

VT-IPM2M-113 MV

Industrial RTU for metering & verification with Cloud connection.

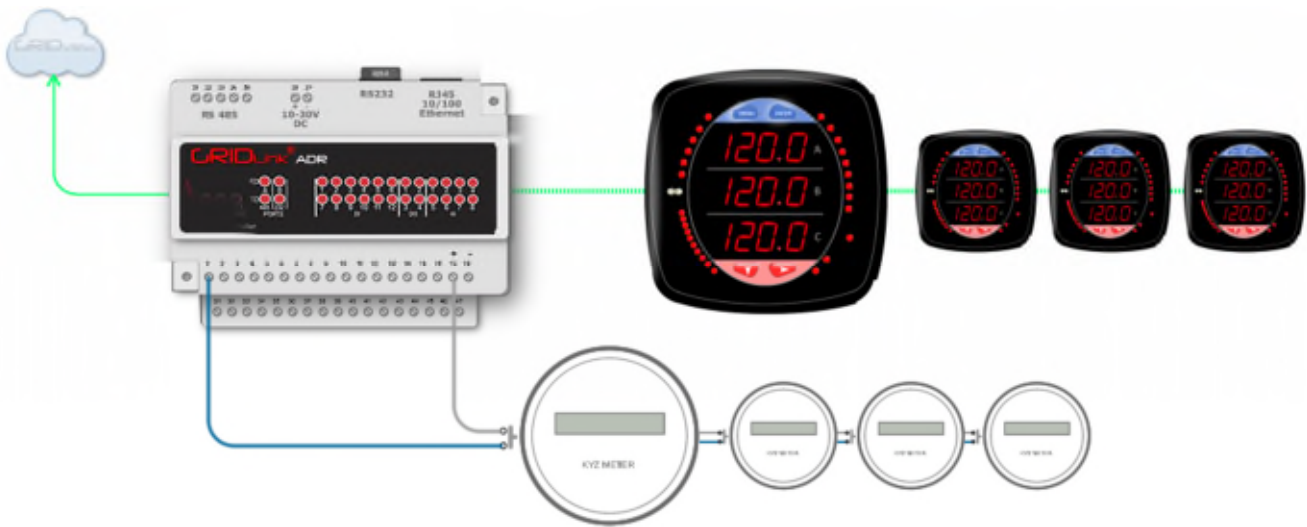


GRIDlink MV *puts meter data from anywhere in the world at your finger tips ...*

An adaptable, intelligent energy monitoring tool.

GRIDlink MV can be static or dynamic. Static settings can be changes remotely. As Grid information reveals previously unknown patterns, control algorithms can be easily created for Under Frequency or Voltage Regulation and downloaded via the GRIDview Cloud to adapt to new conditions.

Remote monitoring using the GRIDview Cloud enables the user to see and change operating parameters, visualize logged data on trend screens and access the health of the GRIDlink in real time.



Features

- Monitor up to 4 Modbus or KYZ meters (in any combination) remotely in real time.
- kW is recorded in 1 minute, 5 minute and 15 minute intervals.
- KYZ Pulses - A form & C form where Instant kW is calculated from pulse width.
- Download Time Stamped Data to an Excel CSV file
- Optional 1 or 5 port Industrial Cellular router for Cloud connection



Advanced communications

- Modbus (TCP, RTU)
- DNP3 (Optional)



GRIDlink and GRIDview have undergone extensive 3rd party cyber security tests and has been certified to withstand cyber attacks originating inside and outside the firewall. GRIDlink provides true “behind the firewall” remote access and bi-directional data exchange without special configuration or opening a port in the firewall.

RTU SPECIFICATIONS

Industrial powerPC (32 bit data bus)

- Operating system embedded Linux
- Dynamic memory (RAM) 32 Mbytes - 32bit, 0 wait states
- Program memory (Flash) 32 Mbytes
- Retained memory (RAM) 512K (battery-backed)
- Local I/O (on-board) 26
- Limit placed on expansion 256 per I/O type
- Data logging (OPTIONAL)
- IEC 61131 programming
- High Level C programming, Linux open source

ETHERNET PORT

- 10/100BaseTx (auto-detecting) RJ45 connection (auto-crossover)
- Protocols TCP/IP, ARP, UDP, ICNP, DHCP, Modbus/TCP, SIXNET, and more

SERIAL PORT

- RS485 port A screws (485+, 485-, GND) 2-wire half-duplex
- RS232 Port B RJ45 (TD, RD, CTS, RTS, CD, DTR,DSR, GND)
- Protocols (master & slave) Modbus RTU/ASCII
- Flow control hardware, software, RTS-party (for radios and RS485)

