

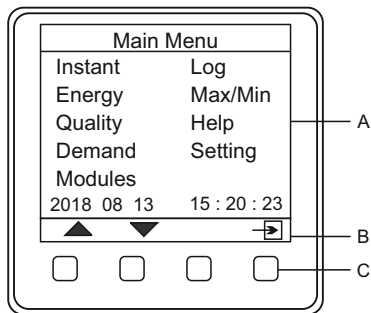
USER MANUAL FOR Smart Multifunction Meter Model No: EIPL720CR



Version – 1.0
Release of Date- 24/09/20

1. Operation

1.1 Panel Description



- A. Display window
B. Function indication for keys
C. Touch type keys

2. Setting

2.1 Signs for keys and corresponding functions

User can set parameters for meter through keys.

Sign	Function
▲	Add number at selected bit
▼	Move downward, switch to next page, change parameter
◀	Move left to change or show data/ switch data bit
▶	Move right to change or show data
⏪	Return to main interface directly, return to upper level menu/cancel modification
⏩	Enter selected item
⏹	Confirm
🔍	Zoom display image
✎	Edit
📄	Next Page
⏻	Ineffective key

The method of changing numbers

Click ◀ to select a bit, click ▲ to add number at selected bit Enter and exit programming status.

Enter programming mode : Click ◀ or ▶ to select “System setting in main interface, and then click ⏩ to enter programming interface. Select “User” and input correct password to enter parameter setting mode. (Programming password is defaulted as 0001 in factory. User can change the password.

2.2 Programming and setting menu

Programming and setting menu adopts hierarchical mode.

2.2.1 Basic parameter setting

Basic Setting	
Backlight	00 Minute
Contrast	Level 3
Language	English
Password	0001
Default Display	Reactive Power
Tariff Mode	Month Tariffs
Impulse	005000

Backlight	00s-99 min 00-backlight constant on
Brightness	1-5
Language	English
Password	0001-9999
Default Display	Set first display interface after power on. This interface can be set as U,I,P,E, THD, Waveform, Demand and Max/Min
	Set Tariff Mode. This can be set as Month Tariffs and week Tariffs.
Impulse	0~999999

2.2.2 Signal input setting

Signal Inputs	
Wiring	3 P 4 W
PT Primary	000380 V
PT Secondary	0380 V
CT Primary	000005 A
CT Secondary	0005 A
In Primary	000005 A
In Secondary	0005 A

Wiring	1P2W, 3P3W, 3P4W
PT primary value	0-999999V
PT secondary value	0-690V
CT primary value	0-999999A
CT secondary value	0-6A
Neutral current primary value	0-999999A
Neutral current secondary value	0-6A

2.2.3 Communication setting

Communication Settings	
Address	001
Baudrate	9600 bps
Data Format	N. 8.1
Protocol	Modbus-RTU

Address	1~247
Baud rate	1200~38400bps
Check mode	E81,O81, N81, N82
Communication protocol	Modbus-RTU

2.2.4 Digital input setting

Digital input Setting	
No.	Mode
01	Pulse Count
02	On-Off

There are three working modes of digital input.

1. Pulse counting
2. Status monitoring
3. Spare Energy

2.2.5 Relay output setting

Relay output setting	
No.	Mode
01	Alarm
02	Remote

There are two working modes of relay output which are remote communication and alarm.

Relay output setting	
Time	00.00 s
Item	V1 >
Value	380.00 V
Hys	0.005 V
Delay	03.00 s

Alarm output setting	
Time	Pulse width: (0~9999)×100ms
Item	See following list
Value	Limit value
Hys	Hysteresis value
Delay	Delay time : (0~9999)×100ms

Relay output setting	
Time	00.00 s

Remote control output mode	
Time	Pulse width: 0-99.99s

2.2.5 Electrical variables for alarm shown in the following list:

Item	Format	Instruction
OFF		Off
DI	0/1	Switching linkage action, relay acts according to digital input status. If it is 0, relay closes when digital input is 0; if it is 1, relay closes when digital input is 1.
X4.PT L	xxx.x °C	X4 low temperature alarm for any loop

