

Chapter 13 Warning Codes

HAND

① Warning

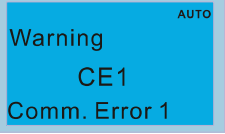
② CE01

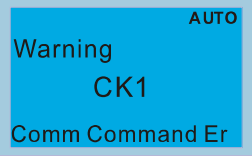
③ Comm. Error 1

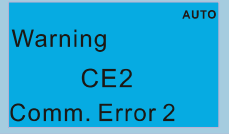
① Display error signal

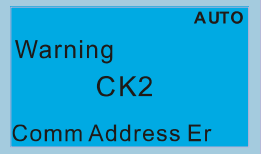
② Abbreviate error code

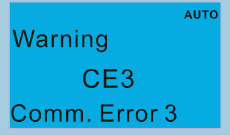
③ Display error description

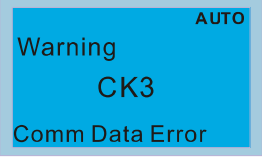
ID No.	Display on LCD Keypad	Warning Name	Description
1		Communication error 1 (CE1)	RS-485 Modbus illegal function code
Action and Reset			
Action level		When the function code is not 03, 06, 10 and 63	
Action time		Immediately act	
Warning setting parameter		N/A	
Reset method		"Warning" occurs when Pr.09-02=0 and the motor drive keeps running. The drive resets automatically when receiving the correct function code.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Incorrect communication command from upper unit		Check if the communication command is correct.	
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from the upper unit		Check if the setting for Pr.09-02 is the same as the setting for the upper unit.	
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.	

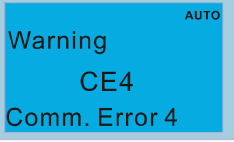
Display on LCD Keypad	Warning Name	Description
	Communication command error 1 (CK1)	Keypad communication data, illegal function code (Keypad auto-detect this error and display it.)
Action and Reset		
Action level		When the function code is not 03, 06, 10 and 63
Action time		Immediately act
Warning setting parameter		N/A
Reset method		Remove the keypad and then reconnect it to the motor drive.
Reset condition		Immediately reset
Record		N/A
Cause		Corrective Actions
Incorrect communication command from keypad		Keypad and the motor drive don't communicate properly. It is recommended to remove the keypad and then reconnect it to the motor drive.
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.
Different communication setting from keypad		Check if the Baud rate = 19200 bps. Format = RTU8, N, 2.
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.

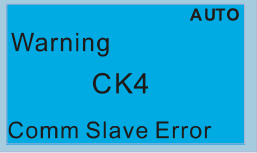
ID No.	Display on LCD Keypad	Warning Name	Description
2		Communication error 2 (CE2)	RS-485 Modbus illegal data address
Action and Reset			
Action level		When the input data address is incorrect	
Action time		Immediately act	
Warning setting parameter		N/A	
Reset method		"Warning" occurs when Pr.09-02=0 and the motor drive keeps running. The drive resets automatically when receiving the correct data address.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Incorrect communication command from upper unit		Check if the communication command is correct.	
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from the upper unit		Check if the setting for Pr.09-02 is the same as the setting for the upper unit.	
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.	

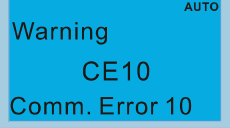
.Display on LCD Keypad	Warning Name	Description
	Communication address error (CK2)	Keypad communication data, illegal data address (Keypad auto-detect this error and display it.)
Action and Reset		
Action level		When the input data address is incorrect
Action time		Immediately act
Warning setting parameter		N/A
Reset method		Remove the keypad and then reconnect it to the motor drive.
Reset condition		Immediately reset
Record		N/A
Cause		Corrective Actions
Incorrect communication command from keypad		Keypad and the motor drive don't communicate properly. It is recommended to remove the keypad and then reconnect it to the motor drive.
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.
Different communication setting from keypad		Check if the Baud rate = 19200 bps. Format = RTU8, N, 2.
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.

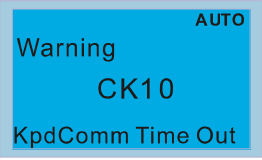
ID No.	Display on LCD Keypad	Warning Name	Description
3		Communication error 3 (CE3)	RS-485 Modbus illegal data value
Action and Reset			
Action level		When the length of communication data is too long	
Action time		Immediately act	
Warning setting parameter		N/A	
Reset method		“Warning” occurs when Pr.09-02=0 and the motor drive keeps running. The drive resets automatically when receiving the correct communication data value.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Incorrect communication command from upper unit		Check if the communication command is correct.	
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from the upper unit		Check if the setting for Pr.09-02 is the same as the setting for the upper unit.	
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.	

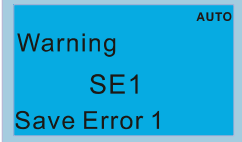
.Display on LCD Keypad	Warning Name	Description
	Communication data error (CK3)	Keypad communication data, illegal data value (Keypad auto-detect this error and display it.)
Action and Reset		
Action level		When the length of communication data is too long
Action time		Immediately act
Warning setting parameter		N/A
Reset method		Remove the keypad and then reconnect it to the motor drive.
Reset condition		Immediately reset
Record		N/A
Cause		Corrective Actions
Incorrect communication command from keypad		Keypad and the motor drive don't communicate properly. It is recommended to remove the keypad and then reconnect it to the motor drive.
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.
Different communication setting from keypad		Check if the Baud rate = 19200 bps. Format = RTU8, N, 2.
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.

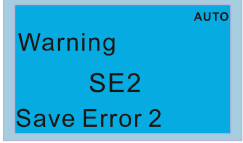
ID No.	Display on LCD Keypad	Warning Name	Description
4		Communication error 4 (CE4)	RS-485 Modbus data is written to read-only address
Action and Reset			
Action level		When the data is written to read-only address	
Action time		Immediately act	
Warning setting parameter		N/A	
Reset method		"Warning" occurs when Pr.09-02=0 and the motor drive keeps running. The drive resets automatically when receiving the correct written address of communication data.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Incorrect communication command from upper unit		Check if the communication command is correct.	
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from the upper unit		Check if the setting for Pr.09-02 is the same as the setting for the upper unit.	
Disconnection or bad connection of the cable		Check the cable and replace it if is necessary.	

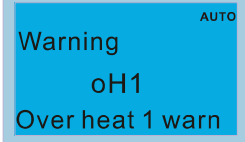
Display on LCD Keypad	Warning Name	Description
	Communication slave error (CK4)	Keypad communication data is written to read-only address. (Keypad auto-detect this error and display it.)
Action and Reset		
Action level		When the data is written to read-only address
Action time		Immediately act
Warning setting parameter		N/A
Reset method		Remove the keypad and then reconnect it to the motor drive.
Reset condition		Immediately reset
Record		N/A
Cause		Corrective Actions
Incorrect communication command from keypad		Keypad and the motor drive don't communicate properly. It is recommended to remove the keypad and then reconnect it to the motor drive. If the problem persists after reconnecting the keypad, pay attention to the motor drive status. For example: Motor drive might reset to default setting during operation or while enabling PLC function.
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.
Different communication setting from keypad		Check if the Baud rate = 19200 bps. Format = RTU8, N, 2.
Disconnection or bad connection of the cable		Check the cable and replace it if is necessary.

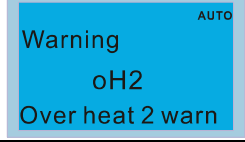
ID No.	Display on LCD Keypad	Warning Name	Description
5		Communication error 10 (CE10)	RS-485 Modbus transmission time-out
Action and Reset			
Action level		When the communication time exceeds the detection time of Pr.09-03 communication time-out	
Action time		Setting for Pr.09-03	
Warning setting parameter		N/A	
Reset method		"Warning" occurs when Pr.09-02=0 and the motor drive keeps running. The drive resets automatically when receiving the next communication packet.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
The upper unit does not transmit the communication command within Pr. 09-03 setting time		Check if the upper unit transmits the communication command within the setting time for Pr.09-03.	
Malfunction caused by interference		Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from the upper unit		Check if the setting for Pr.09-02 is the same as the setting for the upper unit.	
Disconnection or bad connection of the cable		Check the cable and replace it if necessary.	

Display on LCD Keypad	Warning Name	Description
	Keypad communication time out (CK10)	Keypad communication data, transmission time-out (Keypad auto-detect this error and display it.)
Action and Reset		
Action level	When the communication time exceeds the detection time of Pr.09-03 communication time-out	
Action time	Setting for Pr.09-03	
Warning setting parameter	N/A	
Reset method	Remove the keypad and then reconnect it to the motor drive.	
Reset condition	Immediately reset	
Record	N/A	
Cause	Corrective Actions	
Incorrect communication command from keypad	Keypad and the motor drive don't communicate properly. It is recommended to remove the keypad and then reconnect it to the motor drive.	
Malfunction caused by interference	Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication setting from keypad	Check if the Baud rate = 19200 bps. Format = RTU8, N, 2.	
Disconnection or bad connection of the cable	Check the cable and replace it if necessary.	

ID No.	Display on LCD Keypad	Warning Name	Description
7		Save error 1 (SE1)	Keypad COPY error 1: Keypad copy time-out
Action and Reset			
Action level		“SE1” warning occurs when the keypad does not transmit the COPY command to the drive, and does not transmit any data to the drive again in 10 ms at the time you copy the parameters to the drive.	
Action time		10 ms	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Communication connection error		SE1: The causes of error are mostly communication problems between the keypad and control board. Potential causes include communication signal interference and the unacceptable communication command to the Slave. Check if the error occurs randomly, or only occurs when copying certain parameters (the error displays on the upper right corner of the copy page). If you cannot clear the error, please contact Delta.	
Keypad error			
Control board error			

ID No.	Display on LCD Keypad	Warning Name	Description
8		Save error 2 (SE2)	Keypad COPY error 2: parameter writing error
Action and Reset			
Action level		"SE2" warning occurs when writing the parameters incorrectly at the time you copy parameters to the drive. For example, you copy the new firmware version with added parameters to the drive with old firmware version.	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Add new parameters to the new firmware version.		SE2: In this stage, the copied data has been transmitted to the Slave. The Slave compares and processes the copied data, and then saves the data to the Data ROM. During the process, the data error (should be attribution error) may occur, or the data cannot be saved to EEPROM. At this time, the warning occurs. It is suggested to check the status of Data ROM and remove the error causes first. If you cannot clear the error, please contact Delta.	
Malfunction caused by interference		Verify the wiring and grounding of the main circuit, control circuit and the encoder for effective anti-interference performance.	

