

# *Acuvim 300 Series*

## Three-Phase Intelligent Power Meter



- Metering of distribution feeders
- Medium and low voltage systems
- Commercial, industrial, utility
- OEM Applications



ISO9001 Certified



## DESCRIPTION

The Acuvim 300 series Three-Phase Intelligent Power Meter is widely used for monitoring and controlling in distribution systems. This compact meter can provide true RMS measured values of electric system parameters, such as:

- ◆ True RMS measuring parameters
- ◆ Over/Under Limit Alarming
- ◆ Energy Pulse Output
- ◆ Individual Harmonics 2nd to 31st
- ◆ TOU, 4 Tariffs, 12 Seasons, 14 Schedules

The TOU features of the Acuvim 300 meter also include Daylight Savings Time and a decade holiday setting function. The meter has multiple IO functions. The 2 Relay Outputs are for Electric Switch controlling or alarming. 2 Digital Outputs are for energy pulse output or alarming. Switch Status monitoring is possible by using the 4 switch (DI) inputs. Two Analog Outputs can be used in DCS systems or industrial monitoring equipment. The Acuvim

300 Series Meter combines high accuracy measurement with intelligent multifunction capabilities and a simple HMI interface.

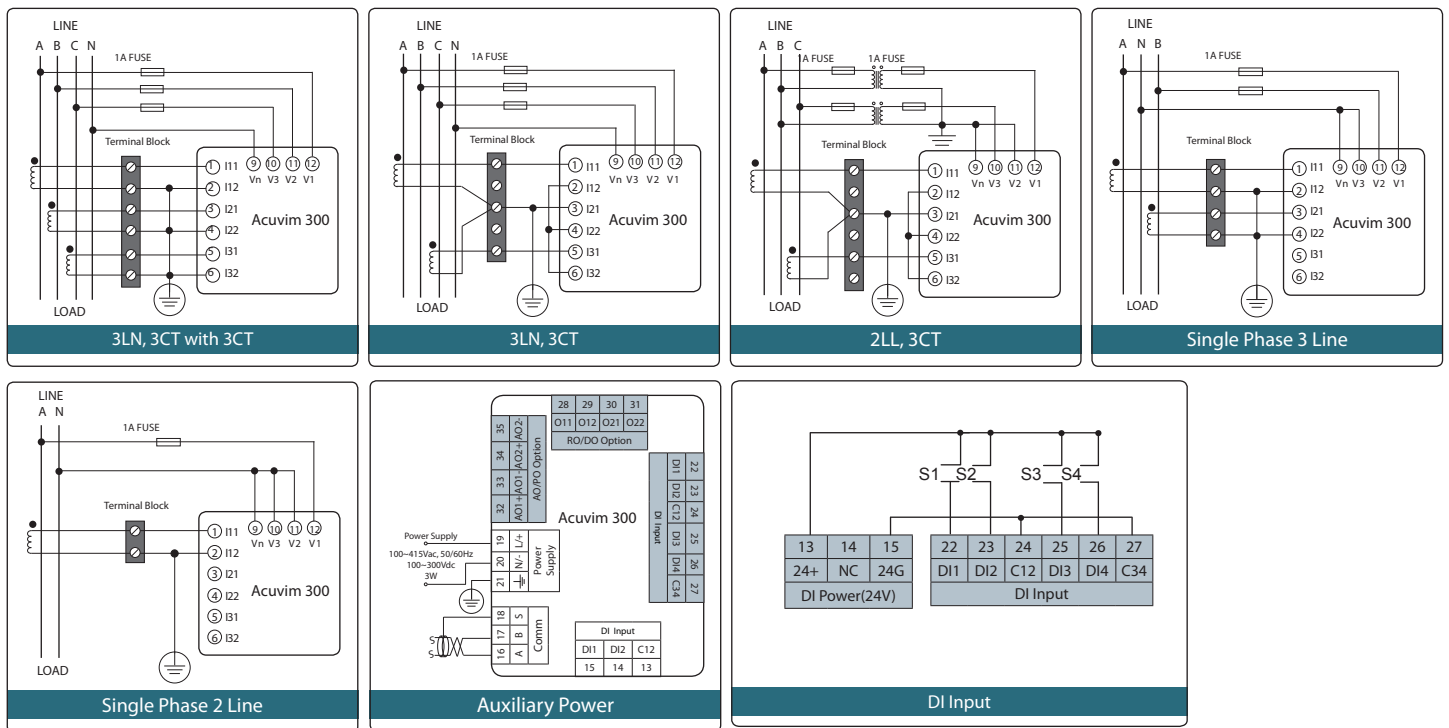
The Acuvim 300 may be used as a data acquisition unit for an Intelligent Power Distribution Automation System or a Plant Automation System that integrates process, instrument and electrical requirements. All measured values are available via the RS485 communication port running Modbus protocol. The Acuvim 300 Series Meter is suitable for AC applications where there is considerable distortion of current waveforms from nonlinear loads such as a VVVF Inverter, Ballastor and Switching Power Supply.

