



SERVICE MANUAL

DISHWASHERS

FOR INTERNAL AND PARTNERS USE ONLY

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Consumer Service - EMEA
Quality & Continuous Improvement - Technical Support

Dishwashers with electronic control system

ALARM CODES



EN

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Introduction & Purpose

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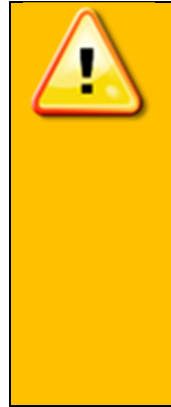
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Purpose:

Purpose of this document is to give a description of the error codes of the DIVA2 electronics of the EDW1xxx-2G and EDW1xxx-2G-ADO as well as the Global hydraulic electronics power board electronic family.

Abbreviations, Acronyms and Definitions

RTA	Remaining time adaptation
MCF	Machine Configuration File
NTC	Negative Temperature Coefficient resistor
PB100	New platform for dual BLDC machines (Global hydraulic)
DIVA2	Platform with single BLDC control in separate unit (MCB)
MCB	Motor Control Board (DIVA2)
ADO	Auto Door Opener



- **Electrical appliances must be serviced only by qualified Service Engineers.**
- **Always use proper safety equipment.**
- **Always remove the plug from the power socket before touching internal components.**

Document Revisions

Revision	Date	Description	Author
V0.0	05/2019	Document creation	Rui Almeida

Alarm Codes

Alarm management

Alarm codes are defined in families of alarms and current alarms, displayed as

iXY

- i = alarm indication
- X = family of the alarm
- Y = Current alarm

Caution:

Only the alarm family codes are displayed to the user in old production. Full alarm codes are shown to user now.

The complete alarm code will be stored among the three alarms that can be stored by the appliance.

A new alarm code is only stored if it differs from the last one stored.

The three most recent alarm codes can be displayed only in Service Mode or using the Sidekick tool.

Appliances without a display will show the alarms by a number of flashes of the cycle end LED, such as in "DIVA": i10=1 flash, i50=5 flashes, iB0=11 flashes.

Alarm Code Description

• i00 Code family: Low mains voltage

The electronic board makes sure the dishwasher operates within certain voltage limits. If during a cycle the voltage drops below the lowest limit, the electronic board suspends all loads and interrupts the cycle under way. The "i00" alarm is then triggered.

- The lowest main voltage threshold is 180 Volt.
- If the voltage goes back to over 186 Volt, the electronic board cancels the error status and the cycle resumes. The "i00" alarm is also deleted.
- If the mains voltage continues to exceed the maximum threshold, the electronic board does not do anything.

IMPORTANT: the "i00" alarm is not stored and cannot therefore be read in Service Mode.

• i10 Code - family : Water Tap Closed

i10 code: during static filling

This alarm code is used to display problems with the water inlet tap being closed at the beginning of the program. It is set up to detect problems during the static water filling. A drain phase is performed before the error is displayed to the user.

- Acoustic signal and visual alarm, depending on the appliance customization; the program can be restarted.
- The water level defined is not reached within the time limit set.
- The time limit set starts when the fill solenoid valve is opened.
- The time limit set is reset when the fill solenoid valve is closed.
- The water will first be drained before an error is displayed to the user.
- Time limit set: Normal 90 sec; Test cycle = 30 sec (times could differ as they are defined in the MCF)

Alarm Codes

i11 code: during dynamic filling

- Acoustic signal and visual alarm, depending on the appliance customization; the program can be restarted.
- The water level defined is not reached within the time limit set.
- The time limit set starts when the fill solenoid valve is opened.
- The time limit set is reset when the fill solenoid valve is closed.
- The water will first be drained before an error is displayed to the user.
- Time limit set: Normal 120 sec; Test cycle = 60 sec (times could differ as they are defined in the washing cycle specifications)

i20 Code - family : **Draining Problem**

i20 code : Fails to drain

- Acoustic signal and visual alarm, depending on the appliance customization; the program can be restarted.
- The level switch restore point is not reached within the time limit set.
- The time limit set starts when the drain pump is activated.
- The time limit set is reset when the drain pump stops normally.
- Time limit set: Normal 90 sec; Test cycle = 60 sec

i30 Codes - family : **Aqua Control**

i30 code: aqua control error detected

- The error is set if there is water detected in the bottom tray, or the drain pump is disconnected or the winding in the pump is open circuit.
- Acoustic signal and visual alarm, depending on the appliance customization; the program is restarted automatically in this alarm condition.
- If this alarm condition occurs, the drain pump is activated.
- Time limit set: 10 sec.

i40 Codes - family : **Analogue pressure sensor problem**

i41 code: No pressure sensor signal

- The error is set if the sensor signal is lost for more than 2,5s.
- Abort program and display error.