X4.PT H	xxx.x °C	X4 high temperature alarm for any loop
X4.PT 2L		X4 low temperature alarm for second loop
X4.PT 2H		X4 high temperature alarm for second loop
X4.PT 1L		X4 low temperature alarm for first loop
X4.PT 1H		X4 high temperature alarm for first loop
X3.PT L		X3 low temperature alarm for any loop
X3.PT H		X3 high temperature alarm for any loop
X3.PT 2L		X3 low temperature alarm for second loop
X3.PT 2H		X3 high temperature alarm for second loop
X3.PT 1L		X3 low temperature alarm for first loop
X3.PT 1H		X3 high temperature alarm for first loop
X2.PT L		X2 low temperature alarm for any loop
X2.PT H		X2 high temperature alarm for any loop
X2.PT 2L		X2 low temperature alarm for second loop
X2.PT 2H		X2 high temperature alarm for second loop
X2.PT 1L		X2 low temperature alarm for first loop
X2.PT 1H		X2 high temperature alarm for first loop
X1.PT L	xxxx	X1 low temperature alarm for any loop
X1.PT H		X1 high temperature alarm for any loop
X1.PT 2L		X1 low temperature alarm for second loop
X1.PT 2H		X1 high temperature alarm for second loop
X1.PT 1L		X1 low temperature alarm for first loop
X1.PT 1H		X1 high temperature alarm for first loop
dmd.S <		Present demand S <
dmd.S >		Present demand S >
dmd.Q <		Present demand Q <
dmd.Q >		Present demand Q >
dmd.P <		Present demand P <
dmd.P >		Present demand P >
dmd.I <		Present demand I <
dmd.I >		Present demand I >
dmd.I3 <	x.xxx_A	Present demand I3 <
dmd.I3 >		Present demand I3 >
dmd.I2 <		Present demand I2 <
dmd.I2 >		Present demand I2 >
dmd.I1 <	xx.xx%	Present demand I1 <
dmd.I1 >		Present demand I1 >
THDi <		Current harmonic distortion rate low alarm
THDi >		Current harmonic distortion rate high alarm
THDv <	xxx.x%	Voltage harmonic distortion rate low alarm
THDv >		Voltage harmonic distortion rate high alarm
lunb <		Current unbalance low alarm
lunb >		Current unbalance high alarm
Vunb <	xxx.x%	Voltage unbalance low alarm
Vunb >		Voltage unbalance high alarm
F <	xx.xx Hz	Grid frequency low alarm
F >		Grid frequency high alarm
PF <	x.xxx	Total power factor low alarm
PF >		Total power factor high alarm
S <	xxxx_Hz	Total apparent power low alarm
S >		Total apparent power high alarm
Q <	xxxx_var	Total reactive power low alarm
Q >		Total reactive power high alarm
P <	xxxx_W	Total active power low alarm
P >		Total active power high alarm

I0 <	x.xxx_A	Zero-sequence current low alarm
I0 >		Zero-sequence current high alarm
Iavg >		Current average value low alarm
Iavg <		Current average value high alarm
I <		One of three phase currents low alarm
I >		One of three phase currents high alarm
I3 <		I3 low alarm
I3 >		I3 high alarm
I2 <		I2 low alarm
I2 >		I2 high alarm
I1 <	xxx.x_V	I1 low alarm
I1 >		I1 high alarm
Vllavg <		Line voltage average value low alarm
Vllavg >		Line voltage average value high alarm
Vlnavg <		Phase voltage average value low alarm
Vlnavg >		Phase voltage average value high alarm
VII <		One of three line-voltages low alarm
VII >		One of three line-voltages high alarm
V31 <		V31 voltages low alarm
V31 >		V31 voltages high alarm
V23 <	xxx.x_V	V23 voltages low alarm
V23 >		V23 voltages high alarm
V12 <		V12 voltages low alarm
V12 >		V12 voltages high alarm
VIn <		One of three phases voltages low alarm
VIn >		One of three phases voltages high alarm
V3 <		V3 voltages low alarm
V3 >		V3 voltages high alarm
V2 <		V2 voltages low alarm
V2 >		V2 voltages high alarm
V1 <		V1 voltages low alarm
V1 >		V1 voltages high alarm

