



EV300 Series

Multifunction Power & Energy Meter



EV/DV300 series multifunction three phase power and energy meter provide a low cost metering solution with reliable power metering for voltage, current, power and bi-direction energy parameters. Advanced measuring technologies ensure robust and accurate measuring in all types of environments.

Features

- Power System Monitoring with True RMS Measuring
- Switch Status Monitoring and Controlling
- Bi-Direction Energy
- Utility Revenue Grade Accuracy
- RS485 Port Built-in with Modbus-RTU
- Standard Panel Mount 96mm DIN- Direct Retrofit
- Energy Pulse Output
- 4-20mA Analog Transducer Outputs
- Alarm Tripping Relay Output

Any-Rating Meter

- Voltage: Measuring from 10V to 400Vac in one unit that works in any voltage rating system with or without potential transformer.
- Current: 5A and 1A input field configurable that suits any industrial current transformer.
- Frequency: Automatically adapt to 50Hz and 60Hz system without compromising the accuracy, that simplify design and eliminate international OEM frequency issues.

Digital Input

Monitor switch status and directly show on display and remotely accessed by communication.

Built-in Power

Supply 24Vdc provides direct power supply to digital input. Reduce the cost and complication and space of additional low voltage power supply in panel.

Digital Output

Pulse output provides energy data to any data acquisition server without communication

Analog Output

4-20mA transducer type analog output can be used with any PLC directly.

Relay Output

Over/under limit triggered tripping relay output to control load on/ off.

I/O Selection Table

Model	Digital Input	Digital Output (Pulse)	Analog Output (4-20mA)	Relay Output	Power Supply for DI
E0	2				
E1	6			2	1
E2	6	2			1
E3	6	2	2		
E4	6		2	2	
D1		2	2		



EV300 Series

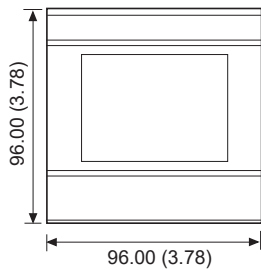
Multifunction Power & Energy Meter

EV/DV300 Series Three Phase Multifunction Power and Energy Meters

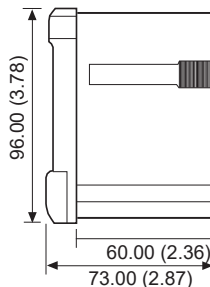
● Function ⊙ Option Blank NA

Function			EV387	EV390	DV327	DV330
METERING	Voltage	V	●	●	●	●
	Current	I	●	●	●	●
	Power	P	●	●	●	●
	Reactive Power	Q	●	●	●	●
	Apparent Power	S	●	●	●	●
	Power Factor	PF	●	●	●	●
	Frequency	F	●	●	●	●
ENERGY	Energy	Ep_total, Ep+, Ep-	●	●	●	●
	Reactive Energy	Eq_Total, Eq+, Eq-	●	●	●	●
DI OPTION	Digital Input	2DI	●	●		
		4DI	⊙	⊙		
RO/DO OPTION (either-or)	Relay Output	2RO	⊙	⊙		
	Digital Output	2DO	⊙	⊙	⊙	⊙
AO/PO OPTION (either-or)	Analog Output	4~20mA	⊙	⊙	⊙	⊙
	Auxiliary Power	24Vdc	⊙	⊙		
COMMUNICATION	RS485, Modbus-RTU protocol		●	●		
DISPLAY	LCD Display		●	●	●	●
DIMENSION	96×96×73mm (Cut Out: 92×92mm)					

Dimensions

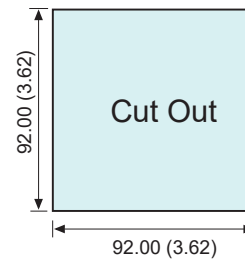


Front View



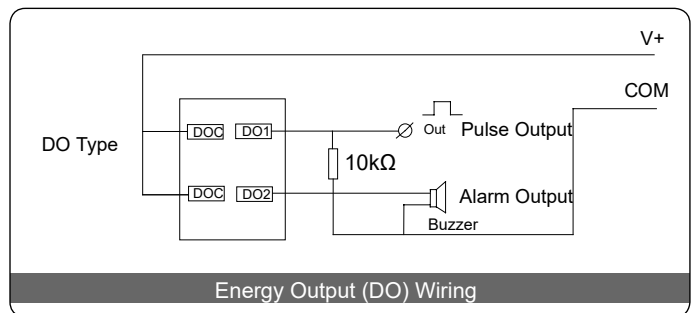
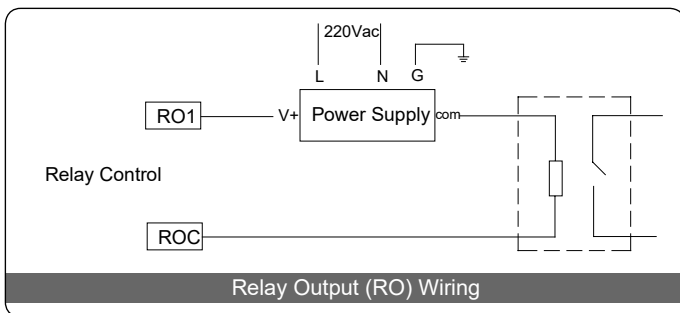
Side View

