

## Technical Service Bulletin:

# E2 Error Code Troubleshooting

**Models:** C1210ESC, C1210ES, C1050ES, C950ES, 940ES, 940ESO, 830ES, 2400ES, 2700ES, 715ES, C800ES, C920ES/ESC, Integra 500, Evolution 500



# BOSCH

### Introduction



This procedure must be performed by a qualified technician.

Follow the procedures below and report results to Bosch Technical Support. This will assist in determining the cause and solution to the problem.

### E2 error code

This error code detected by the cold water temperature sensor indicates possible water temperature outside normal parameters or the sensor itself may need to be replaced.

### Tools needed:

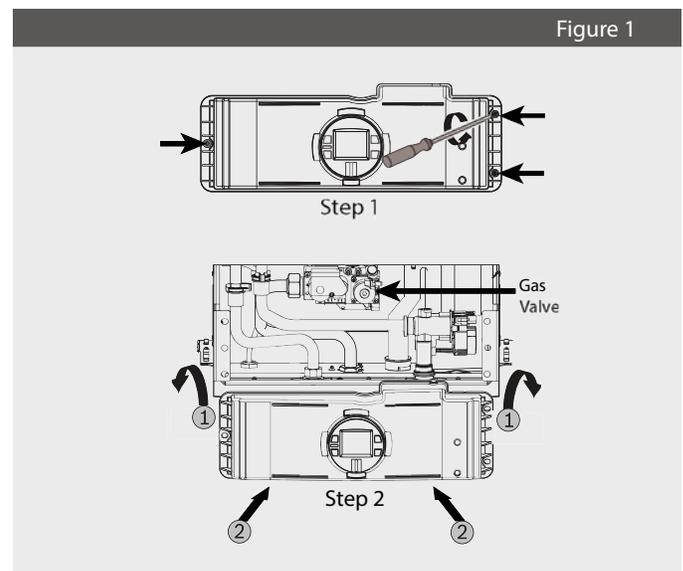
- ▶ Phillips head screwdriver
- ▶ Digital Multi-meter

### Procedure

1. Press the “reset” button on the control panel of the water heater to clear the error code. If the error code does not reset or continues to reoccur, proceed with the following troubleshooting steps.
2. Unplug power cord and remove outer and inner covers from water heater (refer to Installation Manual).
3. Confirm the following:
  - ▶ Was the water heater exposed to freezing temperatures?
    - Sensor may trip if water temperature drops to 36°F or lower. Any damage due to freezing conditions is not covered under warranty.
  - ▶ Determine if the water heater is being fed preheated water
    - If recirculating in an approved method directly through the machine, ensure temperatures of the recirculating water do not exceed 140°F per installation manual

4. Check the cold water temperature sensor.
  - ▶ To access the cold water temperature sensor, the control unit must be removed
  - ▶ With the heater still unplugged, remove the three Phillips Head screws that secure the control unit in place and lower the control unit into the service position to expose the water valve (Figure 1)

Figure 1



- ▶ The cold water temperature sensor’s position varies per model. On certain models it connects into the top of the water valve (Figure 2, pos. A). On certain models it connects into the hydraulic block located just below the water valve base. (Figure 3, pos. A)

Figure 2

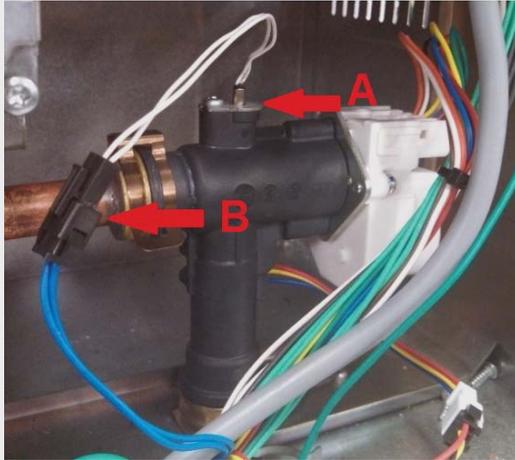
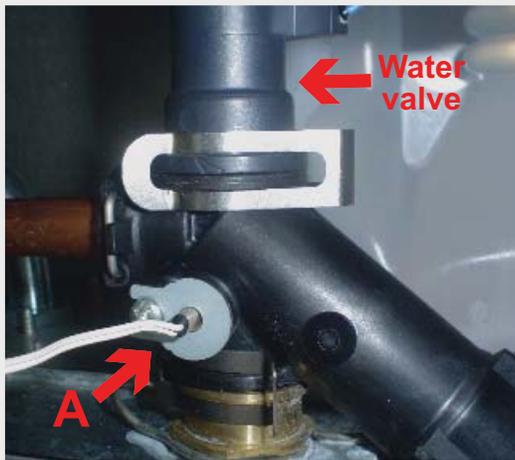


Figure 3



- ▶ Locate sensor and ensure the wire connection is tight, clean, and dry. (Figure 2, pos. B, not shown in Figure 3)
- ▶ Check sensor resistance per the following:
  - Using a thermometer, measure incoming cold water temperature to the water heater. This can be done by opening the nearest hot water faucet and letting the water flow for 3-5 minutes. With the water heater turned off, incoming cold water will pass through the appliance and can be measured at this faucet.
  - Unclip the wire connection from the cold water sensor (Figure 2, pos. B, not shown in Figure 3).
  - Press the On/Off button on the water heater to “Off”. Reopen hot water faucet and let water flow for 3-5 minutes. Place a multi-meter (set on kilohms (kΩ)) on the two pins inside the wire connector coming from the cold water sensor.

- Compare resistance reading with the coordinating temperature in Table 1. This should be the same temperature ( $\pm 5^{\circ}\text{F}$ ) as the reading taking at the faucet with the thermometer.
- If readings do not match up, sensor should be replaced.

Inlet temperature sensor readings		Table 1
Temperature	Approximate resistance reading	
32 °F	24 kΩ	
42 °F	19 kΩ	
52 °F	15 kΩ	
62 °F	12 kΩ	
72 °F	9.5 kΩ	
82 °F	7.5 kΩ	
92 °F	6.25 kΩ	
102 °F	5 kΩ	
112 °F	4.25 kΩ	

6. Check the cold water temperature sensor (no multi-meter option):
  - ▶ Shut power off to the machine
  - ▶ Run a hot water faucet for about 2 minutes, water will be cold with the unit shut off. Shut the faucet off.
  - ▶ With the power off, push and hold the “P” button
  - ▶ Push and release the on/off button
  - ▶ Release the “P” button when the display shows “188”
  - ▶ Display should show “P2”, if it does not, repeat
  - ▶ Push the “+” button until the display shows “P4”
  - ▶ At “P4” push and release the “P” button. The display will show “E”
  - ▶ Push the “+” button to “1d”, then push and release the “P” button. This will show the water temperature the cold water temperature sensor is reading
  - ▶ Push and release the “P” button to go back to “1d”. Push the “+” button to “2d”, then push and release the “P” button. This will show the water temperature the hot sensor is reading.
  - ▶ If there is a significant difference between the two readings, the water valve may need to be replaced.



After completing this procedure, please call us while still at the unit at 1-866-642-3198 for diagnosis and resolution. If it is more convenient for you, please email the results of this procedure to [ldy.asa@us.bosch.com](mailto:ldy.asa@us.bosch.com) and we will reply within one business day.



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