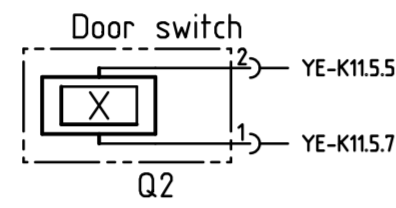
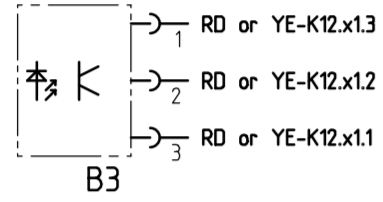
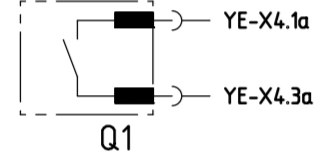


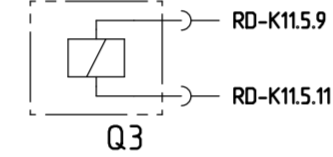
Low rinse aid sensor



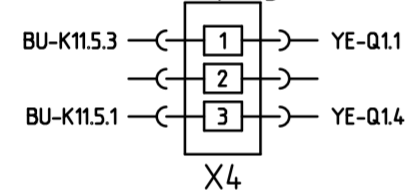
Main switch



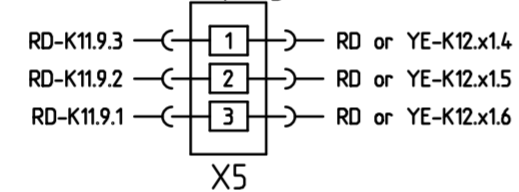
Dispenser coil



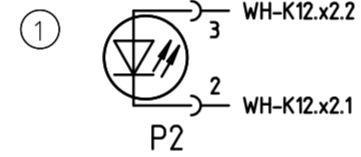
Coupling



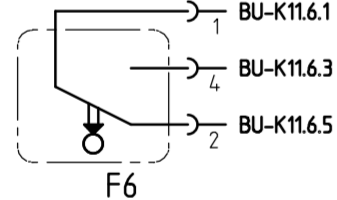
Coupling



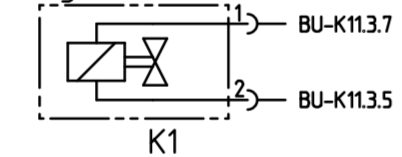
On light



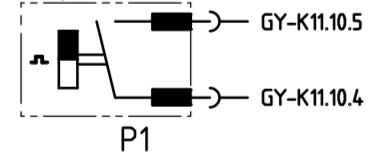
Safety pressure switch



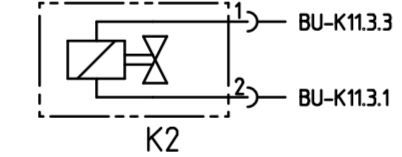
Regeneration valve



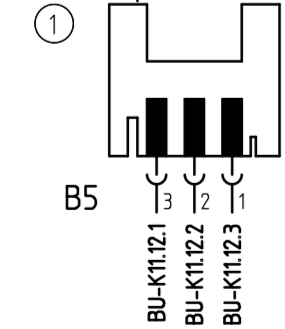
Impeller meter



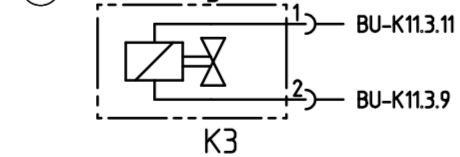
Filler valve



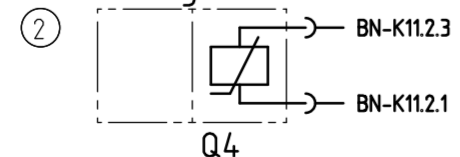
Aqua sensor



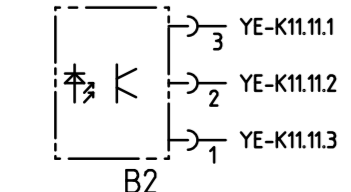
Drainage valve



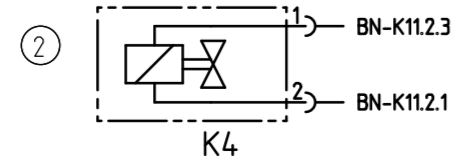
Drainage actuator



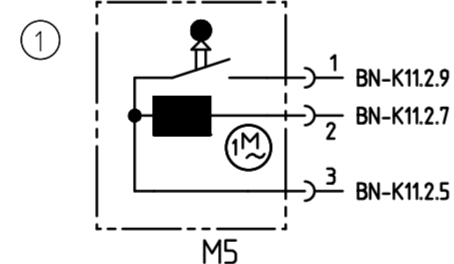
Low salt sensor



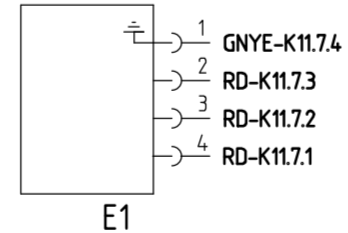
Filler valve warm water