ID No.	Display on LCD Keypad	Warning Name	Description
9		IGBT over-heating warning (oH1)	The AC motor drive detects over-heating of IGBT, and over the protection level of oH1 warning. (When Pr.06-15 is higher than the IGBT over-heating level, the drive shows oH1 error without displaying oH1 warning.)
Action and Reset			
Action level		Pr.06-15	
Action time		"oH1" warning occurs when IGBT temperature is higher than Pr.06-15 setting value.	
Warning setting parameter		N/A	
Reset method		Auto-reset	
Reset condition		The drive auto-resets when IGBT temperature is lower than oH1 warning level minus (–) 5°C	
Record		N/A	
Cause		Corrective Actions	
Check if the ambient temperature or temperature inside the cabinet is too high, or if there is obstruction in the ventilation hole of the control cabinet.		<ol style="list-style-type: none"> 1. Check the ambient temperature. 2. Regularly inspect the ventilation hole of the control cabinet. 3. Change the installed place if there are heating objects, such as braking resistors, in the surroundings. 4. Install/ add cooling fan or air conditioner to lower the temperature inside the cabinet. 	
Check if there is any obstruction on the heat sink or if the fan is running		Remove the obstruction or replace the cooling fan.	
Insufficient ventilation space		Increase ventilation space of the drive.	
Check if the drive matches the corresponded loading		<ol style="list-style-type: none"> 1. Decrease loading. 2. Decrease the carrier. 3. Replace with a drive with larger capacity. 	
The drive has run 100% or more of the rated output for a long time		Replace with a drive with larger capacity.	

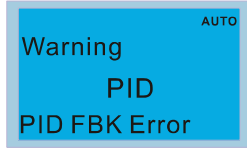
ID No.	Display on LCD Keypad	Warning Name	Description
10		Over-heat key components (oH2)	The drive has detected the key components are over heat
Action and Reset			
Action level		oH2 error level minus (–) 5°C	
Action time		The oH2 warning occurs when the temperature sensor of key components detects the temperature is higher than oH2 warning level	
Warning setting parameter		N/A	
Reset method		Auto-reset	
Reset condition		The drive auto-resets when the temperature sensor of key components detects the temperature is lower than oH2 error level minus (–) 10°C	
Record		N/A	
Cause		Corrective Actions	
Check if the ambient temperature or temperature inside the cabinet is too high, or if there is obstruction in the ventilation hole of the control cabinet.		<ol style="list-style-type: none"> 1. Check the ambient temperature. 2. Regularly inspect the ventilation hole of the control cabinet. 3. Change the installed place if there are heating objects, such as braking resistors, in the surroundings. 4. Install/ add cooling fan or air conditioner to lower the temperature inside the cabinet. 	
Check if there is any obstruction on the heat sink or if the fan is running		Remove the obstruction or replace the cooling fan.	
Insufficient ventilation space		Increase ventilation space of the drive.	
Check if the drive matches the corresponded loading		<ol style="list-style-type: none"> 1. Decrease loading. 2. Decrease the carrier. 3. Replace with a drive with larger capacity. 	

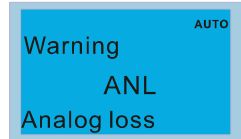
The drive has run 100% or more of the rated output for a long time	Replace with a drive with larger capacity.
Unstable power	Install reactor(s).
The load changes frequently	Reduce the changes of the load.

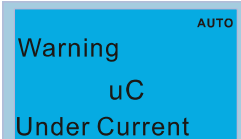
oH1/ oH2 warning level


Model	oH1	oH2	oH warning oH1 warning = (Pr.06-15)
VFD007C23A-21	110	95	oH1 Warning = oH1 – 5 oH2 Warning = oH2 – 5
VFD015C23A-21			
VFD022C23A-21		100	
VFD037C23A-21			
VFD055C23A-21		80	
VFD075C23A-21			
VFD110C23A-21		75	
VFD150C23A-21			
VFD185C23A-21		65	
VFD220C23A-21			
VFD300C23A-00 / VFD300C23A-21			
VFD370C23A-00 / VFD370C23A-21			
VFD450C23A-00 / VFD450C23A-21			
VFD550C23A-00 / VFD550C23A-21			
VFD750C23A-00 / VFD750C23A-21			
VFD900C23A-00 / VFD900C23A-21			
VFD007C43A-21 / VFD007C4EA-21	110	95	oH1 Warning = oH1 – 5 oH2 Warning = oH2 – 5
VFD015C43A-21 / VFD015C4EA-21		100	
VFD022C43A-21 / VFD022C4EA-21	110	105	oH1 Warning = oH1 – 5 oH2 Warning = oH2 – 5
VFD037C43A-21 / VFD037C4EA-21		100	
VFD040C43A-21 / VFD040C4EA-21		80	
VFD055C43A-21 / VFD055C4EA-21			
VFD075C43A-21 / VFD075C4EA-21		85	
VFD110C43A-21 / VFD110C4EA-21			
VFD150C43A-21 / VFD150C4EA-21		65	
VFD185C43A-21 / VFD185C4EA-21			
VFD220C43A-21 / VFD220C4EA-21			
VFD300C43A-21 / VFD300C4EA-21			
VFD370C43S-00 / VFD370C43S-21			
VFD450C43S-00 / VFD450C43S-21		70	
VFD550C43A-00 / VFD550C43A-21			
VFD750C43A-00 / VFD750C43A-21			
VFD900C43A-00 / VFD900C43A-21			
VFD1100C43A-00 / VFD1100C43A-21			
VFD1320C43A-00 / VFD1320C43A-21			
VFD1600C43A-00 / VFD1600C43A-21			
VFD1850C43A-00 / VFD1850C43A-21			
VFD2200C43A-00 / VFD2200C43A-21			
VFD2800C43A-00 / VFD2800C43C-21			
VFD3150C43A-00 / VFD3150C43C-21			
VFD3550C43A-00 / VFD3550C43C-21			
VFD4500C43A-00 / VFD4500C43C-21			
VFD5000C43A-00 / VFD5000C43C-21	Contact Delta		
VFD5600C43A-00 / VFD5600C43C-21	Contact Delta		
VFD015C53A-21	100	85	oH1 Warning = oH1 – 5 oH2 Warning = oH2 – 5
VFD022C53A-21	105		
VFD037C53A-21	100	70	
VFD055C53A-21			
VFD075C53A-21			
VFD110C53A-21			

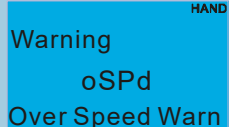
Model	oH1	oH2	oH warning oH1 warning = (Pr.06-15)
VFD150C53A-21			
VFD185C63B-21	90	85	oH1 Warning = oH1 – 5 oH2 Warning = oH2 – 5
VFD220C63B-21			
VFD300C63B-21			
VFD370C63B-21			
VFD450C63B-00 / VFD450C63B-21	100	65	
VFD550C63B-00 / VFD550C63B-21			
VFD750C63B-00 / VFD750C63B-21	110		
VFD900C63B-00 / VFD900C63B-21			
VFD1100C63B-00 / VFD1100C63B-21			
VFD1320C63B-00 / VFD1320C63B-21			
VFD1600C63B-00 / VFD1600C63B-21			
VFD2000C63B-00 / VFD2000C63B-21			
VFD2500C63B-00 / VFD2500C63B-21			
VFD3150C63B-00 / VFD3150C63B-21		70	
VFD4000C63B-00 / VFD4000C63B-21			
VFD4500C63B-00 / VFD4500C63B-21			
VFD5600C63B-00 / VFD5600C63B-21			
VFD6300C63B-00 / VFD6300C63B-21			


ID No.	Display on LCD Keypad	Warning Name	Description
11		PID feedback error (PID)	PID feedback loss (warning for analog feedback signal; works only when PID enables)
Action and Reset			
Action level		When the analog input is lower than 4mA (only detects analog input of 4–20mA)	
Action time		Pr.08-08	
Warning setting parameter		Pr.08-09 0: Warn and keep operation 1: Fault and ramp to stop 2: Fault and coast to stop 3: Warn and operate at last frequency	
Reset method		Auto	“Warning” occurs when Pr.08-09=0 or 3. The “Warning” automatically clears when the feedback signal is larger than 4mA.
		Manual	
Reset condition		“Error” occurs when Pr.08-09=1 or 2. You must reset manually.	
Record		Immediately reset	
Cause		Records when Pr.08-09=1 or 2 (“Error”). Does not record when Pr.08-09=3 (“Warning”).	
		Corrective Actions	
Loose or broken PID feedback wiring		Tighten the terminals again. Replace with a new cable.	
Feedback device malfunction		Replace with a new feedback device.	
Hardware error		If the PID error still occurs after checking all the wiring, return to the factory for repair.	


ID No.	Display on LCD Keypad	Warning Name	Description
12		ACI analog signal loss (AnL)	Analog input current loss (including all analog 4–20mA signals)
Action and Reset			
Action level		When the analog input is lower than 4mA (only detects analog input 4–20mA)	
Action time		Immediately act	
Warning setting parameter		Pr.03-19 0: Disable 1: Continue operation at the last frequency (warning, keypad displays ANL) 2: Decelerate to 0Hz (warning, keypad displays ANL) 3: Stop immediately and display ACE	
Reset method		Auto	“Warning” occurs when Pr.03-19=1 or 2. The “Warning” automatically clears when the analog input signal is larger than 4mA.
		Manual	“Error” occurs when Pr.03-19=3. You must reset manually.
Reset condition		Immediately reset	
Record		Does not record when Pr.03-19=1 or 2 (“Warning”).	
Cause		Corrective Actions	
Loose or broken ACI wiring		Tighten the terminals again. Replace with a new cable.	
External device error		Replace new device.	
Hardware error		If the AnL error still occurs after checking all the wiring, return to the factory for repair.	