i42 code: Calibration invalid, pressure signal too noisy

- The warning is set if the sensor signal is not stable enough for calibration or if the signal is out of range for an empty sump.
- The signal noise level for calibration is defined in MCF.

i43 code: Pressure sensor signal too high

- The error is set if the sensor signal is out of range, signal high for more than 2,5 s.
- The signal range is defined in MCF.
- Abort program and display error.

i44 code: Pressure sensor signal too low

- The error is set if the sensor signal is out of range, signal low for more than 2,5 s.
- The signal range is defined in MCF.
- Abort program and display error.

i45 code: Calibration invalid, pressure signal too low

- The warning is set if the sensor signal is out of range for an empty dw, signal low.
- The signal range for calibration is defined in MCF.

Alarm Codes

- **i46** code: Calibration invalid, pressure signal too high
 - The warning is set if the sensor signal is out of range for an empty dw, signal high.
 - The signal range for calibration is defined in MCF.
- **i50 Code - family : Washing Motor Problem**
 - **i51** code: Asynchronous motor problem
 - Acoustic signal and visual alarm, depending on the appliance customisation; the programme is suspended.
 - The washing pump runs without being activated by the software, the cause is a short-circuit.
 - The heating element is not activated.
 - If the alarm occurs, the fill solenoid valve is activated up to the level pressure switch tripping point, then the cycle is suspended.
 - Time limit set: 8 sec.
 - **i52** code: WP BLDC motor – abnormal high current detected
 - Hardware supervising – will be set when abnormal high current of about 1.3 amps are detected.
 - **i53** code: WP BLDC motor – over current
 - Alarm will be set when the current is detected higher than the max allowed current of 1.0 A
 - **i54** code: WP will not follow / rotor is locked
 - Alarm will be set when the motor locked condition is detected during start of motor and also during the running motor; reasons can be dirt, too high load, mechanical problems on impeller.
- **i55** code: DCLink undervoltage
 - Alarm is set when the Vbat voltage on motorcontrolboard will be detected lower than 225 VDC and will be cleared if voltage is greater than 260 V DC
- **i56** code: DCLink overvoltage
 - Alarm is set when the DCLink voltage on power controlboard is greater than 392 VDC and will be cleared when dropping under 390 VDC.
- **i57** code: MCB Vbat voltage plausability / ADC Fault
 - This code has different meaning depending on platform.
 - DIVA 2 MCB Vbat voltage plausability
 - Alarm will be set if Vbat is detected higher than 440V or lower than 215V. rem.: with Vbat voltage the calculation of the motor resistance is executed.
 - PB100 Drain pump ADC fault
 - Alarm will be set if the difference between current samples are less than 0.03363 [A] for 0.5 s.
- **i58** code: WP motor plug connection
 - Alarm will be set if motor connection is detected wrong based on motor currents measurements.
 - If currents are inside the thresholds (+/- 21 mA); debounce is set to 1.5 seconds.
 - This code is also possible if a phase is detached or if a winding inside the motor is broken.

Alarm Codes

- **i59** code: WP current read ADC - fault
 - Alarm is set if there is detected a fault in the current reading chain on MCB; incl. ADC conversion.
 - It's verified by the current sum of the three motor phases which should be nearly zero; if the sum is higher than 40mA for longer than 300 ms than the assumption is that something is wrong.
- **i5A** code: Over temp or Overload

This code has different meaning depending on platform.

 - DIVA2 specific
 - Internal warning is set when the internal calculations based on the measured currents lets expect that the temperature are out of standard limits (200°C – with 40°C margin due to measurement and calculation tolerances).
 - The threshold value for the warning is 200 – 70 (max. ambient temperature inside the dishwasher) - 10 (activation margin) = 120°C → warning level is given.
 - If the warning is set, than the motor is stopped and a new winding resistance calculation is performed. In this way the real temperature can be calculated – temp. calculation is based on ref. resistance of motor windings at 22°C.

- the alarm is set if the value is greater than the threshold 178°C (200 – 22).

rem.: the alarm is reset by MCB after verification procedure with baseboard.