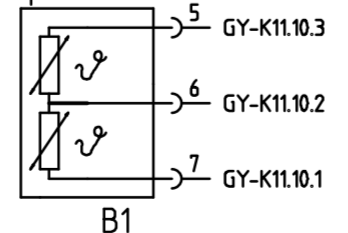
Water switch



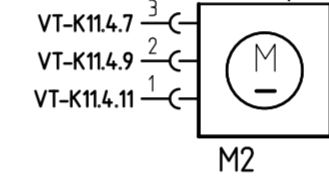
Heater



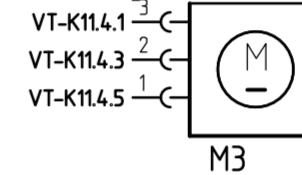
Temperature sensor



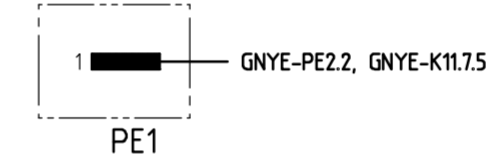
Circulation pump



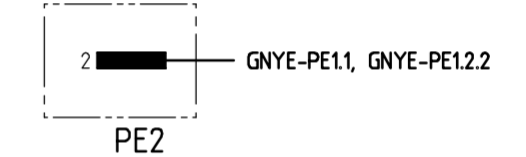
Detergent solution pump



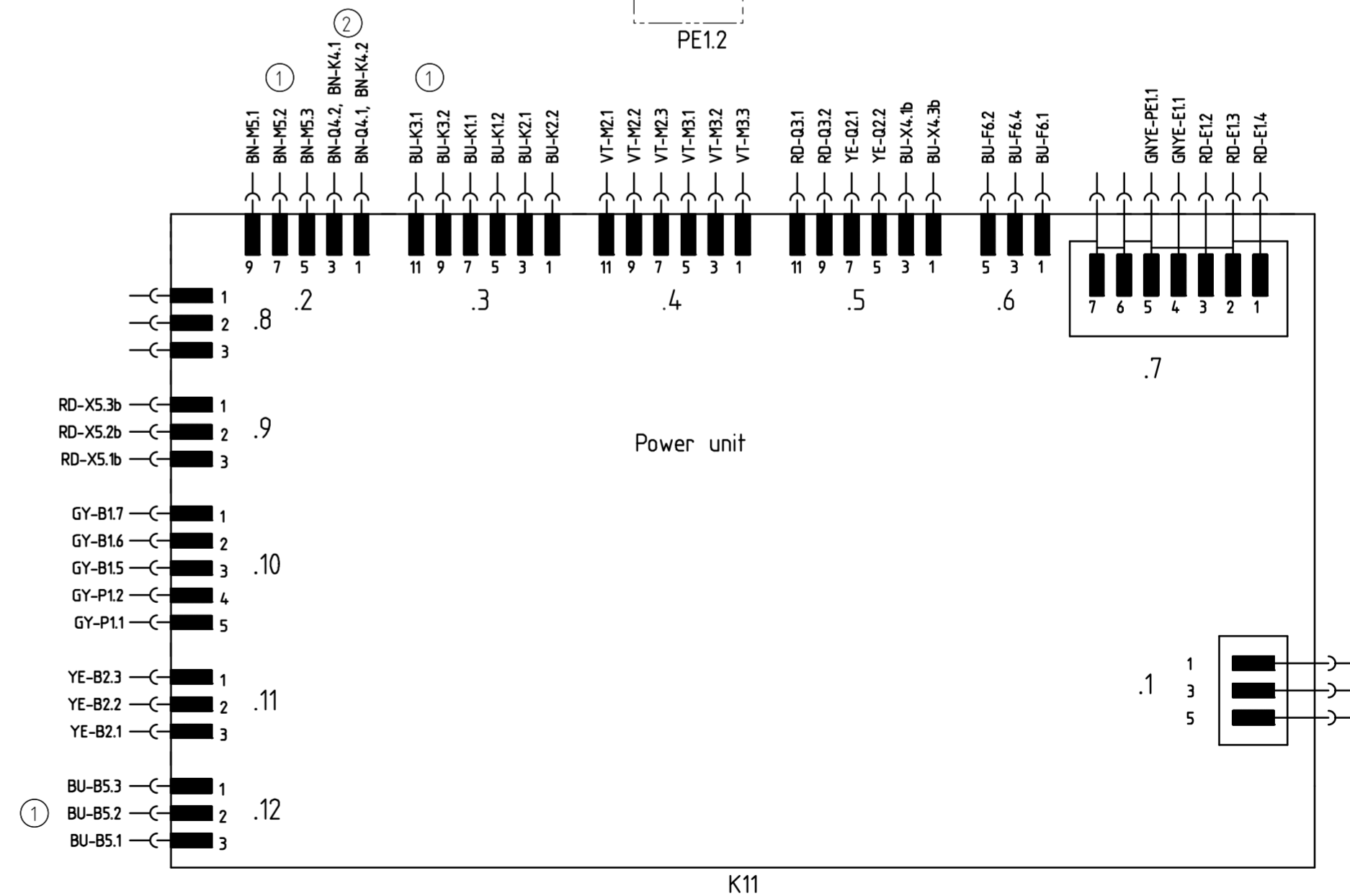
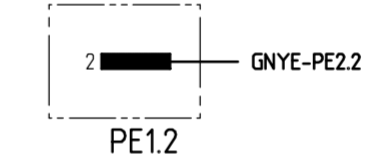
Protective conductor



Protective conductor










Protective conductor






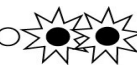







① Fitted depending on features






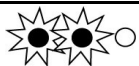




② Q4: only by storage tank, K4: only by 2 aquastop






Designation	LCS	Document No.	Rev	Sheet-No.
Connection Diagram	EN	5600 0000148121	E	1
GV 640A EK und MK-Varianter		Material No. 9000250199		of 1

Function		Actuation		Display		Remarks		
Error class (failure group)		In Customer Service program		At Customer		Appliance behaviour in error case	Results of internal appliance check	Measures
		LED's	Display	LED	Display			
		Act. Clean Sani  End 		 				
		○ ○ ○	<b>E:00</b>				No error	
<b>Interface</b>				 		Blinking LED's at end of Flash process  Stop in current position, no function	Communication issue within electronics	Power cord of the appliance has to be disconnected (to activate on/off from main switch is not enough!)  > Verify D-Bus - connectors (3- pole) for electrical connection failure; > Disconnected power cord (plug out and then again plug in); > Repeat flash process; > Change Modul
<b>Power module</b>		○ ○ 	<b>E:01</b>		<b>E:01</b>	→ End of program	Pump triggering or pump switching is defect  Low voltage / Voltage drop	Change power module  No appliance error!
			<b>E:02</b>		<b>E:02</b>	Running w/o heating	Working relay of heating is defect	Change power module
			<b>E:03</b>		<b>E:03</b>	→ End of program	Working relay / safety relay of heating is defect	
			<b>E:04</b>				Reserved	
			<b>E:05</b>		<b>E:05</b>	Water switch is running permanently Cancelation of program (Drain)	Impulses w/o activation  Water switch triac defect	

