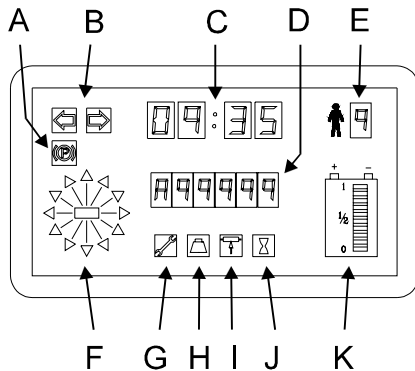




6 Warning Codes

Character	Error
[	Warning

When an error occurs, a buzzer sounds and an error code is displayed for 10 seconds in the right side of the text window D. The error is also displayed in the text box G. If the error is still present after one minute, the buzzer will sound again for two seconds.

This will be repeated until the error is corrected, however the truck can be driven with all functions, as set out in the following table



WARNING

Ignoring error indication

Jeopardises truck safety.

Always check truck functions before operation.

Electronic card

7 Error Codes

The last 50 errors are stored in the error log with the date and time.

7.1 Error mode

Error mode	Explanations/corrective actions
Start up error	The truck starts, no driving or hydraulic functions
Critical error	Steering safety relay releases Main contactor opens Parking brakes are activated
General error	Current function stops
Height error	Fork lift at low speed
Emergency switch on	Main contactor opens Parking brakes activated
Steering error	Steering safety relay releases Drive motor reverses to stop
Drive regulator error	Main contactor opens Lift regulator error Steering enabled Parking brake activated when braking
Lift regulator error	Hydraulics stop Valves closed

Warning codes 11-99 give a warning signal of 2 Hz.

Error codes 100– give a warning signal of 4 Hz.



7.2 Safety logic

This applies to the following functions:

X = Action -- = Function disabled

Action: Function:	K10 opens	Y1 activates	Reversing with M1	Steering disabled	Function at A2 halted
Emergency switch	X	X	--		--
Key	X	X	--	X	--
Steering error			X	X	
Error at A1	X		--		--
Error at A2					X (and el. valves off)
Error at A5	X	X	--	X	--

7.3 Warning Codes without registration

Code	11
Description	Overheating of cooling flange on electronic card
Error mode	Maximum current to steering motor drops and the driving speed is reduced to crawl speed.
Error cause	Seized steering/gear
	Seized steering bearings
	Defective steering motor
	Defective electronic card A5
Comments	Cool and check motor/gear

Electronic card

Code	14
Description	Seat switch activated more than 20 minutes without moving the truck
Error mode	No corrective action
Error cause	Strapped switch
	Faulty switch/wiring
	Defective electronic card A5
Comments	

Code	15
Description	Safety switch activated more than 20 minutes without moving the truck
Error mode	No corrective action
Error cause	Strapped switch
	Faulty switch/wiring
	Defective electronic card A5
Comments	

Code	16
Description	Voltage from accelerator pedal's potentiometer R1 is outside the calibrated value at start up. (+/-0.2 V).
Error mode	Start up error
Error cause	Activated pedal at start up
	Faulty potentiometer/bracket/wiring
	Calibration error.
	Defective electronic card A5
Comments	Manoeuvre to neutral position



Code	17
Description	Voltage from the brake pedal potentiometer R2 is outside of the calibrated value at start up (+/-0.2 V).
Error mode	Start up error
Error cause	Activated pedal at start up
	Faulty potentiometer/bracket/wiring
	Calibration error.
	Defective electronic card A5
Comments	Manoeuvre to neutral position

Code	18
Description	Battery on the electronic card has reached the lowest voltage
Error mode	Internal clock stops
Error cause	Battery voltage too low
Comments	

Code	19
Description	Previously programmed values missing
Error mode	Standard values have been loaded
Error cause	Displaced A5 electronic card
Comments	Program A5 card

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	21
Description	Potentiometer R11 for fork lift/lower gives incorrect voltage when ignition is switched on (+/-0.6 V).
Error mode	Start up error
Error cause	Activated joystick at start up
	Faulty potentiometer/bracket/wiring
	Defective electronic card A5
Comments	Manoeuvre to neutral position

Code	22
Description	Potentiometer R13 for tilting gives incorrect voltage when ignition is switched on (+/-0.6 V).
Error mode	Start up error
Error cause	Activated joystick at start up
	Faulty potentiometer/bracket/wiring
	Defective electronic card A5
Comments	

Code	23
Description	Potentiometer R12 for the mast reach in/out gives incorrect voltage when ignition is switched on (+/-0.6 V).
Error mode	Start up error
Error cause	Activated joystick at start up
	Faulty potentiometer/bracket/wiring
	Defective electronic card A5
Comments	



