

CM3-VA7 3-Phase Voltage/Current meter (4-digit)

DESCRIPTION

CM3-VA7 is a multifunctional 3-phase voltage/ current meter. With 3 phase voltage or current display at the same, configurable display range via front buttons, anti-inference design, reliable quality and easy to use and install

CM3-VA7 also has multiple I/O functions including 3 relay outputs, an analogue output and a RS485 communication port running the Modbus RTU Protocol



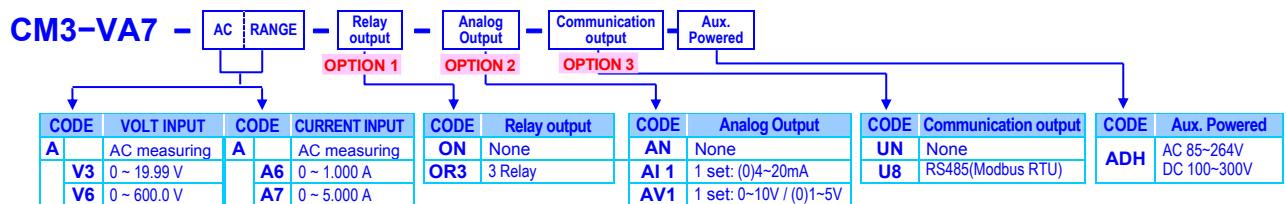
FEATURE

- Measuring AC Voltage 0~19.99V/~600.0V, AC Current 0~1A/~5A
- Front buttons to configure display range and alarm mode
- Terminal implant design
- 72x72 panel size, installation depth only 78.2mm

APPLICATIONS

- MCC panel, Machinery, Switch gear, Testing Equipment
- Motor control panel, mechanical equipment, voltage switch box

ORDERING INFORMATION



TECHNICAL SPECIFICATION

Input Range

	Measuring Range		Input Impedance		
	AC	AC	AC	AC	
Voltage	0~19.99 V	≥1M ohm	Current	0~1.000 A	0.02 ohm
	0~600.0 V	≥2M ohm		0~5.000 A	0.02 ohm

Measuring: True RMS measurement
Calibration: Digital calibration by front key
A/D converter: 12 bits resolution
Accuracy: $\leq \pm 0.2\%$ of FS $\pm 1C$
Sampling rate: 15 cycles/sec
Response time: ≤ 100 msec. (R00 = 1, nR00=1,dF ,Lt=1)
Frequency: 45~60Hz

Display & Functions

LED: 4 digits, 0.39"(10.0mm) · high-brightness LED
Display range: -1999~9999
Scaling function: L05C : Low Scale; Settable range -1999~9999
H 5C : High Scale; Settable range -1999~9999

Decimal point: Programmable from 0 / 00 / 000 / 0000
Over range Indication: o0FL : when input is over 110% of input range Hi
Low cut: L0LUt : Settable range -1999~9999
Frequency display: In General Settings classes can view the frequency

Reading Stable Function

Average: R00 : Settable range: 1~99 times
Moving average: nR00 : Settable range: 1~20 times
Digital filter: dF ,Lt : Settable range: 1~99 times

Control Functions(option)

Relay: Maximum of 3 groups optional relay
3 set Form-A, 5A/250Vac, 5A/30Vdc
Relay energized mode: Energized levels compare with set-points: OFF / Hi / Lo / Hi.HLd / Lo.HLd / do programmable

Energizing functions: Start delay / Energized & De-energized delay / Energized Latch

- [r 45b] Start band (Minimum level for Energizing): 0~9999counts
- [r 45d] Start delay time: 0:00.0~9(Minutes):59.9(Second)
- [r 4rd] Energized delay time: 0:00.0~9(Minutes):59.9(Second)
- [r 4Fd] De-energized delay time: 0:00.0~9(Minutes):59.9(Second)
- [r 4Hy] Hysteresis: 0~5000 counts

Analogue output(option)