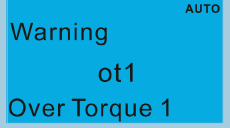
ID No.	Display on LCD Keypad	Warning Name	Description
13		Under current (uC)	Low current
Action and Reset			
Action level		Pr.06-71	
Action time		Pr.06-72	
Warning setting parameter		Pr.06-73 0: No function 1: Fault and coast to stop 2: Fault and ramp to stop by 2 nd deceleration time 3: Warn and operation continue	
Reset method		Auto	“Warning” occurs when Pr.06-73=3. The “Warning” automatically clears when the output current is > (Pr.06-71+0.1A).
		Manual	“Error” occurs when Pr.06-73=1 and 2. You must reset manually.
Reset condition		Immediately reset	
Record		Does not record when Pr.06-73=3 and uC displays “Warning”.	
Cause		Corrective Actions	
Broken motor cable		Exclude the connection issue of the motor and its load.	
Improper setting for the low current protection		Set the proper settings for Pr.06-71, Pr.06-72 and Pr.06-73.	
Low load		Check the loading status. Make sure the loading matches the motor capacity.	

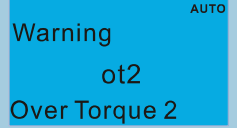
ID No.	Display on LCD Keypad	Warning Name	Description
15		PG feedback warning (PGFb)	PG feedback error warning
Action and Reset			
Action level		Motor runs in a reverse direction to the direction of frequency command	
Action time		Pr.10-09	
Warning setting parameter		Pr.10-08=0 0: Warn and operation continue 1: Fault and ramp to stop 2: Fault and coast to stop	
Reset method		Auto-reset	
Reset condition		“Warning” automatically clears when the drive stops	
Record		N/A	
Cause		Corrective Actions	
Incorrect encoder parameter setting		Reset encoder parameter (Pr.10-02).	
Check if the connection of encoder is loss		Wiring again.	
Broken PG card or PG encoder		Replace with a new PG card or encoder.	
Malfunction caused by interference		Verify wiring of the control circuit, and wiring/grounding of the main circuit to prevent interference.	

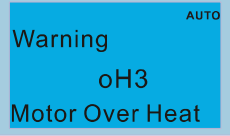
ID No.	Display on LCD Keypad	Warning Name	Description
17		Over speed warning (oSPd)	Over speed warning
Action and Reset			
Action level		The encoder feedback speed > Pr.10-10	
Action time		Pr.10-11	
Warning setting parameter		Pr.10-12=0 0: Warn and keep operation	
Reset method		“Warning” automatically clears when the drive stops	
Reset condition		“Warning” automatically clears when the drive stops	
Record		N/A	
Cause		Corrective Actions	
Improper setting for Pr.10-25 FOC bandwidth of speed observer		Decrease setting value for Pr.10-25.	
Improper bandwidth setting for ASR speed controller		Increase the bandwidth setting for ASR speed controller.	
Incorrect motor parameter setting		Reset motor parameter and run parameter tuning.	
Malfunction caused by interference		Verify wiring of the control circuit, and wiring/grounding of the main circuit to prevent interference.	

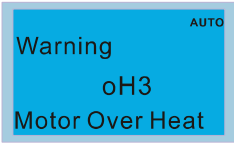
ID No.	Display on LCD Keypad	Warning Name	Description
18		Deviation Warning (dAvE)	Over speed deviation warning
Action and Reset			
Action level		Pr.10-13	
Action time		Pr.10-14	
Warning setting parameter		Pr.10-15=0 0: Warn and keep operation	
Reset method		"Warning" automatically clears when the drive stops	
Reset condition		After the drive stops	
Record		N/A	
Cause		Corrective Actions	
Improper parameter setting for the slip error		Reset proper value for Pr.10-13 and Pr.10-14.	
Improper setting for ASR parameter and acceleration/ deceleration		Reset ASR parameters. Set proper accel./ decel. time.	
Accel./ Decel. time is too short		Reset proper accel./ decel. time.	
Motor locked		Remove the causes of motor locked.	
Mechanical brake is not released		Check the active timing of the system.	
Incorrect parameter setting of torque limit (Pr.06-12, Pr.11-17-20)		Adjust to proper setting value.	
Malfunction caused by interference		Verify wiring of the control circuit, and wiring/grounding of the main circuit to prevent interference.	

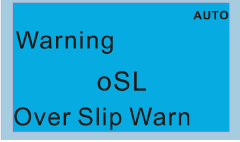
ID No.	Display on LCD Keypad	Warning Name	Description
19		Phase loss (PHL)	Input phase loss warning
Action and Reset			
Action level		One of the phases outputs less than Pr.06-47	
Action time		Pr.06-46	
Warning setting parameter		Pr.06-45=0 0: Warn and keep operation	
Reset method		"Warning" automatically clears when the drive stops	
Reset condition		After the drive stops	
Record		N/A	
Cause		Corrective Actions	
Phase loss of the input power		Verify wiring of the main circuit.	
Single phase power input on a three-phase model		Use the model with voltage that matches the power.	
The power voltage has changed		If the power of main circuit works well, check if the MC of the main circuit is broken. Cycle the power after verifying the power is normal. If PHL still occurs, return to the factory for repair.	
Loose wiring terminal of input power		Tighten the terminal screws with the torque listed in the user manual.	
Check if the input cable of 3-phase power is broken		Make sure the wiring is correct. Replace the broken part of the cable.	
The voltage of input power has changed		Check setting for Pr.06-50 (Time for Input Phase Loss Detection) and Pr.06-52 (Ripple of Input Phase Loss).	
Unbalance three-phase of the input power		Check the status of 3-phase power.	

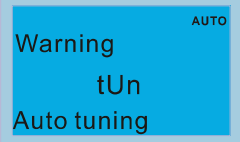
ID No.	Display on LCD Keypad	Warning Name	Description
20		Over-torque 1 (ot1)	Over-torque 1 warning
Action and Reset			
Action level		Pr.06-07	
Action time		Pr.06-08	
Warning setting parameter		Pr.06-06=1 or 3 0: No function 1: Continue operation after over-torque detection during constant speed operation 2: Stop after over-torque detection during constant speed operation 3: Continue operation after over-torque detection during RUN 4: Stop after over-torque detection during RUN	
Reset method		When input current < (Pr.06-07 – 5%), the Ot1 warning automatically clears	
Reset condition		When input current < (Pr.06-07 – 5%), the Ot1 warning automatically clears	
Record		N/A	
Cause		Corrective Actions	
Incorrect parameter setting		Configure the settings for Pr.06-07 and Pr.06-08 again.	
Mechanical error (e.g. mechanical lock due to over-torque)		Remove the causes of malfunction.	
The load is too large		Decrease the loading. Replace with a motor with larger capacity.	
Accel./ Decel. time and working cycle is too short		Increase the setting values for Pr.01-12–01-19 (accel./ decel. time)	
V/F voltage is too high		Adjust the settings for Pr.01-01–01-08 (V/F curve), especially the setting value for the mid-point voltage (if the mid-point voltage is set too small, the load capacity decreases at low-speed).	
The motor capacity is too small		Replace with a motor with larger capacity.	
Over-load during low-speed operation		Decrease the loading during low-speed operation. Increase the motor capacity.	
The torque compensation is too large		Adjust the torque compensation value (Pr.07-26 torque compensation gain) until the output current decreases and the motor does not stall.	
Improper parameter settings for the speed tracking function (including restart after momentary power loss and restart after fault)		Correct the parameter settings for speed tracking. Start the speed tracking function. Adjust the maximum current for Pr.07-09 speed tracking.	

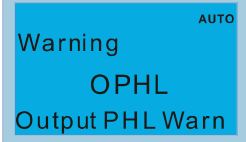
ID No.	Display on LCD Keypad	Warning Name	Description
21		Over-torque (ot2)	Over-torque 2 warning
Action and Reset			
Action level		Pr.06-10	
Action time		Pr.06-11	
Warning setting parameter		Pr.06-09=1 or 3 0: No function 1: Continue operation after over-torque detection during constant speed operation 2: Stop after over-torque detection during constant speed operation 3: Continue operation after over-torque detection during RUN 4: Stop after over-torque detection during RUN	
Reset method		When output current < (Pr.06-10 – 5%), the Ot2 warning automatically clears	
Reset condition		When output current < (Pr.06-10 – 5%), the Ot2 warning automatically clears	
Record		N/A	
Cause		Corrective Actions	
Incorrect parameter setting		Configure the settings for Pr.06-10 and Pr.06-11	
Mechanical error (e.g. mechanical lock due to over-torque)		Remove the causes of malfunction.	
The load is too large		Decrease the loading. Replace with a motor with larger capacity.	
Accel./ Decel. time and working cycle is too short		Increase the setting values for Pr.01-12–01-19 (accel./ decel. time)	
V/F voltage is too high		Adjust the V/F curve (Motor 2, Pr.01-35–01-42), especially the setting value for the mid-point voltage (if the mid-point voltage is set too small, the load capacity decreases at low-speed).	
The motor capacity is too small		Replace with a motor with larger capacity.	
Over-load during low-speed operation		Decrease the loading during low-speed operation. Increase the motor capacity.	
The torque compensation is too large		Adjust the torque compensation value (Pr.07-26 torque compensation gain) until the output current decreases and the motor does not stall.	
Improper parameter settings for the speed tracking function (including restart after momentary power loss and restart after fault)		Correct the parameter settings for speed tracking. Start speed tracking function. Adjust the maximum current for Pr.07-09 speed tracking.	

