CAN CODE	ALARM		explain	resolvent
0	NONE	NONE	NONE	NONE
8	WATCHDOG	watchdog	This is the controller's self-safety check, including the main and secondary CPU	Check the CAN communication line, which may be caused by communication failure
17	LOGIC FAILURE # 3	The logic board is overcurrent	The current of the controller logic board is too high. When the inverter part does not work, the current is relatively high.	Change the controller
18	LOGIC FAILURE #2	Motor voltage feedback fault	This is a fault of the controller motor voltage feedback logic board	Change the controller
19	LOGIC FAILURE # 1	Voltage is too high or too low	This fault occurs when the controller detects that the voltage of the key switch wire is too low compared to the system voltage.	1. If the voltage of the key switch wire drops momentarily due to additional loads such as DC, relays, or contactors when the device is turned on, it can cause a malfunction. Remove similar electronic components. 2. If this issue occurs every time the key is turned on, and there are no additional loads or the battery voltage is correct, consider a controller failure and replace it. 3. If the issue occurs during acceleration or while performing hydraulic actions, check if the cable connections are loose and inspect the battery for damage
28	PUMP VMN LOW	The DC pump motor is open circuit	The pump motor output is lower than the controller expects	A) If it appears when the machine is turned on and the main contactor does not engage -Internal connection problems of pump motor, such as carbon brush -External cable connection problem of pump motor -If the above two points are not a problem, then it is an internal problem of the controller B) If the main contactor is engaged and then disconnected when the machine is started -Internal motor connection problems, such as carbon brushes -Motor coil or cable is connected to the frame -If the above two points are not a problem, then it is an internal problem of the controller C) If there is a fault when the motor is rotating -Internal motor connection problems, such as carbon brushes -Motor coil or cable is connected to the frame -Poor contact of the main contactor -If the above points are ok, then it is a problem inside the controller
29	PUMP VMN HIGH	The DC pump motor is short circuit	The pump motor output is higher than expected	-Internal motor connection problems, such as carbon brushes -Motor coil or cable is connected to the frame -If none of the above is a problem, then there is an internal problem with the controller
30	VMN LOW	The AC motor feedback is low	After the machine is started, before the main contactor is engaged, the software will check the power circuit. It will open the MOS tube on the high side to check whether the phase voltage reaches the predicted value. If one phase voltage is low, a fault will be reported Detection during operation. When the motor is rotating, the power circuit is working and the motor voltage feedback will be tested continuously. If the feedback voltage is lower than expected, the controller reports a fault	A) If it appears when the machine is turned on, the main contactor does not close -Internal connection problem of the motor (check continuity of phase resistance) -Motor cable connection problem -If the above two points are good, there is a problem inside the controller B) If it happens when the motor is running -Motor cable connection problem -Main contactor contact is poor -If the above two points are good, there is a problem inside the controller

31	VMN HIGH	The feedback of the AC motor is high	After the machine is started, before the main contactor is engaged, the software will check the power circuit. It will open the MOS tube on the low side to check whether the phase voltage reaches the predicted value. If one phase voltage is high, a fault will be reported This fault may also occur after the start-up test is completed and the main contactor is engaged. In this case, the phase voltage of the motor needs to be less than half of the battery voltage, and if it is higher, the fault will occur	A) If it appears when the machine is turned on, the main contactor does not close -Internal connection problem of the motor (check continuity of phase resistance) -Motor cable connection problem -If the above two points are good, there is a problem inside the controller B) If it happens when the motor is running -Motor cable connection problem -Main contactor contact is poor -If the above two points are good, there is a problem inside the controller
37	CONTACTOR CLOSED	The main contactor is stuck	Before driving the contactor coil, the controller will detect whether the contactor is adhered. The controller will drive some power elements and then try to release the capacitor. If there is no drop for a period of time, it indicates that the positive cable of the controller has been positive all the time, and a fault will occur.	Check whether the main contactor is stuck. If it is stuck, replace the contactor Check for problems with cable connections
38	CONTACTOR OPEN	The main contactor is not engaged	The main contactor coil has been driven, but the main contactor is not engaged. To detect this fault, the controller drives some power elements. If the capacitance level drops, it indicates that the positive cable of the controller is not positive and the fault will occur	Check whether the main contactor cannot be attracted, replace the main contactor and check whether there is a problem with the cable connection
