

Error Code Table

DS 350 modular (C Structure)

System programs: CGMT V 1.2I (15.12.1999)
 Parts list No.: 71 350 14 0587

CGMT V 2.0Y (28.11.2001)
 Parts list No.: 71 350 14 0650

Error Code	Error	Cause	Elimination
E01	Fallen below radius range or angle range exceeded	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Luff down the boom to a radius or angle specified in the load chart.
E02	Radius range exceeded or fallen below angle range	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Luff up the boom to a radius or angle specified in the load chart.
E03	Non-permitted slewing zone (no load area)	<ul style="list-style-type: none"> The slewing zone with load is not permitted 	<ul style="list-style-type: none"> Slew to permitted area
E04	Operating mode not acknowledged or non permitted slewing zone	<ul style="list-style-type: none"> A non existing operating mode has been selected The boom is in a non-permitted slewing zone 	<ul style="list-style-type: none"> Set the correct operating mode for the operating state in question Slew the boom to a permitted area.
E05	Prohibited length range	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Extend/retract boom to the correct length

Error Code	Error	Cause	Elimination
		<ul style="list-style-type: none"> Length sensor adjustment has changed, e.g. the cable slid off the length sensor reel. Clutch between length sensor pot and drive is defective Failure of +5V supply of analog part of analog board Cable between central unit and length sensor is defective or disconnected. Defective length potentiometer 	<ul style="list-style-type: none"> Retract boom. Check the prestress of the cable reel (cable must be taut). Open the length sensor and carefully turn the length sensor pot counterclockwise until the detent by means of a screw driver Replace the complete clutch including drive wheel and adjust length sensor pot as described above Check +5 V supply. Exchange main board in case of voltage failure or breakdown when loaded with 50 ohms approx. Check cable and plugs, replace, if need be. Replace length potentiometer.
E06	Radius range exceeded or fallen below angle range with luffing jib operation	<ul style="list-style-type: none"> Maximum radius as specified in the load chart exceeded or fallen below minimum angle due to luffing down the luffing jib too far 	<ul style="list-style-type: none"> Luff the jib to a radius or angle specified in the load chart.
E07	Faulty acknowledgment of the overload relay on the connection board. 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.	<ul style="list-style-type: none"> Overload relay or connection board are defective Processor board defective 	<ul style="list-style-type: none"> Replace connection board Replace processor board.
E08	No acknowledgment from the anti-two-block relay	<ul style="list-style-type: none"> refer to E07 	<ul style="list-style-type: none"> refer to E07
E10	Error in the length measurement	<ul style="list-style-type: none"> With the boom retracted, the signal "main boom length" differs by more than 2 % from the programmed value for the basic length 	<ul style="list-style-type: none"> Check length sensor of the main boom

Error Code	Error	Cause	Elimination
		<ul style="list-style-type: none"> With the boom retracted, the signal "length Tele I (+II)" differs by more than 2 % from the reference value 0 	<ul style="list-style-type: none"> Check length sensor 2.
E11	Fallen below lower limit value for measuring channel "length main boom"	<ul style="list-style-type: none"> Cable between central unit and length sensor is defective or disconnected. Water inside the plug of the length/angle sensor Length potentiometer is defective Electronic component in the measuring channel is defective 	<ul style="list-style-type: none"> Check cable as well as plugs, replace, if need be. Replace length potentiometer Replace LMI main board or processor board.
E12	Fallen below the lower limit value in the measuring channel "pressure piston side"	<ul style="list-style-type: none"> Cable between the central unit and pressure transducers defective or water inside the plugs Pressure transducer is defective. Electronic component in the measuring channel is defective. 	<ul style="list-style-type: none"> Check cable as well as plugs, replace, if need be. Replace pressure transducer Replace LMI main board or processor board.
E13	Fallen below lower limit value in the measuring channel "pressure rod side"	<ul style="list-style-type: none"> refer to E12 	<ul style="list-style-type: none"> refer to E12
E14	Fallen below lower limit value in measuring channel "force"	<ul style="list-style-type: none"> Cable between the central unit and pressure transducers defective or water inside the plugs Force transducer defective Electronic component in the measuring channel is defective. 	<ul style="list-style-type: none"> Check cable as well as plugs, replace, if need be. Replace force transducer Replace LMI main board or processor board.
E15	Fallen below lower limit value in measuring channel "angle main boom"	<ul style="list-style-type: none"> Cable between central unit and the length/angle sensor defective or loose. Water inside the plug of the length/angle sensor. Angle potentiometer defective Electronic component in the measuring channel defective. 	<ul style="list-style-type: none"> Check cable as well as plugs, replace, if need be. Replace angle sensor Replace LMI main board or processor board.