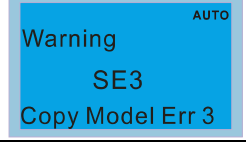
ID No.	Display on LCD Keypad	Warning Name	Description
22_1		Motor over-heating (oH3) PTC	Motor over-heating warning. The AC motor drive detects the temperature inside the motor is too high
Action and Reset			
Action level		Pr.03-00=6 (PTC), PTC input level > Pr.06-30 (default=50%)	
Action time		Immediately act	
Warning setting parameter		Error treatment: Pr.06-29 0: Warn and keep operating 1: Fault and ramp to stop 2: Fault and coast to stop 3: No warning When Pr.06-29=0 and when the temperature is \leq Pr.06-30 level, the oH3 warning automatically clears. When Pr.06-29=0 ("Warning"), it automatically resets.	
Reset method		When Pr.06-29=0, oH3 displays "Warning". When the temperature is \leq Pr.06-30 level, the oH3 warning automatically clears.	
Reset condition		When the temperature is \leq Pr.06-30 level, the oH3 warning automatically clears.	
Record		N/A	
Cause		Corrective Actions	
Motor locked		Clear the motor lock status.	
The load is too large		Decrease the loading. Replace with a motor with larger capacity.	
Ambien temperature is too high		Change the installed place if there are heating devices in the surroundings. Install/ add cooling fan or air conditioner to lower the ambient temperature.	
Motor cooling system error		Check the cooling system to make it work normally.	
Motor fan error		Replace the fan.	
Operates at low-speed too long		Decrease low-speed operation time. Change to dedicated motor for the drive. Increase the motor capacity.	
Accel./ Decel. time and working cycle is too short		Increase setting values for Pr.01-12–01-19 (accel./ decel. time).	
V/F voltage is too high		Adjust settings for Pr.01-01–01-08 (V/F curve), especially the setting value for the mid-point voltage (if the mid-point voltage is set too small, the load capacity decreases at low-speed).	
Check if the motor rated current matches the motor nameplate		Configure the correct rated current value of the motor again.	
Check if the PTC is properly set and wired		Check the connection between PTC thermistor resistor and the heat protection.	
Check if the setting for stall prevention is correct		Set the stall prevention to the proper value.	
Unbalance three-phase impedance of the motor		Replace the motor.	
Harmonics is too high		Use remedies to reduce harmonics.	


ID No.	Display on LCD Keypad	Warning Name	Description
22_2		Motor over-heating (oH3) PT100	Motor over-heating warning. The AC motor drive detects the temperature inside the motor is too high.
Action and Reset			
Action level		Pr.03-00=11 (PT100), PT100 input level > Pr.06-57 (default=7V)	
Action time		Immediately act	
Warning setting parameter		Error treatment: Pr.06-29 0: Warn and keep operating 1: Fault and ramp to stop 2: Fault and coast to stop 3: No warning When Pr.06-29=0 and when the temperature is < Pr.06-56 level, the oH3 warning automatically clears. If the temperature is between Pr.06-56 and Pr.06-57, the frequency outputs according to the operating frequency setting for Pr.06-58.	
Reset method		When Pr.06-29=0, oH3 displays "Warning". When the temperature is < Pr.06-56 level, the oH3 warning automatically clears.	
Reset condition		When the temperature is < Pr.06-56 level, the oH3 warning automatically clears.	
Record		N/A	
Cause		Corrective Actions	
Motor locked		Clear the motor lock status.	
The load is too large		Decrease loading. Replace with a motor with larger capacity.	
Ambien temperature is too high		Change the installed place if there are heating devices in the surroundings. Install/ add cooling fan or air conditioner to lower the ambient temperature.	
Motor cooling system error		Check the cooling system to make it work normally.	
Motor fan error		Replace the fan.	
Operates at low-speed too long		Decrease low-speed operation time. Change to dedicated motor for the drive. Increase the motor capacity.	
Accel./ Decel. time and working cycle is too short		Increase the setting values for Pr.01-12–01-19 (accel./ decel. time).	
V/F voltage is too high		Adjust the settings for Pr.01-01–01-08 (V/F curve), especially the setting value for the mid-point voltage (if the mid-point voltage is set too small, the load capacity decreases at low-speed).	
Check if the motor rated current matches the motor nameplate		Configure the correct rated current value of the motor again.	
Check if the PT100 is properly set and wired		Check the connection between PT100 thermistor resistor and the heat protection.	
Check if the setting for stall prevention is correct		Set the stall prevention to the proper value.	
Unbalance three-phase impedance of the motor		Replace the motor.	
Harmonics is too high		Use remedies to reduce harmonics.	

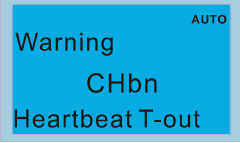
ID No.	Display on LCD Keypad	Warning Name	Description
24		Over slip warning (oSL)	Over slip warning. By using the maximum slip (Pr.10-29) as the base, when the drive outputs at constant speed, and the F>H or F<H exceeds Pr.07-29 level and Pr.07-30 setting time, 100% Pr.07-29 = Pr.10-29.
Action and Reset			
Action level		When the drive outputs at constant speed, and F>H or F<H exceeds the Pr.07-29 level	
Action time		Pr.07-30	
Warning setting parameter		Pr.07-31=0 Warning 0: Warn and keep operation 1: Fault and ramp to stop 2: Fault and coast to stop 3: No warning	
Reset method		When Pr.07-31=0 and when the drive outputs at constant speed, and F>H or F<H no longer exceeds the Pr.07-29 level, the oSL warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Check if the motor parameter is correct		Check the motor parameter.	
The load is too large		Decrease the loading.	
Check if the settings for Pr.07-29, Pr.07-30 and Pr.10-29 are properly set		Check the parameter settings for oSL protection.	

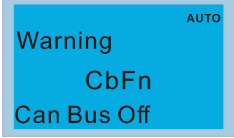
ID No.	Display on LCD Keypad	Warning Name	Description
25		Auto tuning (tUn)	Parameter auto-tuning is processing. When running auto-tuning, the keypad displays "tUn".
Action and Reset			
Action level		When running Pr.05-00 motor parameter auto-tuning, the keypad displays "tUn".	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		When auto-tuning is finished and no error occurs, the warning automatically clears.	
Reset condition		When auto-tuning is finished and no error occurs.	
Record		N/A	
Cause		Corrective Actions	
The motor parameter is running auto-tuning		When the auto-tuning is finished, the warning automatically clears.	

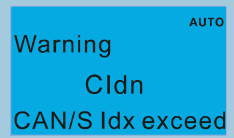
ID No.	Display on LCD Keypad	Warning Name	Description
28		Output phase loss (OPHL)	Output phase loss
Action and Reset			
Action level		Pr.06-47	
Action time		N/A	
Warning setting parameter		Pr.06-45 0: Warn and keep operating 1: Fault and ramp to stop 2: Fault and coast to stop 3: No warning	
Reset method		If Pr.06-45 is set to 0, the OPHL warning automatically clears after the drive stops.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Unbalanced three-phase impedance of the motor		Replace the motor.	
Check if the wiring is incorrect		Check the cable. Replace the cable.	
Check if the motor is a single-phase motor		Choose a three-phase motor.	
Check if the current sensor is broken		Check if the control board cable is loose. If yes, reconnect the cable and run the drive to test. If the error still occurs, return to the factory for repair. Check if the three-phase current is balanced with a current clamp meter. If the current is balanced and the OPHL error still shows on the display, return to the factory for repair.	
If capacity of the drive is larger than the motor		Choose the matches capacity of the drive and motor.	

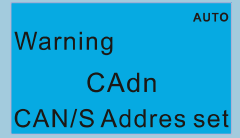
ID No.	Display on LCD Keypad	Warning Name	Description
30		Copy model error 3 (SE3)	Keypad COPY error 3: copy model error
Action and Reset			
Action level		"SE3" warning occurs when different drive identity codes are found during copying parameters.	
Action time		Immediately act when the error is detected	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Keypad copy between different power range drives		It is mainly to prevent parameter copies between different HP/models.	


ID No.	Display on LCD Keypad	Warning Name	Description
36		CANopen guarding time-out (CGdn)	CANopen guarding time-out 1
Action and Reset			
Action level	When CANopen Node Guarding detects that one of the slaves does not response, the CGdn error displays. The upper unit sets factor and time during configuration.		
Action time	The time that upper unit sets during configuration		
Warning setting parameter	N/A		
Reset method	Manual reset		
Reset condition	The upper unit sends a reset package to clear this fault.		
Record	N/A		
Cause	Corrective Actions		
The guarding time is too short, or less detection times	Increase the guarding time (Index 100C) and detection times.		
Malfunction caused by interference	<ol style="list-style-type: none"> 1. Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 		

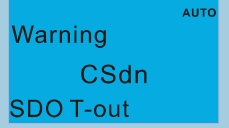
ID No.	Display on LCD Keypad	Warning Name	Description
37		CANopen heartbeat error (CHbn)	CANopen heartbeat error
Action and Reset			
Action level	When CANopen Heartbeat detects that one of the slaves does not response, the CHbn error shows. The upper unit sets the confirming time of producer and consumer during configuration.		
Action time	The upper unit sets the confirming time of producer and consumer during configuration.		
Warning setting parameter	N/A		
Reset method	Manual reset		
Reset condition	The upper unit sends a reset package to clear this fault		
Record	When Pr.00-21≠3, CHbn is a "Warning", and the warning is not recorded		
Cause	Corrective Actions		
The heartbeat time is too short	Increase heartbeat time (Index 1016)		
Malfunction caused by interference	<ol style="list-style-type: none"> 1. Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 		
Communication cable is broken or bad connected	Check or replace the communication cable.		