 - PB100 specific
 - Alarm is set if load is 0.68 A for 10 s for the wash pump or 0.55 A for 10 s for the drain pump.
- **i5B (i5H)** code: WP/DP current plausibility
 - Alarm is set if currents are not changing within 2.5 s with less than 0.0275 A for WP.
 - Alarm is set if currents are not changing within 0.5 s with less than 0.03363 A for DP.
 - “B” may be displayed as “H” in the 7-segment display
- **i5C** code: DP BLDC motor – abnormal high current detected
 - Hardware supervising – will be set when abnormal high current of about 0.7 amps are detected.
- **i5D** code: DP BLDC motor – high current SW
 - Alarm will be set when the current is detected higher than the max allowed current of 0.550 A
- **i5E** code: DP will not follow / rotor is locked
 - Alarm will be set when the motor blocked condition is detected during start of motor and also during the running motor; reasons can be dirt, too high load, mechanical problems on impeller.
- **i5F** code: DP motor plug connection
 - Alarm will be set if motor connection is detected wrong based on motor currents measurements. If currents are inside the thresholds (+/- 22 mA); debounce is set to 1.6 seconds
 - This code is also possible if a phase is detached or if a winding inside the motor is broken.

Alarm Codes

- **i60 Code - family : Heating Element Problem**

This family has different meaning depending on PB and PB firmware releases.

Past production specific

This range includes the following PBs and PB firmware releases:

- Diva & Diva2
- PB150 with P150R100
- PB200
- PB300

- **i60 code: heating**

- The alarm is stored and displayed only in service mode; the washing programme continues without the activation of the heating element.
- During the heating phases, the rise in temperature is monitored with an update every 3 min.
- Within these 3 minutes, the temperature must rise by at least 1 °C.

- **i61 code: heating over temperature**

- If water temperature is detected higher than 78°C, cycle is stopped.
(rem.: origin of this alarm is problem on visi plastic doors)

- **i62 code: relay broken**

- Alarm is stored and displayed only in service mode; the washing programme continues without the activation of the heating element.
- One or both relays are broken and power board needs to be replaced.

Current production specific

This range includes the following PBs and PB firmware releases:

- PB100
- PB101
- PB150 with P150R110 or later

A heating alarm is NOT always caused by failure of heater. Service technicians should following the following sequence to avoid unnecessarily heater exchange.

Suggestion of general fault diagnosis sequence:

- 1) Inspect for loose connectors or damage of isolation harness and connector on PB and heater for loose connectors or damage of isolation.
- 2) Check the heater element by unplugging heater connector on PB and measuring heater resistance to be valid. Exchange heater only if not.
- 3) Check current leakage by plugging in heater connector on PB and measuring resistance between one heater phase and protective earth to be > 500kOhm. Exchange heater only if not.
- 4) Check the relays on the power board by measuring resistance between one heater phase and the two mains power phases to be >10kOhm. If not broken relay on power board, replace heater.
- 5) Erase alarms using LEDTest, run LineTest. If the same alarm appear again, exchange power board.

- **i63 code: heating system error 1**

- The alarm is stored and displayed only in service mode; the washing program continues running
- The causes in the order of probability:
 - 1) Broken heater
 - 2) Damaged harness or connectors

Alarm Codes

- **i64** code: heater restorable
 - The alarm is stored and displayed only in service mode; the washing program continues running
 - The alarm is caused by over temperature of heater
 - The is turned off for at least 1 minute and then restored within 10 minutes as the thermocouple cools off
 - The heater needs de-scaling
 - Do not exchange heater
- **i65** code: heater broken
 - The alarm is stored and displayed only in service mode; the washing program continues running without heating
- **i66** code: heating system error 2
 - The alarm is stored and displayed only in service mode; the washing program continues running
 - The causes in the order of probability:
 - 3) Welded/stuck neutral relay on power board
 - 4) Damaged harness or connectors
- **i67** code: heating system error 3
 - The alarm is stored and displayed only in service mode; the washing program continues running
 - The causes in the order of probability:
 - 5) Welded/stuck line relay on power board
 - 6) Damaged harness or connectors
- **i69** code: water temperature too high
 - The alarm is caused by the water temperature is detected > 78°C
 - The wash program is terminated
 - Do not exchange heater or power board
- **i6A** code: NTC on heater element value out of range
 - The alarm is stored and displayed only in service mode; the washing program continues running
 - The NTC sensor on heater element is broken
- **i6B(i6H)** code: heat timeout reaches
 - The alarm is stored and displayed only in service mode; the washing program continues running
 - Heat element will be turned off and restarted in the next heating phase
 - The heater needs de-scaling
 - Do not exchange heater
- **i6C** code: Heat exchange efficiency low
 - The efficiency of heat exchange between heater and water is low
 - The washing program continues running
 - The alarm is stored. Depends on the personalisation implementation, it is displayed only in service mode, report to user as a machine care hard alert or displayed at the end of program as an acknowledgeable alarm.
 - The heater needs de-scaling
 - Do not exchange heater
 -
- **i70 Code - family : Thermistor problem**
 - **i70** code: NTC sensor value out of range
 - The alarm is stored and displayed only in service mode; the washing program continues without the activation of the heating element.
 - Monitoring starts immediately after the program has been started.
 - The voltage measured at the ends of the NTC must be between 0.04 and 4.7 V.
 - Time limit set: 10 sec.

