

Breville®

BES980

Live debug mode & Error code list



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Live Debug Mode

1. This mode enables a single sensor input to be displayed on the screen during normal operation and runs on normal software functions with a different display output only.
2. To enter live debug mode turn on machine and during operation press and hold “Select” encoder + “Menu” button until short beep. Push “menu” button again within 3 seconds.



- 2.1. Machine heats up to normal operation temperatures but displays only a specific (live) value on the main screen. Steam and grinder LCD'S work as normal and the machine functions as normal.
- 2.2. Displayed value is selectable by rotation “Americano” encoder button encoder. A description and value is displayed for all sensors.
- 2.3. Audible feedback is provided when setting is adjusted. High frequency for increasing and low frequency for decreasing setting increments.
- 2.4. Each sensor corresponds to a letter followed by the live value as seen or calculated by the MCU.
- 2.5. Disable Americano size adjusts during live debug.



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Live debug code List:-

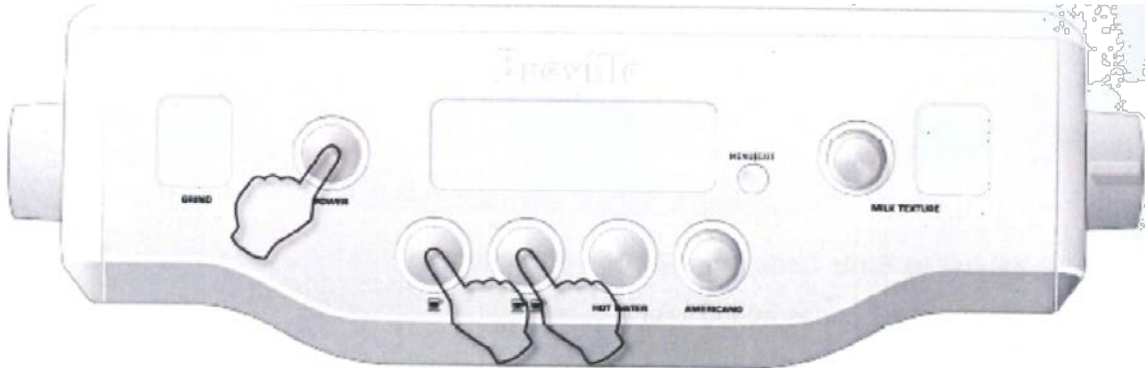
Code Number	Live Debug Information	Remark
1	Coffee boiler temperature	
2	Steam boiler temperature	
3	Group head temperature	
4	Steam wand temperature	Nil
5	Coffee boiler status	Nil
6	Steam boiler status	Nil
7	Group head status	Nil
8	Steam high probe AD	1.>=391 AD Count without water 2.< 391 AD Count with water
9	Steam low probe AD	1.>=391 AD Count without water 2.< 391 AD Count with water
10	Coffee boiler probe AD	1.>=391 AD Count without water 2.< 391 AD Count with water
11	Temper VR AD	Setting 1: 256 AD Count Setting 2: 307 AD Count Setting 3: 358 AD Count Setting 4: 409 AD Count Setting 5: 460 AD Count Setting 6: 511 AD Count Setting 7: 562 AD Count Setting 8: 613 AD Count Setting 9: 256 AD Count *Note: If the temper VR AD valve is greater than the AD value of the corresponding valve, the tamper motor will stop at once
12	Temper Current Sense AD	If the current sense AD count >= 828 AD count, the grinding process will be terminated
13	Grind VR AD	VR usable range: 744 Deg- 3120 Deg / 212 AD count – 887 AD Count Refer to Note 1 sheet for the ADC range of different
14	Flow meter 1 Count	Nil
15	Flow meter 1 count per second	Nil
16	Calculated flow rate of last 5 sec (ml/sec)	
17	Coffee solenoid status	Nil
18	Steam solenoid status	Nil
19	Hot water solenoid status	Nil

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Service Menus/ Controls

1. service menu

1.1. To enter Service Menu hold down “single,” “double” then “power” button until beeps.



1.2. Display software version proceeded by the text Fr.



1.3. Rotate encoder clockwise to display: Main software version => main PCB version => front panel version.

1.4. Front panel and main PCB should have matching with current version numbers (initial MP 240v. fr5.0=> A12 => A12) * (the version changes with improvement)

2. Error storage

2.1. Press select encoder button again to enter error codes output.

2.2. Cycle through error codes and quantity by using the encoder.

2.3. Audible feedback is provided when setting is adjusted. High frequency for increasing and low frequency for decreasing setting increments.

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3. Refer to Error code list at end of document
 - 3.1. Rest Error codes added to end of list
 - 3.2. Allows Breville service operator to reset all stored error codes.
 - 3.3. Select last item in error code list "ErSt" Then push and hold select button for 3 seconds to delete code list. Sound long beep. Then error code list.



- 3.4. Press select encoder(short press) button to proceed to machine usage counters
4. **Cycle count Menu**
 - 4.1 Cycle through machine usage and quantity by using the encoder
 - 4.2 Refer to Error code list at end of document.