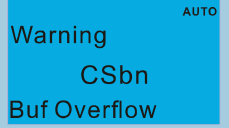
ID No.	Display on LCD Keypad	Warning Name	Description
39		CANopen bus off error (CbFn)	CANopen BUS off error
Action and Reset			
Action level		Hardware	When CANopen card is not installed, CbFn fault will occur.
		Software	When the master received wrong communication package, CbFn fault will occur. Too much interference on BUS When the CAN_H and CAN_L communication cable is short, the master receives wrong package, and CbFn fault occurs.
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		Manual Reset	
Reset condition		Cycle the power	
Record		When Pr.00-21≠3, CbFn is a "Warning", and the warning is not recorded	
Cause		Corrective Actions	
Check if the CANopen card is installed		Make sure the CANopen card is installed.	
Check if the CANopen speed is correct		Reset CANopen speed (Pr.09-37)	
Malfunction caused by interference		1. Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance.	
Communication cable is broken or bad connected		Check or replace the communication cable.	

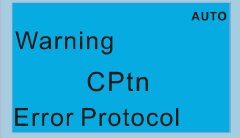
ID No.	Display on LCD Keypad	Warning Name	Description
40		CANopen index error (CIdn)	CANopen Index error
Action and Reset			
Action level		CANopen communication Index error	
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		Manual Reset	
Reset condition		Upper unit sends a reset package to clear this fault	
Record		When Pr.00-21≠3, CIdn is a "Warning", and the warning is not recorded	
Cause		Corrective Actions	
Incorrect setting of CANopen index		Reset CANopen Index (Pr.00-02=7)	

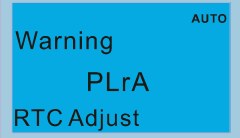
ID No.	Display on LCD Keypad	Warning Name	Description
41		CANopen station address error (CAdn)	CANopen station address error (only supports 1–127)
Action and Reset			
Action level		CANopen station address error	
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		Manual Reset	
Reset condition		Pr.00-02=7	
Record		When Pr.00-21≠3, CAdn is a "Warning", and the warning is not recorded	
Cause		Corrective Actions	
Incorrect setting of CANopen station address		1. Disable CANopen (Pr.09-36=0) 2. Reset CANopen (Pr.00-02=7) 3. Reset CANopen station address (Pr.09-36)	

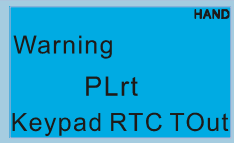
ID No.	Display on LCD Keypad	Warning Name	Description
42		CANopen memory error (CFrn)	CANopen memory error
Action and Reset			
Action level		When the user update firmware version of the control board, the FRAM internal data will not be changed, then CFrn fault will occur.	
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		Manual Reset	
Reset condition		Pr.00-02=7	
Record		When Pr.00-21≠3, CFrn is a "Warning", and the warning is not recorded	
Cause		Corrective Actions	
CANopen internal memory error		1. Disable CANopen (Pr.09-36=0) 2. Reset CANopen (Pr.00-20=7) 3. Reset CANopen station address (Pr.09-36)	

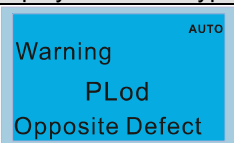
ID No.	Display on LCD Keypad	Warning Name	Description
43		CANopen SDO time-out (CSdn)	SDO transmission time-out (only shows on master station)
Action and Reset			
Action level		When the CANopen master transmits SDO command, and the Slave response "time-out", CSdn warning will occur.	
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		When the master resends a SDO command and receives the response, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Slave is not connected		Connect slave and CANopen BUS.	
The synchronize cycle is set too short		Increase the synchronization time (Index 1006)	
Malfunction caused by interference		<ol style="list-style-type: none"> 1. Verify the wiring and grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 	
Disconnection or bad connection of the communication cable		Check the status of the cable, or replace the cable.	

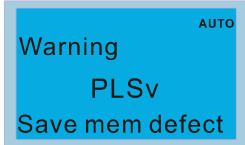
ID No.	Display on LCD Keypad	Warning Name	Description
44		CANopen SDO receives register overflow (CSbn)	CANopen SDO receives register overflow
Action and Reset			
Action level		The upper unit sends too much SDO and causes buffer overflow	
Action time		Immediately act when the fault is detected	
Warning setting parameter		N/A	
Reset method		The upper unit sends a reset package to clear the warning.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Too much SDO from the upper unit		Check if the master sends too much SDO command. Make sure the master sends SDO command according to the command format.	

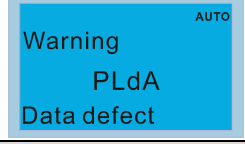
ID No.	Display on LCD Keypad	Warning Name	Description
46		CANopen format error (CPTn)	CANopen protocol format error
Action and Reset			
Action level		The slave detects that data from the upper unit cannot be recognized, and then shows CPTn warning	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		The upper unit sends a reset packet to clear the warning	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The upper unit sends incorrect communication packet		Make sure the master sends the packet based on CANopen DS301 standard command format.	

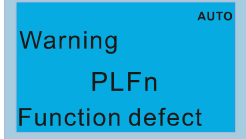
ID No.	Display on LCD Keypad	Warning Name	Description
47		RTC adjust (PLrA)	PLC (RTC) is not adjusted
Action and Reset			
Action level		When using RTC function for PLC program, and PLC detects unreasonable RTC time, PLrA warning displays.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		Auto	Stops the PLC and runs again, the warning automatically clears
		Manual	Manual reset to clear this warning
Reset condition		Cycle the power	
Record		N/A	
Cause		Corrective Actions	
When using RTC function for PLC program, and the drive is power off over 7 days or KPC-CC01 does not connect to the drive for a long time, the RTC time is different with the internal calculated time when re-connect the keypad to the drive.		<ol style="list-style-type: none"> 1. Stop the PLC program and restart it. 2. Adjust the RTC time and cycle the power. 	
KPC-CC01 does not adjust the RTC time		Adjust the RTC time and cycle the power.	
PLC detects unreasonable RTC time		<ol style="list-style-type: none"> 1. Stop the PLC program and restart it. 2. Cycle the power. 	
Replace with a new KPC-CC01		<ol style="list-style-type: none"> 1. Stop the PLC program and restart it. 2. Cycle the power. 	

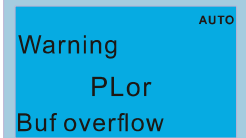
ID No.	Display on LCD Keypad	Warning Name	Description
49		Keypad RTC time-out (PLrt)	PLC (RTC) error
Action and Reset			
Action level		N/A	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		N/A	
Reset condition		Cycle the power	
Record		N/A	
Cause		Corrective Actions	
KPC-CC01 is not connected to the control board while using the RTC function		Do not remove the KPC-CC01 keypad while using RTC function.	


ID No.	Display on LCD Keypad	Warning Name	Description
50		PLC opposite defect (PLOd)	PLC download error warning
Action and Reset			
Action level		During PLC downloading, the program source code detects incorrect address (e.g. the address exceeds the range), then the PLOd warning shows.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Incorrect component number is found when downloading the PLC program		Use the correct component number.	

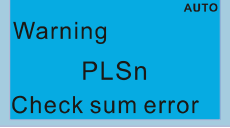
ID No.	Display on LCD Keypad	Warning Name	Description
51		PLC save memory error (PLSv)	Data error during PLC operation
Action and Reset			
Action level		The program detects incorrect written address (e.g. the address has exceeds the range) during PLC operation, then the PLSv warning shows.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
An incorrect written address is detected during PLC operation		Make sure the write-in address is correct and re-download the program.	

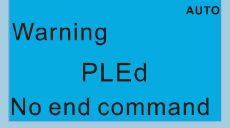
ID No.	Display on LCD Keypad	Warning Name	Description
52		Data defect (PLdA)	Data error during PLC operation
Action and Reset			
Action level		The program detects incorrect write-in address when translating the program source code, then PLSv warning acts.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
During PLC operation, the external Modbus has written/read incorrect data to internal PLC program		Check if the upper unit transmits the correct command	

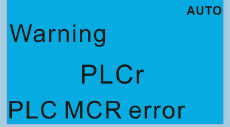
ID No.	Display on LCD Keypad	Warning Name	Description
53		Function defect (PLFn)	PLC download function code error
Action and Reset			
Action level	The program detects incorrect command (unsupported command) during PLC downloading, then PLFn warning acts.		
Action time	Immediately displays when the fault is detected		
Warning setting parameter	N/A		
Reset method	Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.		
Reset condition	N/A		
Record	N/A		
Cause	Corrective Actions		
Unsupported command has used while downloading the program		Check if the firmware of the drive is the old version. If yes, please contact Delta.	


ID No.	Display on LCD Keypad	Warning Name	Description
54		PLC buffer overflow (PLor)	PLC register overflow
Action and Reset			
Action level	When PLC runs the last command and the command exceeds the maximum capacity of the program, the PLor warning shows.		
Action time	Immediately displays when the fault is detected		
Warning setting parameter	N/A		
Reset method	Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.		
Reset condition	N/A		
Record	N/A		
Cause	Corrective Actions		
The program detects source code error during PLC operation		1. Disable PLC 2. Delete PLC program (Pr.00-02=6) 3. Enable PLC 4. Re-download PLC program	

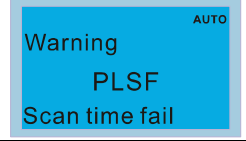
ID No.	Display on LCM Keypad	Warning Name	Description
55		Function defect (PLFF)	Function code error during PLC operation
Action and Reset			
Action level	The program detects incorrect command (unsupported command) during PLC operation, then PLFF warning shows.		
Action time	Immediately displays when the fault is detected		
Warning setting parameter	NA		
Reset method	Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.		
Reset condition	N/A		
Record	N/A		
Cause	Corrective Actions		
The PLC runs an incorrect command during operation		When starting the PLC function and there is no program in the PLC, the PLFF warning shows. This is a normal warning, please download the program.	

