostat



E 08 - Outlet air - Overheating thermostat



E 08 - Inlet air and outlet air - Overheating thermostat

Error description

One (gas heated) or two (electric heated) normally-closed, manual-reset high limit thermostats are measuring the inlet air temperature, and one measuring the outlet air temperature, are connected in series between P6-1 and P6-2 of the main circuit board. This error indicates that one of the thermostats, or the connecting harness has opened. A defective main circuit board can also cause this error.

The error is only detected when the door is closed.

The dryer stops operating and the cool down program starts.

Software ver. 3.20: The dryer stops operating.

Error analysis

For dryer type 3190 see pages regarding this

1. Has fuse F3 blown?

- **YES** → Replace the fuse and restart the dryer.
- **NO** → Go to step 2.

2. Disconnect P6 from the main circuit board. Check for continuity between pin 1 and pin 2. Is the circuit closed?

- **YES** → Replace main circuit board.
- **NO** → Go to step 3.

3. Has the above high-limit protection thermostat(s) near the heating unit tripped?

F6/F9 electric heated F6 gasheated.

- **YES** → See **Inlet air** next pages.
- **NO** → Go to step 4.

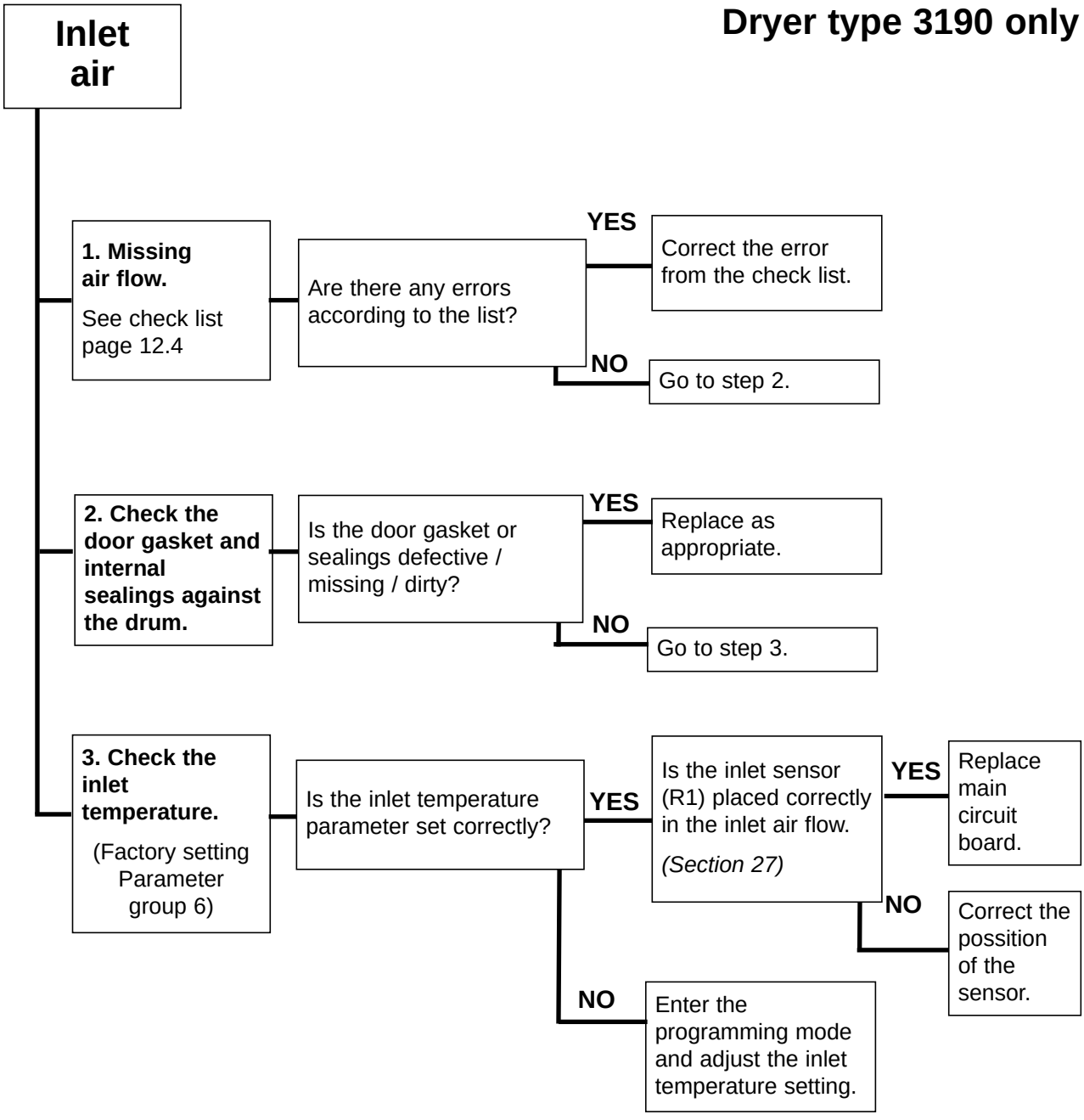
4. Has the behind high-limit protection thermostat near the blower tripped?