Alarm Codes

- **i80 Code - family : Auto Door Opener**

- **i80 code: Auto door opener malfunction**

- The error is set if the auto door opener sense signal indicates that it has left the normal position unintentionally while running a cycle, or
- If the auto door opener times out without reaching starting position three times while retracting.
- Timeouts are defined in MCF
- Abort program and display error

- **i81 code: Auto door opener warning**

- The warning is set if the auto door opener sense signal indicates that it has left the normal position unintentionally, or
- If the auto door opener times out while opening the door and does not leave the starting position, or
- If the auto door opener reverses direction while opening the door and reach the inside position before expected (door blocked), or
- If the auto door opener times out while retracting.
- Timeouts are defined in MCF
- The warning is not displayed, the cycle continues

- **i82 code: Water Reuse valve warning**

- This warning is set if the Water Reuse valve is detected not opened during the water tank conditioning, or
- If the Water Reuse valve is detected not closed in the beginning of the cold rinse phase in every Elabel or intensive Care cycle.
- The warning is not displayed, the cycle continues.

- **i90 Code - family : Configuration Problem**

- **i91 code: checksum MCF**

- No washing program start is possible, can be resolved by turning the appliance off and back on again.
- The display board does not satisfy the identification requests of the main board.

- **i92 code: checksum CCF**

- The alarm is signalled if the configuration control of the washing cycles provided erroneous results.

- **i93 code: checksum UIDATA**

- The alarm is signalled if the configuration control of the UI configuration data provided erroneous results.

- **i94 code: UIDATA version mismatch**

- The alarm is signalled if the UIDATA provided in configuration file mismatches the attached UI board.

- **i95 code: UIDATA checksum mismatch**

- The alarm is signalled if the UIDATA checksum type provided in configuration file mismatches with the attached UI board.

Alarm Codes

- **iB0 (iH0) Code - family : Sensor Problem**

Note: “B” may be displayed as “H” in the 7-segment display

This family has different meaning depending on PB and PB firmware releases.

Past production specific

This range includes the following PBs and PB firmware releases:

- Diva & Diva2
 - PB100 before P100R230 (Excluding P100R230)
 - PB200
 - PB300
- **iB0 (iH0) code: turbidity sensor**
 - The alarm is set if the calibration procedure is not completed after 15 sec.
 - The washing program will run as though the dirt value to be considered is high.

Current production specific

This range includes the following PBs and PB firmware releases:

- PB100 after P100R230 (including P100R230)
 - PB101
 - PB150
- **iB0 (iH0) code: turbidity sensor unknown calibration error**
 - The alarm is set if an unknown calibration error has occurred – the cause of the error is not covered by iB2, iB3 and iB4.
 - The washing program will run as though the dirt value to be considered is high.

- **iB1 (iH1) code: turbidity sensor error**
 - The alarm is set if lose contact with the turbidity sensor, could be because the connection to the sensor is lost.
 - The washing program will run as though the dirt value to be considered is high.
- **iB2 (iH2) code: turbidity sensor not enough power calibration error**
 - The alarm is set if there is not enough power to drive it to its intended output value, could be because the sensor is too dirty.
 - The washing program will run as though the dirt value to be considered is high.
- **iB3 (iH3) code: turbidity sensor out of range calibration error**
 - The alarm is set if we get invalid sensor reading during the calibration, could be because the sensor is broken.
 - The washing program will run as though the dirt value to be considered is high.
- **iB4 (iH4) code: turbidity sensor too noisy calibration error**
 - The alarm is set if the turbidity readings are too noisy during calibration, could be because of dirt or air bubbles disturbing the turbidity sensor during calibration.
 - The washing program will run as though the dirt value to be considered is high.

Alarm Codes

• **iC0 Code - family : Communication Problem**

• **iC0** code: user interface communication

- The error signal is displayed if the communication system does not recognize any display board.

• **iC1** code: MACS bus communication

- After three attempts to establish communication, an error is signalled in the hardware control

• **iC2** Code: ADSI communication

- The washing programme is suspended but it can be restarted if the alarm conditions no longer apply

• **iC3** Code: Communication between boards

- The alarm is signaled if the communication between the power board and the motor control board does not start.
- Acoustic signal and visual alarm, depending on the appliance customization; the washing program is restarted automatically if the error conditions no longer apply.

• **iD0 Code - family : Tacho Problem**

• **iD0** code: no signal

- The alarm is stored and displayed only in service mode; there is a new control for each new phase.
- If the washing pump is activated but there is no tacho signal for 30 sec then the motor speed is set to full speed and the heating element is not activated.