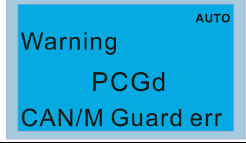
ID No.	Display on LCD Keypad	Warning Name	Description
56		Checksum error (PLSn)	PLC checksum error
Action and Reset			
Action level		PLC checksum error is detected after power on, then PLSn warning shows	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The program detects checksum error during PLC operation		1. Disable PLC 2. Remove PLC program (Pr.00-02=6) 3. Enable PLC 4. Re-download PLC program	

ID No.	Display on LCD Keypad	Warning Name	Description
57		No end command (PLEd)	PLC end command is missing
Action and Reset			
Action level		The "End" command is missing until the last command is executed, the PLEd warning shows	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
There is no "END" command during PLC operation		1. Disable PLC 2. Remove PLC program (Pr.00-02=6) 3. Enable PLC 4. Re-download PLC program	

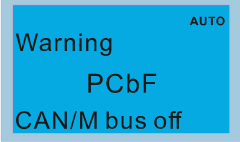
ID No.	Display on LCD Keypad	Warning Name	Description
58		PLC MCR error (PLCr)	PLC MCR command error
Action and Reset			
Action level		The MC command is detected during PLC operation, but there is no corresponded MCR command, then the PLCr warning shows.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The MC command is continuously used for more than 9 times		The MC command cannot be used continuously for 9 times. Check and reset the program, then re-download the program.	

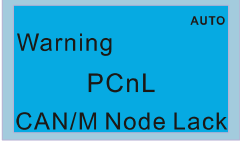
ID No.	Display on LCD Keypad	Warning Name	Description
59		PLC download fail (PLdF)	PLC download fail
Action and Reset			
Action level		PLC download fail due to momentary power loss during the downloading, when power is ON again, PLdF warning shows.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
PLC download is forced to stop, so the program write-in is incomplete		Check if there is any error in the program and re-download the PLC program	

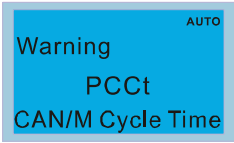
ID No.	Display on LCD Keypad	Warning Name	Description
60		PLC scan time fail (PLSF)	PLC scan time exceeds the maximum allowable time
Action and Reset			
Action level		When the PLC scan time exceeds the maximum allowable time (400ms), PLSF warning shows.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The PLC scan time exceeds the maximum allowable time (400ms)		Check if the source code is correct and re-download the program	

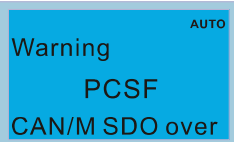
ID No.	Display on LCD Keypad	Warning Name	Description
61		CAN/M guarding error (PCGd)	CANopen Master guarding error
Action and Reset			
Action level		When CANopen Master Node Guarding detects that one of the Slaves does not response, the PCGd warning will display	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Check if the program is correct and re-download the program. If the fault does not exist, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Slave is not connected or CANopen BUS cable is not connected		Connect the Slave and CANopen BUS	
Malfunction caused by interference		<ol style="list-style-type: none"> 1. Verify wiring/grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 	

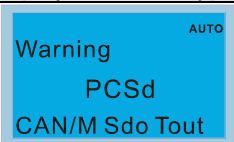
Communication cable is broken or bad connected	Check or replace the communication cable.
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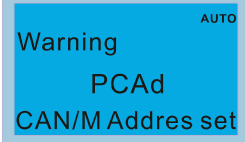
ID No.	Display on LCD Keypad	Warning Name	Description
62		CAN/M BUS off (PCbF)	CANopen Master BUS off
Action and Reset			
Action level		When the CANopen master detects error packets more than 255 during the BUS off detection, or when the CANopen card is not installed, the PCbF warning displays. If the BUS cable is not connected, the drive will not receive issues packet, and the PCbF warning will not display.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		NA	
Reset method		Cycle the power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Malfunction caused by interference		<ol style="list-style-type: none"> 1. Verify wiring/grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 	
Communication cable is broken or bad connected		Check or replace the communication cable.	

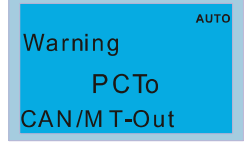
ID No.	Display on LCD Keypad	Warning Name	Description
63		CAN/M node lack (PCnL)	CANopen Master node error
Action and Reset			
Action level		When the CANopen master configures different setting nodes from the actual nodes, the PCnL warning displays.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		When connect BUS to the original slave, or change the configured node numbers to meet the actual node quantity, the warning automatically clears.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The configured node quantity is different from the actual nodes		Connect BUS to the original slave, or change the configured node numbers to meet the actual node quantity	
Communication cable is broken or bad connected		Check or replace the communication cable.	

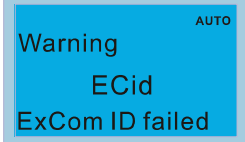
ID No.	Display on LCD Keypad	Warning Name	Description
64		CAN/M cycle time-out (PCCt)	CANopen Master cycle time-out
Action and Reset			
Action level		When the transmitted packet from CANopen master exceeds the maximum allowable quantity in a certain time, the PCCt warning displays.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		The warning automatically clears when changing the configuration and re-executing the program.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
When the transmitted packet from CANopen master exceeds the maximum allowable quantity in a certain time		Increase the time setting of D1090 synchronization cycle	

ID No.	Display on LCD Keypad	Warning Name	Description
65		CAN/M SDO over (PCSF)	CANopen Master SDO overflow
Action and Reset			
Action level		When the CANopen master transmits too much SDO that causes buffer overflow, the PCSF warning displays	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		Cycle the power, or stop the PLC and run the PLC again	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Internal PLC transmits too much SDO at once		The PLC program needs to confirm receiving the SDO feedback data before sending another SDO command.	

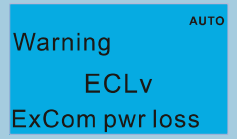
ID No.	Display on LCD Keypad	Warning Name	Description
66		CAN/M SDO time-out (PCSD)	CANopen Master SDO time-out
Action and Reset			
Action level		When the CANopen master sends a SDO command, and the BUS is too busy to transmit the command, PCSd warning displays.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		The warning automatically clears when the SDO transmits normally.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
When the CANopen master transmits a SDO command, and does not receive feedback from the Slave within 1 sec.		Check if the Slave responds within 1 second.	

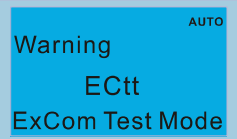
ID No.	Display on LCD Keypad	Warning Name	Description
67		CAN/M address error (PCAd)	CANopen Master station address error
Action and Reset			
Action level		When the CANopen master detects an incorrect or repeated station address from the Slave, the PCAd warning displays.	
Action time		Immediately displays when the fault is detected	
Warning setting parameter		N/A	
Reset method		The warning automatically clears when reset the station address and run the program again.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
When the CANopen master detects an incorrect or repeated station address from the Slave		Set the correct slave station address.	

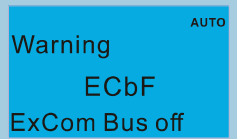
ID No.	Display on LCD Keypad	Warning Name	Description
68		CAN/M time-out (PCTo)	When the drive receives an incorrect packet, it means that there is interference or the command from the upper unit does not meet the CANopen command format.
Action and Reset			
Action level		N/A	
Action time		Immediately acts when receiving the command	
Warning setting parameter		N/A	
Reset method		The warning automatically clears after receives another normal packet	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Malfunction caused by interference		<ol style="list-style-type: none"> 1. Verify wiring/grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance. 2. Make sure the communication circuit is wired in series. 3. Use CANopen cable or add terminating resistance. 	
The command from the upper unit does not meet the CANopen format		Please contact Delta for further confirmation.	

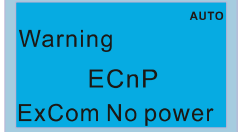
ID No.	Display on LCD Keypad	Warning Name	Description
70		ExCom ID fail (ECid)	Duplicate MAC ID error Node address setting error
Action and Reset			
Action level		Duplicate setting of MAC ID Node address setting error	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Correct the setting and cycle the power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The setting address exceeds the range (0–63)		Check the address setting of the communication card (Pr.09-70)	
The speed setting exceeds the range		Standard: 0–2, non-standard: 0–7	


The address is duplicated with other nodes on the BUS	Reset the address
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ID No.	Display on LCD Keypad	Warning Name	Description
71		ExCom power loss (ECLv)	Low voltage of communication card
Action and Reset			
Action level		The 5V power that drive provides to communication card is to low	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Re-power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The 5V power that drive provides to communication card is to low		<ol style="list-style-type: none"> 1. Switch the communication card to other C2000 drives and observe if there is ECLv warning shown. If yes, replace with a new communication card; if not, replace the drive. 2. Use another communication card to test if the ECLv warning has shown as well. If not, replace the card; if yes, replace the drive. 	
The card is loose		Make sure the communication card is well inserted.	


ID No.	Display on LCD Keypad	Warning Name	Description
72		ExCom test mode (ECtt)	Communication card is in the test mode
Action and Reset			
Action level		Communication card is in the test mode	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Cycle the power and enter the normal mode	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Communication command error		Cycle the power	

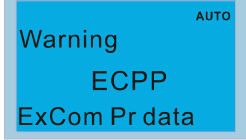
ID No.	Display on LCD Keypad	Warning Name	Description
73		ExCom Bus off (ECbF)	The communication card detects too much errors in the BUS, then enters the BUS-OFF status and stop communicating
Action and Reset			
Action level		When the drive detects BUS-off (for DeviceNet)	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Cycle the power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Poor connection of the cable		Re-connect the cable	
Bad quality of the cable		Replace the cable	

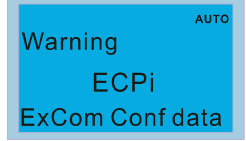
ID No.	Display on LCD Keypad	Warning Name	Description
74		ExCom no power (ECnP)	There is no power supply on the DeviceNet
Action and Reset			
Action level		There is no power supply on the DeviceNet	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Re-power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
The drive detects that DeviceNet has no power		Check if the cable and power is normal. If yes, return to the factory for repair.	