Error Code	Error	Cause	Elimination
E16	Fallen below lower limit value in measuring channel "angle 2"	<ul style="list-style-type: none"> • Cable between the central unit and the angle sensor defective or loose. Water inside the plug of the angle sensor. • Angle potentiometer defective • Electronic component in the measuring channel defective. 	<ul style="list-style-type: none"> • Check cable as well as plugs, replace, if need be. • Replace angle sensor • Replace LMI main board or processor board.
E17	Fallen below lower limit value "length telescope I (+II)"	<ul style="list-style-type: none"> • Cable between the central unit to the length sensor defective or loose. Water inside the length sensor plug. • Length potentiometer defective • Electronic component in the measuring channel defective 	<ul style="list-style-type: none"> • Check cable as well as plugs, replace, if need be. • Replace length sensor. • Replace LMI main board or processor board.
E18	Front outrigger overloaded	<ul style="list-style-type: none"> • Front outrigger overloaded 	<ul style="list-style-type: none"> •
E19	Reference and/or supply voltage defective	<ul style="list-style-type: none"> • The supply voltage is falsified by one of the sensors (DAV, LWG) • Electronic component is defective • A/D converter defective. 	<ul style="list-style-type: none"> • Check the voltages on the LMI main board (AGND = MP0). Check sensors, plugs and cable, replace, if need be. • Replace LMI main board • Replace LMI main board
E1A	Fallen below lower limit value in measuring channel "slewing angle 1".	<ul style="list-style-type: none"> • Cable between the central unit and the slewing angle sensor defective or loose. Water inside the plug of the angle sensor • Slewing angle potentiometer is defective • Electronic component in the measuring channel defective 	<ul style="list-style-type: none"> • Check cable as well as plugs, replace, if need be. • Replace slewing angle sensor • Replace LMI main board or processor board.
E1B	Fallen below lower limit value in measuring channel "slewing angle 2"	<ul style="list-style-type: none"> • refer to E1A 	<ul style="list-style-type: none"> • refer to E1A

Error Code	Error	Cause	Elimination
E21	Upper limit value in measuring channel "main boom length" has been exceeded.	<ul style="list-style-type: none"> • refer to E11 	<ul style="list-style-type: none"> • refer to E11
E22	Upper limit value in measuring channel "pressure piston side" has been exceeded	<ul style="list-style-type: none"> • refer to E12 	<ul style="list-style-type: none"> • refer to E12
E23	Upper limit value in measuring channel "pressure rod side" has been exceeded.	<ul style="list-style-type: none"> • refer to E12 	<ul style="list-style-type: none"> • refer to E12
E24	Upper limit value in measuring channel "force" has been exceeded.	<ul style="list-style-type: none"> • refer to E14 	<ul style="list-style-type: none"> • refer to E14
E25	Upper limit value in measuring channel "main boom angle" has been exceeded.	<ul style="list-style-type: none"> • refer to E15 	<ul style="list-style-type: none"> • refer to E15
E26	Upper limit value in measuring channel "angle 2" has been exceeded.	<ul style="list-style-type: none"> • refer to E16 	<ul style="list-style-type: none"> • refer to E16
E27	Upper limit value in measuring channel "length telescope I (+II) has been exceeded.	<ul style="list-style-type: none"> • refer to E17 	<ul style="list-style-type: none"> • refer to E17
E29	Reference and/or supply voltage defective.	<ul style="list-style-type: none"> • refer to E19 	<ul style="list-style-type: none"> • refer to E19
E2A	Upper limit value in measuring channel "slewing angle 1" has been exceeded	<ul style="list-style-type: none"> • refer to E1A 	<ul style="list-style-type: none"> • refer to E1A
E2B	Upper limit value in measuring channel "slewing angle 2" has been exceeded	<ul style="list-style-type: none"> • refer to E1A 	<ul style="list-style-type: none"> • refer to E1A