F5 gas- and electric heated.

- **YES** → See **Outlet air** next pages.
- **NO** → Check for bad connections in thermostat(s) or harness and replace as appropriate.

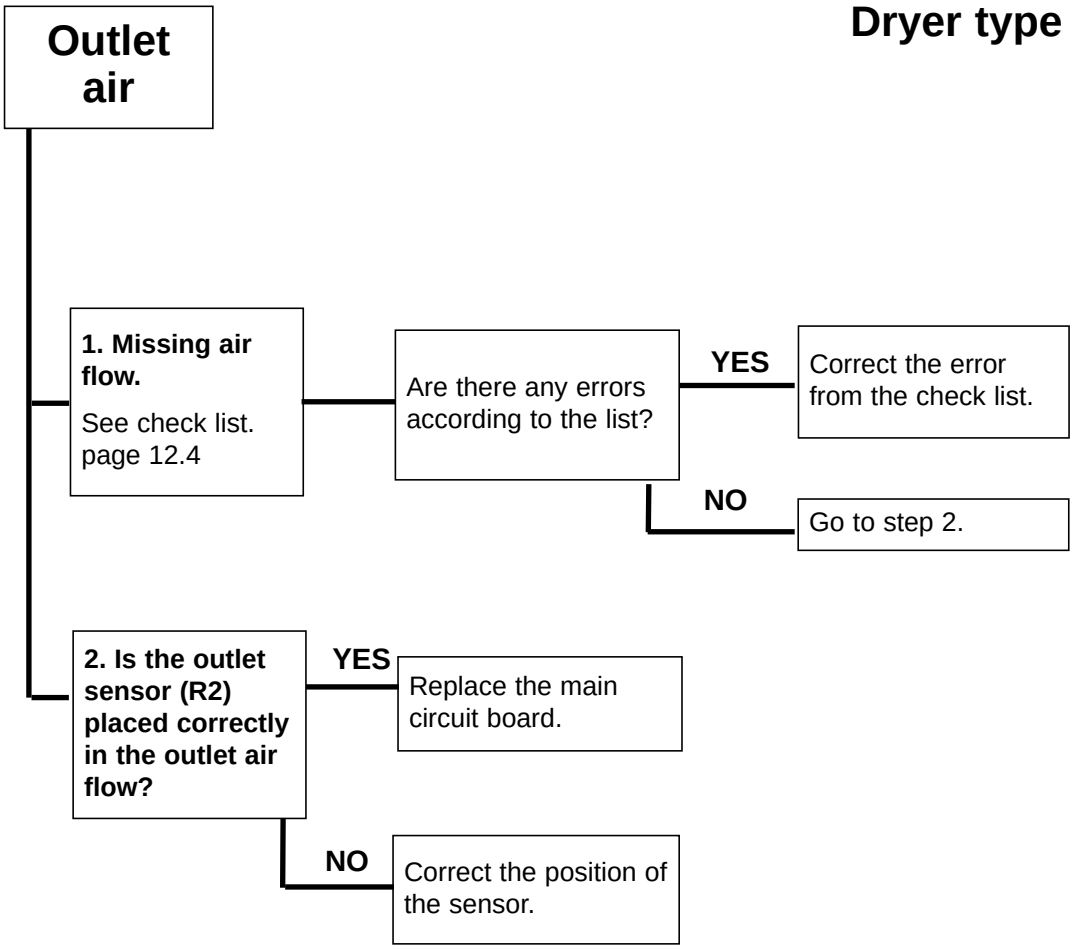
E 08 - Inlet air - Overheating thermostat

