



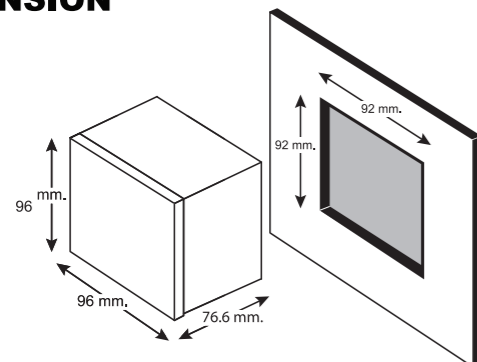
KM-12-A



TECHNICAL SPECIFICATION

Power Supply	230 VAC ±15% 50-60 Hz 115 VAC ±15% 50-60 Hz	
Power Consumption	2.5VA	
Display	7-Segment, Size 0.56 Inch, 4 Digit, 3 Rows	
Input	Current	Connection 3 CT, Driect
	Current (Direct)	0.02 - 10 A
	Ib(Base Current)	5 A
	Current Transformer Ratio	1-2000
	Primary	9999 A
	Secondary	0.2-5 A
	Current Accuracy	±1.0% FS
Communication	Frequency Accuracy	45-65 Hz ±1.0%
	Protocol	MODBUS RTU
	Baud Rate	1200, 2400, 4800, 9600, 19200, 38400, 57600 bps
	Parity	None, Even, Odd
	Stop Bits	1, 2
	Data Bits	8 Bits
	Support Device Node	128
Ambient Operation	Temperature	-10 °C to 60 °C
	Humidity	85 % RH Non-Condensing
Ambient Storage	Temperature	-20 °C to 80 °C
	Humidity	85 % RH Non-Condensing
Protection Degree	Front Protection Rating	IP52
	Case Protection Rating	IP30
Installation	Panel Mounting	
Material	ABS-V0	
Size	96 x 96 x 76.6 mm.	
Weigth	465 g.	

DIMENSION



DESCRIPTION

- KM - 12 - A is a device that measures current value . Can display three phase R, S, T simultaneously
- 7 - Segment display size 0.56 in 4 digits, 3 rows
- Measurement area
 - : Current: 0.02-10 A (in case of direct connection)
 - : Maximum current of 9999 A (in case of joining with CT)
- Can be combined with CT up to 10,000 / 5A
- High accuracy TRUE RMS measurement.
- Frequency range 45-65 Hz
- LED status indicator and power unit.
- Can communicate with computer via RS-485 port MODBUS RTU PROTOCOL
- Peak Hold to see the maximum current in the system

OPERATION

The display will have a 3 Page display of current measured value, Hz, and Peak Amp Avg. Peak Amp is calculated as an average of 15 minutes with the arrow keys. The current value is displayed and when the down arrow is displayed, the Peak Amp is displayed. On Peak Amp display, the Peak LED will blink while displaying.

For Com LED (Communication) Used in Models with Option and Com LED (communication) will flash every time there is communication

Display Amp (Key ↑)



Display Amp Phase 1,2,3

Display Peak Amp (Key ↓)



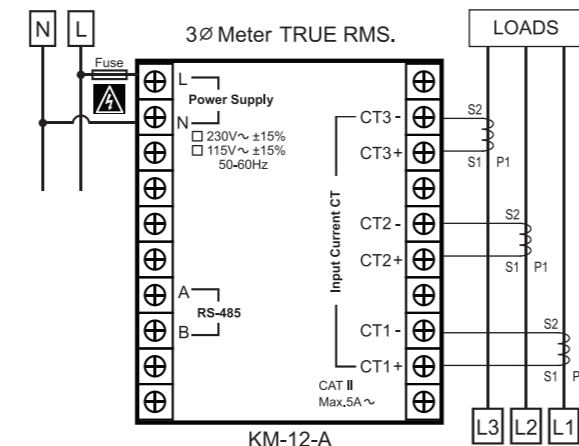
Display Peak Amp

Display Hz (Key ↑)



Display Hz

WIRING DIAGRAM



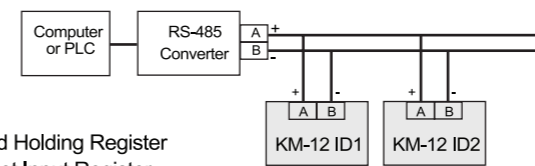
- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

SERIAL COMMUNICATION

KM - 12 - A can read parameter values measured in real time with the system BUS RS - 485 by PROTOCOL. Communication is MODBUS RTU Mode.