## Acuvim 300 Series Power Meters

Function		Metering	Acuvim 361	Acuvim 362	Acuvim 382	Acuvim 387	Acuvim 390	Acuvim 398
METERING	Voltage	V	●		●	●	●	●
	Current	I		●	●	●	●	●
	Power	P					●	●
	Reactive Power	Q					●	●
	Apparent Power	S					●	●
	Power Factor	PF					●	●
	Frequency	Hz	●		●	●	●	●
ENERGY	Energy	Ep				●	●	●
	Reactive Energy	Eq				●	●	●
	Apparent Energy	Es				●	●	●
DEMAND	Current, Power Demand	Dmd						●
	The Maximum of Current and Power Demand	Dmd						●
TOU	Energy	4 tariffs, 12 seasons						
	Demand							●
POWER QUALITY	Voltage THD						●	●
	Current THD						●	●
	Voltage, Current Individual Harmonics	2 <sup>nd</sup> to 31 <sup>st</sup>					●	●
I/O OPTION	DI Option	Digital Input (additional 24Vdc Auxiliary Power)	4DI+1PO	○	○	○	○	○
	Optional RO or DO	Relay Output or Over/Under Limit Alarm	2RO	○	○	○	○	○
		Energy Pulse Output or Over/Under Limit Alarm	2DO	○	○	○	○	○
	AO Option	Analog Output	2AO	○	○	○	○	○
COMMUNICATION	RS485, Modbus®-RTU protocol		●	●	●	●	●	●
DISPLAY	LCD Display		●	●	●	●	●	●
SIZE			96×96×79.5mm					

Function		Metering	Acuvim 301	Acuvim 302	Acuvim 322	Acuvim 327	Acuvim 330
METERING	Voltage	V	●		●	●	●
	Current	I		●	●	●	●
	Power	P					●
	Reactive Power	Q					●
	Apparent Power	S					●
	Power Factor	PF					●
	Frequency	Hz	●		●	●	●
ENERGY	Energy	EP				●	●
	Reactive Energy	Eq				●	●
	Apparent Energy	Es				●	●
POWER QUALITY	Voltage THD						●
	Current THD						●
I/O OPTION	Optional RO or DO	Relay Output or Over/Under Limit Alarm	2 RO	○	○	○	○
		Energy Pulse Output or Over/Under Limit Alarm	2 DO	○	○	○	○
	AO Option	Analog Output	2 AO	○	○	○	○
DISPLAY	LCD Display		●	●	●	●	●
SIZE			96×96×79.5mm				

## TYPICAL WIRING



## SPECIFICATIONS

### INPUT

#### Current Inputs

Nominal Current	5Arms
Withstand	100Arms for 1s 3250Vac rms, 50Hz/60Hz for 1minute
CT Burden	<0.2VA
Accuracy	0.001Arms