52	PUMP I=0 EVER	The DC pump motor has no current	When the pump motor is working, the current feedback is close to 0	1-Check the pump motor cable connection. If the cable has continuous poor contact, the current cannot flow, and the test result will fail, resulting in this fault 2-If all connections and pump motors are normal, this may be a problem related to the controller's current sensor
53	STBY I HIGH	Wait for the electromotive current to be too high	In standby mode, the controller detects that the current is not 0	If the current sensor or feedback loop is faulty, replace the controller

60	CAPACITOR CHARGE	Precharge fault	When the key switch is closed, the controller tries to charge the power capacitor through the PTC and power resistor. If the voltage does not go up, it may be lower than expected, resulting in this fault. Then the main contactor does not engage	1. Check if there are any additional loads on the capacitor circuit that could consume the capacitor's reverse current, preventing it from charging. Check if additional loads, such as lights or DC, are present on the capacitor circuit. 2. The PTC's charging resistor might be damaged. Add a power resistor to the contact circuit. If the fault disappears, it indicates that the charging resistor is damaged 3-
62	TH. PROTECTION	The controller is hot	When the controller's substrate temperature exceeds 85℃, the maximum current decreases in proportion from 85 degrees to 105 degrees. At 105 degrees, the current is zero	Improve the cooling system of the controller by increasing air circulation or lowering the temperature of the circulating air. If the controller's aluminum plate is directly attached to the frame, ensure that the contact surface is smooth and that the thermal conductive silicone is evenly applied. If this issue occurs when the controller is cold, it may indicate a problem with the internal temperature sensor; in such cases, replace the controller
65	MOTOR TEMPERAT.	The motor is hot	Report this fault when the temperature sensor is disconnected or exceeds the range	1-Read the motor temperature in the test menu to see if the temperature is normal 2-Check the temperature sensor resistance and wiring harness 3-If the above is normal, let the motor cool down 4-If the above are normal and the motor temperature is not high, it is inside the controller
66	BATTERY LOW	The battery is low	The power detection parameter is not 0, and the power is lower than the alarm low power set by the controller	1-Check the remaining battery power and charge it. 2-If the battery is full, use the voltmeter to confirm that the battery voltage is the same as the battery voltage value in the tester menu. If not, adjust the battery in the adjustment menu 3-If the above is ok, replace the controller
74	DRIVER SHORTED	The main contactor coil is short circuit	The main contactor coil drive is short-circuited	1-Check whether the main contactor coil is short circuit or has a low resistance in parallel with the two conductors of the coil 2-Short circuit of drive circuit, replace the controller 3-Parameter SET POSITIVE PEB Settings are incorrect
75	CONTACTOR DRIVER	Main contactor drive fault	The main contactor coil cannot be driven, the coil or drive circuit is open	This has nothing to do with the external wiring harness, it is usually an internal problem of the controller, replace the controller
78	VACC NOT OK	Accelerator failure	After the engine is started, the driving request has been disconnected (direction and acceleration can be started), but the accelerator potentiometer output is higher than the minimum value when the accelerator is matched	1-Check the accelerator related wiring harness 2-Check whether the accelerator itself is damaged 3-Re-match the accelerator through program vacc 4-If none of the above problems, replace the controller
79	INCORRECT START	Incorrect start sequence	Possible causes of incorrect start sequence: 1. There is a driving request before the machine starts or interlock closes; 2. The interlock closes before the machine starts; 3. According to the vehicle's software and functions, refer to the corresponding operation sequence error	1-Check the wiring harness 2-Check whether the microswitch is damaged 3-Through the tester menu, confirm whether the input quantity status is consistent with the microswitch status 4-Try to remove the input wire from the controller 5-If the above does not solve the problem, replace the controller
80	FORW + BACK	Move forward and back at the same time	If the forward and backward requests are activated simultaneously, a failure occurs	1-Check that the forward and backward switches are not closed at the same time 2-Check the input status of the forward and backward switches in the TESTER menu 3-

				Check the relevant wiring harness for forward and backward 4-Check whether the forward and backward switches are faulty. 5-Try to remove the forward and backward input wires at the controller end. 6-If the above problems cannot be solved, replace the controller
82	ENCODER ERROR	Encoder fault	When the motor speed exceeds 30HZ, the encoder feedback appears to have high frequency jumps, and this fault occurs. It is generally an encoder related fault	1-Check whether the encoder is damaged and check the related wiring harness 2-Check whether there is a problem in the mechanical installation of the encoder and coding disk 3-Check for electromagnetic interference 4-If the above problems cannot be solved, replace the controller
