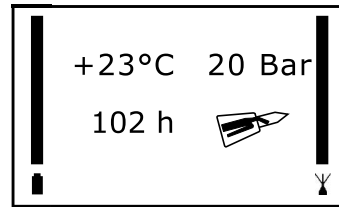


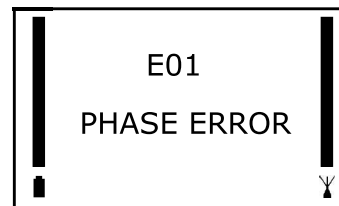
# Display codes and indications

## Display control box

During start up and operation, the control unit display shows operational data. Always read the display at start up, it aids in the understanding of the control system that facilitates troubleshooting. Trouble codes are displayed instead of operational data in the event of a fault. All trouble codes appear as “E01”, “E02” etc. with explanatory text underneath.



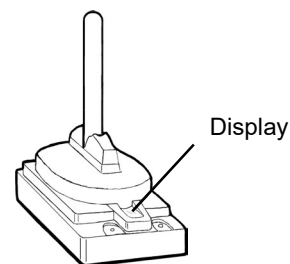
*Display text operational data*



*Display text trouble code*

## Display radio receiver

Trouble codes appear on the radio receiver display when the control box is not in contact with the machine.



*Radio receiver*

## Trouble codes control unit

During operation the control unit display continuously shows operational status. In the event of an error, the trouble code shows for as long as the function that generates the error is active.

The text in the display may vary depending on the software version.

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E01</b>	PHASE ERROR	The code shows that the phase sequence is incorrect or that a phase is missing. There may even be a fault that is shown on the soft starter.	<p>Change phase sequence. Turn phase switch Q1 to position 0 for 3 sec. Then turn to position 1 or 2.</p> <p>If the trouble code recurs, check that all phases are in the machine, before and after the phase switch.</p> <p>If the trouble code remains and the machine has soft start, open the electrical cabinet and check the soft starter to see which trouble code appears on "RUN/FAULT" indication. See instructions for soft start troubleshooting.</p>
<b>E02</b>	OVERLOAD RELAY	The code indicates that the motor has been overloaded and needs to cool down.	<p>The motor can be restarted and run for 30 seconds before it stops again.</p> <p>Check that air cooling is not blocked.</p>
<b>E03</b>	HYDR. TEMP HIGH	The code shows that the hydraulic temperature is too high, above 90°C.	<p>Check that the radiator is not blocked or clogged by dirt. High ambient temperatures must be compensated with additional cooling.</p>

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E04</b>	PLC ALARM	The code indicates internal alarm. Electronic unit fault or over heated electronics. The machine stops.	Restarting the machine. In the event of over heated electronics, wait 30 minutes. If the fault persists, contact Brokk AB.
<b>E05</b>	WATER TEMP HIGH	Diesel engine – The code indicates that the coolant temperature is too high. The machine stops.	Check the coolant level according to the instructions. Check that the radiator is not blocked or clogged by dirt. High ambient temperatures must be compensated with additional cooling.
<b>E06</b>	OIL PRESSURE LOW	Diesel engine – The code indicates that the engine's oil pressure is low. The machine stops.	Switch off the engine immediately. Check and rectify low oil level and any leakage.
<b>E07</b>	CHARGING LOW	Diesel engine – The code indicates too low battery voltage. The generator is not charging.	Check the fan belt. See the engine supplier manual.
<b>E08</b>	FUEL LEVEL LOW	Diesel engine – The code indicates low fuel level.	Stop and top up with fuel

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E09</b>	1Y1A CYL.2	The code indicates open circuit or short-circuit on 1Y1A Cyl2Out.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E10</b>	1Y1B CYL.2	The code indicates open circuit or short-circuit on 1Y1B Cyl2In.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E11</b>	1Y2A CYL.3	The code indicates open circuit or short-circuit on 1Y2A Cyl3Ut.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E12</b>	1Y2B CYL.3	The code indicates open circuit or short-circuit on 1Y2B Cyl3In.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E13</b>	1Y3A CYL.4	The code indicates open circuit or short-circuit on 1Y3A Cyl4In.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E14</b>	1Y3B CYL.4	The code indicates open circuit or short-circuit on 1Y3B Cyl4Ut.	Check contact and cable for open circuit or short-circuit. Replace if necessary.