Code	24
Description	Potentiometer R14 or R15 for extra functions "1" and "2" gives incorrect voltage when the ignition is switched on (+/-06 V).
Error mode	Start up error
Error cause	Activated joystick at start up
	Faulty potentiometer/bracket/wiring
	Defective electronic card A5
Comments	Manoeuvre to neutral position

Code	25
Description	Output stage error
Error mode	General error
Error cause	See codes 50-62 for more information
	Emergency switch for Y1 activated
Comments	

Code	26
Description	Input stage error
Error mode	General error
Error cause	See codes 90-94 for more information
Comments	

Code	27
Description	Incorrect battery measurement
Error mode	Battery display flashes
Error cause	Poor contact on battery measurement cables
	Defective electronic card A5
	Defective battery
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	28
Description	Emergency switch is activated
Error mode	Emergency switch on
Error cause	Driver action
	Faulty switch/wiring
	Defective electronic card A5
Comments	Reset S21 and turn S17 on/off

Code	29
Description	Service time (S) is zero
Error mode	No corrective action
Error cause	
Comments	Reset with parameter

Code	40
Description	Warning temperature for the drive motor
Error mode	Maximum current reduced
Error cause	Overheated drive motor
	Faulty temperature sensor/wiring
	Defective frequency converter
	Defective electronic card A5
Comments	



Code	41
Description	Warning temperature on drive motor's frequency converter
Error mode	Maximum current reduced
Error cause	Overheated frequency converter
	Defective fan
	Defective frequency converter
	Defective electronic card A5
Comments	

Code	42
Description	Current calibration error on drive motor's frequency converter
Error mode	No corrective action
Error cause	Defective frequency converter
Comments	

Code	46
Description	Too high/low temperature in the pump motor transistor panel
Error mode	Maximum current reduced
Error cause	Ambient temperature extremely hot/cold
	Defective cooling fan
	Defective pump motor
	Defective transistor panel
Comments	

Code	48
Description	Voltage too low in pump motor's transistor panel
Error mode	Maximum current reduced
Error cause	Defective battery
	Poor contact at K10's contact points
	Defective transistor panel
Comments	

Electronic card

Version no

001

T-code

483, 484, 657, 658

8 Warning codes with registration

When a warning code is registered, it is automatically displayed. Registration is made in the first of the 50 possible locations and moves previous errors one step down.

Warning codes 50–62 are either for valve, support arm brake or cable breakage or short circuits.

Warning codes 90-94 are either for potentiometer or cable breakage.

Only the actual function is disabled; other functions are unaffected.

Code	52
Description	Output 701 short circuit/breakage
Error mode	General error
Error cause	Faulty wiring/valve Y10
	Defective electronic card A5
Comments	

Code	53
Description	Output 705 short circuit/breakage
Error mode	General error
Error cause	Faulty wiring/valve Y15
	Defective electronic card A5
Comments	

Code	54
Description	Output 704 short circuit/breakage
Error mode	General error
Error cause	Faulty wiring/valve Y14
	Defective electronic card A5
Comments	



Code	55
Description	Output 706 short circuit/breakage
Error mode	General error
Error cause	Parameter 15 >0, no valve connected
	Faulty wiring/valve Y16
	Defective electronic card A5
Comments	

Code	56
Description	Output 707 short circuit/breakage
Error mode	General error
Error cause	Parameter 15 >0, no valve connected
	Faulty wiring/valve Y17
	Defective electronic card A5
Comments	

Code	57
Description	Output 708 short circuit/breakage
Error mode	General error
Error cause	Parameter 16 >0, no valve connected
	Defective electronic card A5
	Defective electronic card A5
Comments	

Code	58
Description	Output 709 short circuit/breakage
Error mode	General error
Error cause	Parameter 16 >0, no valve connected
	Faulty wiring/valve Y19
	Defective electronic card A5
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	59
Description	Output 702 short circuit/breakage
Error mode	General error
Error cause	Emergency switch for Y1 activated
	Faulty wiring/valve Y12
	Defective electronic card A5
Comments	

Code	60
Description	Output 703 short circuit/breakage
Error mode	General error
Error cause	Faulty wiring/valve Y13
	Defective electronic card A5
Comments	

Code	61
Description	Output 803 short circuit/breakage
Error mode	General error
Error cause	Faulty wiring/valve Y10
	Defective electronic card A5
Comments	

Code	90
Description	Potentiometer R11 for fork lift/fork lower gives incorrect voltage (<0.3 or >7.0 V).
Error mode	General error
Error cause	Faulty potentiometer/wiring
	Activated input without connected potentiometer
	Defective electronic card A5
Comments	



Code	91
Description	Potentiometer R13 for tilt gives incorrect voltage (<0.3 or >7.0 V).
Error mode	General error
Error cause	Faulty potentiometer/wiring
	Activated input without connected potentiometer
	Defective electronic card A5
Comments	

