

SDM72CT-M

Three Phase Energy Meter (CT Connect)



Warnings

Important Safety Information is contained in the Maintenance section. Familiarize yourself with this information before attempting installation or other procedures. Symbols used in this document:



Risk of Danger: These instructions contain important safety information. Read them before starting installation or servicing of the equipment.



Caution: Risk of Electric Shock

Technical Data

Specifications

Nominal voltage(Un)	230V/400V AC(3~)
Operational voltage	80%~120% Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2/50µS
Nominal current (In)	1A/5A
Maximum rated current (Imax)	6A
Operational current range	0.4% In~Imax
Over current withstand	20Imax for 0.01s
Operational frequency range	50Hz/60Hz
Internal power consumption	≤ 2W/10VA/phase
Pulse output 1	1000imp/kWh
Pulse output 2	1000imp/kWh
Display	LCD with backlit
Max. Reading	999999.9kWh

Performance criteria

Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Active energy accuracy	Class 1 IEC 62053-21

Protection against penetration of dust and water	IP51
Insulating encased meter of protective class	II
Warm up time	6S
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2

Introduction

This document provides operating, maintenance and installation instructions. This unit measures and displays the characteristics of single phase two wires(1p2w) and three phase four wires(3p4w) networks. The measuring parameters include voltage(V), import, export and total energy(kWh/kVarh), frequency(Hz), current(A), power(kW/Kva/Kvar).

SDM72CTM can be configured to work with a wide range of CTs. Built-in interfaces provide pulse and RS485 Modbus RTU outputs. Configuration is password protected.

Unit Characteristics

- Multifunction measurements
- Bi-directional measurement IMP & EXP
- Two pulse outputs
- RS485 Modbus RTU
- Password protected set-up
- Backlighted LCD

Pulse Outputs

The meter provides two pulse outputs. Both pulse outputs are passive type.

Pulse output 1 can be set to generate pulses to represent total / import/export kWh or kVarh.

The pulse constant can be set to generate 1 pulse per: 0.001/0.01/0.1/1kWh/kVarh (default is 0.001 export kWh).

Pulse width: 200/100/60ms

Pulse output 2 is non-configurable. It is fixed up with active kWh (Imp). The constant is 1000imp/kWh.

RS485 Output for Modbus RTU

The meter provides a RS485 port for remote communication. Modbus RTU is the protocol applied. For Modbus RTU, the following RS485 communication parameters can be configured from the Set-up menu:

Baud rate 1200,2400, 4800, 9600

Parity none (default)/odd/even

Stop bits 1 or 2

RS485 network address nnn – 3-digit number, 001 to 247

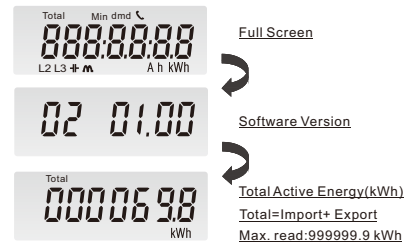
Modbus™ Word order Hi/Lo byte order is set automatically to normal or reverse. It cannot be configured from the set-up menu.

Note:For Modbus protocol, please contact EASTRON sales team for assistance or go to www.eastrongroup.com

Operation

Initialization display

When the meter is powered on, it will initialize and do self-checking:



After the self-checking program, the meter display will show the total active energy (kWh)

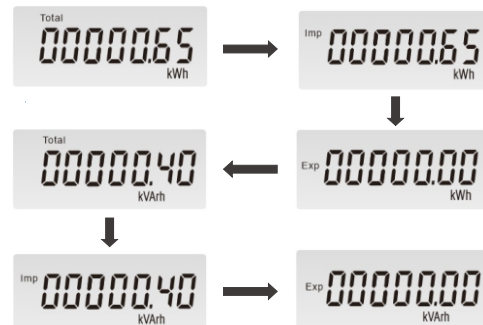
Scroll display

Scroll Display by Button

There are two buttons on the front panel.

	>Scroll the display for data checking. >Changing option at Set-up mode >Exit the Set-up mode
	>Set-up mode entry >Confirmation

After initialization and selfchecking program, the meter display the measured values. The default page is total kWh. If the user wants to check other information, please press the scroll button on the front panel.