Dryer type 3190 only



E 08 - Outlet air - Overheating thermostat

Dryer type 3190 only



E 09 - Lint drawer

Error description

The error code is registred in the error log when the dryer has been operating for more than 80 hours. The filter indicator is on after 40 hours of operation.

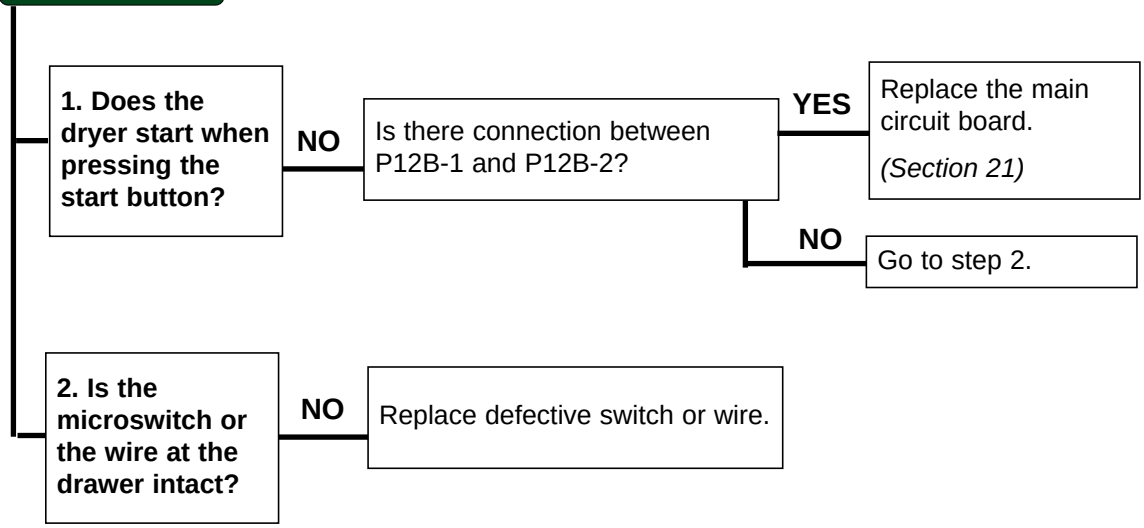
The error code is not displayed.

Resetting is done by closing the lint drawer and pressing the start button twice.

Software version 3.20.
The error code is displayed: If the dryer is started with the lint drawer open or if the dryer has been operating for more than 40 hours without the lint drawer being emptied.

Error analysis

Dryer type 3190 only



E 10 - Programming errors - (Settings)

Error description

This error occurs when the parameter set-up is inconsistent.

Note! When resetting the circuit board the user adjusted programs disappear and need reprogramming.

The dryer stops operating.

Error analysis

1. Enter the service program. Set parameter 4.06 to "1" to restore all factory settings. Exit programming mode and attempt to operate the dryer.

Does the E10 return?

YES → Replace the main circuit board

NO → Re-enter user-desired parameter settings (time per push/coin, for example). These are erased when factory defaults are restored.