Analogue output: Maximum of 1 analog outputs optional
Accuracy: $\leq \pm 0.2\%$ of F.S.; 12 bits DA converter
Ripple: $\leq \pm 0.1\%$ of F.S.
Response time: ≤ 100 msec. (10~90% of input)
Isolation: AC 2.0 KV between input and power
Analog output no isolation
Output range: Specify either Voltage or Current output in ordering
Voltage: 0~5V / 0~10V / 1~5V programmable
Current: 0~10mA / 0~20mA / 4~20mA

Output capability: Voltage: 0~10V; $\geq 1000\Omega$;
Current: 4(0)~20mA; $\leq 600\Omega$ max

Functions:
[R0LS] (output range Low): Settable range
Settable range: -1999~9999
[R0HS] (output range high): Settable range:
Settable range: -1999~9999

Digital fine adjust: [R0P00] Settable range : -1999~1999
[R0SP0] Settable range : -1999~1999

RS 485 Communication(option)

Protocol: Modbus RTU mode
Baud rate: 1200/2400/4800/9600/19200/38400 programmable
Parity: **Data bits:** Even, odd or none (with 1 or 2 stop bit)
programmable
Address: 1 ~ 255 programmable
Distance: 1200M max
Terminate resistor: 150Ω.

Power

Power supply: AC 85~264V / DC 100~300V;
Power consumption: 10 VA(ac) · 4W(dc)
Back up memory: EEPROM

Electrical Safety

Dielectric strength: AC 2.0 KV for 1 min, Between Power / Input / Output / Case
Insulation resistance: ≥100M ohm at 500Vdc, Between Power / Input / Output
Isolation: Between Power / Input / Relay, Analogue or RS485
EMC: EN 55011:2002; EN 61326:2003
Safety(LVD): EN 61010-1:2001

Environmental

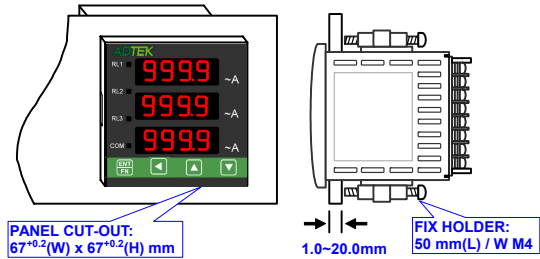
Operating temp.: 0~60 °C
Operating humidity: 20~95 %RH, Non-condensing
Temp. coefficient: ≤ 100 PPM/°C
Storage temp.: -10~70 °C
Enclosure: Front panel: IEC 549 (IP52); Housing: IP20
Vibration test: 1~800Hz, 3.175g2/Hz

Mechanical

Dimensions: 72mm(W) x 72mm(H) x 78.2mm(D)
Panel cutout: 67mm(W) x 67mm(H)
Case material: ABS fire-resistance (UL 94V-0)
Mounting: Panel flush mounting
Terminal block: Plastic NYLON 66 (UL 94V-0); 10A/300Vac, M2.6, 1.3mm²~2.0mm² (22~16AWG)
Weight: Max.250g
Maximum torque of terminal screws: 10kg-cm(MAX)

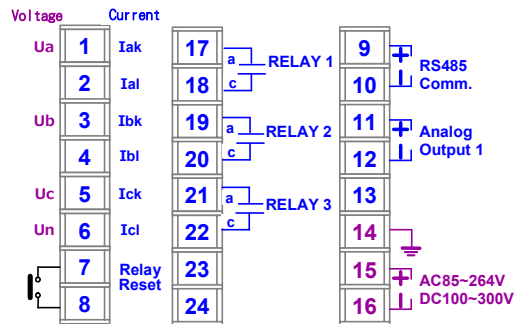
INSTALLATION

The meter should be installed in a location that does not exceed the maximum operating temperature and provides good air circulation.