Function		Actuation		Display		Remarks			
Error class (failure group)		In Customer Service program		At Customer		Appliance behaviour in error case	Results of internal appliance check	Measures	
		LED's	Display	LED	Display				
		Act. Clean Sani  End 							
<b>Door</b>			<b>E:06</b>			<b>E:06</b>	Stop in current position, no function	Hall-sensor defect, wire disconnected or power module defect  Power module is functional ok, if plug is disconnected and Hall-sensor is feed with supply voltage. Otherwise change Hall-sensor.	
<b>Heating</b>			<b>E:07</b>			<b>E:07</b>	Function w/o additional drying-system.	Water in fan housing Heating-circuit Zeolite is intermittent,  fan defect, optional electronic defect, wire is intermittent.	Measure Heating-circuit Zeolite (check zeolite-heater resistance, clixon and thermal fuse)  Verify components  =>only for appliance with additional drying-system
							Function w/o heating.	Heat pump detects too low water level in sump.	>Corner valve scaled >inlet house kinked >heat exchanger drain valve is leaky >until FD8904: Hydraulic resistance softener to high (e.g. detergent in salt box) >Overturned bowls / pots in appliance?
								Heating-circuit is intermittent (resistance, wire harness, safety relais pins on power module)	Measure heating resistance, check wires
			<b>E:08</b>			<b>E:08</b>			
			<b>E:09</b>			<b>E:09</b>			

Function		Actuation		Display		Remarks		
Error class (failure group)		In Customer Service program		At Customer		Appliance behaviour in error case	Results of internal appliance check	Measures
		LED's	Display	LED	Display			
		Act. Clean Sani  End 						
						Function w/o heating.	Thermal output to less, deposits on heating element.	Check water hardness; if necessary decalcify and clean. On repeat change heat pump.
							NTC-failure Failure in wire to NTC's	Measure NTC's, check wires.
							Reserved	
							Water temperature too high (> 75°C)	Safety measure - no failure! Check water inlet temperature .
Filling		 ○ ○					Flow sensor detects no impulses, even though circulation pump detects water.	Check wires, check flow sensor (Reed-switch)
							Safety switch base carrier active. Appliance can't be turned off.	Look / Search for cause of water in base carrier
							Water inlet (impulses from flow sensor) w/o activation of filling valve.	Check filling valve. Check triggering of filling valve.
							Water inlet amount according flow sensor too high	Check flow control in filling valve
							Waiting for water inlet. Program abort with draining	Check water inlet

Function		Actuation		Display		Remarks			
Error class (failure group)		In Customer Service program		At Customer		Appliance behaviour in error case	Results of internal appliance check	Measures	
		LED's	Display	LED	Display				
		Act. Clean Sani  End 							
<b>Circulation pump</b>		 	<b>E:19</b>					Reserved	
			<b>E:20</b>			<b>E:20</b>	→ End of program	Wrong resistance value of circulation pump	Check wires, measure coil.
			<b>E:21</b>			<b>E:21</b>	→ End of program	Circulation pump blocked	Check for foreign objects, if necessary renew
<b>Drainpump</b>		 	<b>E:22</b>					Reserved	
			<b>E:23</b>			<b>E:23</b>	→ End of program	Wrong resistance value of drain pump	Check wires, measure coil
			<b>E:24</b>			<b>E:24</b>	→ End of program	Draining not possible. Pump cover missing?	Clean filters. Check water draining (hose kinked / blocked, pressure head, pump cover). Install pump cover.
						<b>E:24</b>		Circulation pump stiff?	Exchange circulation pump.
						<b>E:25</b>		<b>E:25</b>	→ End of program

Function	Actuation	Display				Remarks		
Error class (failure group)		In Customer Service program		At Customer		Appliance behaviour in error case	Results of internal appliance check	Measures
		LED's	Display	LED	Display			
		Act. Clean Sani  End 						
<b>Waterswitch</b>			<b>E:26</b>			Permanent activation of water switch	Impulses from water switch are missing despite triggering	Check wires. Measure supply voltage on motor. Check switch of water switch
			<b>E:27</b>					
<b>Aquasensor</b>			<b>E:28</b>			Function w/o aquasensor	Calibration of aquasensor not successful	Check wires. Dirt on aquasensor. Is appliance serially equipped with aquasensor?
<b>General</b>			<b>E:29</b>			Normal function	Reserved	
			<b>E:30</b>				Overvoltage	Not customer service relevant
			<b>E:31</b>				Measured value circulation pump	Not customer service relevant
			<b>E:32</b>				Measured value drain pump	Not customer service relevant

Function	Display		Remark			
	Software (old)*	Software (new)*	Can be skipped	Time (s)	Value	Check / Measure