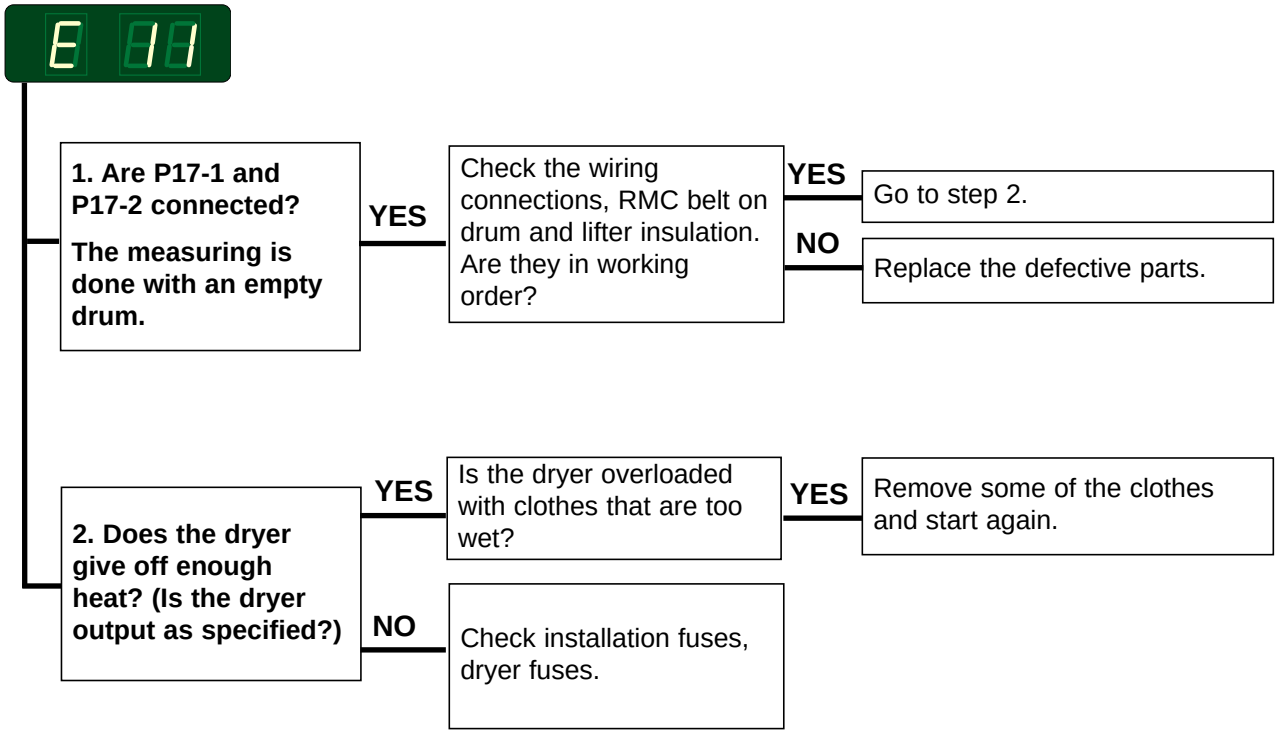
E 11 - Drying error with RMC

Error description

Error code E11 occurs if the RMC system does not register that the clothes are dry within 90 minutes (factory setting).

The dryer stops automatically when the clothes have the chosen residual moisture.