Error Code	Error	Cause	Elimination
E31	Error in the system program	<ul style="list-style-type: none"> The system program PROM is defective. 	<ul style="list-style-type: none"> Replace system program PROM (PROM No. 0)
E38	System program and data EPROM do not match.	<ul style="list-style-type: none"> The system program in the LMI does not match to the programming in the data EPROM 	<ul style="list-style-type: none"> Replace the system program PROM or the data EPROM (PROM No. 1)
E39	System program and TLK EPROM do not match	<ul style="list-style-type: none"> The system program in the LMI and the programming in the TLK EPROM do not match. 	<ul style="list-style-type: none"> Replace system program PROM or TLK EPROM (PROM No. 2).
E41	Error in the internal write/read memory (RAM) of the computer component 80C537	<ul style="list-style-type: none"> Computer component 80C537 defective CPU module defective Processor board defective. 	<ul style="list-style-type: none"> Replace computer component 80C537. Replace CPU module. Replace processor board with CPU module.
E42	Error in the external write/read memory, 1st part (RAM)	<ul style="list-style-type: none"> Write/read memory (CMOS RAM) or processor board defective. 	<ul style="list-style-type: none"> Replace processor board with CPU module.
E43	Error in the external write/read memory, 2nd part (RAM)	<ul style="list-style-type: none"> refer to E42 	<ul style="list-style-type: none"> refer to E42
E45	Redundancy error in the A/D conversion	<ul style="list-style-type: none"> The A/D converter on the processing board and the redundant A/D converter in the CPU 80C537 provide different results. 	<ul style="list-style-type: none"> Replace processor board.
E46	Error in the A/D converter uPD 7004 of the processor board.	<ul style="list-style-type: none"> No acknowledgment of the A/D converter uPD 7004 	<ul style="list-style-type: none"> Replace processor board.
E47	<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"> The CRC sign of the monitored write/read memory is wrong The buffer battery is discharged (< 2V at 1kOhm). Processor board defective. 	<ul style="list-style-type: none"> Restart the LMI Replace buffer battery on the LMI main board Replace processor board.

