

## DS150C - ERROR CODE TABLE

Error Code	Error	Cause	Elimination
E01	Fallen below radius range or angle range exceeded	<ul style="list-style-type: none"> <li>Fallen below the minimum radius or gone past the maximum angle specified in the respective load chart due to luffing up the boom too far</li> </ul>	<ul style="list-style-type: none"> <li>Luff down the boom to a radius or angle specified in the load chart.</li> </ul>
E02	Radius range exceeded or fallen below angle range	<ul style="list-style-type: none"> <li>Gone past the maximum radius or fallen below the minimum angle specified in the respective load chart due to luffing down the boom too far</li> </ul>	<ul style="list-style-type: none"> <li>Luff up the boom to a radius or angle specified in the load chart.</li> </ul>
E03	Non-permitted slewing zone (no load area)	<ul style="list-style-type: none"> <li>The slewing zone with load is not permitted</li> </ul>	<ul style="list-style-type: none"> <li>Slew to permitted area</li> </ul>
E04	Operating mode not acknowledged or non permitted slewing zone	<ul style="list-style-type: none"> <li>A non existing operating mode has been selected</li> <li>The boom is in a non-permitted slewing zone</li> </ul>	<ul style="list-style-type: none"> <li>Set the correct operating mode for the operating state in question</li> <li>Slew the boom to a permitted area.</li> </ul>
E05	Prohibited length range	<ul style="list-style-type: none"> <li>Boom has been extended either too far or not far enough, e.g. if it is prohibited to go beyond a certain maximum boom length or with load curves for jibs where the main boom has to be extended to a certain length</li> </ul>	<ul style="list-style-type: none"> <li>Extend/retract boom to the correct length</li> </ul>
		<ul style="list-style-type: none"> <li>Length sensor adjustment has changed, e.g. the cable slid off the length sensor reel.</li> </ul>	<ul style="list-style-type: none"> <li>Retract boom. Check the pre-stress of the cable reel (cable must be taut). Open the length sensor and carefully turn the length sensor pot counter clockwise until loosened by using a screw driver</li> </ul>

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		<ul style="list-style-type: none"> <li>• Clutch between length sensor pot and drive is defective</li> <li>• Failure of +5V supply of analog part of analog board</li> <li>• Cable between central unit and length sensor is defective or disconnected.</li> <li>• Defective length potentiometer</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the complete clutch including drive wheel and adjust length sensor pot as described above</li> <li>• Check +5 V supply. Exchange main board in case of voltage failure or breakdown when loaded with 50 ohms approx.</li> <li>• Check cable and plugs, replace, if need be.</li> <li>• Replace length potentiometer.</li> </ul>
<b>E06</b>	Radius range exceeded or fallen below angle range with luffing jib operation	<ul style="list-style-type: none"> <li>• Maximum radius as specified in the load chart exceeded or fallen below minimum angle due to luffing down the luffing jib too far</li> </ul>	<ul style="list-style-type: none"> <li>• Luff the jib to a radius or angle specified in the load chart.</li> </ul>
<b>E07</b>	<p>Faulty acknowledgment of the overload relay on the connection board.</p> <p>The relay should be energized, the 2nd contact however is indicated to be off, or the 2nd contact is indicated to be on while the relay should be de-energized.</p>	<ul style="list-style-type: none"> <li>• Overload relay or connection board are defective</li> <li>• Processor board defective</li> </ul>	<ul style="list-style-type: none"> <li>• Replace connection board</li> <li>• Replace processor board.</li> </ul>
<b>E08</b>	No acknowledgment from the anti-two-block relay	<ul style="list-style-type: none"> <li>• Refer to E07</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E07</li> </ul>

Error Code	Error	Cause	Elimination
<b>E11</b>	Fallen below lower limit value for measuring channel "length main boom"	<ul style="list-style-type: none"> <li>• Cable between central unit and length sensor is defective or disconnected. Water inside the plug of the length/angle sensor</li> <li>• Length potentiometer is defective</li> <li>• Electronic component in the measuring channel is defective</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable as well as plugs, replace, if need be.</li> <li>• Replace length potentiometer</li> <li>• Replace LMI main board or processor board.</li> </ul>
<b>E12</b>	Fallen below the lower limit value in the measuring channel "pressure piston side"	<ul style="list-style-type: none"> <li>• Cable between the central unit and pressure transducers defective or water inside the plugs</li> <li>• Pressure transducer is defective.</li> <li>• Electronic component in the measuring channel is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable as well as plugs, replace, if need be.</li> <li>• Replace pressure transducer</li> <li>• Replace LMI main board or processor board.</li> </ul>
<b>E13</b>	Fallen below lower limit value in the measuring channel "pressure rod side"	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>
<b>E15</b>	Fallen below lower limit value in measuring channel "angle main boom"	<ul style="list-style-type: none"> <li>• Cable between central unit and the length/angle sensor defective or loose. Water inside the plug of the length/angle sensor.</li> <li>• Angle potentiometer defective</li> <li>• Electronic component in the measuring channel defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable as well as plugs, replace, if need be.</li> <li>• Replace angle sensor</li> <li>• Replace LMI main board or processor board.</li> </ul>