Error analysis



Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

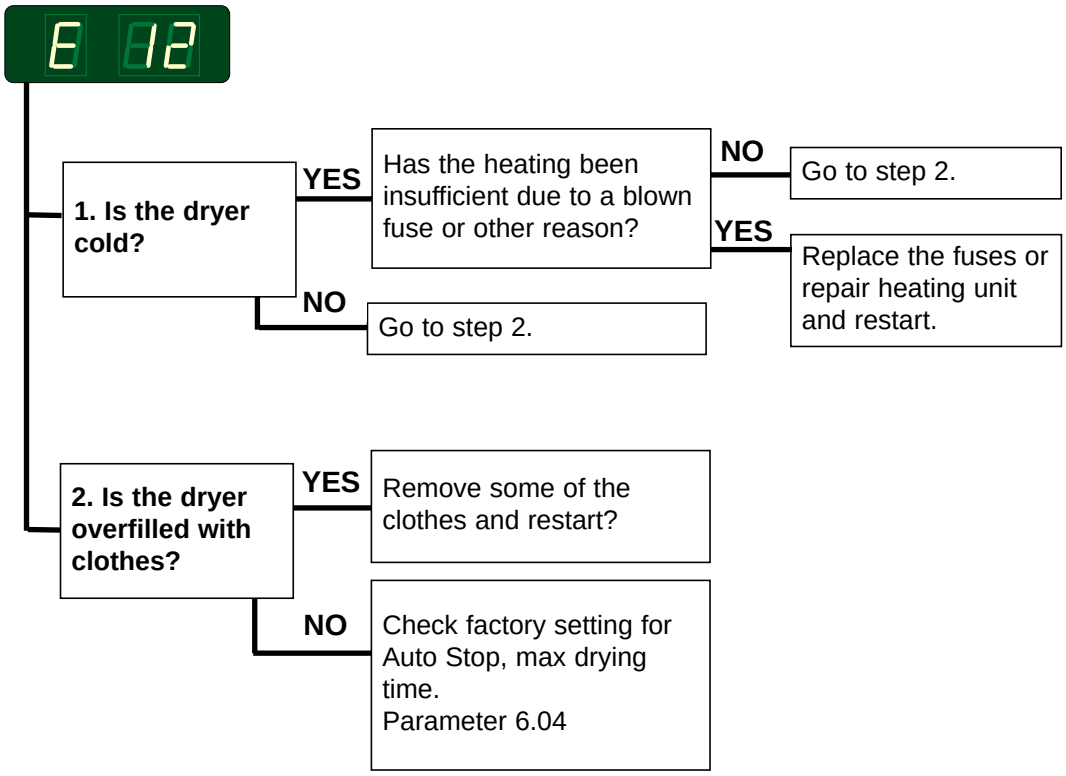
Software version 3.20: Resetting by pushing the start button twice.

E 12 - Drying error with Auto Stop system

Error description

Error code E12 occurs if the Auto Stop system does not register that the clothes are dry within 90 minutes (factory setting).

Error analysis



Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 13 - Drying error, dryer connected to a payment system

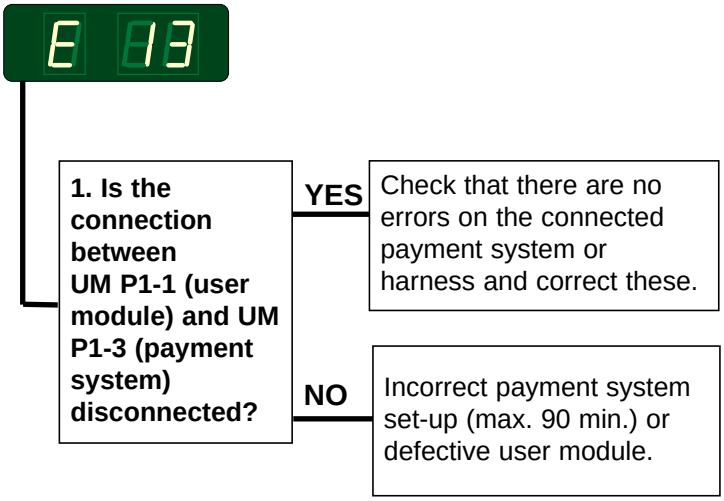
Error description

Error code E13 occurs with Payment systems where the customer or system has requested a longer drying time than the allowed 90 minutes (factory setting on the dryer).

Error code is not displayed but is registered in the error log.

Software version 3.20: Error code is displayed.

Error analysis



Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 14 - Gas error

Error description

When the ignition control fails to detect a flame, a signal is sent to the main circuit board, and error code E14 is displayed.

The metal probe of the flame sensor generates an electrical current when exposed to the burner's flame.
This signal is detected by the ignition control module which, in turn, cuts off the gas valve immediately if the sensor does not indicate flame within 5 sec.

The integrity of the sensor's electrical connection is, therfore, critical to proper operation of this system.

