



# AHM3 Multifunction Power Meter

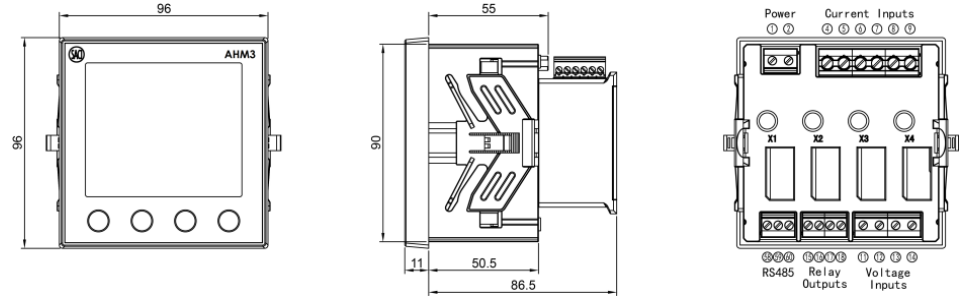


The **AHM3** is designed to be used for the measurement and calculation of electrical variables such as voltage, current, frequency, power, power factor, energy, harmonic components, etc. in low, medium and high voltage power distribution. It is capable of single-phase, two-phase, or three-phase measurement and can be used in two-wire, three-wire, four-wire, TN, TT and IT systems. There are four interfaces on the meter for modules which are used to extend functions.

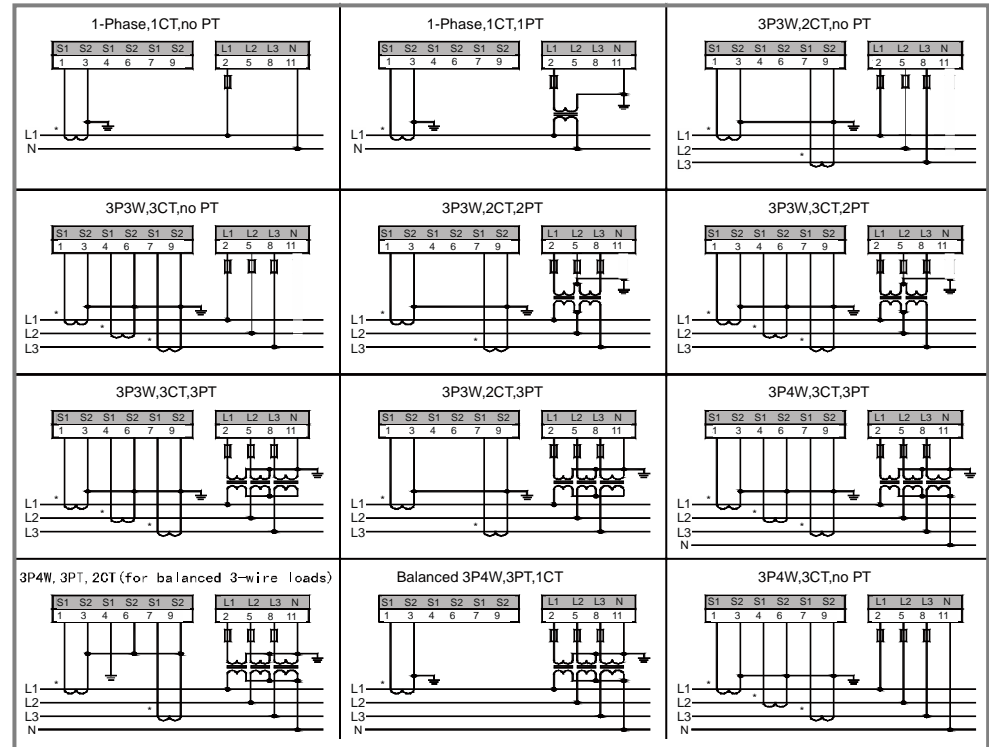
The following list shows variables which can be measured by AHM3 including relative variables calculated from basic electrical parameters.

Measurement variable	Instant	Max	Min	Demand	sum	unit
V1 V2 V3	√	√	√			[V,kV]
V12 V23 V31	√	√	√			[V,kV]
I1 I2 I3	√	√	√	√		[A,kA]
F	√	√	√			[Hz]
P P1 P2 P3	√	√	√	√		[kW,MW,GW]
Q Q1 Q2 Q3	√	√	√	√		[kvar,Mvar,Gvar]
S S1 S2 S3	√	√	√	√		[kVA,MVA,GVA]
PF PF1 PF2 PF3	√	√	√			-
EP+ EP-					√	[kWh,MWh, GWh]
EQ1 EQ2 EQ3 EQ4					√	[kvarh,Mvarh, Gvarh]
Backup Energy					√	
THDV1 THDV2 THDV3	√					[%]
THDI1 THDI2 THDI3	√					[%]
Harmonic RMS-U (1~63th)	√					[%]
Harmonic RMS-I (1~63th)	√					[%]
Unbalance-U	√					[%]
Unbalance-I	√					[%]
Hour meter	√					h:min
Neutral current	√					[A,kA]

