Customer Interface Unit (CIU)

Operation and Instruction Manual

Customer Interface Unit

3 1 : 12 : 10

Date   Time

16:49:30 FR 1

HPL Electric & Power Pvt. Ltd.

Overload   Credit   Power

1	2	3
←4	5	6→
7	8	9
*	0	#

RAILWAY/OC(1P)

ISO-9001:2008

HPL Electric & Power Pvt. Ltd.

Contents

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8. Alarm Indication:

a. Low Credit Alarm: The buzzer beeps at every 30 minutes when balance is less than Rs.100, excluding Happy Hours i.e. 17:30 to 11:00.

b. Overload Alarm: The buzzer beeps when overload occurs i.e. current greater than the load-limit.

Over load condition: If load is higher than the load limit, meter will CUT-OFF the load for one minute and raise alarm. If the load is not reduced below load-limit, Meter repeat this for three times automatically and then meter CUT-OFF the load and shall not reconnect it automatically.

Now you need to lower the load and press " # " key for 4 Seconds, to reconnect the load.

During overload following indication comes:

```
 3 1: 12: 10        ‹‹ ———————— Load disconnect
   Date     Time
  16:49:30    FRI
```

* If Meter is at low credit then it can be MUTE by pressing " # " key for 4 seconds.

Vending Code Result	Typical Screen Shots
1. Not valid code	⎕⎕⎕⎕ ⎕⎕⎕⎕ *Not Ok*
2. Old token	⎕⎕⎕⎕ ⎕⎕ *Not Ok*
3. Used token	USEd ⎕⎕ *Not Ok*
4. Sequence Error	SE9 Err *Not Ok*
5. Successful entry for setting maximum load limit token	LL 60 ᴀ *Ok*
6. Successful entry for emergency credit limit token	EC 100.00 *Ok* Rs.
7. Successful entry for setting of fix charges token	150.00 *Ok* Rs. ⎕onth FC
8. Successful entry for tariff token	tAr 1FF *Ok* Rs. 462
9. Successful entry for credit token	Cr 1350 *Ok* Rs. 1350.0 Credit
10. Successful entry for meter rent	50.00 *Ok* Rs. rEnt
11. Successful entry for refund credit amount	r-EFUnd--

7. LED Indication:

a. Credit LED:

i.   When credit LED is in GREEN colour, it shows that credit balance in meter is greater than Rs.100.

ii. When credit LED is in RED colour, it shows that credit balance is less than Rs.100.

iii. When credit LED is in ORANGE colour, it shows that meter is in debit.

b. Over Load LED: When Overload load LED glow, it shows overload occurrence.

c. Power LED: When power LED is ON, it shows that CIU power is ON.

Caution ⚠

This equipment must be keep away from water. The manufacturer shall not be held responsible for failure to comply with the instructions in this manual.
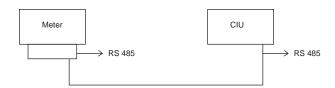
1. General information:

a. Customer Interface Unit (CIU) is used to view/access the display parameters and Token entry.

b. CIU does not need any external supply or batteries, it is powered up through meter via communication cable.

c. CIU is supplied with RS485 connector & cable.

d. It can be connected to meter with cable for communication between meter and CIU unit.

2. Installation:

a. Connect the CIU to meter with given RS485 cable.

b. Ensure that the cable has been locked with its connector.

Connection Diagram

Meter

CIU

→ RS 485

→ RS 485

3. Front view:

a. LCD
b. Overload LED
c. Credit LED
d. Power LED
e. Buzzer
f. Numeric Keypad

4. Operation: As soon as the CIU is connected to meter, it is powered up and performs the LCD segment check then goes to Auto Scroll Mode display.

5. Display: There are two modes of display.

      A. Auto Scroll Mode
      B. Keypad Mode

Note :

1. Meter rent are charges that are applied on per month. This can be changed as applicable by Utility.

2. Current Rate Tariff is tariff, in which meter is currently running.

3. Fix charges are the charges, that are applied either monthly or daily basis as decided by Utility. These charges can be changed by Utility.