86	PEDAL WIRE KO	-	-	-
126	CHAIN SENSOR KO	The chain anti-loosening switch is open	The chain loosening switch state changes, resulting in this fault	1-Check that the chain release switch is not triggered 2-Check the chain release switch harness 3-Check whether the chain release microswitch is damaged 4-Remove and short circuit the chain release switch from the controller end according to the schematic diagram
127	NO STEER CANMSG		-	-
128	POT MISMATCH		-	-
129	WRONG CONFIG	The controller is misconfigured	Controller type and model type are incorrectly set	1-Check the controller type parameter in the special adjustment menu 2-Check the model type parameter in the special adjustment menu
130	REACH OUT OF RNG	The potential of the moving electrode is out of limit	The potentiometer range exceeds the maximum and minimum values	1-Check the wiring harness of the front and rear potential meters 2-Check whether the moving potential meter is faulty before and after 3-Re-match the potentiometer
131	VACC REACH NO TOK	Fault of the front and rear potentiometers	There is a potential meter output signal, but no start switch signal	1-Check the forward and backward movement start switch signal 2-Check the potential meter harness
132	ALL ACQU. REACH	There is a mismatch error in the front and back	The parameter setting is wrong when the potentiometer is matched	Match the forward and backward potentiometers in the correct manner again
133	TLT OUT OFRANGE TILT OUT OF RNG	The tilt potentiometer is out of limit	The potentiometer range exceeds the maximum and minimum values	1-Check the wiring harness of the pre-inclined potentiometer 2-Check whether the pre-inclined potentiometer is faulty 3-Re-match the potentiometer
134	VACC TILT NOT OK	Tilt potentiometer fault	There is a potential meter output signal, but no start switch signal	1-Check the tilt start switch signal 2-Check the potential meter harness

135	SFT OUT OFRANGE SHIFT OUT OF	Side shift potential meter exceeds limit	The potentiometer range exceeds the maximum and minimum values	1-Check the wiring harness of the front lateral potential meter 2-Check whether the front displacement potentiometer is faulty 3-Re-match the potentiometer
136	VACC SHFT NOT OK	Side shift potentiometer fault	There is a potential meter output signal, but no start switch signal	1-Check the lateral shift start and switch signal 2-Check the potential meter harness
137	ALL ACQU. TILT	The tilt alignment is incorrect	The parameter setting is wrong when the potentiometer is matched	Match the tilt potentiometer in the correct way again
138	ALL ACQU. SHIFT	Side-to-side match error	The parameter setting is wrong when the potentiometer is matched	Re-match the lateral potential meter in the correct way
139	NO CAN TILL EP NO CAN TILLER EP	The handle head communication is disconnected	The EP handle head was connected when starting up, but the CAN communication of the EP handle head was lost during operation	1-Check whether the CAN line connection of the handle head is not in good contact 2-Check whether the resistance on the CAN bus is 60 ohms 3-Check whether there are other interference sources interfering with communication, such as horns
140	WAIT TILL EP WAIT TILLER EP	Waiting for the handle head communication	Wait for the EP handle head to communicate with CAN when starting up	1-Check whether the CAN line of the handle head is correctly connected. 2-Replace the handle head 3-Check if the CAN line is short circuit
141	NO CAN BRAKE EP	The pedal communication is disconnected	This fault occurs if the parameter PEDAL BRK TYPE=option#1 is set but the controller does not receive a can brake signal	1-Check the CAN brake harness 2-Check if the can accelerator is damaged 3-Try to set the PEDAL BRK TYPE to NONE and see if the fault disappears
142	WAIT ACTIVATION	Waiting to be activated	If the controller updates a program that needs to be activated, but the controller has never been activated, then a failure occurs	Use the EP tool to activate the controller
143	WRONG PASSWORD	wrong password	This fault occurs if the EP PASSWORD function (password input function) is enabled but the correct password is not entered	1-Enter the correct password 2-Turn off the password function
144	NO CAN DISP EP	The communication of Zhongli instrument is disconnected	During the operation of the vehicle, if the instrument type is EP instrument, but the communication between the controller and the instrument is interrupted, this fault will occur	1-Check the communication lines of the instrument and controller 2-Check whether the instrument is damaged
145	WAIT DISP EP	Waiting for Zhongli Instrument Communication	If the instrument type is EP instrument, but the controller cannot establish communication with the instrument when starting up, this fault occurs	1-Check the communication line between EP instrument and controller 2-Please check the type of instrument and whether the instrument is matched
146	RENTAL TIMEOUT	The lease expires	This fault occurs if the lease function is enabled and the remaining lease time is 0	1-Check the remaining lease time in the test menu. 2-Use the EP tool to turn off the lease function