• **iD1** code: no signal

- The alarm is stored and displayed only in service mode.
- If the washing pump is activated but there is no tacho signal for 5 sec then the heating element is temporarily deactivated. If after another 30 sec there is still no signal the appliance displays an error code iD0.

• **iE0 – family: flow controller problem**

• **iE0** code: flow control position (spray arm level)

- The alarm is stored and displayed only in service mode; the flow controller will try to recover for each new positioning request.
- The alarm is signalled if the desired position of the flow controller is not reached within a certain time:
 - If the flow controller is not moving at all or if the sensor is broken or shorted, the timeout is 12 seconds.
 - If the flow controller is indeed moving but cannot find the position, the overall timeout is up to about 110 seconds.
- If the alarm is signalled, then heating element is deactivated as long as the alarm is active.

• **iF0 Code - family : water level problem**

• **iF0** Code : overflowing detected

- The alarm is stored and displayed only in service mode; the program continues.
- The error situation is recognized when the total filling times exceed the limits.
- The times are accumulated at each subsequent filling and reset by the cycle package. The subsequent fillings are ignored before the time is reset.

Alarm Codes

- **iF1** code: high water level
- The alarm is stored and displayed only in service mode.
- The alarm condition is recognized if the safety water level is exceeded for more than 4 sec.
- A drain phase is activated until the water level drops below the safety level.
- The washing program continues only if this condition is achieved

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication current production	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
00	Zero cross or low voltage	stop	Nothing	Nothing	i00	User interface off & remaining time adaptation off	Means no fault
10	Water supply problem Fill_D – static fill level	ack	i10	i10	i10	Cycle pause and request to user to confirm to re-start	1 – Closed water tap 2 – Too low water pressure 3 – Hoses twisted or clamped 4 – Inlet filter of the supply hose dirty or clogged 5 – Water valve not opening 6 – Water or dirt in the level / pressure sensor
	Water supply problem Fill – re-fill level	ack	i11	i10	i11	Cycle pause and request to user to confirm to restart	
20	Draining problem	ack	i20	i20	i20	Cycle pause and request to user to confirm to re-start	1 – If new installation – possible cork on sink connection 2 – Outlet hoses twisted or clamped 3 – Drainage problem – drain installation not correct 4 – Drain pump impeller obstructed by object 5 – Drain pump inlet obstructed by object (clean sump) 6 – Drain pump defective or not connected (wiring problem) 7 – Water or dirt in the level/ pressure sensor 8 – Air trap Dirty
30	Water overflow, leakage Aqua Control	stop	i30	i30	i30	Cycle stop and continuous automatically after problem solved – rta off	This error is caused by water overflow or leakage, and some of the possible causes are listed below. Since water is present and in contact with almost all components of the dishware be aware that a leak may be located in any of those components in contact with water that make the boundary to the exterior of the washing zone (tub included). 1 – Water in bottom tray (the visible effect but not root cause) 2 – Drainage problem – drain installation (flap not working) water returning back. 3 – Leak from the interior lamp 4 – Leak from the door gasket 5 – Leak from the external nuts of Comfort lift 6 – Water or dirt in the level/ pressure sensor 7 – Sensor bracket not in correct position (snap-in) 8 – DW is mounted in a way that the bottom tray is pressed upwards by an object or unevenness of the floor. 9 – With main board PB200/300 drain pump defective or not connected.
40	Analogue pressure no signal	abort	i41 (i40 PB200)	i40	i41	Cycle will be terminated, electronic stop after on/off or failure solved electronic will switched to reset on-condition	1 – Water or dirt in the level/ pressure sensor 2 – Faulty pressure sensor 3 – Faulty wiring or plug connection to pressure sensor
	Pressure Sensor Calibration <i>signal too noisy</i>	warning	Nothing	Nothing	i42	Old calibration will be used, cycle continues	