Code	92
Description	Potentiometer R12 for mast reach in/out movement gives incorrect voltage (<0.3 or >7.0 V)
Error mode	General error
Error cause	Faulty potentiometer/wiring
	Activated input without connected potentiometer
	Defective electronic card A5
Comments	

Code	93
Description	Potentiometer R14 or R15 for extra function "1" and "2" gives incorrect voltage (<0.3 or >7.0 V).
Error mode	General error
Error cause	Parameters 15/16 >0, no potentiometer connected
	Faulty potentiometer/wiring
	Defective electronic card A5
Comments	

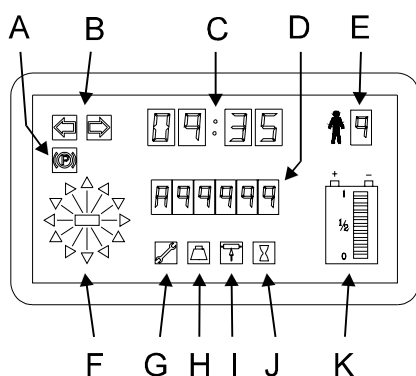
Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	94
Description	Potentiometer R1 for accelerator pedal gives incorrect voltage (<0.4 or >4.6 V).
Error mode	General error
Error cause	Faulty potentiometer/wiring
	Defective electronic card A5
Comments	



9 Error Codes

Character	Error
E	Error

When an error occurs, a buzzer sounds and an error code is displayed for 10 seconds in the right side of the text window D. The error is also indicated in text window G. The buzzer sounds until the ignition is switched off, cutting power to the truck.

If the error remains when the truck is restarted, the code will be shown again and the buzzer will sound.

The truck's hydraulic functions shown in the table will be inoperable.

The code is automatically registered in the error register when it's displayed, the significance of the code is evident from the table. Registration is made in the first of the 50 possible locations and moves previous errors one step down.

When the registry is shown in the text window, the most recent error will be shown first, along with the error code.

To see the date when the error occurred, press **III** once. To see the time, press **III** a second time.

To view more registered errors, press **II**.

0.1 . 1.0.3.

94.1 . 1.0.3.

. . 0.7.0.5.

**WARNING**

Ignoring error indication

Jeopardises truck safety.

Always check truck functions before operation.



9.1 Error codes with registration

Code	104
Description	Output 802 short circuit/breakage
Error mode	Critical error
Error cause	Emergency switch for Y1 activated
	Faulty wiring/valve Y1
	Defective electronic card A5
Comments	

Code	106
Description	Output 804 short circuit/breakage
Error mode	Critical error
Error cause	Faulty wiring/contact K10
	Defective electronic card A5
Comments	

Code	107
Description	Main contactor K10 does not close when the ignition is on and the emergency switch is deactivated.
Error mode	Critical error
Error cause	Defective contactor K10
	Defective electronic card A5
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	108
Description	Main contactor does not open when the ignition is off and the emergency switch is deactivated
Error mode	Critical error
Error cause	Defective contactor K10
	Defective electronic card A5
Comments	

Code	111
Description	Potentiometer R1 for brake pedal gives incorrect voltage (<0.4 or >4.6 V)
Error mode	Critical error
Error cause	Faulty potentiometer/wiring
	Defective electronic card A5
Comments	

Code	112
Description	Error on brake input test
Error mode	Critical error
Error cause	Defective electronic card A5
Comments	

Code	120
Description	Memory cell for steering set point value, incorrect value
Error mode	Steering error
Error cause	Displaced A5 electronic card
	Faulty A5 electronic card
Comments	Restart can reset error



Code	121
Description	Steering safety relay deactivated due to incorrect voltage on drive stage or communications error with master processor
Error mode	Steering error
Error cause	Displaced A5 electronic card
	Defective electronic card A5
Comments	Restart can reset error

Code	122
Description	Warning temperature in steering servo
Error mode	Steering error
Error cause	High ambient temperature
	Steering jams
	Defective steering motor
	Faulty wiring to steering motor
	Defective electronic card A5
Comments	

Code	123
Description	Output voltage to steering motor differs from requested steering
Error mode	Steering error
Error cause	Defective steering motor
	Faulty wiring to steering motor
	Defective electronic card A5
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	125
Description	Steering generator error on test
Error mode	Steering error
Error cause	Faulty generator/carbon brushes
	Defective wiring
	Defective electronic card A5
Comments	

Code	126
Description	Steering motor error on test
Error mode	Steering error
Error cause	Defective fuse F61
	Faulty steering motor/carbon brushes
	Defective wiring
	Defective electronic card A5
Comments	

Code	127
Description	Communications error between steering processor and master processor
Error mode	Steering error
Error cause	External interference, static electricity
	Defective electronic card A5
Comments	Restart can reset error