\*depend of the software version is it possible to have different programsteps

### 1.1 Customer Service Program

<b>Preparation</b>						Remove approx. 0.5 l water from salt dispenser	Regeneration valve must be checked for leaks at appropriate customer specifications (see also steps with display 10 + S:32 or S:11 + S:33)
<b>CoilCheck</b>	S:00	S:00	No	approx. 20			Check the drain pump. Activate the drain pump and place the water switch in the top basket position.
<b>Check flow sensor and flow controller</b>	S:01 – S:03 (Step S:04 to S:06 are displayed only if error E 18 occurs)	S:01 – S:03 (Step S:04 to S:06 are displayed only if error E 18 occurs)	No	approx. 10-100			Add 50 ml (filling valve, drainage pump and circulation pump are activated in succession).
<b>Pause</b>	S:07 (Step is not displayed)	S:07 (Step is not displayed)	No	10			
<b>Fill + pump</b>	S:08 – S:10	S:08 – S:09	No	approx. 100			Residual quantity in the pump sump is pumped off.
<b>Pause</b>	S:11	S:10	No	10		Visual inspection: water level in salt dispenser.	No change to water level ==> Regeneration valve leakproof.
<b>Fill</b>	S:12	S:11	No	approx. 40	1,5 l	Check waterinlet amount	Inside of 40sec the capacity must be obtain. All the water is conveyed to the pump sump.
<b>Pause</b>	S:13	S:12	No	10		Visual inspection: water level in appliance.	Water level on upper edge of fine mesh filter (= 1.5 l in pump sump).
<b>Fill</b>	S:14 – S:15	S:13 – S:14	No	approx. 60	2,5 l		Total: 4 l in appliance

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Customer Service Program	Material-No.: 9000.347.372		1 of 3

Function	Display		Remark				
	Software (old)*	Software (new)*	Can be skipped	Time (s)	Value	Check / Measure	Remark
<b>Circulate</b>	S:16	S:15	No	15			Circulation pump must not "snorkel".
<b>Dispense (detergent)</b>	S:17	S:16	No	10			
<b>Circulate + heat + calibrate AquaSensor</b>	S:18 – S:19	S:17 – S:18	No	110			
<b>Circulate + heat</b>	S:20	S:19	Yes		40 °C		Increase of temperature during heating +2.5 °C/min
<b>Pause</b>	S:21	S:20	No	5			
<b>Circulate + dispense (rinse aid)</b>	S:22 – S:24	S:21 – S:23	No	60			Number of impulses = set value of dispensed rinse aid.
<b>Circulate + heat + change position of water switch</b>	S:25 – S:26	S:24 – S:25	Ja	approx. 480	65 °C		Increase of temperature during heating +2.5 °C/min. Change every 30 s roof shower head, top basket, bottom basket.
<b>Pump off</b>	S:27	S:26	No	45			
<b>Pause</b>	S:28 – S:29	S:27 – S:28	Yes	70			
<b>Pump off + fill + regenerate</b>	S:30 – S:32	S:29 – S:31	No	approx. 20			Drain the complete appliance
<b>Pause</b>	S: 33	S:32	No	10		Visual inspection: water level in salt dispenser.	Water level in salt dispenser must be increased by several cm.
<b>Pump + fill</b>	S:34 – S:35	S:33 – S:34	No	approx. 100	4 l		Rinse the brine solution out of the pump sump
<b>Pump</b>	S:36	S:35	No	30			Drain the complete appliance







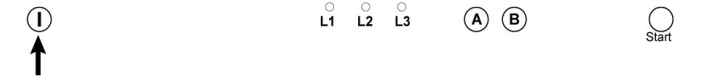
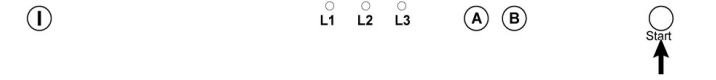
Function	Display		Remark				
	Software (old)*	Software (new)*	Can be skipped	Time (s)	Value	Check / Measure	Remark
<b>Check whether appliance was drained (activates circulation pump and drain pump)</b>	S:37 – S:38 (Step S:39 to S:40 are displayed only if error E 24 occurs)	S:36 – S:37 (Step S:38 to S:39 are displayed only if error E 24 occurs)	No	approx. 10-120			Self-check whether appliance was drained.
<b>End of test programme</b>	"0" on display or "End LED" is lit					Switch off main switch	Test has ended. When the appliance is next switched on, the normal rinse programme is displayed