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<b>E16</b>	Fallen below lower limit value in measuring channel "angle 2"	<ul style="list-style-type: none"> <li>• Cable between the central unit and the angle sensor defective or loose. Water inside the plug of the angle sensor.</li> <li>• Angle potentiometer defective</li> <li>• Electronic component in the measuring channel defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable as well as plugs, replace, if need be.</li> <li>• Replace angle sensor</li> <li>• Replace LMI main board or processor board.</li> </ul>
<b>E17</b>	Fallen below lower limit value "length telescope I (+II)"	<ul style="list-style-type: none"> <li>• Cable between the central unit to the length sensor defective or loose. Water inside the length sensor plug.</li> <li>• Length potentiometer defective</li> <li>• Electronic component in the measuring channel defective</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable as well as plugs, replace, if need be.</li> <li>• Replace length sensor.</li> <li>• Replace LMI main board or processor board.</li> </ul>
<b>E19</b>	Reference and/or supply voltage defective	<ul style="list-style-type: none"> <li>• The supply voltage is falsified by one of the sensors (DAV, LWG)</li> <li>• Electronic component is defective</li> <li>• A/D converter defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the voltages on the LMI main board. Check sensors, plugs and cable, replace, if need be.</li> <li>• Replace LMI main board</li> <li>• Replace LMI main board</li> </ul>
<b>E21</b>	Upper limit value in measuring channel "main boom length" has been exceeded.	<ul style="list-style-type: none"> <li>• Refer to E11</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E11</li> </ul>
<b>E22</b>	Upper limit value in measuring channel "pressure piston side" has been exceeded	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>
<b>E23</b>	Upper limit value in measuring channel "pressure rod side" has been exceeded.	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E12</li> </ul>

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<b>E25</b>	Upper limit value in measuring channel "main boom angle" has been exceeded.	<ul style="list-style-type: none"> <li>• Refer to E15</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E15</li> </ul>
<b>E26</b>	Upper limit value in measuring channel "angle 2" has been exceeded.	<ul style="list-style-type: none"> <li>• Refer to E16</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E16</li> </ul>
<b>E27</b>	Upper limit value in measuring channel "length telescope I (+II) has been exceeded.	<ul style="list-style-type: none"> <li>• Refer to E17</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E17</li> </ul>
<b>E29</b>	Reference and/or supply voltage defective.	<ul style="list-style-type: none"> <li>• Refer to E19</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E19</li> </ul>
<b>E31</b>	Error in the system program	<ul style="list-style-type: none"> <li>• The system program PROM is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace system program PROM (PROM No. 0)</li> </ul>
<b>E38</b>	System program and data EPROM do not match.	<ul style="list-style-type: none"> <li>• The system program in the LMI does not match to the programming in the data EPROM</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the system program PROM or the data EPROM (PROM No. 1)</li> </ul>
<b>E39</b>	System program and TLK EPROM do not match	<ul style="list-style-type: none"> <li>• The system program in the LMI and the programming in the TLK EPROM do not match.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace system program PROM or TLK EPROM (PROM No. 2).</li> </ul>
<b>E41</b>	Error in the internal write/read memory (RAM) of the computer component 80C537	<ul style="list-style-type: none"> <li>• Computer component 80C537 defective</li> <li>• CPU module defective</li> <li>• Processor board defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace computer component 80C537.</li> <li>• Replace CPU module.</li> <li>• Replace processor board with CPU module.</li> </ul>
<b>E42</b>	Error in the external write/read memory, 1st part (RAM)	<ul style="list-style-type: none"> <li>• Write/read memory (CMOS RAM) or processor board defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace processor board with CPU module.</li> </ul>
<b>E43</b>	Error in the external write/read memory, 2nd part (RAM)	<ul style="list-style-type: none"> <li>• Refer to E42</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E42</li> </ul>

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<b>E45</b>	Redundancy error in the A/D conversion	<ul style="list-style-type: none"> <li>The A/D converter on the processing board and the redundant A/D converter in the CPU 80C537 provide different results.</li> </ul>	<ul style="list-style-type: none"> <li>Replace processor board.</li> </ul>
<b>E46</b>	Error in the A/D converter uPD 7004 of the processor board.	<ul style="list-style-type: none"> <li>No acknowledgment of the A/D converter uPD 7004</li> </ul>	<ul style="list-style-type: none"> <li>Replace processor board.</li> </ul>
<b>E47</b>	<p>Error in the monitored write/read memory.</p> <p>The CRC verification of the monitored write/read memory provides an incoherent result</p>	<ul style="list-style-type: none"> <li>The CRC sign of the monitored write/read memory is wrong</li> <li>The buffer battery is discharged (&lt; 2V at 1kOhm).</li> <li>Processor board defective.</li> </ul>	<ul style="list-style-type: none"> <li>Restart the LMI</li> <li>Replace buffer battery on the LMI main board</li> <li>Replace processor board.</li> </ul>
<b>E48</b>	Cyclic RAM test: error in the internal write/read memory (RAM) of the computer component 80C537	<ul style="list-style-type: none"> <li>Computer component 80C537 defective</li> <li>CPU module defective</li> <li>Processor board defective.</li> </ul>	<ul style="list-style-type: none"> <li>Replace computer component 80C537.</li> <li>Replace CPU module</li> <li>Replace processor board with CPU module.</li> </ul>
<b>E51</b>	Error in the crane data EPROM or EEPROM.	<ul style="list-style-type: none"> <li>No valid data in the crane data EEPROM.</li> <li>Memory module wrongly bridged.</li> <li>Crane data EPROM defective</li> </ul>	<ul style="list-style-type: none"> <li>Load crane data EEPROM containing valid data.</li> <li>Bridge memory module acc. to memory type</li> <li>Replace crane data EPROM</li> </ul>
<b>E52</b>	Error in load chart PROM.	<ul style="list-style-type: none"> <li>Memory module wrongly bridged.</li> <li>Load chart EPROM defective.</li> </ul>	<ul style="list-style-type: none"> <li>Bridge memory module acc. to memory type.</li> <li>Replace load chart EPROM</li> </ul>

