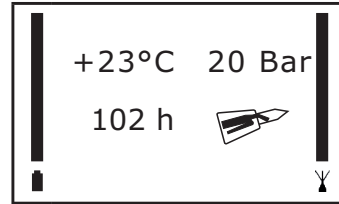


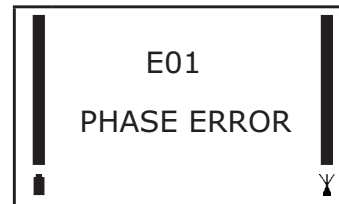
Display codes and indications

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.



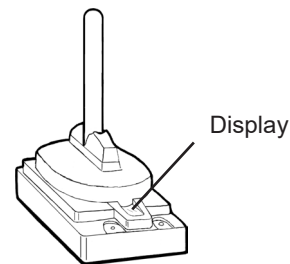
Display text operational data



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.

Code	Text	Explanation	Remedy
E01	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>
E02	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>
E03	HYDR. TEMP HIGH	<p>The code shows that the hydraulic temperature is too high, above 90°C.</p> <p>When using UltraSafe the code shows when the temperature is above 60°C.</p>	<p>Check that the radiator is not blocked or clogged by dirt. High ambient temperatures must be compensated with additional cooling.</p>

Code	Text	Explanation	Remedy
E04	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.
E05	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.
E06	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.
E07	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.
E08	FUEL LEVEL LOW	Diesel engine – The code indicates low fuel level.	Stop and top up with fuel.

Code	Text	Explanation	Remedy
E09	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.
E10	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.
E11	1Y2A CYL.3	The code indicates open circuit or short-circuit on 1Y2A Cyl3Out.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
E12	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.
E13	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.
E14	1Y3B CYL.4	The code indicates open circuit or short-circuit on 1Y3B Cyl4Out.	Check contact and cable for open circuit or short-circuit. Replace if necessary.

Code	Text	Explanation	Remedy
E15	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.
E16	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.
E17	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.
E18	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.
E19	1Y6A CYL.1	The code indicates open circuit or short-circuit on 1Y6A Cyl1Out.	Check contact and cable for open circuit or short-circuit. Replace if necessary.
E20	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.

Code	Text	Explanation	Remedy
E21	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.
E22	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.
E23	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.
E24	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.
E25	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.
E26	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.
E27	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.

Code	Text	Explanation	Remedy
E28	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.
E29	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.
E30	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.
E31	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.
E32	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.
E33	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.
E34	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.

Code	Text	Explanation	Remedy
E35	QUICK HITCH OPEN	The code indicates quick hitch open.	
E36	NO TOOL ATTACHED	The code indicates no tool connected.	
E37	CAN TOOL	The code indicates CAN error, CAN tool.	Fault trace and rectify the fault.
E38	AIR FILTER FULL	The code indicates air filter on diesel engine clogged.	Clean or replace filter.
E39	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.
E40	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.
E41	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.
E42	HYD.TEMP SENSOR	The code indicates an error in the temperature sensor.	Check contact. Replace if necessary.

Code	Text	Explanation	Remedy
E43	DV1	The code indicates an error in DV1.	Fault trace and rectify the fault.
E44	TRIPPED FUSE D1	The code indicates alarm for tripped fuses control unit D1.	Fault trace and rectify the fault. Replace the fuse.
E45	EM. STOP TOOL	The code indicates that the safety stop for the tool has deployed.	Fault trace and rectify the fault.
E46	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">• Remove contact X5B and measure the resistance between pins 1-2, 3-4, 5-6. The value must be between 90-175Ω
E47	DIESEL ENGINE	The code indicates errors on the diesel engine.	Contact Brokk AB.
E48	CAN DIESEL	The code indicates failure of the CAN communication between the engine and the control system.	Contact Brokk AB.

Code	Text	Explanation	Remedy
E50	RADIO LIMITATION	Radio limitation.	
E51	RADIO MEMORY	Radio memory error.	Restart the system. If the fault persists contact Brokk AB.
E52	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.
E53	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.
E54	RADIO STOP	Radio error on stop button.	Restart the system. If the fault persists, send in the control unit and replace the stop button.
E55	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.
E56	RADIO JOY BROKEN	Radio joystick broken.	Replace the joystick. Impaired movement is shown in the radio receiver display as 13.nn.
E57	RADIO POWER	Radio incorrect voltage (below 9V or above 36V).	Check that the power supply is 12-36V. Restart the system.
E58	RADIO UNDEFINED	Radio system error.	Restart the system. If the fault persists contact Brokk AB.

Trouble codes radio receiver

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