#### Voltage Inputs

Nominal Full Scale	400 L-N/690 L-L Vac rms (+20%) 400 L-N Vac rms
Withstand	2500Vac/1s
Metering Frequency	45~65Hz
Withstand	3250Vac rms, 50~60Hz, 1min
PT	<0.2 VA
Input Impedance	2MΩ /phase

#### DI Inputs

Input Current	7.5mA
Input Voltage	16~30V
Input Resister	4kΩ
Isolation Voltage	2500V

### COMMUNICATION

#### RS-485 (Option)

Modbus®-RTU Protocol
2-wire Connection, Half-Duplex, Isolated
1200 to 38400 baud rate

### POWER SUPPLY

Input	100~415Vac, 50/60Hz, 100~300Vdc
Power	3W
Withstand	3250Vac, 50/60Hz, 1min

### OPERATING ENVIRONMENT

Operating Temperature	- 25°C to 70°C
Storage Temperature	- 40°C to 85°C
Relative Humidity	5% to 95% non-condensing

### OUTPUT

#### RO Output

Type	Mechanical Contact
Contact Resistance	100mΩ@1A
Switching Voltage (Max)	250Vac, 30Vdc
Max Break Current	5A
Configuration	A
Output Mode	800ms

#### Alarm Output

Alarm Parameters	Voltage, Current, Power, Reactive Power, Apparent Power, Power Factor, Voltage Unbalance, Factor, Power Demand, Frequency, Reactive Power Demand and Apparent Power Demand (Choose 1 of 18)
Type	RO/DO

#### DO Output

Type	Photo-MOS normally open contacts
Isolation Voltage	2500Vac rms
Max Working Voltage	100Vdc
Max Working Current	50mA
Pulse Width	60ms