Unit: mm (inches)



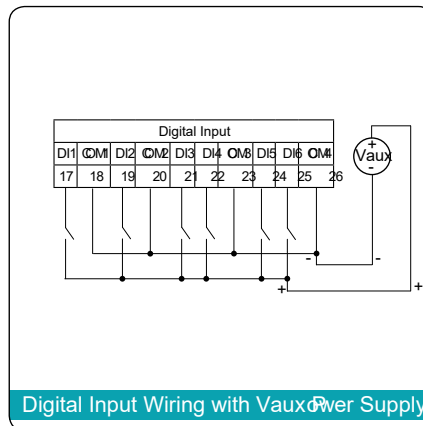
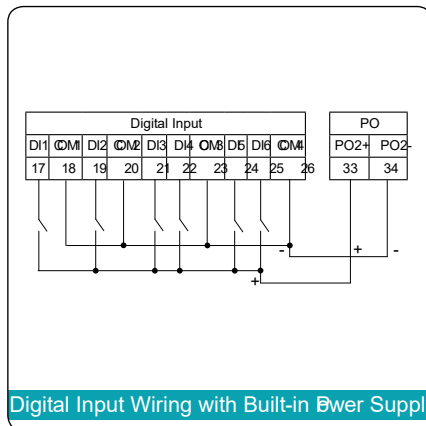
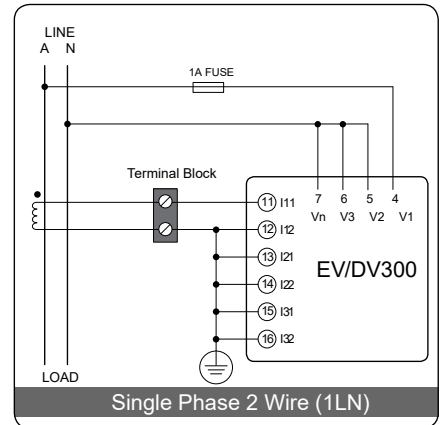
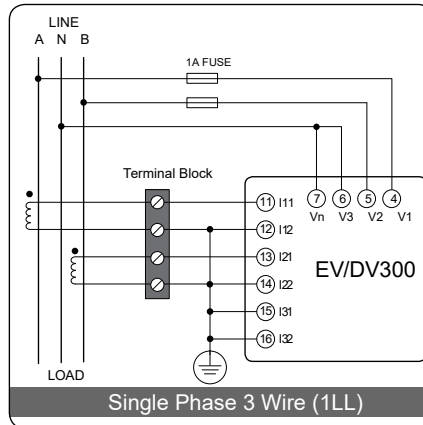
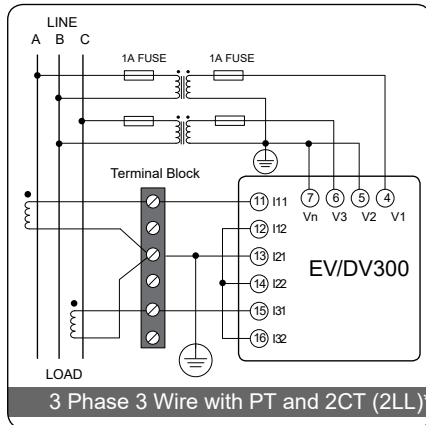
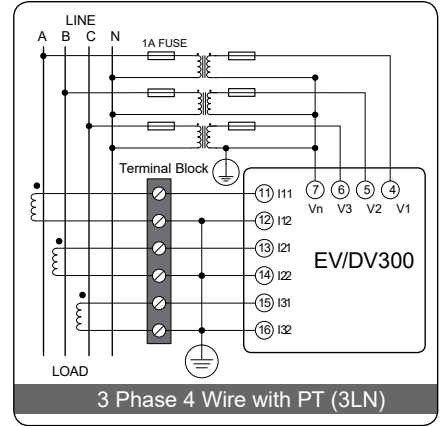
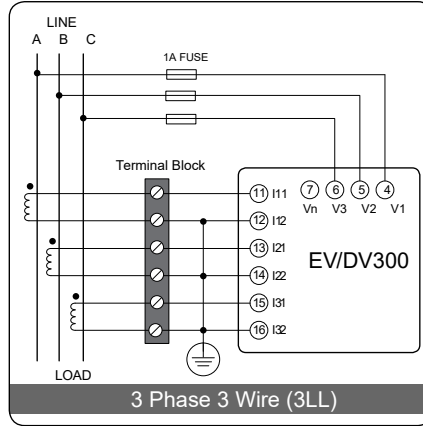
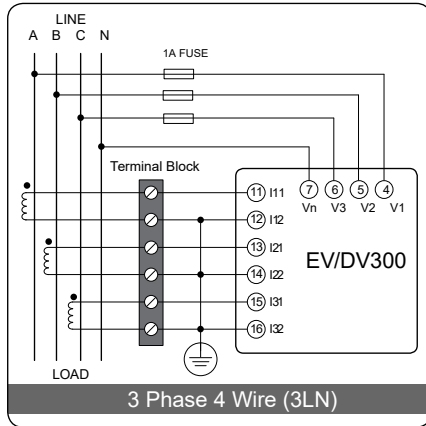
Cut Out

Typical Wiring



*Note: 2CT configuration is optional only in 3 Phase 3 Wire system.