Displaying error code E14

USA and Japan: The error code is not displayed until the 3rd unsuccessful ignition attempt.

Europe: The error code is displayed at the 1st unsuccessful ignition attempt.

Error analysis

See next page.

Resetting

NOTE! When resetting the system the dryer **must** operate on a program with heat and when the heat indicator is on.

Resetting is done by pushing the gas reset button on the circuit board.

Japan only: By opening and closing the door (coin operated dryers only).

E 14 - Gas error

Error analysis

1. Is there a short-lived flame at the ignition attempt?

YES → Is the flame sensor placed in the flame / is the sensor's electrical connection okay?

YES → Replace the ignition control.

NO → Adjust / clean the electrode / connections.

NO → Go to step 2.

2. Is an ignition spark present?

YES → Go to step 3.

NO → Is the ignition electrode placed correctly / is the connection okay? *(Section 40)*

YES → Go to step 3.

NO → Adjust / clean / replace the electrode.

3. Is the gas supply/nozzle pressure okay?

YES → Replace the ignition control or gas valve.

NO → Ventilate the gas system / contact gas supplier.

4. Is the reducing plate mounted?

(Section 47)

NO → Mount the plate.

E 15 - Vacuum switch

Error description

The vacuum switch does not shut within 5 seconds after the fan has started.

Error analysis

1. Does the vacuum shutter plate close against the body of the dryer within 5 seconds after the dryer is started?

YES → Is the electric switch activated when the shutter plate closes?

- **YES** → Go to step 2.
- **NO** → Adjust / replace the switch or the shutter plate.

NO → Go to step 3.

2. Manually close the vacuum shutter plate. Disconnect P16 from the main circuit board and check for continuity between P16.1 and P16.2.

YES → Is the circuit closed?

- **YES** → Replace main circuit board.
- **NO** → Go to step 3.

3. Does the blower motor rotate in the correct direction?

(Section 11)

- **YES** → Go to step 4.
- **NO** → Check the motor's connection and phase order.

4. Is the air flow obstructed?

- **NO** → See check list and correct airflow problem as appropriate.

Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 16 - Vacuum switch does not open

Error description

The error occurs if the vacuum switch is already closed when an attempt to start the dryer is made.

Error analysis

1. Can the vacuum shutter plate move freely?

YES → Go to step 2.

NO → Repair shutter plate mechanism.

2 Disconnect one wire from the vacuum switch. Check continuity of the switch. Does it open when the shutter plate moves away from the dryer cabinet?

YES → Go to step 3.

NO → Replace or adjust vacuum switch, as necessary.

3. Disconnect P16 from the main circuit board. Check continuity between P16.1 and P16.2. Is the circuit closed?

YES → Replace vacuum switch harness.

NO → Replace main circuit board

Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 17 - Input sensor disconnected

Error description

This error is displayed when the inlet NTC sensor is disconnected or indicates less than 30°C (86°F) after 2 min. of dryer operation.
However, if the sensor is disconnected during operation the error is displayed immediately.

Error analysis

1. Defective NTC sensor/harness?

Measure the resistance on the NTC sensor between P18-1 and P18-2 on main circuit board.
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES → Go to step 3.

NO → Replace NTC sensor or harness. *(Section 27)*

Electric heated dryers only

2. Has the heating been insufficient due to blown fuse or other reasons?

YES → Replace fuse or repair heating unit.

NO → Go to step 3.

3. Defective NTC interface on main circuit board.

YES → Replace the main circuit board.

Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 18 - Output sensor disconnected

Error description

This error is displayed when the outlet NTC sensor is disconnected or indicates less than 12°C (54°F) after 2 min. of dryer operation.
However, if the sensor is disconnected during operation the error is displayed immediately.

Error analysis

1. Defective NTC sensor/harness?

Measure the resistance on the NTC sensor between P18-3 and P18-4 on main circuit board.
Is the resistance between 100 kΩ and 120 kΩ at 20°C (68°F)?

YES → Go to step 2.