ID No.	Display on LCD Keypad	Warning Name	Description
75		ExCom factory defect (ECFF)	Factory default setting error
Action and Reset			
Action level		Factory default setting error	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Cycle the power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Factory default setting error		Use DCISoft to reset to the default value.	

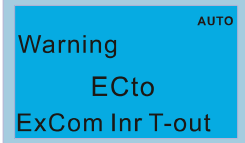
ID No.	Display on LCD Keypad	Warning Name	Description
76		ExCom inner error (ECiF)	Serious internal error
Action and Reset			
Action level		Internal memory saving error	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Cycle the power	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Noise interference		Verify wiring of the control circuit, and wiring/grounding of the main circuit to prevent interference. Cycle the power.	
The memory is broken		Reset to the default value and check if the error still exists. If yes, replace the communication card.	

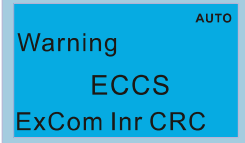
ID No.	Display on LCD Keypad	Warning Name	Description
77		ExCom IO Net break (ECio)	IO connection break off
Action and Reset			
Action level		IO connection between the communication card and the master is broken off	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
The cable is loose		Re-install the cable	
Incorrect parameter setting for master communication		Check the setting for master communication parameter	


ID No.	Display on LCD Keypad	Warning Name	Description
78		ExCom Parameter data error (ECPP)	Profibus parameter data error
Action and Reset			
Action level		N/A	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
The GSD file is incorrect		Get the correct GSD file from the software	

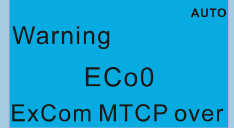
ID No.	Display on LCD Keypad	Warning Name	Description
79		ExCom configuration data error (ECPi)	Profibus configuration data error
Action and Reset			
Action level		N/A	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
The GSD file is incorrect		Get the correct GSD file from the software	

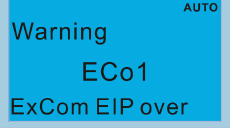
ID No.	Display on LCD Keypad	Warning Name	Description
80		Ethernet link fail (ECEF)	Ethernet cable is not connected
Action and Reset			
Action level		Hardware detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Ethernet cable is loose		Re-connect the cable	
Bad quality of Ethernet cable		Replace the cable	

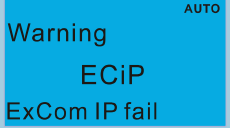
ID No.	Display on LCD Keypad	Warning Name	Description
81		Communication time-out (ECto)	Communication time-out for communication card and the upper unit
Action and Reset			
Action level		N/A	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		N/A	
Reset condition		CMC-EC01: auto resets when the communication with the upper unit is back to normal	
Record		N/A	
Cause		Corrective Actions	
Communication card is not connected with the upper unit		Check if the connection of the communication cable is correct	
Communication error of the upper unit		Check if the communication of the upper unit is normal	

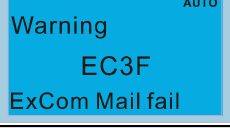
ID No.	Display on LCD Keypad	Warning Name	Description
82		Checksum error (ECCS)	Checksum error for communication card and the drive
Action and Reset			
Action level		Software detection	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Noise interference		Verify wiring of the control circuit, and wiring/grounding of the main circuit to prevent interference.	

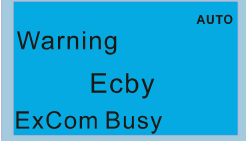
ID No.	Display on LCD Keypad	Warning Name	Description
83		Return defect (ECrF)	Communication card returns to the default setting
Action and Reset			
Action level		Communication card returns to the default setting	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Communication card is returning to default setting		No actions.	

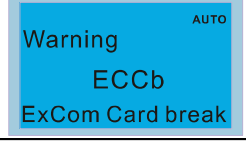
ID No.	Display on LCD Keypad	Warning Name	Description
84		Modbus TCP over (Eco0)	MODBUS TCP exceeds maximum communication value
Action and Reset			
Action level		Hardware detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
The Master communication value is more than the allowable quantity of the communication card		Reduce Master communication value	
The upper unit is online without communicating, and does not break off the Modbus TCP link, causes occupy connection		Revise program of upper unit, the communication should be break off when it is not used for a long time	
A new Modbus TCP connection is built every time when the upper unit is connected to the communication card, which caused occupy connection		Revise program of upper unit: use the same Modbus TCP connection when connected to the same communication card	

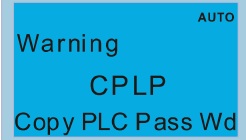
ID No.	Display on LCD Keypad	Warning Name	Description
85		EtherNet/IP over (ECo1)	Ethernet/IP exceeds maximum communication value
Action and Reset			
Action level		Hardware detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
The Master communication value is more than the allowable quantity of the communication card		Reduce Master communication value	
The upper unit is online without communicating, and does not break off the Modbus TCP link, causes occupy connection		Revise program of upper unit, the communication should be break off when it is not used for a long time	
A new Modbus TCP connection is built every time when the upper unit is connected to the communication card, which caused occupy connection		Revise program of upper unit: use the same Modbus TCP connection when connected to the same communication card	

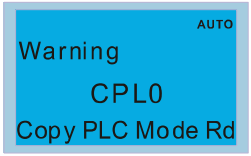
ID No.	Display on LCD Keypad	Warning Name	Description
86		IP fail (ECiP)	IP setting error
Action and Reset			
Action level		Software detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediate reset	
Record		N/A	
Cause		Corrective Actions	
IP conflict		Reset IP	
DHCP IP configuration error		MIS check if DHCP Server works normally	

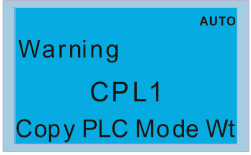
ID No.	Display on LCD Keypad	Warning Name	Description
87		Mail fail (EC3F)	Mail warning: Alarm mail will be sent when the communication card establishes alarm conditions
Action and Reset			
Action level		Communication card establishes alarm conditions	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Communication card establishes alarm conditions		No actions	

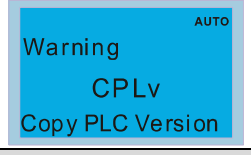
ID No.	Display on LCDKeypad	Warning Name	Description
88		ExCom busy (ECbY)	Communication card busy: too much packets are received
Action and Reset			
Action level		Software detection	
Action time		N/A	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Communication packets are too much for the communication card to process		Reduce communication packets	

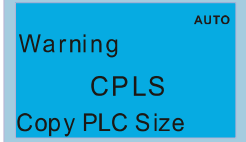
ID No.	Display on LCDKeypad	Warning Name	Description
89		ExCom card break (ECCb)	Communication card break off warning
Action and Reset			
Action level		Communication card break off	
Action time		The time between communication card break off and ECCb displays: 1. EtherNet/IP: 3 sec. 2. Modbus TCP: 3 sec. 3. DeviceNet: 1 sec. 4. PROFIBUS: 1 sec. 5. EtherCAT: 0.1 sec.	
Warning setting parameter		N/A	
Reset method		Auto resets after communication card is re-installed	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Communication card break off		Re-install communication card	


ID No.	Display on LCDKeypad	Warning Name	Description
90		Copy PLC: password error (CPLP)	Copy PLC password error. When KPC-CC01 is processing PLC copy and the PLC password is incorrect, the CPLP warning shows.
Action and Reset			
Action level		PLC password is incorrect	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
PLC password is incorrect		Reset and enter correct PLC password	

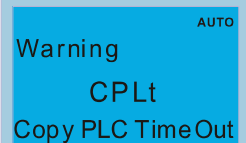
ID No.	Display on LCD Keypad	Warning Name	Description
91		Copy PLC: Read mode error (CPL0)	Copy PLC Read mode error
Action and Reset			
Action level		When copy PLC read mode with incorrect process	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
When copy PLC read mode and the process is incorrect		Cycle the power and copy PLC read mode again	


ID No.	Display on LCD Keypad	Warning Name	Description
92		Copy PLC: Write mode (CPL1)	Copy PLC write mode error
Action and Reset			
Action level		Copy PLC write mode with incorrect process	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
When copy PLC write mode and the process is incorrect		Cycle the power and copy PLC read mode again	

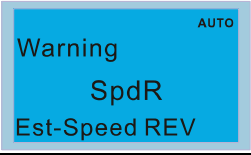
ID No.	Display on LCD Keypad	Warning Name	Description
93		Copy PLC: version error (CPLv)	Copy PLC version error. When non-C2000 built-in PLC is copied to C2000 drive, the CPLv warning shows
Action and Reset			
Action level		Software detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
Non-C2000 Plus PLC program is copied to C2000 Plus		Check if the copied PLC program is for C2000 Plus. Use the correct C2000 Plus PLC program.	