Error Code	Error	Cause	Elimination
E48	Cyclic RAM test: error in the internal write/read memory (RAM) of the computer component 80C537	<ul style="list-style-type: none"> • Computer component 80C537 defective • CPU module defective • Processor board defective. 	<ul style="list-style-type: none"> • Replace computer component 80C537. • Replace CPU module • Replace processor board with CPU module.
E51	Error in the crane data EPROM or EEPROM.	<ul style="list-style-type: none"> • No valid data in the crane data EEPROM. • Memory module wrongly bridged. • Crane data EPROM defective 	<ul style="list-style-type: none"> • Load crane data EEPROM containing valid data. • Bridge memory module acc. to memory type • Replace crane data EPROM
E52	Error in load chart PROM.	<ul style="list-style-type: none"> • Memory module wrongly bridged. • Load chart EPROM defective. 	<ul style="list-style-type: none"> • Bridge memory module acc. to memory type. • Replace load chart EPROM
E56	Error in crane data EEPROM.	<ul style="list-style-type: none"> • Memory module wrongly bridged. • Crane data EEPROM defective 	<ul style="list-style-type: none"> • Bridge memory module acc. to memory type • Replace crane data EEPROM
E57	Error in serial crane data EEPROM.	<ul style="list-style-type: none"> • Serial crane data EEPROM does not contain valid data. • Memory module defective 	<ul style="list-style-type: none"> • Write data on the serial crane data EEPROM (by means of test program or on-line function), then restart the LMI • Replace memory module.
E58	Error in the serial analog data EEPROM.	<ul style="list-style-type: none"> • No valid data in the serial analog data EEPROM. • LMI main board defective. 	<ul style="list-style-type: none"> • Write data on the serial analog data EEPROM by means of the test program, then, restart the LMI • Replace LMI main board.
E60	The number of the selected EPROM base and the programmed value are not identical	<ul style="list-style-type: none"> • Load chart EPROM defective • Base number not programmed • Load chart EPROM wrongly programmed 	<ul style="list-style-type: none"> • Replace load chart EPROM • Program the correct base number (1 for base 1, 2 for base 2) • Check base programming in the load chart EPROM.

Error Code	Error	Cause	Elimination
E61	Error in the boom control extension.	<ul style="list-style-type: none"> • Cable between the central unit and the boom control extension defective. • Profibus adapter in the central unit defektiv • Profibus adapter in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Check the cable to the boom control extension • Replace the profibus adapter • Replace the profibus adapter • Replace the boom control extension
E62	Error digital inputs 1 - 8 in the boom control extension.	<ul style="list-style-type: none"> • Module for digital inputs in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Replace the module for the digital inputs • Replace the boom control extension
E63	Error digital inputs 9 - 16 in the boom control extension.	<ul style="list-style-type: none"> • Module for digital inputs in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Replace the module for the digital inputs • Replace the boom control extension
E64	Error analog output 1 in the boom control extension.	<ul style="list-style-type: none"> • Module for analog output 1 in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Replace the module for the analog output 1 • Replace the boom control extension
E65	Error analog output 2 in the boom control extension.	<ul style="list-style-type: none"> • Module for analog output 2 in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Replace the module for the analog output 2 • Replace the boom control extension
E66	Error analog outputs in the boom control extension.	<ul style="list-style-type: none"> • Module for analog outputs in the Boom control extension defective • Boom control extension defective 	<ul style="list-style-type: none"> • Replace the module for the analog outputs • Replace the boom control extension
E70	Error relay output module	<ul style="list-style-type: none"> • Module for relay outputs not available or defective • LMI main board is defective 	<ul style="list-style-type: none"> • Install or replace the module for the relay outputs • Replace LMI main board.

Error Code	Error	Cause	Elimination
E71	Faulty acknowledgment of digital output K1 on the output module Output should be energized but the status is signaled to be off or the status is signaled to be on whereas the output should be de-energized.	<ul style="list-style-type: none"> Digital output K1 or output module defective. LMI main board is defective 	<ul style="list-style-type: none"> Replace digital output module. Replace LMI main board.
E72 ... E77	Faulty acknowledgment of outputs K2...K7 on the output module.	<ul style="list-style-type: none"> refer to E71 	<ul style="list-style-type: none"> refer to E71
E80	Error in the slewing angle measurement	<ul style="list-style-type: none"> The difference between the average of the slewing angle and one of the wipers of the slewing potentiometer is out of the tolerance 	<ul style="list-style-type: none"> Check the slewing potentiometer adjustment Replace the slewing potentiometer
E84	Wrong rigging condition.	<ul style="list-style-type: none"> The selected rigging condition is not contained in the data EPROM. 	<ul style="list-style-type: none"> Select another rigging condition Check the programming in the data EPROM.
E85	Error in the radius determination	<ul style="list-style-type: none"> The computed radius is too small (negative deflection) 	<ul style="list-style-type: none"> Check the programming in the data EPROM.
E86	Faulty percentage for at least one telescope	<ul style="list-style-type: none"> Telescope has a percentage < - 2% or > 106 %. Length measurement Tele I + II defective Measurement of overall length defective 	<ul style="list-style-type: none"> Read out the percentages on the console. If a telescope has to be extended too far: retract tele and bolt Check length measurement Tele I (see E17) Check length measurement (see E11)
E89	Operating mode switchover with load.	<ul style="list-style-type: none"> The operating mode on the console has been switched over with the boom loaded. 	<ul style="list-style-type: none"> Select operating mode without load on the boom
E91	No data transmission from the console to the central unit	<ul style="list-style-type: none"> 24 V supply of the console is interrupted 	<ul style="list-style-type: none"> Check 24 V at terminal X1 of the console electronics