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E15</b>	1Y4A TOOL	The code indicates open circuit or short-circuit on 1Y4A tool 1.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E16</b>	1Y4B TOOL	The code indicates open circuit or short-circuit on 1Y4B tool 2.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E17</b>	1Y5A SLEW	The code indicates open circuit or short-circuit on 1Y5A slew clockwise.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E18</b>	1Y5B SLEW	The code indicates open circuit or short-circuit on 1Y5B slew anticlockwise.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E19</b>	1Y6A CYL.1	The code indicates open circuit or short-circuit on 1Y6A Cyl1Ut.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E20</b>	1Y6B CYL.1	The code indicates open circuit or short-circuit on 1Y6B Cyl1In.	Check contact and cable for open circuit or short-circuit. Replace if necessary.

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E21</b>	2Y3A OUTRIGGER	The code indicates open circuit or short-circuit on 2Y3A outrigger right down.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E22</b>	2Y3B OUTRIGGER	The code indicates open circuit or short-circuit on 2Y3B outrigger right up.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E23</b>	2Y5A OUTRIGGER	The code indicates open circuit or short-circuit on 2Y5A outrigger left down.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E24</b>	2Y5B OUTRIGGER	The code indicates open circuit or short-circuit on 2Y5B outrigger left up.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E25</b>	2Y6A BELT	The code indicates open circuit or short-circuit on 2Y6A caterpillar right forwards.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E26</b>	2Y6B BELT	The code indicates open circuit or short-circuit on 2Y6B caterpillar right backwards.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E27</b>	2Y7A BELT	The code indicates open circuit or short-circuit on 2Y7A caterpillar left forwards.	Check contact and cable for open circuit or short-circuit. Replace if necessary.

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E28</b>	2Y7B BELT	The code indicates open circuit or short-circuit on 2Y7B caterpillar left backwards.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E29</b>	Y3 DUMP VALVE	The code indicates open circuit or short-circuit on Y3 dump valve.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E30</b>	Y9 EXTRA HYD1	The code indicates open circuit or short-circuit on Y9 extra hydraulic function 1.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E31</b>	Y57 P.CONTROL	The code indicates open circuit or short-circuit on Y57 pressure control.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E32</b>	Y29 EXTRA HYD2	The code indicates open circuit or short-circuit on Y29 extra hydraulic function 2.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E33</b>	Y50 EXTRA HYD3	The code indicates open circuit or short-circuit on Y50 extra hydraulic function 3.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E34</b>	Y4 WATER VALVE	The code indicates open circuit or short-circuit on Y4 water flushing.	Check contact and cable for open circuit or short-circuit. Replace if necessary.

<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E35</b>	QUICK HITCH OPEN	The code indicates that the quick hitch is open.	
<b>E36</b>	NO TOOL ATTACHED	The code indicates that no tools are connected.	
<b>E37</b>	CAN TOOL	The code indicates CAN error, CAN tool	Fault trace and rectify the fault.
<b>E38</b>	AIR FILTER FULL	The code indicates that the particle filter for the diesel engine is full	Replace filter
<b>E39</b>	Y100 P.CONTROL	The code indicates open circuit or short-circuit Y100, further pressure	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E40</b>	1Y7A EXTRA HYD1	The code indicates open circuit or short-circuit 1Y7A	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E41</b>	1Y7B EXTRA HYD1	The code indicates open circuit or short-circuit 1Y7B	Check contact and cable for open circuit or short-circuit. Replace if necessary.
<b>E42</b>	HYD. TEMP SENSOR	The code indicates an error in the temperature sensor	Check contact. Replace if necessary.
<b>E43</b>	DV1	The code indicates an error in DV1	Fault trace and rectify the fault.
<b>E44</b>	TRIPPED FUSE D1	The code indicates alarm for tripped fuses control unit D1	Fault trace and rectify the fault. Replace the fuse.
<b>E45</b>	EM. STOP TOOL	The code indicates that the safety stop for the tool has deployed	Fault trace and rectify the fault.
<b>E46</b>	PT100 ERROR	The code indicates sensor open-circuit/short-circuit	Check the connection on the circuit board, contact X5B. <ul style="list-style-type: none"><li>• Remove contact X5B and measure the resistance between pins 1-2, 3-4, 5-6. The value must be between 90-175Ω</li></ul>