2.2.6 Limits Value Setting

Limits #1		
Item	Value	Hys
Over Volts	380.0V	006.0V
Under Volts	060.0V	011.0V
Over Amps	5.000A	0.005A
Under Amps	1.000A	0.001A
Over Power	5000W	0011W
Under Power	0200W	0010W

Used to set off-limit alarm for voltage, current and power

Limits #2		
Item	Value	Hys
Interruptions	031.0V	006.0V

Used to set voltage interruption.

Limits #3		
Item	Value	Hys
Rec. Over Volt	380.0V	006.0V
Rec. Under Volt	060.0V	011.0V
Rec. Over Amps	5.000A	0.005A
Disturb Record	Enable	

Used to set fault wave recording

2.2.7 Clear synchronous setting

Reset Data #1	
Reset Energy	☐
Reset Demand	☐
Reset Limit	☐
Rst. Sys. Event	☐
Reset SOI	☐
Reset Alarm	☐
Reset Load	☐

Parameters of energy, demand, Max./Min. value and Event are cleared in this interface. if the parameters are cleared, the relative value will be zero and not be reset; If energy is cleared, a piece of energy clearance SOE is made.

Reset Data #2	
Reset Pulse	☐

Clear pulse counter

2.2.8 Time setting and meter reading time

Time Setting #1	
System Time	2017-03-06-15:21:16
Meter Reading	20** ** 01:01:00:00
DST	On
DST Zone	12

Time setting and meter reading time	
System Time	Setup real-time-clock
Meter reading time	
DST	Daylight Saving Time Mode: On/Off
DST Zone	Daylight Saving Time Zone

2.2.9 Demand Setting

Digital input Setting				
No.	Item	Mode	t (s)	T(xt)
1-6	IPQS	Sliding	0030	0010

No.	1-6
Item	I1, I2, I3, P, Q, S
Mode	Sliding/Fixed
t	Update time
T	T = n*t

There are two demand measurement modes which are slip and fixed. The relative time parameters are set as t (updating time) and T (time zone).

Slip: Meter calculates average demand during latest T minutes every t seconds, tests and records the value, automatically reads the demand every month;

Fixed: meter calculates average demand during latest T minutes after T minutes, tests and records the value, automatically reads the demand every month.

2.2.10 Monthly tariff setting

Digital input Setting			
Month	Day Type	Month	Day Type
01	#1	07	#1
02	#2	08	#2
03	#1	09	#1
04	#1	10	#1
05	#1	11	#1
06	#2	12	#2

EIPL720CR has two sets of daily tariffs. One month can be select to follow one set of daily tariffs. Daily tariffs can be set in daily tariff page.

2.2.11 Daily tariff setting

Digital input Setting					
No.	Time	Tariffs	No.	Time	Tariffs
01	00:00	T1	07	00:00	T2
02	00:00	T1	08	00:00	T2
03	00:00	T1	09	00:00	T2
04	00:00	T1	10	00:00	T1
05	00:00	T1	11	00:00	T1
06	00:00	T1	12	00:00	T1

EIPL720CR has two sets of daily tariffs. 24 hours in a day are divided into 12 twelve zone. Each time zone can be selected with one from fours kinds of tariffs.

2.2.11 Example for programming operation

Suppose the wiring method of meter is three phase four wire, input voltage range is 380V, direct voltage input mode and primary voltage is 380V, change the wiring method to be three phase three wire, change primary voltage to be 6000V, the programming operation process is as follows.