## Dimensions



## Signal Wiring Diagrams



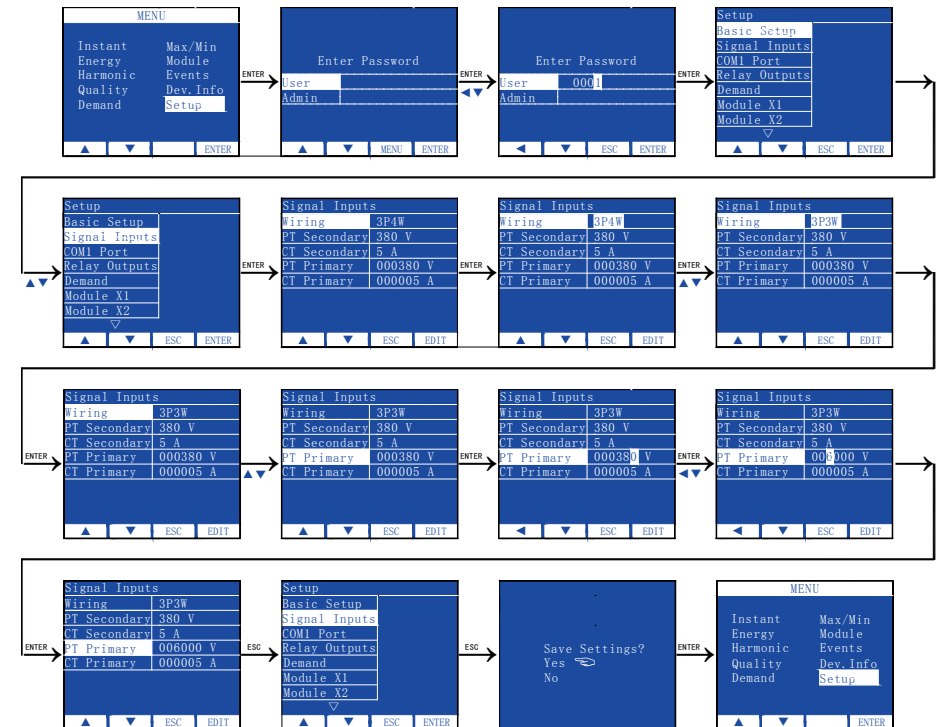
# AHM3 Multifunction Power Meter



Electric Characteristics			
Accuracy	Voltage and current	0.2%	
	Power	0.5%	
	Frequency	±0.01Hz	
	Active energy	IEC62053-22, class 0.5S	
	Reactive energy	IEC62053-23, class 2	
Data update rate	1s		
Input	Wiring mode	1P2W, 3P3W, 3P4W	
	Voltage	Rated value	690 V AC Phase-phase
		Overload	1.2Un
		Impedance	>1MΩ
	Current	Rated value	1A or 5A
		Overload	Continuous: 2In Instantaneous: 10In/5s or 20In/1s
		burden	<0.1VA
		Impedance	<20mΩ
Grid frequency	(45~65)Hz		
Auxiliary supply	Working range	AC/DC (80~270) V	
	consumption	≤ 10VA	
Energy pulse output	2 photocoupler outputs, pulse width (80±20%) ms		
Digital input	Dry contact input, isolation: 2000VAC		
Relay output	Contact rated at AC 250V/5A or DC 30V/5A Isolation: 2500VAC		
Communications			
RS485 port	Modbus-RTU , 2-wire, up to 38400bps		
Mechanical Characteristics			
IP index	IP65 (front panel) and IP20 (meter body)		
Dimensions	96x96x55mm		
Environmental Characteristics			
Operating temperature	(-10~60)°C		
Storage temperature	(-25~70)°C		
Relative humidity	(5~95)% (no gel)		
Insulation	IEC 61010-1		

## Program Example

E.g. select wiring mode as three phase three wire, set primary value of PT as 6kV, and set secondary value of PT as 100V.



## ⚠ Safety Precautions

The manufacturer shall not be held responsible for failure to comply with the instructions in this manual.

The equipment must be installed and serviced only by qualified personnel.

Prior to any work on or in the equipment, isolate the voltage inputs and auxiliary power supplies, short the secondary of all CT, but never short the secondary of PT.

Always use a properly rated voltage sensing device to conform that all power is off.

### Risk of damaging device

- ◆ The voltage of the auxiliary power supply is beyond the rated range.
- ◆ The frequency of the power distribution system is beyond the rated range.
- ◆ The input polarity of the voltage or the current is wired improperly.