147	NO CAN BMS EP	The communication of Zhongli lithium battery is disconnected	This fault occurs if the communication between the BMS and the master controller times out	1-Check the communication line between BMS and controller 2-Check whether the BMS is faulty
148	EP BMS MC OPEN	The main lithium contactor is disconnected	If the battery is low, the BMS requests the main contactor to be disconnected, and this fault occurs	1-Check the battery and charge it 2-Check if the battery is faulty 3-Replace the BMS board
149	EP BMS TRAC CTB	Lithium battery driving speed limit	If the battery is low, the BMS requires the controller to reduce the speed of travel, and this fault occurs	1-Check the battery and charge it 2-Check if the battery is faulty 3-Replace the BMS board
150	EP BMS LIFT STOP	Lithium battery lifting limit	If the battery is low, the BMS requires the controller to prohibit lifting, and this fault occurs	1-Check the battery and charge it 2-Check if the battery is faulty 3-Replace the BMS board
151	EP BMS TRAC STOP	Lithium battery driving restrictions	If the battery is low, the BMS requires the controller to prohibit walking, and this fault occurs	1-Check the battery and charge it 2-Check if the battery is faulty 3-Replace the BMS board
152	SENSOR SUPPLY XX		The controller motor current sensor detects a fault	
153	OFFSET SPD.SENS.		-	-
154	SIXSTEP ERROR		-	-
155	WAIT MOTOR STILL		-	-
	REMA T. ALARM		-	-

156				
157	FAULT DRV.POWER		-	-
158	NOT RDY DRV.POW.		-	-
159	HVIL FAIL		-	-
160	SENS BAT TEMP KO		-	-
161	RPM HIGH		This fault occurs when the feedback speed exceeds the set maximum speed value	-
162	BUMPER STOP		-	-
163	ED SLIP MISMA TCH		If ED COMPENSATION=ON, the output error is the time when this fault occurs	-
164	PWM ACQ. ERROR			
165	SHORT CIRCUIT KO		-	-
166	SHORT CIRCUIT		-	-
167	IMS ERROR		-	-
168	SIN/COS D. ERR XX		-	-
169	ENCODER D.ERR XX		-	-
170	WRONG KEY VOLT.	Key voltage error	The voltage measured on the key line does not match the voltage of the controller system	1-Check whether the set key voltage in the adjustment menu matches the voltage on the key switch. 2-Measure the voltage of the controller key switch access line with a voltmeter to check whether the voltage is normal 3-If the above steps do not solve the problem, replace the controller
171	ACQUIRING A.S.		-	-
172	ACQUIRE ABORT		-	-
173	ACQUIRE END		-	-
175	SPEED FB. ERROR		-	-
176	HOME SENS.ERR XX		-	-

177	COIL SHOR. EB.	The brake coil is short circuit	This fault occurs when the driver of the electric brake is overloaded	1-Check the electric brake output and load of the controller 2-Confirm whether the electric brake is provided by medium force 3-If the electric brake, the connection line is not a problem, then it is the controller problem
178	MOTOR TEMP. STOP	Motor temperature exceeds limit	The temperature sensor senses that the temperature exceeds the motor stop temperature set by the controller	1-Check the motor temperature sensor value in the TESTER menu 2-Check the resistance and wiring of the temperature sensor 3-If the sensor is good, improve the cooling performance of the motor 4-If the motor temperature is normal and the above test results are good, replace the controller
179	STEER SENSOR KO	Turn off the potentiometer	The voltage reading of the feedback potentiometer in the steering direction exceeds the set range of steer right and steer left	1-Re-match the angle potential meter voltage 2-Check whether the wiring harness is normal 3-Check whether the Angle potential meter is normal 4-All above are normal, replace the controller
180	OVERLOAD	Motor current exceeds limit	The motor current exceeds the controller hardware and software set values	When this fault occurs, contact the EP technician that the motor parameter setting is incorrect
181	WRONG ENC SET	Incorrect encoder settings	The Settings of ENCODER PULSES 1 and ENCODER PULSES 2 are different	Find the parameter and set it to the same value
182	EVP2 COIL OPEN	EVP2, coil open circuit	There is no load on the EVP2	1-Check the status of the solenoid valve on the EVP2 2-Inspection
183	EVP2 DRIV. SHORT	EVP2, drive short circuit	1-EVP2 drive short circuit 2-The EVP2 output and feedback detected by the monitoring controller are inconsistent	1-Check for a short circuit or low load resistance on the EVP2 circuit 2-Check the voltage, coil current and coil specification on the EVP2 coil, and consult EP technology to confirm the coil type. 3-If the above steps do not solve the problem, replace the controller
184	EVP2 DRIVER OPEN	EVP2, drive circuit breaker	EVP2 cannot drive the coil, either because of a problem with the device itself or because the drive circuit is damaged	1-Check whether the resistance of the solenoid valve on the EVP2 is normal. 2-This is an internal problem of the controller, so replace the controller
185	TILLER ERROR	-	-	-
186	WAIT MOT.P STILL	Wait for the pump motor to stop	If the DC pump function is activated, before the main contactor engages, the software checks the voltage on cable P-to confirm that the motor is stationary. If the voltage is not zero, it indicates that the motor on P-is not stationary (indicating that the motor is rotating and generating an induced electromotive force). In this case, the software will hold the voltage static for 30 seconds (to ensure the motor is stationary) and display a fault message. If the voltage persists after this time, it indicates that the voltage on P-is not due to the motor's rotation, and a fault message "PUMP VNM NOT OK" will be displayed	1-If the pump motor connected to P-is rotating before starting, wait for it to stop before starting 2-If the motor rotation is not the problem, the PUMP VMN NOT OK fault will appear after 30 seconds