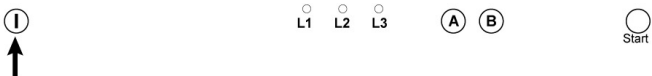
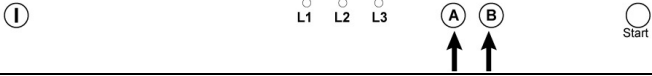
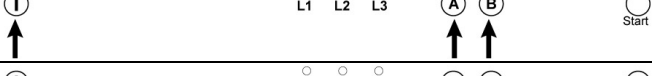


## 1.2 Reset program

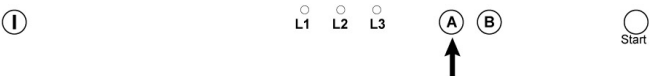

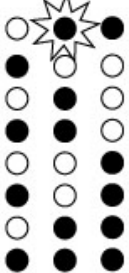
<b>Reset</b>						Perform reset	Is possible at any time by pressing the button "Start" for longer than 3 seconds

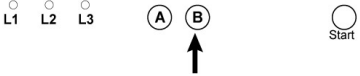

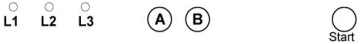
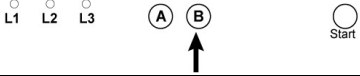
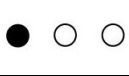

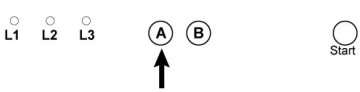
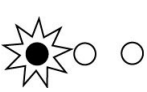
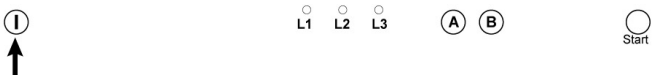


Function	Actuation	Display L1 L2 L3	Remark
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<b>Operating diagram</b>			<ul style="list-style-type: none"> <li> LED off</li> <li> LED on</li> <li> LED flashes</li> </ul>
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<b>Reset *</b>  * Before selecting the special programmes, perform a reset		<b>LED "Active" flashes</b>	Appliance is switched on
		<b>LED "Active" off</b>	Press "Start" button for 3 seconds

<b>Select special programmes</b>			Switch off the appliance
			Press and hold down buttons "A" + "B"
			Press the main switch
			Release buttons when LED L2 flashes and LED L3 is on

<b>Select special programmes</b>			Press button "A" until required programme is selected
			<ul style="list-style-type: none"> <li>Error memory</li> <li>Customer service test programme</li> <li>Not relevant to customer service</li> <li>Not relevant to customer service</li> <li>Not relevant to customer service</li> <li>Not relevant to customer service</li> <li>Not relevant to customer service</li> <li>Demonstration programme</li> </ul>