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<b>E56</b>	Error in crane data EEPROM.	<ul style="list-style-type: none"> <li>• Memory module wrongly bridged.</li> <li>• Crane data EEPROM defective</li> </ul>	<ul style="list-style-type: none"> <li>• Bridge memory module acc. to memory type</li> <li>• Replace crane data EEPROM</li> </ul>
<b>E57</b>	Error in serial crane data EEPROM.	<ul style="list-style-type: none"> <li>• Serial crane data EEPROM does not contain valid data.</li> <li>• Memory module defective</li> </ul>	<ul style="list-style-type: none"> <li>• Write data on the serial crane data EEPROM (by means of test program or on-line function), then restart the LMI</li> <li>• Replace memory module.</li> </ul>
<b>E58</b>	Error in the serial analog data EEPROM.	<ul style="list-style-type: none"> <li>• No valid data in the serial analog data EEPROM.</li> <li>• LMI main board defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Write data on the serial analog data EEPROM by means of the test program, then, restart the LMI</li> <li>• Replace LMI main board.</li> </ul>
<b>E59</b>	Error in the serial analog data EEPROM.	<ul style="list-style-type: none"> <li>• No valid data in the serial analog data EEPROM.</li> <li>• LMI main board defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Write data on the serial analog data EEPROM by means of the test program, then, restart the LMI</li> <li>• Replace LMI main board.</li> </ul>
<b>E84</b>	Wrong rigging condition.	<ul style="list-style-type: none"> <li>• The selected rigging condition is not contained in the data EPROM.</li> </ul>	<ul style="list-style-type: none"> <li>• Select another rigging condition</li> <li>• Check the programming in the data EPROM.</li> </ul>
<b>E85</b>	Error in the radius determination	<ul style="list-style-type: none"> <li>• The computed radius is too small (negative deflection)</li> </ul>	<ul style="list-style-type: none"> <li>• Check the programming in the data EPROM.</li> </ul>

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<b>E91</b>	No data transmission from the console to the central unit	<ul style="list-style-type: none"> <li>• 24 V supply of the console is interrupted</li> <li>• Interruption or accidental ground in the line between console electronics and central unit</li> <li>• Transmitter/receiver module is defective</li> </ul>	<ul style="list-style-type: none"> <li>• Check 24 V at terminal X1 of the console electronics</li> <li>• Check the connection console electronics - central unit. In case of an accidental ground, the transmitter module of the console electronics might be damaged. Therefore, replaces the console electronics.</li> <li>• Exchange console electronics or LMI main board</li> </ul>
<b>E92</b>	Error in the data transmission from console to central unit	<ul style="list-style-type: none"> <li>• Loose connection in the line between console electronics and central unit</li> <li>• Transmitter/receiver module is defective</li> </ul>	<ul style="list-style-type: none"> <li>• Check the connection between console electronics and central unit</li> <li>• Exchange console electronics or LMI main board</li> </ul>
<b>E93</b>	Error in the data transmission from the central unit to the console	<ul style="list-style-type: none"> <li>• Refer to E92</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to E92</li> </ul>



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<b>E94</b>	No data transmission from the central unit to the console	<ul style="list-style-type: none"> <li>• Interruption or accidental ground in the line central unit - console</li> <li>• 5 V supply of the computer in the central unit is missing</li> <li>• 5 V supply is too low</li> <li>• Transmitter/receiver module is defective</li> <li>• Computer module is defective</li> <li>• Electro-magnetic interferences (e.g. when switching contacts or valves)</li> </ul>	<ul style="list-style-type: none"> <li>• Check line to the console (in case of accidental ground, replace console electronics, too).</li> <li>• Check connection to the power unit</li> <li>• Exchange the LMI main board</li> <li>• Replace console electronics or LMI main board</li> <li>• Replace processor board.</li> <li>• Eliminate the source of interference by inverse diodes or varistors.</li> </ul>

**Note:**

If an error message is displayed which is not contained in above list, please contact PAT America, Inc. service department.