187	MANY PUMP REQ.	Multiple hydraulic requests	This fault occurs when there are two or more hydraulic action requests	1-Check the status of the microswitch 2-Check the wiring harness related to hydraulic action 3-Disconnect the hydraulic action input wiring harness from the controller end 4-If there is no problem above, replace the controller
188	PUMP VACC NOT OK	The lifting potential	The minimum voltage of the lifting poten-	1-It is recommended to start over with the

		meter is faulty	tiometer is not set correctly	matching of the potential meter 2-Check the status of the corresponding POT in the test menu 3-Check whether the potentiometer is faulty 4-Check the relevant wiring harness
189	PUMP INC START	The pump started in the wrong seq-uence	Before the interlock switch is closed, a pump request signal is input to the controller	1-Check the wiring harness 2-Check whether the microswitch is faulty 3-Check the status of all input switches through the test menu 4-If there is no problem, replace the controller
190	PUMP VMN NOT OK	Direct current pump motor failure	When the main contactor is engaged, the software checks the output voltage of P-and expects a stable voltage value. If the voltage is too low, this fault occurs	1-If the motor does not stop when it starts, the WAIT MOTOR STILL fault will appear first 2-Internal connection problems of the mo-tor, such as carbon brushes 3-Motor cable connection problem 4-Motor cable and frame short circuit 5-If the above is ok, replace the controller
191	PUMP I NO ZERO	The pump current cannot be set to zero	In standby mode (the pump motor is not working), the current sensor feedback current exceeds the allowable error range, because the current is not 0, this fault occurs	Generally this fault is an internal problem of the controller
192	PUMP VACC RANGE	The lifting potential meter is out of li-mit	COMBIAC0 and COMBIACX controllers, lifting potential exceeds maximum and minimum set values	1-Check the wiring harness of the lifting potential meter 2-Check whether the lifting potential meter is faulty 3-Re-match the potentiometer
193	SMARTDRIVER KO	The intelligent dr-ive is disconnected	This fault is a hardware drive loop fault. When the drive is active, the feedback voltage does not increase	1-Check that the electric brake coil is correctly connected 2-Check that the par-ameter POSITIVE E.B. is correctly set, see the parameter table. Incorrect parameter setting will lead to false fault 3-Check the fuse on the smart drive drive harness 4-If there is no problem, replace the controller

194	AUX BATT. SHORT.	Short circuit the additional power supply voltage	For controllers up to 36V, there is no smart drive driver module. Therefore, correct POSITIVE E.B parameter setting and wiring harness connection are necessary. Otherwise, it will lead to the required failure POSITIVE E.B: -0=PEB is controlled by smart drive and only the 24V system is valid -1=PEB is controlled by interlock switches -2=PEB is a wire controller connected to the positive pole of the controller. Generally, this wire enters the PEV (A3) hole position, which is the default setting for controllers with 36V and above	1-Confirm that the parameter POSITIVE E.B. is the same as the current coil voltage setting 2-If there is no problem with the external harness and coil, then it is a controller problem
195	POS. EB. SHORTED	The positive terminal of the brake is short circuit	The voltage on the PEB port is still 24V, even though the smart drive has stopped driving	1-Confirm that the parameter POSITIVE E.B is set correctly 2-Check for a short circuit or a low resistance between A2 and B+ 3-If there is no problem, then replace the controller
196	MOT.PHASE SH.	Alternating current motor cable short circuit	There is a short circuit between the two phase cables of the motor, and the last two digits indicate where the short circuit is connected to the electric connection 36: U and V are short circuit 37: U and W short circuit 38: V and W short circuit	1-Check the motor end cable connection 2-Check the cable connection at the controller end 3-Check the motor cable 4-Replace the controller 5-If there is still a problem, replace the motor
197	WRONG SLAVE VER.	Error in controller software	The software version of slave controller is incorrect	Update the controller software
198	M/S PAR CHK MISM	Controller parameters are inconsistent	When the main CPU and secondary CPU appear parameter checking errors when starting up, a fault will be reported	Save the parameters again, or do a clear eeprom
199	PARAM TRANSFER	Parameter transmission	The main CPU sends the parameter data to the secondary CPU	Wait, then restart
200	VDC OFF SHORTED	The controller voltage is short circuit	The controller has confirmed that the voltage passing through the DC-LINK exceeds the range and exceeds the maximum allowable value	1-Check that the voltage of the controller and battery is consistent 2-Check the voltage of the battery, if it exceeds, replace the battery 3-If the voltage of the battery is normal, replace the controller