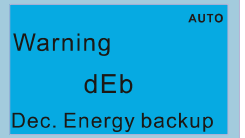
ID No.	Display on LCD Keypad	Warning Name	Description
94		Copy PLC: size error (CPLS)	Copy PLC Capacity size error
Action and Reset			
Action level		Software detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
The PLC copied to C2000 Plus exceeds the allowable capacity		Check if the copied PLC program is for C2000 Plus Use C2000 Plus PLC program with correct capacity	


ID No.	Display on LCD Keypad	Warning Name	Description
95		Copy PLC: PLC function (CPLF)	KPC-CC01 Copy PLC function should be executed when PLC is off
Action and Reset			
Action level		Software detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
PLC function is enabled when KPC-CC01 is running copy PLC		Disable PLC function first, then run the PLC copy function again	

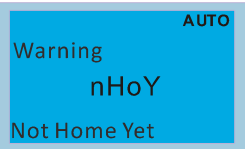
ID No.	Display on LCD Keypad	Warning Name	Description
96		Copy PLC: time-out (CPLt)	Copy PLC time out
Action and Reset			
Action level		Software detection	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Manual reset	
Reset condition		Directly resets	
Record		N/A	
Cause		Corrective Actions	
KPC-CC01 is removed while copying PLC program		The KPC-CC01 cannot be removed during the PLC copy process	

ID No.	Display on LCD Keypad	Warning Name	Description
101		InrCOM time-out (ictn)	Internal communication time-out
Action and Reset			
Action level		When Pr.09-31=(-1) – (-10) (no -9) and the internal communication between Master and Slave is abnormal, the ictn warning shows.	
Action time		Immediately acts	
Warning setting parameter		N/A	
Reset method		Auto-reset	
Reset condition		The warning automatically clears when the communication is back to normal condition	
Record		N/A	
Cause		Corrective Actions	
Malfunction caused by interference		Verify wiring/grounding of the communication circuit. It is recommended to separate the communication circuit from the main circuit, or wire in 90 degree for effective anti-interference performance.	
Different communication conditions with the upper unit		Check if the setting for Pr.09-02 is the same as the setting for upper unit	
Communication cable break off or not connected well		Check the cable status or replace the cable	

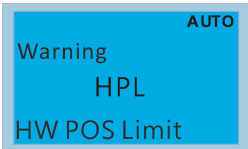
ID No.	Display on LCD Keypad	Warning Name	Description
105		Estimated speed reverse (SpdR)	Estimated speed is in a reverse direction with motor actual running direction
Action and Reset			
Action level		Software detection	
Action time		Pr.10-09	
Warning setting parameter		Pr.10-08 0: Warn and keep operation 1: Fault and coast to stop 2: Fault and ramp to stop	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
The motor runs in reverse direction at start		Check if the motor is hold when started, or start the motor with speed source.	
The difference between motor parameter measured Rr and Rs value is too large		Normally the Rr value of IM is Rs*0.7. If there is much difference of the measured value (e.g. Rr=Rs*0.3), proceed the motor parameter auto-tuning again.	
Insufficient output torque is dragged to the reverse direction by the load.		Increase the current limit of Pr.06-12, so as to increase the output torque.	

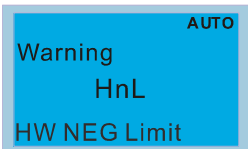
ID No.	Display on LCD Keypad	Warning Name	Description
123		Deceleration energy backup (dEb)	Deceleration energy backup
Action and Reset			
Action level		Software detection	
Action time		N/A	
Warning setting parameter		0: Disable 1: dEb with auto accel./decel., the output frequency will not return after power reply. 2: dEb with auto accel./decel., the output frequency will return after power reply. 3: dEb low-voltage control, then increase to 350V _{DC} /700V _{DC} and decelerate to stop. 4: dEb high-voltage control of 350V _{DC} /700V _{DC} and decelerate to stop	
Reset method		Manual reset	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Instantaneous power off or low voltage and unstable/ sudden heavy load of the power that cause the voltage drop		Check the power consumption	
Unexpected power off		Check the power consumption	

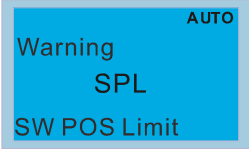
ID No.	Display on LCD Keypad	Warning Name	Description
125		Index Pulse Fail (INDX)	1. The Z position difference is bigger than 2 and occurs 2 times. Besides, more than 20 Z position differences bigger than 2 occur in 1 second, 2. The two Zindex position differences > 10 degree mechanical angle. The two situations mentioned above cause Index Pulse Fail.
Action and Reset			
Action level		N/A	
Action time		1 second	
Warning Setting Parameter		N/A	
Reset method		Auto-reset after the resolving the trouble.	
Reset condition		N/A	
Record		N/A	
Cause		Corrective Actions	
Zindex may be affected by noise		Verify if the wiring of the control circuit, the wiring of the main circuit and the grounding wiring are compatible to the noise immunity.	

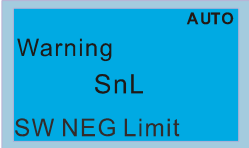
ID No.	Display on LCD Keypad	Warning Name	Description
126		Not Home Yet (nHoY)	The motor drive receives an absolute motion command before homing is completed.
Action and Reset			
Action level		N/A	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Press the STOP button on the keypad after you stop running the motor drive,	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Error on the time sequence of system control.		Verify if anything wrong on the time sequence.	

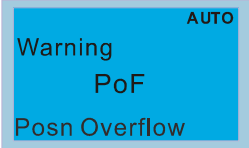
Speed of homing is too slow	Verify if the frequency setting of homing is too slow which causes error on the control time sequence of the upper unit.
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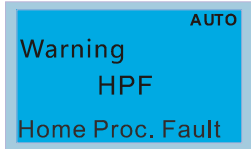
ID No.	Display on LCD Keypad	Warning Name	Description
127		HW POS Limit (HPL)	When under FOCPG mode, the positive running limit (hardware limit switch) of the MI terminals is activated.
Action and Reset			
Action level		When under IMFOCPG/PMFOCPG mode, the motor drive reaches positive running limit.	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Move the motor away from the limit position, the warning automatically clears.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Error occurs on hardware limit switch		<ol style="list-style-type: none"> 1. Verify if the switch of hardware limit works properly. 2. Verify if the switch of hardware limit is installed at the right position. 3. Verify if the corresponding MI terminals of the positive limit switch is at the right status such as Normal Open and Normal Close. 	
Overshoot		<ol style="list-style-type: none"> 1. Verify if the Acceleration/ Deceleration time of the motor drive is right. 2. Verify if the frequency command of the motor drive is right. 	
Select the wrong homing method		Verify if the mechanical parts and homing method co-work properly.	

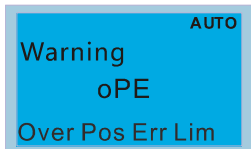
ID No.	Display on LCD Keypad	Warning Name	Description
128		HW NEG Limit (HnL)	When under FOCPG mode, the negative running limit (hardware limit switch) of the MI terminals is activated.
Action and Reset			
Action level		When under IMFOCPG/PMFOCPG mode, the motor drive reaches negative running limit.	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Move the motor away from the limit position, the warning automatically clears.	
Reset condition		Immediately reset	
Record		N/A	
Cause		Corrective Actions	
Error occurs on hardware limit switch		<ol style="list-style-type: none"> 1. Verify if the switch of hardware limit works properly. 2. Verify if the switch of hardware limit is installed at the right position. 3. Verify if the corresponding MI terminals of the positive limit switch is at the right status such as Normal Open and Normal Close. 	
Overshoot		<ol style="list-style-type: none"> 1. Verify if the acceleration/ deceleration time of the motor drive is right. 2. Verify if the frequency command of the motor drive is right 	
Select the wrong homing method		Verify if the mechanical parts and homing method co-work properly.	

ID No.	Display on LCD Keypad	Warning Name	Description
129		SW POS Limit (SPL)	When under FOCPG mode, the feedback position of the motor is higher than or equal to the software positive limit set by the parameters.
Action and Reset			
Action level		Pr.11-56, Pr.11-57	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Move the motor away from the limit position, the warning automatically clears.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Error occurs on software limit switch		Verify if the setting of software limit switch at Pr.11-56 and Pr.11-57 is correct.	
Overshoot		<ol style="list-style-type: none"> 1. Verify if the acceleration/ deceleration time of the motor drive is correct. 2. Verify if the frequency command of the motor drive is correct. 	

ID No.	Display on LCD Keypad	Warning Name	Description
130		SW NEG Limit (SnL)	When under FOCPG mode, the feedback position of the motor is lower than or equal to the negative limit set by the parameters.
Action and Reset			
Action level		Pr.11-58, Pr.11-59	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Move the motor away from the limit position, the warning automatically clears.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Error occurs on software limit switch		Verify if the setting of software limit switch at Pr.11-58 and Pr.11-59 is correct.	
Overshoot		<ol style="list-style-type: none"> 1. Verify if the acceleration/ deceleration time of the motor drive is correct. 2. Verify if the frequency command of the motor drive is correct. 	

ID No.	Display on LCD Keypad	Warning Name	Description
131		Posn Overflow (PoF)	When the position record is bigger than the setting range at Pr.11-75.
Action and Reset			
Action level		Verify if the current position is over the setting range at Pr.11-75.	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Stop running the motor drive, then manual reset.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Homing process incomplete		Verify if the homing process is completed.	
Position record is bigger than the setting range at Pr.11-75		Verify if the current position is over the upper and lower limit of Pr.11-75.	

ID No.	Display on LCD Keypad	Warning Name	Description
132		Home Proc. Fault (HPF)	Unusual signal occurs during the homing process,
Action and Reset			
Action level		N/A	
Action time		Immediately acts	
Warning Setting Parameter		N/A	
Reset method		Stop running the motor drive, then manual reset.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Unusual external signal is enabled		Verify if there's any error or signal is enabled and then interrupts the homing process.	
Press the STOP button during the homing process		Verify if anything wrong at control sequence.	

ID No.	Display on LCD Keypad	Warning Name	Description
133		Over Pos Err Lim (oPE)	This warning code occurs: 1. When the positioning error of a position controller is bigger than the Pr.11-51 <Maximum allowable position-following error>. 2. And when Pr.11-54: Treatment to the large position control error is set as 0: Warn and continue operation
Action and Reset			
Action level		Pr.11-51	
Action time		Immediately acts	
Warning Setting Parameter		Pr.11-54	
Reset method		When the position following error is smaller than the maximum allowable position error, the warning automatically resets.	
Reset condition		Immediately resets	
Record		N/A	
Cause		Corrective Actions	
Acceleration/ Deceleration time error.		Verify if the acceleration time and the deceleration time is correct.	
Setting value of Pr.11-51 may be too small.		Verify if the setting value of Pr.11-51 is too small.	
The position control may not be working properly.		1. Verify if the position control works properly. 2. Verify if the settings of APR bandwidth control and the gain value for the APR feed forward are correct.	
The setting of command curve at the upper unit during the whole pulse positioning process may not be right.		If you set Pr.11-40 =1 (Input from external pulse) or set MI=90 (Position command source switch and choose 1: Input from external pulse), you need to verify if the acceleration/ deceleration curve of the pulse given by the upper unit is correct.	