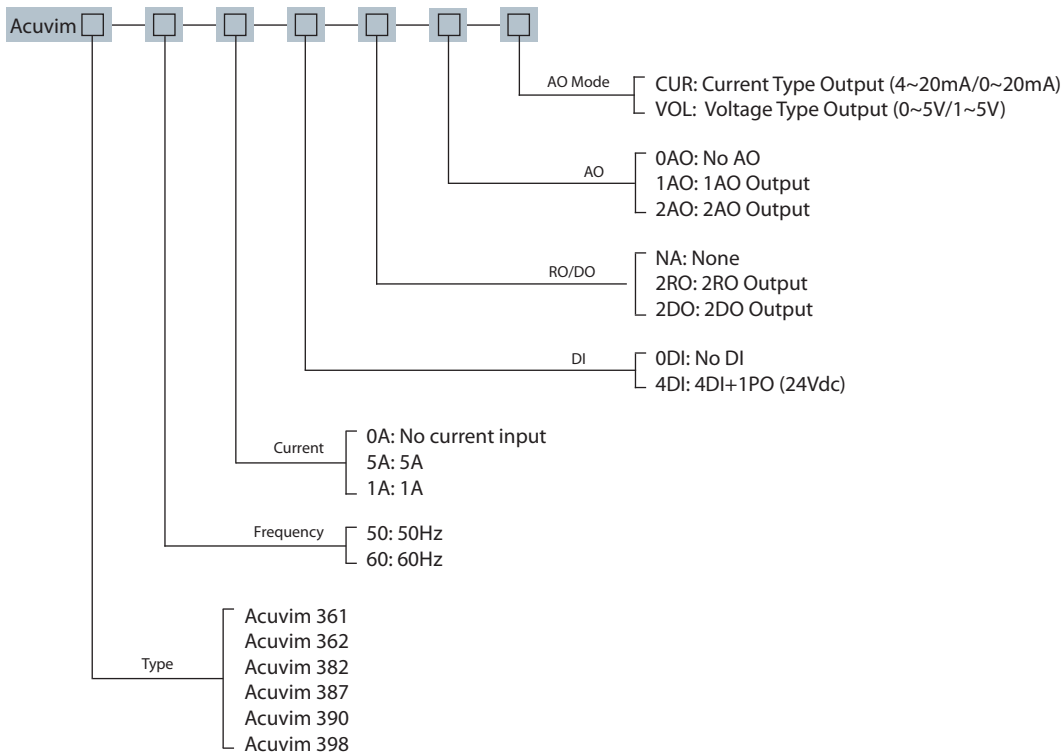
#### 24Vdc PO

Output Voltage	24V(±10%)
Power	2W
Isolation Voltage	1000Vdc

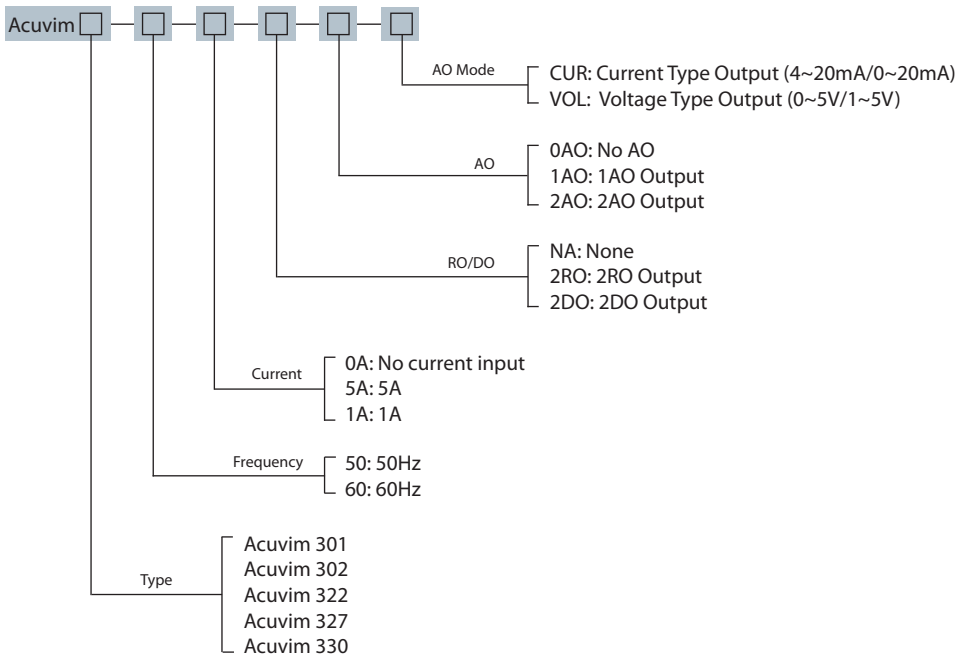
#### AO Output

Output Range	0~20mA/4~20mA; 0~5V/1~5V
Accuracy	0.5%
Load Capacity	4~20mA Max Load Resister: 500Ω 0~5V Max Current: 20mA

## ORDERING INFORMATION

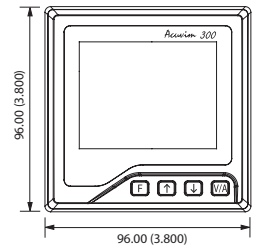


Acuvim 300 Series Meter Ordering Example: Acuvim 390 - 60 - 5A - 4DI - 2RO - 1AO - CUR

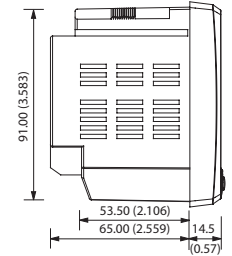


Acuvim 300 Series Meter Ordering Example: Acuvim 330 - 60 - 5A - 2RO - 1AO - CUR

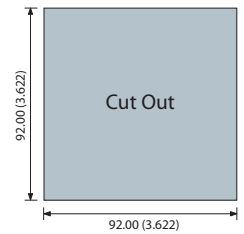
## DIMENSIONS Unit: mm (inches)



Front View



Side View



Cut Out



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