201	TORQUE PROFILE	Torque parameter setting is incorrect	There is an error in the torque data sheet	Check parameters
202	VDC LINK OVERV.	The controller voltage is too high	This fault occurs when the controller detects an overvoltage condition. Overvoltage is defined according to the normal voltage of the controller: normal voltage: 24V 36/48V 72/80V 96V Overvoltage: 35V,65V,115V,130V	If this fault occurs during braking, check that the battery cable connections and the main power circuit cable connections are in good condition
203	HW FAULT MC	The main contactor hardware is faulty	The status of the contactor between the controller and the master controller is different from the actual hardware sending status	1-Check whether the contactor is in good condition 2-Check whether the front and rear cables and coil harness of the contactor are in good condition 3-If there is no problem above, please replace the controller
204	BRAKE RUN OUT	-	-	-
205	EPS RELAY OPEN	The steering controller is faulty	The master controller receives a fault from the EPS controller	Check and resolve the fault on the EPS controller, which will disappear automatically

206	INIT VMN HIGH	The alternating voltage is too high	Before the main contactor is energized, the software checks the drive power circuit. The software expects the motor voltage to be a stable value. If it is too high, this fault will occur. The last two digits mean: 01-U phase 02-V phase 03-W phase	1-Check the motor cable connection 2-Check the resistance between U, V and W, as well as the resistance between U, V, W and B- 3-Check if the motor is short circuit to the frame 4-If the above is not a problem, then it is an internal problem of the controller
207	INIT VMN LOW	The alternating voltage is too low	Before the main contactor is energized, the software checks the drive power circuit. The software expects the motor voltage to be a stable value. If it is too low, this fault occurs. The last two digits mean: 01-U phase 02-V phase 03-W phase	1-Check the motor cable connection 2-Check the resistance between U, V and W, as well as the resistance between U, V, W and B- 3-Check if the motor is short circuit to the frame 4-If the above is not a problem, then it is an internal problem of the controller
208	EEPROM KO	Memory disconnected	There is a problem in the EEPROM, and the reading is wrong. Replace the controller logic board	Change the controller
209	PARAM RESTORE	The parameters are resaved	If you do clear eeprom before shutting down, the controller will show this fault when it is turned on next time, telling you that the EEPROM has been cleared successfully	1-Any walking or pumping action can eliminate the fault 2 Clear the EEPROM and restart if the boot fault occurs

210	WRONG RAM MEM.	Memory read/write error	The RAM used to check the registers found an error at the last restart according to the algorithm, and this failure prohibits operation	Restart, if it still appears after several restarts, replace the controller
211	STALL ROTOR	motor stalling	The rotor of the motor is blocked, or the encoder feeds back an incorrect signal	1-Check whether the encoder is damaged and check the related wiring harness 2-Check the wiring harness 3-Check whether the frequency and measured speed are the same in the test menu, and whether they are positive or negative 4-Check whether the motor is mechanically stuck 5-If the problem cannot be solved, replace the controller
212	POWER MISMATCH	Power output error	This fault occurs when there is a deviation between the power set value and the power estimate	Consult EP for correct motor parameters
213	POSITIVE LC OPEN	Main contactor voltage fault	The voltage of the main contactor coil is different from the desired value	1-Check whether the main contactor coil is connected 2-Check whether the CONF. POSITIVE LC setting is correct 3-If no problem is found, replace the controller
214	EVP COIL OPEN	The EVP coil is open circuit	No load is connected to the EVP port	1-Check the status of the solenoid valve on the EVP port 2-Check the solenoid valve harness on the EVP port 3-If none of these can be solved, replace the controller
215	EVP DRIV. SHORT.	EVP2, drive short circuit	1-load short circuit on the EVP port 2-the monitoring controller detects that the set voltage and feedback voltage do not match	1-Check for a short circuit or low load resistance on the EVP circuit 2-Check the voltage, coil current and coil specification on the EVP coil, and consult EP technology to confirm the coil type. 3-If the above steps do not solve the problem, replace the controller
216	EB. COIL OPEN	The brake coil is open circuit	This fault occurs when the load on the electric brake port is disconnected	1-Check the coil of the brake 2-Check the electric brake harness 3-Try to turn off the electric brake function. If the fault is still reported, replace the controller
217	PEV NOT OK	Drive voltage error	The PCOM connection is not connected to the battery voltage, or the parameters are different from those set in SET POSITIVE PEB. This fault will be triggered when AUX OUT FUNCTION is used	1-Check whether the PCOM connection line is connected to the main contactor. 2-Check whether the voltage of SET POSITIVE PEB is the battery voltage. Generally, vehicles use the battery voltage