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Error code List

Code number	Error	Condition for error to occur	Possible area to investigate	Customer awareness	Stop machine and Display Error
1	Steam boiler NTC open(Start-up)	MCU detects steam boiler NTC open	Steam boiler NTC	YES	YES
2	Steam boiler NTC open(operation)	MCU detects steam boiler NTC open	Steam boiler NTC	YES	YES
3	Steam boiler NTC short(Start-up)	MCU detects steam boiler NTC close	Steam boiler NTC	YES	YES
4	Steam boiler NTC short(operation)	MCU detects steam boiler NTC close	Steam boiler NTC	YES	YES
5	Coffee boiler NTC open(Start-up)	MCU detects coffee boiler NTC open	Coffee boiler NTC	YES	YES
6	Coffee boiler NTC open(operation)	MCU detects coffee boiler NTC open	Coffee boiler NTC	YES	YES
7	Coffee boiler NTC short(Start-up)	MCU detects coffee boiler NTC close	Coffee boiler NTC	YES	YES
8	Coffee boiler NTC short(operation)	MCU detects coffee boiler NTC close	Coffee boiler NTC	YES	YES
9	Group head NTC open(Start-up)	MCU detects group head NTC open	Group head NTC	YES	YES
10	Group head NTC open(operation)	MCU detects group head NTC open	Group head NTC	YES	YES
11	Group head NTC short(Start-up)	MCU detects group head NTC close	Group head NTC	YES	YES
12	Group head NTC short(operation)	MCU detects group head NTC close	Group head NTC	YES	YES
13	Steam wound NTC open(Start-up)	MCU detects steam wound NTC open	Steam wound NTC	YES	YES
14	Steam wound NTC open(operation)	MCU detects steam wound NTC open	Steam wound NTC	YES	YES
15	Steam wound NTC short(Start-up)	MCU detects steam wound NTC close	Steam wound NTC	YES	YES
16	Steam wound NTC short(operation)	MCU detects steam wound NTC close	Steam wound NTC	YES	YES
17	Coffee boiler NTC not responding	Coffee boiler element operate for 5 min (in start-up mode) but coffee boiler NTC temperature not increase >10degC	Coffee boiler NTC , coffee element triac PCB	YES	YES
18	Steam boiler NTC not responding	Steam boiler element operate for 5min(in start-up mode but steam boiler NTC temperature not increase> 10degC	Steam boiler NTC, Steam element triac PCB	YES	NO
19	Group head NTC not responding	Group head element operate for 5min (in start-up mode) but group head heater NTC temperature not increase> 10degC	Group head NTC, group head element triac PCB	YES	NO
20	Steam pump or steam high water probe level error	Steam pump operates for 10 mins but steam high level probe still defect no water	Steam pump, steam high level probe, descale outlet of the steam boiler (leakage)	YES	NO

Code number	Error	Condition for error to occur	Possible area to investigate	Customer awareness	Stop machine and Display Error
21	Steam high water probe short but low probe open error	Steam high level probe detect have water but steam low level probe detect no water	Steam high level probe, steam low level probe	YES	NO
22	Flow meter count error (start-up)	Coffee pump operate for 10 sec but flow counter less than 5counts	Coffee pump flow meter	YES	NO
23	Flow meter count error (operation)	Coffee pump operate for 10 sec but flow counter less than 5counts	Coffee pump flow meter	YES	NO
24	Coffee probe error	Coffee pump operate for 90 sec but coffee probe detect no water	Coffee pump, coffee probe, descale outlet of the coffee broiler (leakage)	YES	NO
25	Coffee boiler temperature overshoot	Coffee NTC sense 10deg° over the target temperature	Coffee boiler NTC, Coffee boiler element	NO	NO
26	Steam boiler temperature overshoot	Steam NTC sense 10deg° over the target temperature	Steam boiler NTC, steam boiler element	NO	NO
27	Group head temperature overshoot	Group head NTC sense 10deg° over the target temperature	Group head NTC, group head element triac PCB	NO	NO
28	Communication error	Main/ Panel MCU found the panel/ Main MCU no response; Main/Panel MCU found the checksum of the data transfer not correct	Check software version in service menu (to see whether if the software has been successfully programmed into both side MCU or not), connector between main/panel PCB	YES	Yes. Display "CoEr" instead of "Err"
29	Grinder motor over-heat error	Grinder thermostat open	Grinder motor Grinder motor thermostat	YES	NO
30	Grinder motor operate timeout error	Grinder motor operate for 60sec	Tamper VR assembly (including the mechanical of the tamper system) Grinder system (Coffee powder Stuck)	YES	NO
31	Tamper motor operate timeout error	Tamper motor operate for 70sec	Tamper VR assembly (including the mechanical of the tamper system) Triac control circuit on main PCB Grinder system (coffee powder stuck)	YES	NO
32	Steam boiler leakage error	Steam pump operates to 90sec time out for 3times but steam high level probe detect no water	Steam pump, steam high level probe Descal outlet of the steam boiler(leakage)	YES	NO

Counter code list

Letter Reference	Item	Maximum Number Display	Range	User Resettable?
E	Total coffee counter (≥ 7 sec)	MAX. of range divided by 10 (6553)	0~65535	NO
H	Hot water time	MAX. of range divided by 10 (6553)	0~65535min	NO
S	Steam time	MAX. of range divided by 10 (6553)	0~65535min	NO
C	Calculated scale level	1024	0~1024A/D	NO
ds	Descale cycles completed	9999	0~9999	NO
CI	Clean cycles completed	9999	0~9999	NO
FC	Filter Life Counter	300	0~300	Can be reset by: 1. Rest in service menu 2. After 3 start-up cycles Open then close in start-up mode
SC	Descale Counter	600	0~600	Can be reset by; 1. Reset in service menu 2. After 5 start-up cycles 3. User completes descale process