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication current production	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
40	<i>Analogue pressure signal too high</i>	abort	i43	i40	i43	Cycle will be terminated, electronic stop after on/off or failure solved electronic will switched to reset on-condition	1 – Water or dirt in the level/ pressure sensor 2 – Faulty pressure sensor 3 – Faulty wiring or plug connection to pressure
	<i>Analogue pressure signal too low</i>	abort	i44	i40	i44	Cycle will be terminated, electronic stop after on/off or failure solved electronic will switched to reset on-condition	
	<i>Pressure Sensor Calibration signal too low</i>	warning	Nothing	Nothing	i45	Old calibration will be used, cycle continues	
	<i>Pressure Sensor Calibration signal too high</i>	warning	Nothing	Nothing	i46	Old calibration will be used, cycle continues	1 – Water or dirt in the level/ pressure sensor 2 – Faulty pressure sensor 3 – Faulty wiring or plug connection to pressure sensor 4 – High water level after drain phase (No-return valve faulty, Drain filter dirty, Drain hose clogged/kinked)
50 DIVA 2 ONLY	AC Wash pump tsc (If it is ASY no i51 but iD0,iD1)	abort	i51	i50	i51	Cycle will be terminated and electronic switched to reset on-condition	1 – Wash pump motor blocked 2 – Wash pump motor winding defective 3 – Motor control card defective 4 – Wiring connections defective 5 – Water in motor plug or motor control card 6 – Motor condenser defective
PB10X PB150 PB500	Wash pump BLDC over current HW	abort	i52	i50	i52	Cycle will be terminated and electronic switched to reset on-condition	1 – Wash pump motor blocked 2 – Wash pump motor winding defective 3 – Main board motor control card defective, replace main board 4 – Wiring connections defective 5 – Water in motor plug or main board
PB10X PB150 PB500	Wash pump BLDC over current SW	abort	i53	i50	i53	Cycle will be terminated and electronic switched to reset on-condition	1 – Wash pump motor winding defective, replace motor 2 – Main board motor control card defective, replace main board 3 – Wiring connections defective 4 – Water in motor plug or main board 5 – Wash pump motor blocked
PB10X PB150 PB500	Wash pump BLDC motor not following	abort	i54	i50	i54	Cycle will be terminated and electronic switched to reset on-condition	Wiring and connections are OK 1 – Wash pump motor impeller / rotor blocked 2 – Main board motor control card defective, replace main board
DIVA2 only	Wash pump BLDC under voltage	stop	i55	i50	i55	Cycle stop and continuous automatically after probl. Solved – rta off	1 – Motor control card defective
DIVA2 only	Wash pump BLDC over voltage	stop	i56	i50	i56	Cycle stop and continuous automatically after probl. Solved – rta off	1 – Motor control card defective

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication current production	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
PB10X PB150 PB500	Drain pump ADC fault	abort	i57	i50	i57	Cycle will be terminated and electronic switched to reset on-condition	1 – Drain pump defective 2 – Wiring connections defective 3 – Main board defective
Please OBSERVE that i57 has different meaning depending on platform							
DIVA2 only	DCLink plausibility error	abort	i57	i50	i57	Cycle will be terminated and electronic switched to reset on-condition	1 – Motor control card defective
PB10X PB150 PB500	Wash pump BLDC motor not connected	abort	i58	i50	i58	Cycle will be terminated and electronic switched to reset on-condition	1 – Wiring connections defective 2 – Wash pump motor winding defective 3 – Main board motor control card defective, replace main board
PB10X PB150 PB500	Wash pump BLDC ADC fault	abort	i59	i50	i59	Cycle will be terminated and electronic switched to reset on-condition	1 – Main board motor control card defective, replace main board 2 – Wash pump motor winding defective, replace motor
DIVA2 only	Wash pump BLDC over temp	stop	i5A	i50	i5A	Cycle stop and continuous automatically after problem solved – rta off	1 – Wash pump motor blocked 2 – Wash pump motor winding defective, replace motor 3 – Motor control card defective 4 – Wiring connections defective 5 – Water in motor plug or motor control card
Please OBSERVE that i5A has different meaning depending on platform							
PB10X PB150 PB500	Wash pump / Drain pump BLDC overload	abort	i5A	i50	i5A	Cycle will be terminated and electronic switched to reset on-condition	Wash pump: 1 – Motor faulty 2 – Wrong motor mounted 3 – Main board motor control card defective, replace main board Drain pump: 1 – Drain pump running blocked 2 – Drain pump defective 3 – Main board motor control card defective, replace main board
PB10X only	Wash pump / Drain pump current plausibility	abort	i5b (i5H)	i50	i5b (i5H)	Cycle will be terminated and electronic switched to reset on-condition	Wash pump: 1 – Main board motor control card defective, replace main board 2 – Motor faulty Drain pump: 1 – Main board motor control card defective, replace main board 2 – Drain pump defective
PB10X only	Drain pump BLDC over current HW	abort	i5C	i50	i5C	Cycle will be terminated and electronic switched to reset on-condition	1 – Drain pump blocked 2 – Drain pump defective 3 – Wiring connections defective 4 – Main board defective
PB10X only	Drain pump BLDC over current SW	abort	i5d	i50	i5d	Cycle will be terminated and electronic switched to reset on-condition	