<b>Code</b>	<b>Text</b>	<b>Explanation</b>	<b>Remedy</b>
<b>E50</b>	RADIO LIMITATION	Radio limitation	
<b>E51</b>	RADIO MEMORY	Radio memory error	Restart the system. If the fault persists contact Brokk AB.
<b>E52</b>	RADIO DV	Radio safety circuit	Restart the system. If the fault persists, check for short-circuited cables. If no cable faults are found - contact Brokk AB.
<b>E53</b>	RADIO CAN	Radio CAN-bus error	Restart the system. If the fault persists, check for short-circuited cables. If no cable faults are found - contact Brokk AB.
<b>E54</b>	RADIO STOP	Radio error on stop button	Restart the system. If the fault persists, send in the control unit and replace the stop button.
<b>E55</b>	RADIO JOY ACTIVE	Radio joystick active at start (blocks the joystick that sends incorrect signals)	No fault. Set the control lever to the neutral position and restart the control unit.
<b>E56</b>	RADIO JOY BROKEN	Radio joystick broken	Replace the joystick. Impaired movement is shown in the radio receiver display as 13.nn.
<b>E57</b>	RADIO POWER	Radio incorrect voltage (below 9V or above 36V)	Check that the power supply is 12-36V. Restart the system.
<b>E58</b>	RADIO UNDEFINED	Radio system error	Restart the system. If the fault persists contact Brokk AB.

## Trouble codes radio receiver

<b>MSB</b>	<b>LSB</b>	<b>Description</b>	<b>Notes</b>
<b>01</b>	<b>01</b>	EEPROM Fault	
<b>01</b>	<b>02</b>	Flash memory error	
<b>01</b>	<b>03</b>	Stack memory error	
<b>01</b>	<b>04</b>	RAM memory error	
<b>02</b>	<b>01</b>	Incorrect current output DV	
<b>02</b>	<b>02</b>	Short-circuit DV	
<b>02</b>	<b>03</b>	Fault on safety switch (high should be low)	
<b>02</b>	<b>04</b>	Fault on safety switch (low should be high)	
<b>08</b>	<b>01</b>	CAN passive	
<b>08</b>	<b>02</b>	CAN I/O fault	
<b>08</b>	<b>03</b>	CAN fault	
<b>08</b>	<b>04</b>	CAN PDO fault	
<b>08</b>	<b>05</b>	CAN PDO fault	
<b>08</b>	<b>06</b>	CAN bus conflict	
<b>10</b>	<b>00</b>	PCU fault on stop button	
<b>11</b>	<i>nn</i>	Lever movement active upon start-up	Status message, <i>nn</i> stands for lever number (1-4)
<b>13</b>	<i>nn</i>	Fault on control lever	<i>nn</i> stands for lever number
<b>14</b>	<b>01</b>	ID-programming fault	
<b>14</b>	<b>02</b>	Incorrect parameter value	
<b>17</b>	<b>01</b>	Low current supply	
<b>17</b>	<b>02</b>	High current supply	
<b>98</b>	<b>00</b>	Undefined internal PCU fault	
<b>99</b>	<b>00</b>	Undefined internal PCU fault	