Typical Wiring





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Technical Specifications

METERING			
Parameter	Accuracy (% of Full Scale)	Resolution	Range
Voltage	0.5%	0.1V	10V~500kV
Current	0.5%	0.001A	0~9999A
Power	0.5%	1W	-9999~9999MW
Reactive Power	0.5%	1var	-9999~9999MVar
Apparent Power	0.5%	1VA	0~9999MVA
Power Factor	0.5%	0.001	-1.000~1.000
Frequency	0.2%	0.01Hz	45.00~65.00Hz
Energy	0.5%	0.1kWh	0~99999999.9kWh
Reactive Energy	0.5%	0.1kvarh	0~99999999.9kvarh
Temperature Coefficient	<100 ppm/°C (0~50°C)		

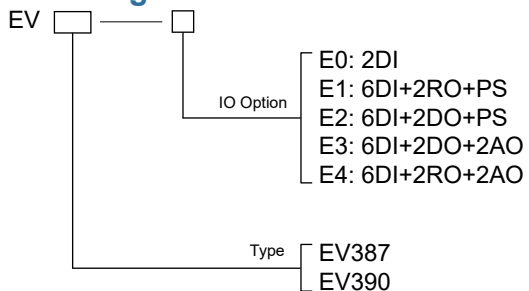
INPUT	
AC CURRENT	
Nominal Current	5A ac/1A ac
Metering Range	0~6A/0~2A
Pickup Current	5mA/1mA
Withstand	20Arms Continuous 100Arms for 1 second, Non-Recurring
Burden	0.05VA (Typical) @ 5Arms
Accuracy	0.5% Full Scale

AC VOLTAGE	
Nominal Full Scale	230Vac L-N, 400Vac L-L (+20%)
Withstand	1500Vac Continuous 2500Vac, 50/60Hz for 1 Minute
Input Impedance	2MΩ per Phase
Metering Frequency	45Hz~65Hz
Pickup Voltage	10Vac
Accuracy	0.5% Full Scale

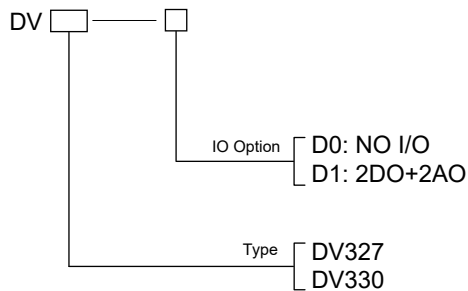
ENERGY ACCURACY	
Active	Class 0.5s (According to IEC 62053-22) Class 0.5 (According to ANSI C12.20)
Reactive	Class 2 (According to IEC 62053-23)

COMMUNICATION	
Type	RS485 2 wire, half duplex, isolated
Baud Rate	1200 to 57600 bps
Protocol	Modbus@RTU

Ordering Information



Ordering Example: EV390 - E2



Ordering Example: DV327 - D1

I/O OPTION	
RELAY OUTPUT (RO)	
Type	Mechanical Contact
Contact Resistance	30mΩ@1A
Max Break Voltage	250Vac, 30Vdc
Max Break Current	5A
Configuration	Form A
Output Mode	Latch or Momentary (fixed 800ms)
ALARM OUTPUT	
Alarm Parameters	V1, V2, V3, V12, V23, V31, I1, I2, I3, Vavg, Vlvag, Iavg, In, P, Q, S, F and PF
Output Type	RO/DO
DIGITAL OUTPUT (DO)	
Output Mode	Photo-MOS, Normally open node
Isolation Voltage	2500Vac RMS
Max Working Voltage	100Vdc
Max Working Current	50mA
Minimum Pulse Width	50ms
ANALOG OUTPUT (AO)	
Output Range	4~20mA/0~20mA
Resolution	12bit
Output Capability	4~20mA Max Load: 750 Ω
SWITCH STATUS (DI)	
Optical Isolated Voltage	2500Vac RMS
Input Type	Wet Contact
Resistance	4kΩ (Typical)
Input Voltage	16~30Vdc
Max Input Current	7.5mA
Power Supply for DI (24Vdc)	
Output Voltage	24Vdc
Output Current	42mA
POWER SUPPLY	
Operating Range	100~240Vac, 50/60Hz; 100~300Vdc
Burden	2W
OPERATING ENVIRONMENT	
Operation Temperature	- 25°C to 70°C
Storage Temperature	- 40°C to 85°C
Relative Humidity	5% to 95% non-condensing

ACCESSORIES

USB-RS485: RS485 to USB converter for connecting meter with computer, maximum distance 1200 meters.