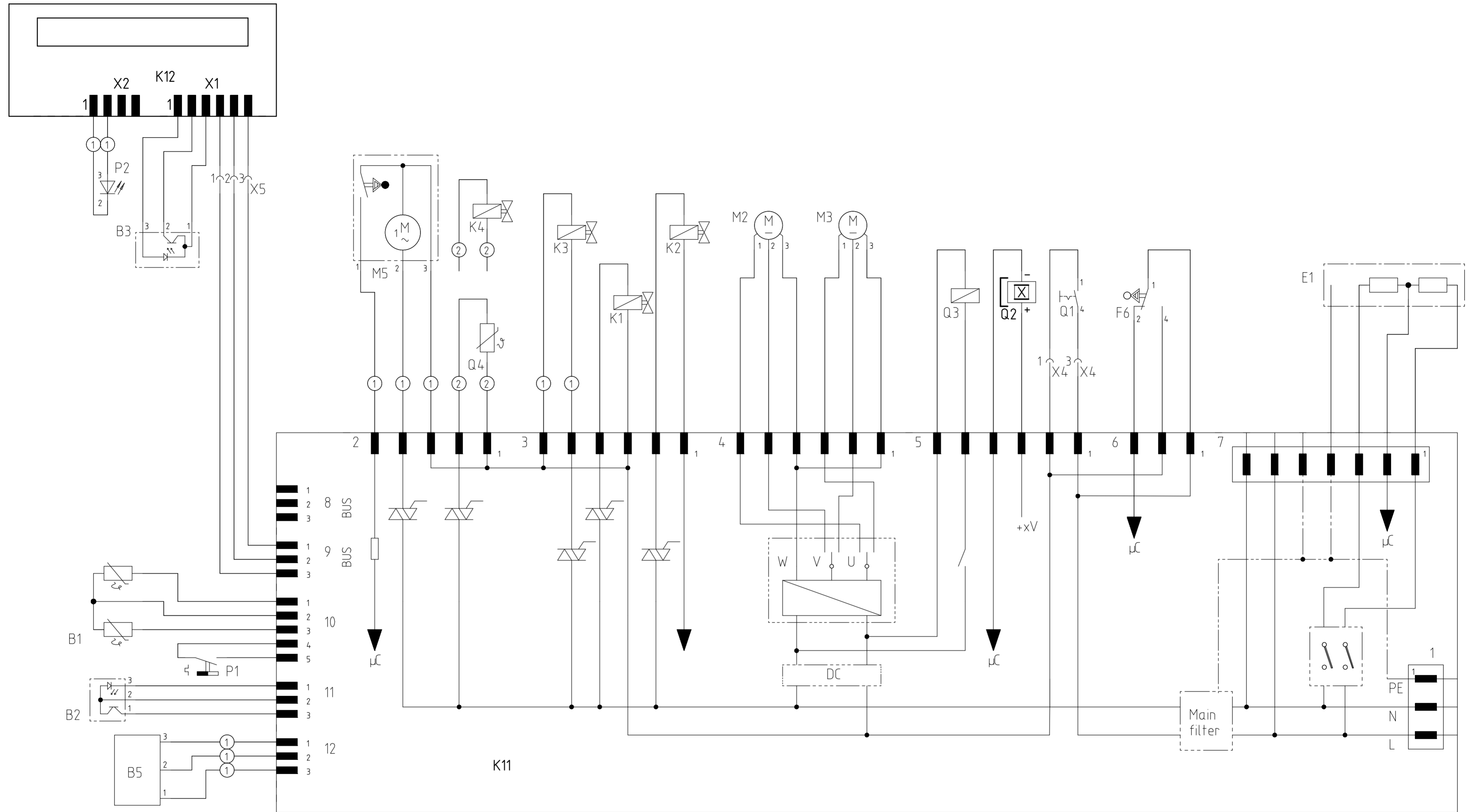
Function	Actuation	Display L1 L2 L3	Remark
Read out error memory			Activate: Press button "B"
			Highest order fault from last rinse cycle is displayed
Customer service test programme			Activate: Press button "B"
			Test programme is active
Skip test step			Press button "A" Not all test steps can be skipped (see customer service test programme)
End special programmes In error memory			Switch off main switch
In the customer service test programme			Press "Start" button for 3 seconds (Reset)
			Switch off main switch

Function	Actuation	Display L1 L2 L3	Remark
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Select demonstration programme			Activate: Press button "B"
		<b>LED "ECO" is on</b>	If there is no LED "ECO", LED L1 is on

End demonstration programme	Door		When programme is running, open door
		<b>LED "ECO" off</b> <b>LED "End" is on</b>	Press "Start" button for 3 seconds (Reset)
		<b>LED "End" off</b>	Hold down buttons "A" + "B"
			Switch off main switch

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53

REF	Components	Path	REF	Components	Path
B1	Temperature sensor NTC	5	P1	Impeller meter	6-8
B2	Low salt sensor optical	4	P2	On light	3
B3	Low rinse aid sensor optical	5-6	Q1	Main switch	38
B5	Aqua sensor 1	6	Q2	Door switch	36
E1	Heater	47,48,50,51	Q3	Dispenser coil	34
F6	Safety pressure switch	40-41	Q4	Drainage actuator	17
K1	Regeneration valve	22			
K2	Filler valve	24			
K3	Drainage valve	20			
K4	Filler valve warm water	17			
K11	Power unit	9-51			
K12	Operating unit T	3-8			
M2	Circulation pump BLDC	26-27			
M3	Detergent solution pump BLDC	29-30			
M5	Water switch	12-15			

- ① Fitted depending on features
- ② Q4: only by storage tank, K4: only by second aquastop

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