

# EV/DV300 Series

## Three Phase Multifunction Power and Energy Meters

**MOD-TRONIC**  
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### 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



ISO9001 Certified

**ACCUEVERGY**

## DESCRIPTION

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.

### 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

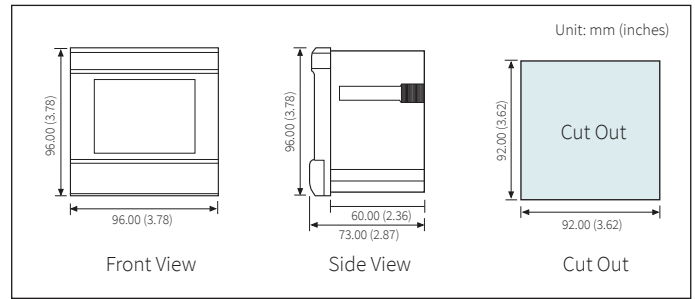
### Analog Output

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.

## DIMENSIONS



## EV/DV300 Series Three Phase Multifunction Power and Energy Meters

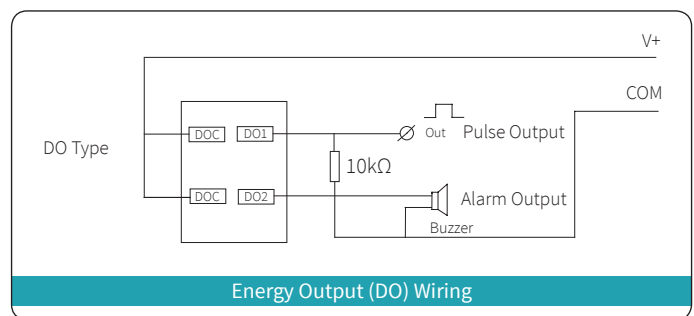
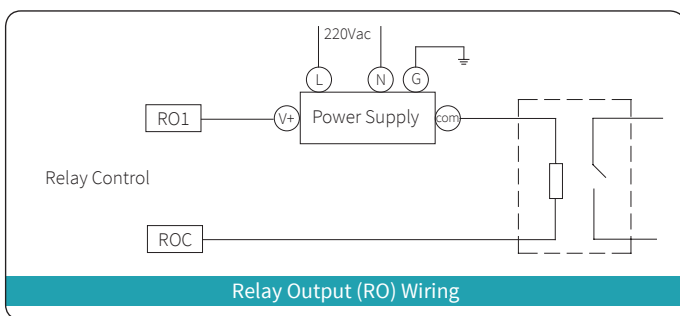
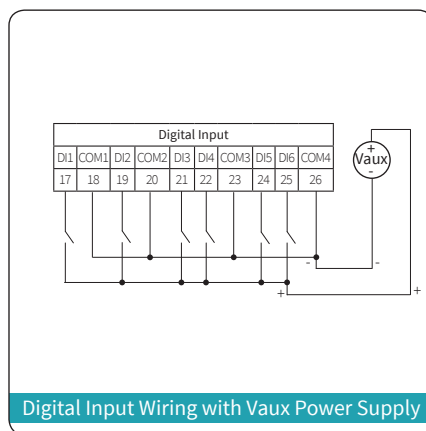
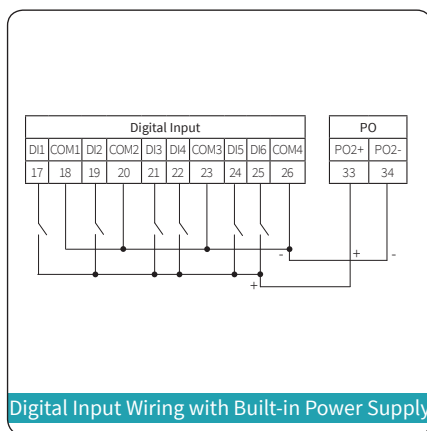
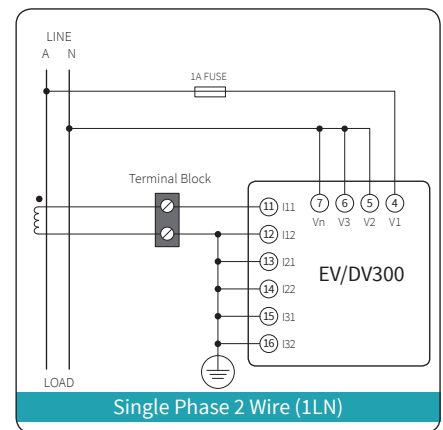
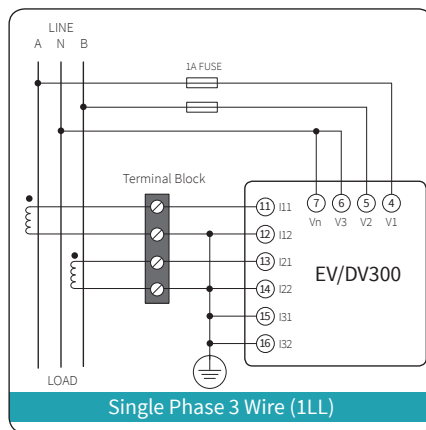
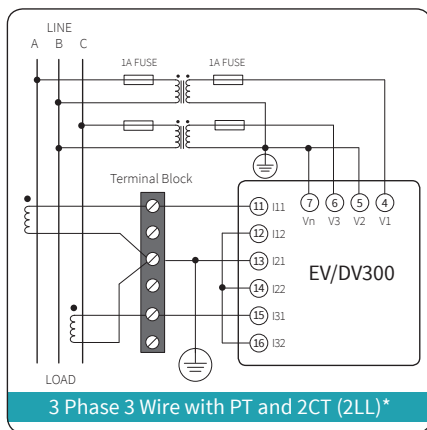
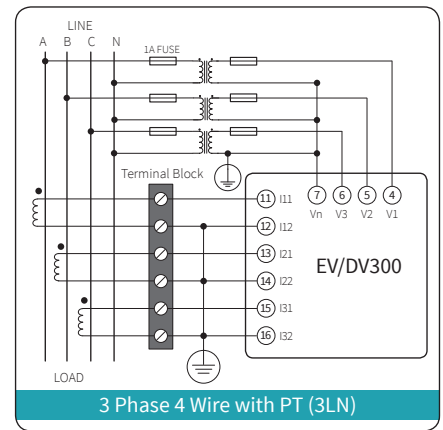
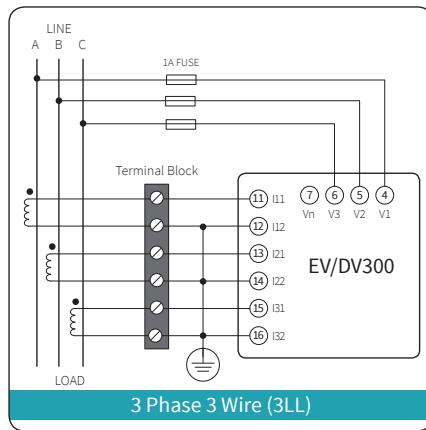
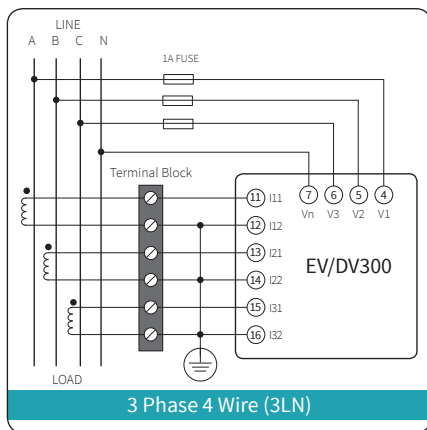
● Function ○ Option Blank NA