NO → Replace NTC sensor or harness. *(Section 27)*

Electric heated dryers only

2. Has the heating been insufficient due to blown fuse or other reasons?

YES → Replace fuse or repair heating unit.

NO → Go to step 3.

3. Defective NTC interface on main circuit board. Replace board.

Steam heated dryers only

4. Does the installation have the requisite steam pressure?

Resetting

Resetting is done by opening/closeing the door to the dryer and pressing the start button

Software version 3.20: Resetting by pushing the start button twice.

E 19 - Option, not in use

E 20 - CMIS out of operation

Error description

This error is displayed if the dryer is put out of order in the CMIS program.

Error analysis

See separate manual.

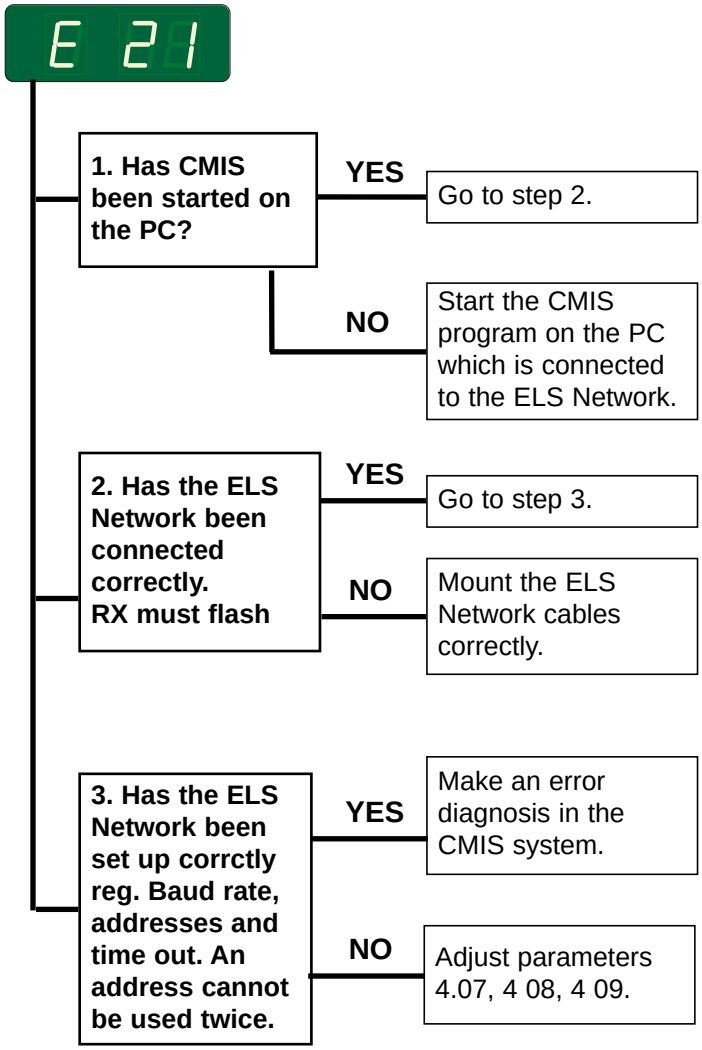
E 21 - CMIS, com board polling error (warning)

Error description

This error is displayed if the dryer is connected in a CMIS system and the PC does not communicate with the dryer (no polling) within 10 sec (time out factory setting). The error is displayed the 10 first times the dryer is started and after this it will not reappear.

Note! This is a warning and the dryer will operate even though the error has been activated