CONNECTION DIAGRAM

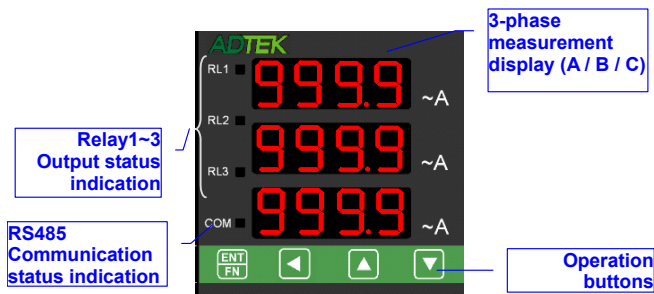
Terminals: 10A/300Vac, M2.6, 1.3~2.0mm² (22~16AWG)



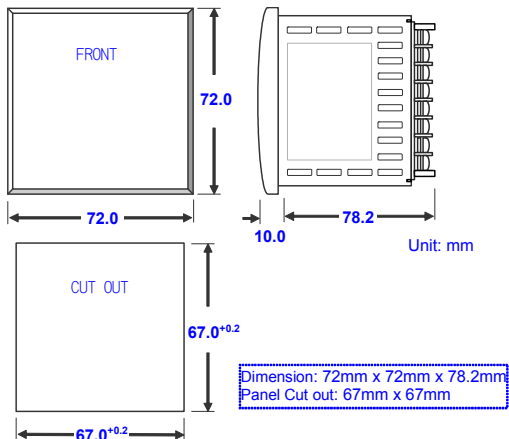
Attention: PT secondary can not short-circuit
 CT secondary can not open circuit

Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker. Wiring subject to change, please follow the wiring diagram on the meter wiring.

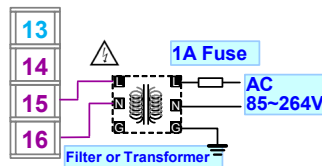
FRONT PANEL



DIMENSIONS

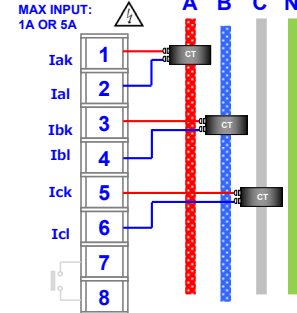


Power Supply

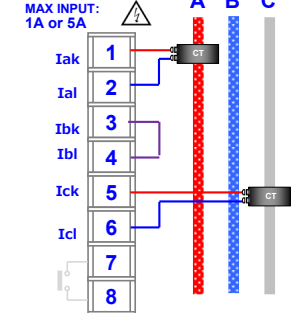


Current input wiring

3CT INPUT:SET NORM

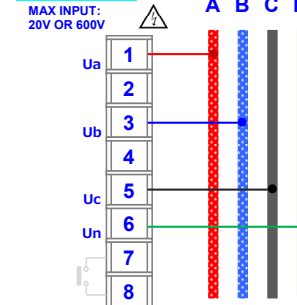


2CT INPUT:SET 3-3.V

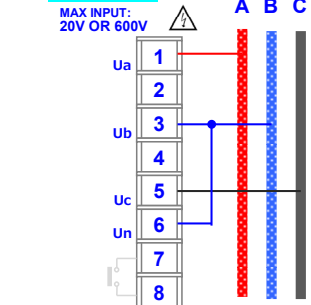


Voltage input wiring

3P4W:SET NORM

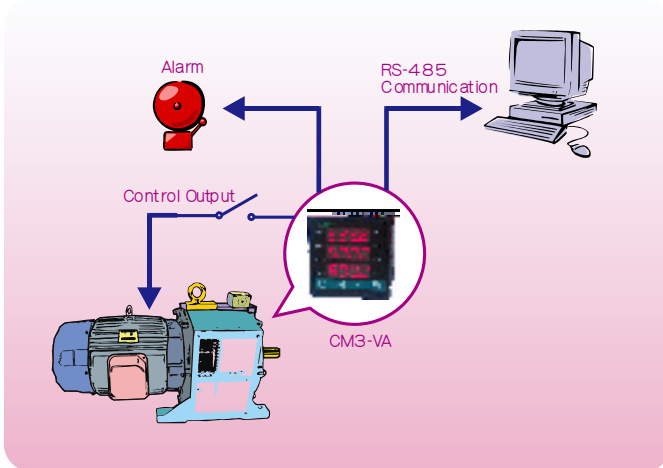


3P3W:SET 3-3.V



■ Application Examples

Motor control panel



MCC panel