218	SENS MOT TEMP KO	Motor temperature sensor	The output of the motor temperature sensor exceeds the range	1-Check the resistance of the temperature sensor 2-Check the relevant wiring harness 3-If the fault cannot be removed, try to turn off the temperature sensor function through the parameter. If the fault still exists, replace the controller
219	PEB-PEVP NOT OK	Drive voltage error	For the ACE3 controller, the voltage received on port A17 is different from the parameter setting.	1-Check whether the connection line of PCOM is the battery voltage 2-Check whether the voltage of SET POSITIVE PEB is the battery voltage. Generally, vehicles use the battery voltage
220	VKEY OFF SHORTED	The key voltage is too low	At the beginning, the logic board will constantly check the voltage on the key line, and when this voltage is below the minimum allowable value, this fault will occur	1-Check whether the battery voltage and controller voltage are consistent 2-Use a multimeter to check the battery voltage to see if it is normal 3-Lift or drive to check whether the battery voltage drops significantly 4-Replace the battery if possible 5-If the above problems cannot be solved,

				replace the controller, but this probability is very low
221	HANDBRAKE	Handbrake switch fault	The handbrake function is activated	1-Check if the handbrake is loose 2-Check the handbrake status in the test menu 3-Check the wiring harness 4-Check the microswitch 5-Try to disable the HANDBRAKE function in SET OPTIONS 6-If the above degree does not solve the problem, replace the controll-er, but this probability is very low
222	SEAT MISMATCH	-	-	-
223	MC-EF COIL SHOR. (For ACE2, ACE3) MC-EB COIL SHOR. (For ACE2, ACE3)	The main contactor drives a short circ-uit	The main contactor is overloaded	1-Check the load on the output line of the controller that provides power to the main contactor 2-Provide the specific specifications of the contactor coil to the EP engineer 3-Check whether the coil is short circuit 4-If the above problems cannot be solved, replace the controller
223	COIL SHOR. MC (For Combi AC0/ Combi ACX and ACE4)	The main contactor drives a short circ-uit	Main contactor drive overload	1-Check the load on the output line of the controller that provides power to the main contactor 2-Provide the specific specifications of the contactor coil to the EP engineer 3-Check whether the coil is short circuit 4-If the above problems cannot be solved, replace the controller

224	WAITING FOR NODE	Waiting for other controllers	The controller receives a signal from another controller on the CAN network and is told that the other controller is currently faulty and needs to wait for the problem to be resolved	Check and resolve faults in other controllers
225	CURRENT SENS. KO	The current sensor is disconnected	The internal current sensor of the controller is faulty	Generally, this fault requires the controller to be replaced after consulting the EP engineer
226	VACC OUT RANGE	The accelerator output is out of limit	1-The input of the accelerator is not within the MIN VACC and MAX VACC range There is a problem with the values of 2 MIN VACC and MAX VACC	1-Re-match the accelerator 2-Check the accelerator and related wiring harness 3-If it is still not solved, replace the controller
227	HW FAULT	hardware malfunction	When the machine is started, some hardware circuits will check whether the power circuit is normal and whether the main contactor drive is normal. If there is a problem, the fault will be displayed. For specific hexadecimal code, consult the EP engineer	Generally, this fault requires the controller to be replaced after consulting the EP engineer
228	TILLER OPEN	Interlock is open	This fault occurs when the interlock switch is open for more than 120S	1-Re-closing the interlock, the fault disappears 2-Check the interlock status on the test menu 3-Check the wiring harness 4-Check whether the interlock switch is damaged 5-If the fault is still not solved, replace the controller
229	HW FAULT EB.	Brake hardware failure	When the machine is started, the hardware loop detects a fault in the hardware of the drive brake. The hexadecimal XX at the end means consult the EP engineer	Generally, it has nothing to do with the external parts. After checking that the electric brake and related wiring harness are ok, the controller needs to be replaced
230	LC COIL OPEN	The main contactor coil is open circuit	This fault occurs when no load is connected to the drive line of the main contactor	1-Check the wiring of the harness to confirm that the main contactor coil is correctly connected. 2-Check the resistance of the main contactor 3-If the fault still exists, replace the controller, but this probability is very low
232	CONT. DRV. EV	Additional drive circuit breaker	The external valve is driven to break the circuit	If the drive or the circuit itself is broken, replace the controller
233	POWERMOS SHORTED	Power is short-circuited in the test tube	When the test tube is opened, the voltage on the DC connector drops to zero	1-Check that the motor cable UVW is correctly connected 2-Check the motor cable to confirm that it is not grounded 3-Check the motor cable to confirm that it is not connected to the frame 3-If it still cannot be solved, replace the controller
234	DRV. SHOR. EV	Additional drive short circuit	External valve and other drives short circuit	1-Check whether the negative and control negative terminals of the externally driven element are short circuit or have a very small resistance 2-Check whether the element is faulty 3-If the fault is not resolved, replace the controller