		<ul style="list-style-type: none"> • Interruption or accidental ground in the line between console electronics and central unit • Transmitter/receiver module is defective 	<ul style="list-style-type: none"> • 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. • Exchange console electronics or LMI main board resp.
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Error Code	Error	Cause	Elimination
E92	Error in the data transmission from console to central unit	<ul style="list-style-type: none"> Loose connection in the line between console electronics and central unit Transmitter/receiver module is defective 	<ul style="list-style-type: none"> Check the connection between console electronics and central unit Exchange console electronics or LMI main board resp.
E93	Error in the data transmission from the central unit to the console	<ul style="list-style-type: none"> refer to E92 	<ul style="list-style-type: none"> refer to E92
E94	No data transmission from the central unit to the console	<ul style="list-style-type: none"> Interruption or accidental ground in the line central unit – console 5 V supply of the computer in the central unit is missing 5 V supply is too low Transmitter/receiver module is defective Computer module is defective Electro-magnetic interferences (e.g. when switching contactors or valves) 	<ul style="list-style-type: none"> Check line to the console (in case of accidental ground, replace console electronics, too). Check connection to the power unit Exchange the LMI main board Replace console electronics or LMI main board Replace processor board. Eliminate the source of interferences by inverse diodes or varistors.
E95	Error in the console EPROM	<ul style="list-style-type: none"> The console EPROM is defective. 	<ul style="list-style-type: none"> Replace the console EPROM
E96	Error in the internal RAM of the console.	<ul style="list-style-type: none"> The CPU of the console is defective. The console main board is defective. 	<ul style="list-style-type: none"> Replace the CPU of the console Replace the console main board.
E97	Error in the external RAM of the console	<ul style="list-style-type: none"> The external RAM of the console is defective. The console main board is defective. 	<ul style="list-style-type: none"> Replace the external RAM of the console. Replace the console main board.
EAB	Short circuit in the A2B switch circuit	<ul style="list-style-type: none"> Short circuit in the A2B switch Short circuit in the cable to the A2B switch 	<ul style="list-style-type: none"> Replace A2B switch Replace cable to the A2B switch
EB0	Free fall switch on	* Free fall monitoring	DGA 9.4 = 0, DGA9.5 = 0
EB1	Free fall solenoid on	* Free fall monitoring	DGA 9.4 = 0, DGA9.5 = 0
EB2	Free fall switch and solenoid on	* Free fall monitoring	DGA 9.4 = 0, DGA9.5 = 0
EC0	Prohibited area	<ul style="list-style-type: none"> Boom is about to collide with the engine hood, switch off 	<ul style="list-style-type: none"> Check values in the data prom DGA 11.5.

EC1	Approaching prohibited area	<ul style="list-style-type: none"> • Boom is about to collide with the engine hood, prewarning 	<ul style="list-style-type: none"> • Check values in the data prom DGA 11.5.
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* Free fall monitoring (only used in combination with datalogger DL352):

Function	DI4	DI5	Error message
No free fall activated	On	On	
Free fall solenoid on	On	Off	E B1
Free fall switch on	Off	On	E B2
Free fall switch and solenoid on	Off	Off	E B3

Note:

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