4. Minimum charges are applied per month. If the consumer consumes electricity equivalent of amount less than the minimum charges then at the end of the billing period the meter will deduct the difference of the minimum amount and the monthly consumption (amount).

6. Vending Code Entry:

To enter the 21 digits Numeric Vending Code in the meter, follow below steps:

i. Press " * " key for 4 seconds then it will show display.

    | InSrt   1 | i.e. insert Token No.1.

ii. After entering 9 digits it shows display as below.

    | 7653821 ◄ | 9 → Number of digits entered.

iii. Enter full 21 digit Vending Code. Then it shows display as below.

    | 7957928 ◄ | OK 21 → This number shows no. of digit entered.

Please check " OK " before entering Token.

iv. Press " # " key to accept the Token.

v. Display will show the following results :

*Note : In token entry mode, if you entered any wrong entry, please press " * " to clear wrong entry, this is equivalent to backspace.*

Note : ABC is 21 digit code shown in 3 typical screen one after another automatically as shown. This code generated by meter automatically at end of every month. This code is used by Utility to get information about meter i.e.

1. Meter Serial Number
2. kWh reading of meter
3. ABC generation date
4. Tamper status of meter
5. Balance Amount
6. Cover Open Status
7. ABC Upload Date

	Typical Screen Shots	Key No.	Parameters
36.	☀ PrE dAY Rs. 28166	6	Previous day Consumed Amount
37.	☀ 2.400 kW MD	7	Maximum Demand in kW
38.	28:10:10 Date 9:30 Time MD		Maximum Demand Date & Time

Note : Screen number 37 & 38 can be shown one after another automatically by pressing key "7".

	Typical Screen Shots	Key No.	Parameters
39.	☀ 160.8 kWh	8	Cumulative kWh
40.	☀ 616.85 Rs. Credit	9	Balance Amount
41.	☀ 50.00 Rs. rEnt		Meter Rent
42.	rt 4.75 Rs.		Current Rate Tariff
43.	50.00 Rs. month FC		Fix Charges (Monthly)
44.	104.00 Rs. nC		Minimum Charges
45.	tt ACPt 40	0	Number of Transaction Accepted (ACPT) by meter
46.	tt rJtd 36		Number of Transaction Rejected (RJtD) by meter
47.	14048 Rs. Amount Cun		Total Cumulative Amount Vended in meter
48.	31:12:10 Date 16:49 Time Fr1		Real Date & Time with weekday.
49.	2201008 ntr Sn.		Meter Serial Number to which CIU is connected

A. Auto Scroll Mode:
Typical screenshots shows as given below, when CIU is connected to meter.

1. ☀ 160 kWh Rs. 616.8 Credit SL6 — Cumulative Energy in kWh with Slab No. & Balance Amount

⇩

2. ☀ 2.400 kW Rs. 1173 — Current load and the cost of that load

Note: The parameter in Auto Scroll Mode will automatically scroll one by one at every 10 sec. interval.

B. Keypad Mode :
The parameters in this mode can be viewed by pressing numeric keys given at CIU front.

	Typical Screen Shots	Key No.	Parameters
1.	☀ 0062505 01--07 rE1		Last Retained Credit Code Part-1 (RET)
2.	7957982 08--14 rE1		Last Retained Credit Code Part-2 (RET)
3.	3746217 15--21 rE1		Last Retained Credit Code Part-3 (RET)
4.	28:12:10 Date 12:38 Time rE1		Last Retained Credit Code Date & time
5.	1631 Rs. rE1		Last Retained Credit Code Amount
6.	0038042 01--07 rE2	1	2nd Last Retained Credit Code Part-1 (RET)
7.	8992019 08--14 rE2		2nd Last Retained Credit Code Part-2 (RET)
8.	9652163 15--21 rE2		2nd Last Retained Credit Code Part-3 (RET)
9.	12:01:11 Date 03:30 Time rE2		2nd Last Retained Credit Code Date & time
10.	936 Rs. rE2		2nd Last Retained Credit Code Amount
11.	0062569 01--07 rE3		3rd Last Retained Credit Code Part-1 (RET)
12.	7957782 08--14 rE3		3rd Last Retained Credit Code Part-2 (RET)