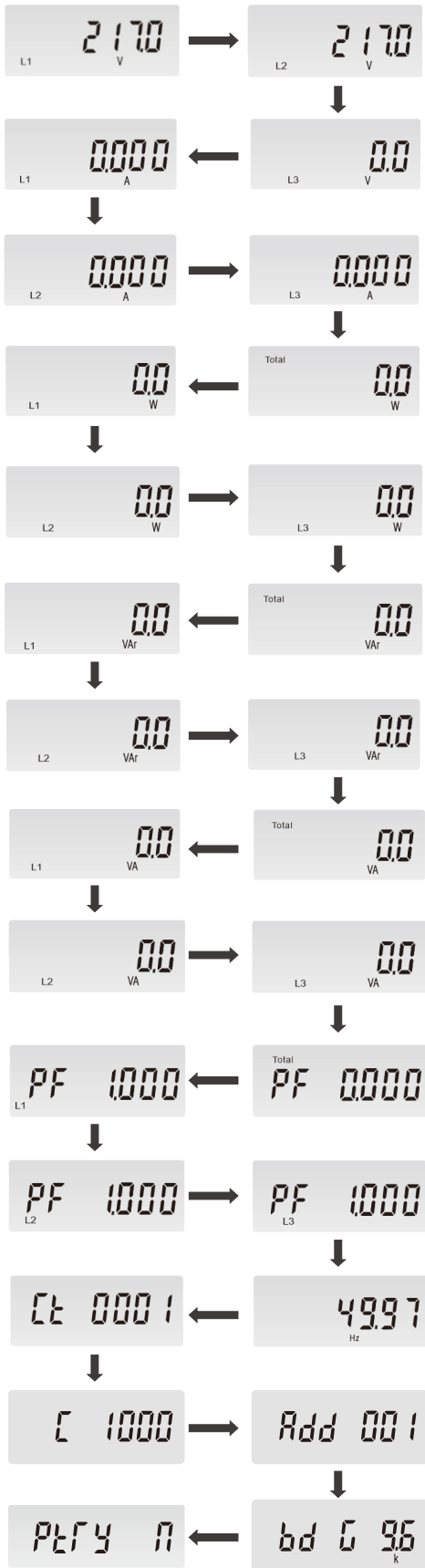
smartprocess
control & instrumentation

Smart Process & Control LTD

Unit 11, Totman Close, Brook Road Industrial Estate, Rayleigh, Essex, S6 7UZ

Telephone: 01268 773422 - Website: www.smartprocess.co.uk - Email: enquiry@smartprocess.co.uk

Operation

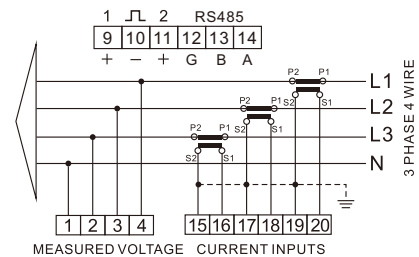


Set-up Mode

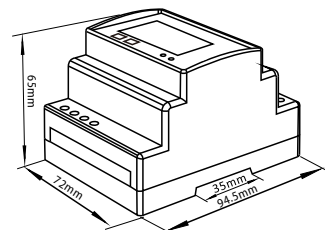
To get into Set-up Mode, the user needs to press the "Enter" button for 3s.

Page	Display	Descriptions
1	PR50000	Password To get into Set-up mode, it asks a password confirmation. Default password: 1000 Use and to enter correct password.
1-1	Err	"Err" means the password is incorrect or the operation fails.
2	Add 001	Press for 3s, the setting will flash. Use and to change the Modbus address. Options: 1~247 Long press for confirmation.
3	bd 0 96	Press for 3s, the setting will flash. Use and to change the baud rate. Options: 1200, 2400, 4800, 9600 (default) Long press for confirmation.
4	PtPY n	Press for 3s, the setting will flash. Use and to change the parity. Options: EVEN, ODD, NONE (default) Long press for confirmation.
5	SEt Ct	Use to enter the CT ratio option. Press for 3s, the setting will flash. Use and to enter the CT Ratio.
5-1	Ct 0001	The range is from 0001 to 2000. e.g. to set 100A/5A, please input "0020". Long press for confirmation.
6	PR50000	Use to change the password. Press for 3s, the setting will flash. Use and to enter the new password.
7	PR50000	The range is from 0001 to 9999. Long press for confirmation.

Wiring Diagram



Dimensions



Height 94.5mm
Width 72mm
Depth 65mm



Smart Process & Control LTD

Unit 11, Totman Close, Brook Road Industrial Estate, Rayleigh, Essex, S6 7UZ

Telephone: 01268 773422 - Website: www.smartprocess.co.uk - Email: enquiry@smartprocess.co.uk