Function				EV387	EV390	DV327	DV330
METERING	Voltage	V	V	●	●	●	●
	Current	I	A	●	●	●	●
	Power	P	kW		●		●
	Reactive Power	Q	kvar		●		●
	Apparent Power	S	kVA		●		●
	Power Factor	PF			●		●
	Frequency	F	Hz		●		●
ENERGY	Energy	Ep_total, Ep+, Ep-	kWh	●	●	●	●
	Reactive Energy	Eq_Total, Eq+, Eq-	kvarh	●	●	●	●
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)						

## 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		

# TYPICAL WIRING



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

# 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	
<b>AC CURRENT</b>	
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

<b>AC VOLTAGE</b>	
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

<b>ENERGY ACCURACY</b>	
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

I/O OPTION	
<b>RELAY OUTPUT (RO)</b>	
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)

<b>ALARM OUTPUT</b>	
Alarm Parameters	V1, V2, V3, V12, V23, V31, I1, I2, I3, Vavg, V1avg, Iavg, In, P, Q, S, F and PF
Output Type	RO/DO

<b>DIGITAL OUTPUT (DO)</b>	
Output Mode	Photo-MOS, Normally open node
Isolation Voltage	2500Vac RMS
Max Working Voltage	100Vdc
Max Working Current	50mA
Minimum Pulse Width	50ms

<b>ANALOG OUTPUT (AO)</b>	
Output Range	4~20mA/0~20mA
Resolution	12bit
Output Capability	4~20mA Max Load: 750Ω

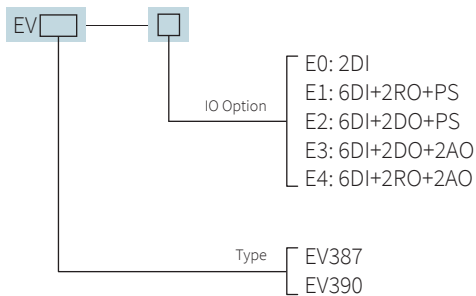
<b>SWITCH STATUS (DI)</b>	
Optical Isolated Voltage	2500Vac RMS
Input Type	Wet Contact
Resistance	4kΩ (Typical)
Input Voltage	16~30Vdc
Max Input Current	7.5mA

<b>Power Supply for DI (24Vdc)</b>	
Output Voltage	24Vdc
Output Current	42mA

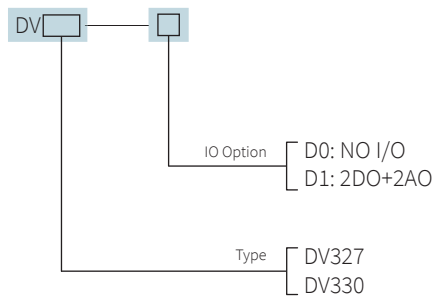
POWER SUPPLY	
Operating Range	100~240Vac, 50/60Hz; 100~300Vdc
Burden	2W

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

## ORDERING INFORMATION



Ordering Example: EV390 - E2



Ordering Example: DV327 - D1

### Accessories:

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