No.	Typical Screen Shot	Key No.	Parameters
13.	77462 17 / 15 --21 rE3		3rd Last Retained Credit Code Part-3 (RET)
14.	28:11:10 / Date 10:30 Time rE3		3rd Last Retained Credit Code Date & time
15.	1600 / Rs. rE3		3rd Last Retained Credit Code Amount
16.	0044642 / 01 --07 rE4		4th Last Retained Credit Code Part-1 (RET)
17.	8192029 / 08 --14 rE4		4th Last Retained Credit Code Part-2 (RET)
18.	9752193 / 15 --21 rE4	1	4th Last Retained Credit Code Part-3 (RET)
19.	12:08:11 / Date 02:38 Time rE4		4th Last Retained Credit Code Date & time
20.	900 / Rs. rE4		4th Last Retained Credit Code Amount
21.	0094672 / 01 --07 rE5		5th Last Retained Credit Code Part-1 (RET)
22.	2193029 / 08 --14 rE5		5th Last Retained Credit Code Part-2 (RET)
23.	1152192 / 15 --21 rE5		5th Last Retained Credit Code Part-3 (RET)
24.	28:06:11 / Date 12:10 Time rE5		5th Last Retained Credit Code Date & time
25.	100 / Rs. rE5		5th Last Retained Credit Code Amount

Note:

1. Retained Credit Code (RET) is the Credit Tokens entered. This code is shown in 25 typical screens, one after another automatically, after pressing key 1 on numeric keypad as shown here.

2. Retained credit code Date & time is the date & time when Credit Token was entered.

No.	Typical Screen Shot	Key No.	Parameters
26.	☀ dAY LEF / 5	2	Day Left (based on consumption of last seven days)

Note: Days left : This shows that how many days you can run the load, without recharging the meter (based on consumption of last seven days).
Meter is programmed for kWh based tariff structure.

kWh Tariff Structure .

	Typical Screen Shots	Key No.	Parameters
27.	☀ 100.0 kWh Rate / Rs. 2.60 tr 1		Tariff - 1
28.	200.0 kWh Rate / Rs. 3.20 tr 2	3	Tariff - 2
29.	300.0 kWh Rate / Rs. 3.85 tr 3		Tariff - 3
30.	AbouE kWh Rate / Rs. 4.90 tr 6		Tariff - 4

Screen number 27 to 30 shall be shown one after another automatically by pressing key "3".

Note : In above screen the Tariff structure is as follows :

Slab No.	Start kWh	End kWh	Rate (Rs.)
1	0	100	2.60
2	101	200	3.20
3	201	300	3.85
4	301	above	4.90

Tariff 1 : This shows the end of 1st slab of your Tariff in kWh and rate applied for this tariff as shown in table. First Slab start from 0.

Tariff 2 : This shows the end of 2nd slab of Tariff in kWh with rate applied and it start from 1st slab tariff ending.

Tariff 3 : This shows that end of 3rd slab of Tariff in kWh with rate applied and it start from 2nd slab tariff ending.

Tariff 4 : This shows that end of 4th slab of Tariff in kWh with rate applied and it start from 3rd slab tariff ending.

No.	Typical Screen Shots	Key No.	Parameters
31.	☀ 2.400 kW / Rs. 11.73	4	Current load and the cost of that load
32.	☀ 1265324 / 01 --07 AbC		Authenticated Billing Code Part-1
33.	1260024 / 08 --14 AbC	5	Authenticated Billing Code Part-2
34.	12 12324 / 15 --21 AbC		Authenticated Billing Code Part-3
35.	14048 / Rs. Amount Cum		Total Cumulative Amount Vended in meter