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
PB10X only	Drain pump BLDC motor not following	abort	i5E	i50	i5E	Cycle will be terminated and electronic switched to reset on-condition	1 – Drain pump blocked 2 – Drain pump defective 3 – Wiring connections defective 4 – Main board defective
PB10X only	Drain pump BLDC motor not connected	abort	i5F	i50	i5F	Cycle will be terminated and electronic switched to reset on-condition	1 – Wiring connections defective / not connected 2 – Drain pump defective 3 – Main board defective
Please OBSERVE that i6x family has different meaning depending on PBs and PB firmware versions							
DIVA, DIVA2, PB150(R100), PB200, PB300	Heating problem	warning	Nothing	Nothing	i60	Heating element will be switched off for the rest of the cycle	
DIVA, DIVA2, PB150(R100), PB200, PB300	Heating – over temperature	abort	i61 (i60 DIVA)	i60	i61 (i60 DIVA)	Cycle will be terminated and electronic switched to reset on-condition	1 – Water temperature too high, check possible hot water intake.
DIVA, DIVA2, PB150(R100), PB200, PB300	Heater relay problems	warning	Nothing	Nothing	i62	Heating element will be switched off for the rest of the cycle	1 – One or both relays are broken and main board needs to be replaced. General fault diagnosis sequence: 1) Inspect for loose connectors or damage of isolation harness and connector on main board and heater for loose connectors or damage of isolation. 2) Check the heater element by unplugging heater connector on mainboard and measuring heater resistance to be valid. Exchange heater only if not. 3) Check current leakage by plugging in heater connector on main board and measuring resistance between one heater phase and protective earth to be > 500kOhm. Exchange heater only if not. 4) Check the relays on the main board by measuring resistance between one heater phase and the two mains power phases to be >10kOhm. If not broken relay on main board, replace heater. 5) Erase alarms using LEDTest, run LineTest. If the same alarm appear again, exchange power board.
PB100, PB101, PB150(R110 or later)	Heating system error 1	warning	Nothing	Nothing	i63	Cycle continues running to the end	1 – Heater defective 2 – Wiring or connectors defective
PB100, PB101, PB150(R110 or later)	Heater restorable	warning	Nothing	Nothing	i64	Cycle continues running to the end Heater is turned off for 1 minute, to be self-restored	Heater is OK 1 – The heater is not defective but needs de-scaling
PB100, PB101, PB150(R110 or later)	Heater broken	warning	Nothing	Nothing	i65	Cycle continues running to the end without heating	1 – Heater defective heater circuit open 2 – Wiring or connectors defective
PB100, PB101, PB150(R110 or later)	heating system error 2	warning	Nothing	Nothing	i66	Cycle continues running to the end	1 – Main board defective - Welded / stuck relay on power board 2 – Wiring or connectors defective (see how to check on i62)

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
PB100, PB101, PB150(R110 or later)	heating system error 3	warning	Nothing	Nothing	i67	Cycle continues running to the end	1 – Main board defective - Welded / stuck relay on power board 2 – Wiring or connectors defective (see how to check on i62)
PB100, PB101, PB150(R110 or later)	Water temperature is too high	abort	i69	Nothing	i69	Water temperature detected > 78C Cycle will be terminated and electronic switched to reset on-condition	Heater and power board are OK 1 – Water temperature too high, check possible hot water intake.
PB100, PB101, PB150(R110 or later)	NTC on heat element value out of range	warning	Nothing	Nothing	i6A	Cycle continues running Heater will be deactivated for 5 minutes and recover if error condition disappears	1- Temperature sensor on the heater is defective
PB100, PB101, PB150(R110 or later)	Heat timeout reached	warning	Nothing	Nothing	i6b (i6H)	Cycle continues running – water temperature not reached in 45min of heater activation. Heater is switched off and restart in the next heating phase	Heater is OK 1 – The heater is not defective but needs de-scaling 2 – Inlet water at very low temperature 3 – Low voltage
PB101, PB150(R110 or later)	Heat exchange efficiency low	Ack / warning	i6C	Nothing	i6C	The efficiency of heat exchange between heater and water is low	Heater is OK 1 – The heater is not defective but needs de-scaling
70	Temperature sensor / NTC problem	warning	Nothing	Nothing	i70	Heating element will be switched off for the rest of the cycle	1 – Temperature sensor on the sump is defective
80 (ADO)	Auto Door Opener malfunction	abort	i80	i80	i80	Cycle will be terminated and electronic switched to reset on-condition	1 – Auto Door Opener malfunction
80 (ADO2G)	Auto Door Opener 2 nd generation (with Diamond door lock) timeout warning	warning	Nothing	Nothing	i81	Auto Door Opener tries to recover. If that fails, the cycle continues without auto door opener	1 – Auto Door Opener malfunction 2 – Bad installation of the appliance, door in contact with furniture 3 – Connectors ADO / wax motor loose 4 – Triac on main board defective
	Water Reuse Valve warning	warning	Nothing	Nothing	i82	Cycle continues regardless the error	1 – Water reuse valve malfunction
90	Checksum mcf	inactive	Nothing	Nothing	i91	Electronic functionality blocked – all off	1 – Software electronics configuration problem
	Checksum ccf	inactive	Nothing	Nothing	i92	Electronic functionality blocked – all off	1 – Software electronics configuration problem
	Checksum UIdata	inactive	Nothing	Nothing	i93	Electronic functionality blocked – all off	1 – Software electronics configuration problem
	UI data version mismatch	warning	Nothing	Nothing	i94	No update of UI configuration data is possible	1 – Software electronics configuration problem
	UI data checksum mismatch	warning	Nothing	Nothing	i95	No update of UI configuration data is possible	1 – Software electronics configuration problem

