COOPER
Cooper Power Systems

HOW TO TURN DISPLAY ON

To turn on the CL-4C display, press any key.

HOW TO ACCESS SECURITY

1. Press **FUNCTION** key.
2. Enter 99.
3. Enter Security Code for Level 1,2, or 3.
4. Press **ENTER** when finished.
5. Security accessed.

More info. on page 2-32

HOW TO ACCESS FUNCTIONS

1. Direct access for codes 0-9 by pressing number keys 0-9.
2. Use scroll keys to go up or down through functions.
3. Press **FUNCTION** key, the function code, and **ENTER.**

HOW TO CHANGE A CONTROL SETTING

1. Access Security Level 2.
2. Access Function Code.
3. Press **CHANGE** key.
4. Enter new value of control setting.
5. Press **ENTER** when finished.
6. Setting is changed.

HOW TO RESET METERING VALUES

How to Reset a Single Value

1. Access Security Level 1.
2. Access Function Code.
3. Press **RESET** key.
4. Value is reset.

How to Reset All Demand Values

1. Access Security Level 1.
2. Access Function Code 38.
3. Press **ENTER.**
4. All Metering Values Are Reset.

USING A VOLTMETER ON THE CL-4C CONTROL

Connect an accurate true RMS-responding voltmeter to the voltmeter terminals. On the keypad, press **FUNCTION, 47, ENTER.** The voltage displayed at FUNCTION 47 is the voltage at the voltmeter test terminals. (Note: The voltage read at FUNCTION 47 may be lower than the voltage read at the voltmeter test terminals since Function Code 47 displays the voltage without harmonics.)

HOW TO TURN OFF DISPLAY

To turn off the CL-4C display and reset the security level to 0, press the **DISPLAY OFF** key.

If an ERROR is made, the display will show a message such as ERROR 1. Here is a list of error codes:

1. Input Value too Low.
2. Input Value too High.
3. Improper Security to Change.
4. Invalid Security Code.

NOTE:
This reference sheet is not meant to replace the instruction manual S-225-10-4C. This manual should be read before using equipment.

CL-4C FUNCTION CODES

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FUNCTION CODE	FUNCTION	SECURITY LEVEL CHANGE/RESET
FORWARD CONTROL SETTINGS		
0	Operation Counter	
1	Set Voltage	2
2	Bandwidth	2
3	Time Delay	2
4	Line Compensation, Resistance	2
5	Line Compensation, Reactance	2
INSTANTANEOUS METERING		
6	Load Voltage, Secondary	
7	Source Voltage, Secondary	
8	Compensated Voltage, Secondary	
9	Load Current, Primary	
10	Load Voltage, Primary	
11	Source Voltage, Primary	
12	Percent Regulation	
13	Power Factor	
14	kVA Load	
15	kW Load	
16	kVAR Load	
17	Line Frequency	
18	Voltage Harmonics	
19	Current Harmonics	
FORWARD DEMAND METERING		
20	Load Voltage	1
21	Compensated Voltage	1
22	Load Current	1
23H	Power Factor @Max kVA Demand	
23L	Power Factor @Min kVA Demand	
24	kVA Load	1
25	kW Load	1
26	kVAR Load	1
27	Max % Boost/Min % Buck	1
28	Max % Buck/Min % Boost	1
REVERSE DEMAND METERING		
30	Load Voltage	1
31	Compensated Voltage	1
32	Load Current	1
33H	Power Factor @ Max kVA Demand	
33L	Power Factor @ Min kVA Demand	
34	kVA Load	1
35	kW Load	1
36	kVAR Load	1
38	**MASTER RESET**	1
CONFIGURATION		
40	Regulator Identification	2
41	Regulator Configuration 0 = Wye, 1 = Delta Lag, 2 = Delta Lead	2
42	Control Operating Modes 0 = Sequential 1 = Time Integrating, 2 = Voltage Averaging	2
43	System Line Voltage	2
44	P.T. Ratio	2
45	C.T. Primary Rating	2
46	Demand Time Interval	2
CALIBRATION		
47	Voltage Calibration	3
48	Current Calibration	3

FUNCTION CODE	FUNCTION	SECURITY LEVEL CHANGE/RESET
REVERSE CONTROL SETTINGS		
51	Set Voltage	2
52	Bandwidth	2
53	Time Delay	2
54	Line Compensation, Resistance	2
55	Line Compensation, Reactance	2
56	Reverse Sensing Method 0 = Locked Forward, 1 = Locked Reverse, 2 = Reverse Idle, 3 = Bi-Directional, 4 = Neutral Idle, 5 = Co-Generation	2
57	Reverse Threshold Value %	2
COMMUNICATIONS		
60	Data Port Baud Rate	2
61	Interface Port Baud Rate	2
62	Channel 1 Status	
63	Channel 2 Status	
64	Control Communications Address	2
65	Communications Port Baud Rate	2
66	Communications Port Handshake Mode	2
67	Communications Port Resynch Time Chars.	2
68	Communications Port Transmit Enable Delay	2
69	**REGULATION BLOCKING STATUS**	2
VOLTAGE REDUCTION		
70	Voltage Reduction Mode 0 = Off, 1 = Local, 2 = Remote 3 = Automatic With Remote Override	2
71	% Voltage Reduction in Effect	
72	Local Voltage Reduction	2
73	Remote Setting #1	2
74	Remote Setting #2	2
75	Remote Setting #3	2
76	Automatic Setting #1	2
77	Automatic Setting #2	2
78	% Current for Automatic #1	2
79	% Current for Automatic #2	2
VOLTAGE LIMITER		
80	Voltage Limiting Mode 0 = Off, 1 = High Limit Only, 2 = High and Low Limit	2
81	High Voltage Limit	2
82	Low Voltage Limit	2
WATCHDOG DIAGNOSTICS		
90	Number of Defaults	
91	Self Test	
93	Number of EEPROM Corrections	3
94	Number of Resets	3
95	Hardware Status-System Code	3
	0 All Systems Good	
	1 EEPROM Write Failure	
	2 EEPROM Erase Failure	
	3 Frequency Detection Failure	
	4 No Sampling Interrupt	
	5 Analog-to-Digital Converter Failure	
	6 Invalid Critical Parameters	
	7 No Source Voltage Detected	
	8 No Output Voltage Detected	
	9 No Source & Output Voltage Detected	
SECURITY ACCESS		
96	Level 1 Security Code	3
97	Level 2 Security Code	3
98	Level 3 Security Code	3
99	Enter Security Code	

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