A set of commands that can be used with the Meter

Wiring Diagram



- 0x03 : Read Holding Register
- 0x04 : Preset Input Register
- 0x06 : Preset Single Register
- 0x10 : Preset Multi Register

Modbus table of km - 12 - A is shown in the following table

Address	Contents		Format	Word	Access
	Decimal	Hex			
0-1	00-01	Current Phase 1 Register	Unsignde long	2	Read Only
2-3	02-03	Current Phase 2 Register	Unsignde long	2	Read Only
4-5	04-05	Current Phase 3 Register	Unsignde long	2	Read Only
6-7	06-07	Peak Current Phase 1 Register	Unsignde long	2	Read Only
8-9	08-09	Peak Current Phase 2 Register	Unsignde long	2	Read Only
10-11	0A-0B	Peak Current Phase 3 Register	Unsignde long	2	Read Only
12	0C	CT	Unsignde int	1	R/W
13	0D	Hz	Unsignde int	1	Read Only

Using modbus RTU with PLC / HMI

PROTOCOL of KM - 12 - A is designed according to MODBUS standard. RTU if used with PLC / HMI. Read values for the register table for the Holding Register (03) must start at Address 40001 and for Input Register (04) must start at Address 30001

Example of km - 12 - A meter

To read Current Phase 1 Register must specify the address used. For readings on 30001 (for Fun 04) and to read values at Volt Line 1 - 2 Register must set the address used to read 30006 (for Fun 04)

Calculating readable register

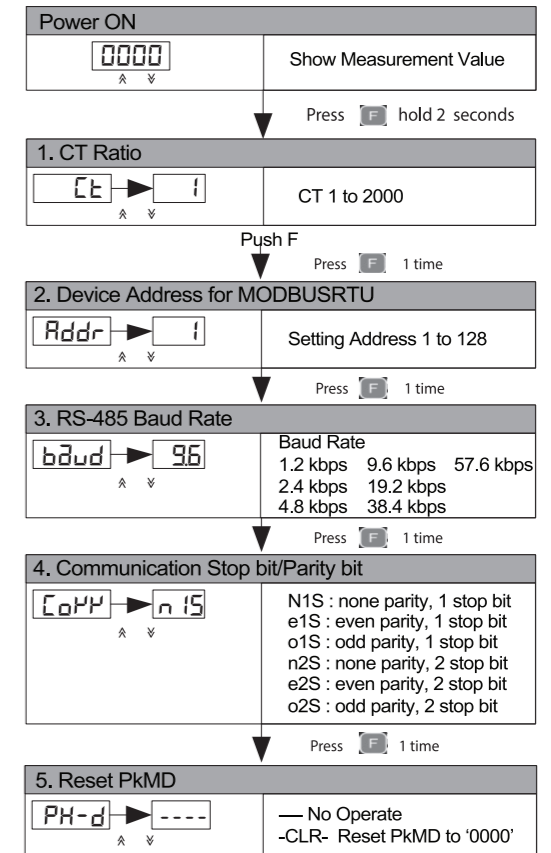
$$\text{Current} = \frac{\text{Current Reg}}{1000} \text{ A}$$

$$\text{Peak Current} = \frac{\text{Peak Current Reg}}{1000} \text{ A}$$

$$\text{Hz} = \frac{\text{Hz Reg}}{10}$$

CONFIGURATION

KM-12-A



How to Reset Pk-Demand Current

1. Set PH-d to -CLR-
2. Scroll down the Meter display on the Pk-Demand Amp page, then press Hold for 5 seconds until Pk-Demand Amp equals 0

ORDERING CODE

OPTION		POWER SUPPLY	
M	RS 485	220	230 VAC
NONE	None RS- 485	115	115 VAC

Example: KM - 12 - A - M refers to the current measured in Amp and has RS - 485

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