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
B0 (H0)	<i>Please OBSERVE that iBx family has different meaning depending on PBs and PB firmware versions</i>						
BDIVA2, PB100 before P100R230, PB200 and PB300	Turbidity sensor problem	warning	Nothing	Nothing	ib0 (iH0)	Turbidity flag set – cycle continuous	1 – Turbidity sensor reading values problem (Calibration) 2 – Turbidity sensor too dirty or with lime scale (plastic aged), check also if pressure sensor/ air trap is dirty (wrong water level may cause the issue)
BPB100 after P100R230, PB101 and PB150	Turbidity sensor calibration unknown error	warning	Nothing	Nothing	ib0 (iH0)	Cycle continues as though the dirt value to be considered is high	
PB100 after P100R230, PB101 and PB150	lose contact with the turbidity sensor	warning	Nothing	Nothing	ib1 (iH1)	Cycle continues as though the dirt value to be considered is high	1 – Turbidity sensor defective 2 - Wiring or connectors defective
PB100 after P100R230, PB101 and PB150	sensor not enough power calibration	warning	Nothing	Nothing	ib2 (iH2)	Cycle continues as though the dirt value to be considered is high	1 – Turbidity sensor too dirty 2 – Turbidity sensor defective
PB100 after P100R230, PB101 and PB150	sensor out of range calibration	warning	Nothing	Nothing	ib3 (iH3)	Cycle continues as though the dirt value to be considered is high	1 – Turbidity sensor defective 2 – Wiring or connectors defective
PB100 after P100R230, PB101 and PB150	sensor too noisy calibration	warning	Nothing	Nothing	ib4 (iH4)	Cycle continues as though the dirt value to be considered is high	1 – Turbidity sensor too dirty or with lime scale (plastic aged), check also if pressure sensor/ air trap is dirty (wrong water level may cause the issue)
C0	No user interface detected	stop	Nothing	Nothing	ic0	Cycle stop and continuous automatic if problem solved	1 – Electronics communication problem with User Interface 2 – Check the connectors between User interface and Main board 3 – Check wiring between User interface and Main board 4 – Board defective User interface or Main board
	Macs – bus communication	stop	iC1	iC0	ic1	Macs low level communication - Cycle stop and continuous automatic if problem solved	
	Adsi – communication to ui	stop	iC2	iC0	ic2	Cycle stop and continuous automatic if problem solved	
(Diva 2)	Motor control board comm	stop	iC3	iC0	ic3	Command level communication - Cycle stop and continuous automatic if problem solved	1 – Electronics communication problem between power board and motor control board 2 - Check the connectors between Motor control board and Main board 3 – Check wiring between Motor control board and Main board 4 – Board defective Motor control or Main board
D0	Tacho problem (ASY motor)	warning	Nothing	Nothing	id0	Heating off up to end of cycle – motor to full speed – rta off	1 – Motor – tacho problem 2 – Check connector 3 – Check wiring
	Tacho critical (ASY motor)	warning	Nothing	Nothing	id1	Heating off up to problem is solved – full speed – rta off	
E0	Flow control positioning	warning	Nothing	Nothing	iE0	Heating element will be switched off (before week 30 2018)	1 – Flow control malfunction 2 - Wiring or connectors defective 3 – Main board (triac) defective

Alarm Codes

Service Code Family (Platform specific)	Reason	Type	User indication	User Indication before March 2017	failure code read	Action in case of failure happens	Most common possible causes
F0	Software fill limit reached	Warning	Nothing	Nothing	iF0	No further water load up to timer reset – rta off – cycle continues up to end of cycle – is power fail saved	Slow water fill, too much foam, blocked flat filter
	Safety level reached Too high water level	stop	iF1	iF0	iF1	Cycle stop and continuous automatic if problem solved (drain pump activated)	<ul style="list-style-type: none"> 1 – Water or dirt in the level/ pressure sensor 2 – Faulty pressure sensor 3 – Blocked flat filter 4 – Inlet valve remains open 5 – Main board (triac) defective