Code	128
Description	Memory cell for steering set point value contains incorrect value
Error mode	Critical error
Error cause	External interference, static electricity
	Defective electronic card A5
Comments	Restart can reset error

Code	130
Description	Communications error between I/O processor and master processor
Error mode	Critical error
Error cause	External interference, static electricity
	Defective electronic card A5
Comments	Restart can reset error

Code	131
Description	Error testing safety relay, steering, at start-up
Error mode	Steering error
Error cause	Defective fuse F61
	Defective wiring for F61
	Defective electronic card A5
Comments	

Code	133
Description	Error testing safety relay, steering, at start-up
Error mode	Steering error
Error cause	Defective electronic card A5
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	134
Description	Safety relay, steering, has opened
Error mode	Steering error
Error cause	Electronic card A5 displaced/jarred
	Defective electronic card A5
Comments	

Code	135
Description	Error testing safety relay, main circuit, at start-up
Error mode	Critical error
Error cause	Defective electronic card A5
Comments	

Code	136
Description	Error testing safety relay, main circuit, at start-up
Error mode	Critical error
Error cause	Defective electronic card A5
Comments	

Code	137
Description	Safety relay, main circuit, has opened
Error mode	Critical error
Error cause	Electronic card A5 displaced/jarred
	Defective electronic card A5
Comments	Restart can reset



Code	140
Description	Incorrect checksum in parameter memory on start-up
Error mode	Critical error
Error cause	Displaced A5 electronic card
	Defective electronic card A5
Comments	Restart can reset error Change a parameter and restart Download new program

Code	141
Description	Incorrect checksum for current program
Error mode	Critical error
Error cause	Bad download of program from PC
	Defective electronic card A5
Comments	

Code	150
Description	No communication with frequency converter on start-up
Error mode	Drive regulator error and lift regulator error
Error cause	Faulty CAN wiring/resistance
	15 no V
	Defective frequency converter
	Defective electronic card A5
Comments	

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	151
Description	No communication with drive motor's frequency converter on start-up
Error mode	Drive regulator error
Error cause	Faulty CAN wiring/resistance
	Defective frequency converter
Comments	

Code	152
Description	No communication with drive motor's frequency converter during operation
Error mode	Drive regulator error
Error cause	Faulty CAN wiring/resistance
	Defective frequency converter
Comments	

Code	153
Description	No communication with pump motor's frequency converter at start-up
Error mode	Lift regulator error
Error cause	Faulty CAN wiring/resistance
	Defective frequency converter
Comments	

Code	154
Description	No communication with pump motor's frequency converter during operation
Error mode	Lift regulator error
Error cause	Faulty CAN wiring/resistance
	Defective frequency converter
Comments	



Code	155 - 163
Description	General communications error
Error mode	Drive regulator error
Error cause	Faulty CAN wiring/resistance
	External CAN unit incorrectly connected
	Displaced A5 electronic card
	Defective electronic card A5
Comments	

Code	203
Description	CPU or memory error on drive motor's frequency converter
Error mode	Drive regulator error
Error cause	Defective frequency converter
Comments	

Code	205
Description	Overheated drive motor
Error mode	Drive regulator error
Error cause	Motor heavily loaded
	Faulty wiring/temperature sensor
Comments	Restart possible

Code	206 - 207
Description	Overheated drive motor frequency converter
Error mode	Drive regulator error
Error cause	Defective cooling fan
	Defective motor
	Defective frequency converter
Comments	Restart possible

Electronic card

Version no

T-code

001**483, 484, 657, 658**

Code	208
Description	Excessive current on drive motor frequency converter
Error mode	Drive regulator error
Error cause	Motor cables incorrectly connected
	Defective frequency converter
Comments	

Code	209 - 210
Description	Excessive voltage on drive motor frequency converter
Error mode	Drive regulator error
Error cause	Defective battery
	Defective motor
	Defective frequency converter
Comments	

Code	211 - 212
Description	Voltage too low on drive motor's frequency converter
Error mode	Drive regulator error
Error cause	Faulty wiring/fuse F62
	External current load incorrectly connected
	Charger plug removed with ignition switched on
	Defective electronic card A5
	Defective frequency converter
Comments	

Code	213 - 214
Description	CAN error on drive motor's frequency converter
Error mode	Drive regulator error
Error cause	Defective frequency converter
Comments	



Code	220
Description	No communication with the electronic card
Error mode	Pump regulator error
Error cause	Faulty CAN wiring
	Defective transistor panel
Comments	

Code	221
Description	Negative error
Error mode	Pump regulator error
Error cause	Pump motor or M short circuited to B
	Defective transistor panel
Comments	

Code	222
Description	Power supply error
Error mode	Pump regulator error
Error cause	Defective transistor panel
Comments	

Code	234
Description	No communication with the electronic card
Error mode	Pump regulator error
Error cause	Faulty CAN wiring
	Defective transistor panel
Comments	