235	CTRAP THRESHOLD	Internal circuit detects fault	The internal detection circuit of the controller is faulty	Check the DUTY PWM CTRAP parameters and confirm that the controller parameters are ok.Please consult the EP engineer for relevant data Change the controller
236	CURRENT GAIN	Current calibration error	The controller needs to be calibrated for current when it is manufactured. The failure indicates that the controller manufacturer has not calibrated the current at the time of manufacture	Consult the EP engineer to recalibrate or replace the controller
237	ANALOG INPUT	Internal analog fault	The analog quantity detection fault is inside the controller	It is usually a problem inside the controller. Contact the EP engineer to replace the controller

238	HW FAULT EV.	Drive hardware failure	When the machine is turned on, the controller checks that there is a problem with the internal circuit	It is usually a problem inside the controller. Contact the EP engineer to replace the controller
239	CONTROLLER MISM.	Fault controller	This fault will not occur	This fault will not occur. If it occurs, contact the EP engineer
240	EVP DRIVER OPEN	The EVP drives the circuit breaker	The EVP driver cannot drive the coil, or the drive part or the drive circuit is faulty	It is usually a problem inside the controller. Check that there is no fault in the EVP related wiring harness and then replace the controller
241	COIL SHOR. EV AUX	The valve drive coil is short circuit	This fault occurs if the drive coil of a valve or other skewed driven coil type element is short-circuited	1-Check the load on the output of the controller 2-Check the electrical characteristics of the load and consult the EP engineer whether it can be used 3-Check whether the wiring harness is short circuit 4-If none of these can be solved, replace the controller
242	OPEN COIL EV.	The valve drive coil is open circuit	The valve and other extra driven coil type elements drive the coil circuit breaker, and the last two XX represent which drive port EVP1=BIT 0 EV1=BIT 1 EV2=BIT 2 EV3=BIT 3 EVP2=BIT 4 EV4=BIT 5 EV5=BIT 7 HORN=BIT 6	1-Check the coil 2-Check the line 3-If the fault cannot be solved, replace the controller
243	THROTTLE PROG.	Accelerator parameters are incorrect	Incorrect accelerator curve parameter setting	Correctly set the accelerator curve parameters
244	WARNING SLAVE	From controller failure	The monitoring function is faulty from the controller	Connect to the controller to view and resolve faults
245	IQ MISMATCHED	Motor current outtput error	The current sensor on axis Q detects that the set current is not consistent with the actual output	Consult the force engineer, which usually occurs when there is a problem with the motor parameter setting. Check the parameters

246	EB. DRIV.OPEN	The brake drive circuit is broken	The brake drive does not work	It is usually a problem inside the controller. Check that there is no fault in the brake related wiring harness and replace the controller
247	DATA ACQUISITION	Data collection	It only appears when the controller is in normal condition	Contact the EP engineer to replace the controller
248	NO CAN MSG.	Other controllers have no communication	Waiting for CAN communication from other node controllers, usually followed by two digits XX: 01 SICOS appearance 02 Walking controller 03 Dual drive right walking controller 04 Dual drive left walking controller 05 Pump controller 06 Turn the controller on 09 Valve controller 16 appearance	1-Check the CAN communication connection line of the corresponding controller 2-Check the parameter setting 3-Replace the controller
249	CHECK UP NEEDED	It needs maintenance	This is a reminder that maintenance is needed	After changing the parameter CHECK UO DONE to ON and restarting, the fault disappeared
250	THERMIC SENS. KO	Controller temperature sensor	The controller temperature sensor is open circuit	If there is a problem inside the controller, replace the controller
251	WRONG SET BAT.	The battery voltage is set incorrectly	When the machine is turned on, the controller checks the battery voltage (through the key switch line) and checks whether the difference between the voltage set by the controller is less than 20%	1-Check whether the SET BATTERY parameter is consistent with the battery voltage 2-If the battery voltage is not within the selected range, adjust other parameters and consult the EP engineer 3-Check through the test menu whether the KEY VOLTAGE reading is consistent with that on the key harness 4-Replace the controller
~~252~~	~~WRONG ZERO~~			
253	FIELD ORIENT. KO	Motor current detection error	The current sensor on axis D detects that the set current is not consistent with the actual output	Consult the force engineer, which usually occurs when there is a problem with the motor parameter setting. Check the parameters
254	EB. DRIV.SHRT.	The electric brake drive is short circuit	1-The drive circuit of the electric brake is short-circuited. 2-The controller detects that the output of the electric brake provided is different from that detected	1-Check whether there is a low blocking resistance or short circuit between the negative pole of the electric brake and the negative pole of the controller. 2-Check whether the provided voltage is consistent with the parameter setting. 3-If there is no problem, replace the controller