Error analysis



E 22 - LM10, com board polling error

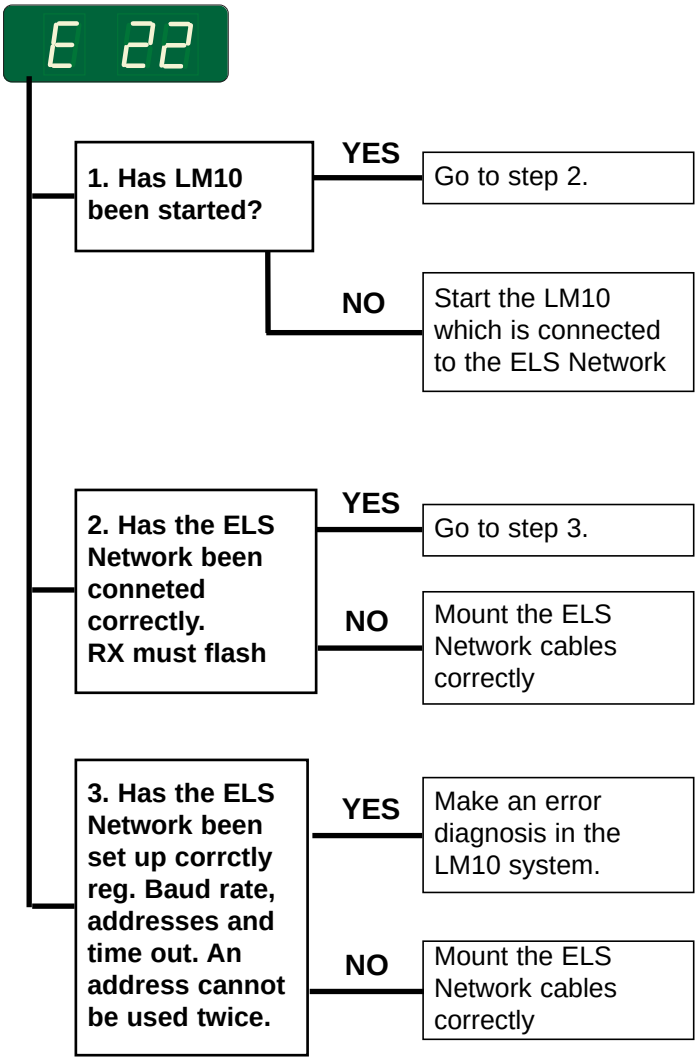
Error description

This error is displayed if the dryer is connected in a LM10 system and the PC does not communicate with the dryer (no polling) within 90 sec (time out factory setting).

The error can only be removed, if communiction is re-established.

Note! It is not possible to use the dryer, however, it can be done by means of the “free of charge key”.

Error analysis



E 99 - Communication error

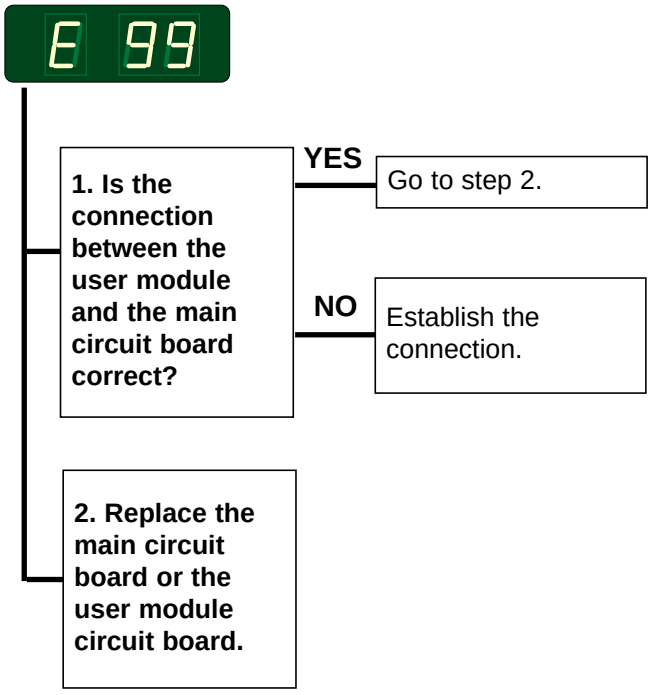
Error description

This error occurs when the user module circuit board does not communicate with the main circuit board via their serial interface.

This error is registered in the error log.

Software version 3.20: This error does not get registered in the error log.

Error analysis



Resetting

Resetting is done by either disconnecting the power or by entering the programming mode. How to enter the programming mode see section 3.