DISCRETE INPUTS

- 12 channels (sinking or sourcing) for manual input and force load shed
- Guaranteed ON voltage 9 VDC
- Maximum voltage 30 VDC
- Guaranteed OFF voltage & current 5.0 VDC & 1.5 mA DC
- Input resistance 10K Ohms
- Input current @ 24 VDC 3 mA
- Filtered ON/OFF delay 25 mS (20 Hz max. counting)
- Fast ON/OFF delay 4 mS (100 Hz max. counting)
- Count rate (channels 1 - 8) High Speed Counter (10 KHz on channel 1)

DISCRETE OUTPUTS

- 4 channels (10-30 VDC) 3 for Event Load Shed, 1 for Off Line Indication
- Maximum output per channel 1 Amp
- Maximum output per module 4 Amps
- Max. OFF state leakage 0.05 mA
- Minimum load 1 mA
- Inrush current 5 Amps (100 mS surge)
- Typical ON resistance 0.3 Ohms
- Typical ON voltage (@1A) 0.3 VDC

ANALOG

- 8 Input channels (4-20 mA)
- 2 (optional) output channels (4-20mA)
- A/D resolution 16 bits (0.003%)
- Full scale accuracy +/-0.1% (@20°C)
- Span and offset temp. coef. +/-50 ppm per °C
- Input impedance 100 Ohm
- Current protection Self-resetting fuses
- DMRR (differential mode rejection) 66 dB at 50/60 Hz

ENVIRONMENTAL

- Input power 10-30 VDC
- Input current 100 mA @ 24 VDC (typical)
- Operating Temperature -40 to 70°C (-40 to 85°C storage)
- Shock: IEC60068-2-27
- Vibration: IEC60068-2-6
- Humidity 5% to 95% RH (non-condensing)

CERTIFICATIONS

- Flammability UL 94V-0 materials
- Electrical safety UL 508, CSA C22.2/14; EN610101; (IEC1010)
- EMI emissions FCC part 15, ICES-003, Class A; EN55022; EN61326-1
- EMC immunity EN61326-1 (EN61000-4-2,3,4,6)
- Surge withstand IEEE-472 (ANSI C37.90)
- Vibration IEC68-2-6

METER TRANSDUCER SPECIFICATIONS (OPTIONAL)

Voltage Inputs

- 20-416 Volts Line To Neutral, 20-721 Volts Line to Line
- Universal Voltage Input
- Input Withstand Capability – Meets IEEE C37.90.1 (Surge Withstand Capability)
- Programmable Voltage Range to Any PT ratio
- Supports: 3 Element WYE, 2.5 Element WYE, 2 Element Delta, 4 Wire Delta Systems
- Burden: 0.36VA per phase Max at 600V, 0.014VA at 120 Volts
- Input wire gauge max (AWG 12 / 2.5mm²)

Current Inputs

- Class 10: (0 to 10) A, 5 Amp Nominal
- Class 2: (0 to 2) A, 1A Nominal Secondary
- Fault Current Withstand (at 23°C): 100 Amps for 10 Seconds, 300 Amps for 3 Seconds, 500 Amps for 1 Second.
- Programmable Current to Any CT Ratio
- Burden 0.005VA per phase Max at 11Amps
- 5mA Pickup Current
- Pass through wire gauge dimension: 0.177" / 4.5mm
- Continuous current withstand: 20 amps for screw terminated or pass through current connections

Isolation

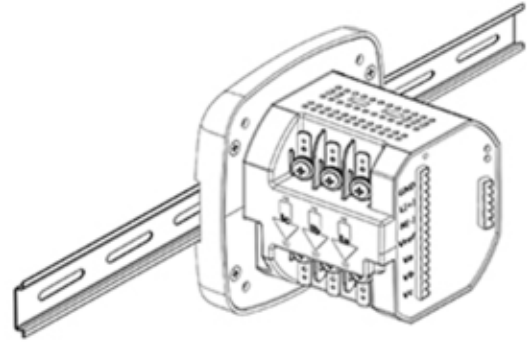
- All Inputs and Outputs are galvanically isolated to 2500 Volts AC.

Environmental Rating

- Storage: (-20 to +70)° C
- Operating: (-20 to +70)° C
- Humidity: to 95% RH Non-Condensing

Relays (Standard)

- Cube type with base – DIN mount
- Contact Rating 10A@110VAC/10A@24VDC
- Max Rating - 250VAC/125VDC
- Service life - AC: Min. 50 million operations
- Other 24VDC coil relays can be substituted for specific applications.



Sensing Method

- RMS
- Sampling at 400+ Samples per Cycle on all channels measured readings simultaneously
- Harmonic %THD (% of Total Harmonic Distortion)

Accuracy

Voltage L-N	0.1%	0-9999 Scalable V or kV
Voltage L-L	0.1%	0-9999 V or kV Scalable
Current	0.1%	0-9999 Amps or kAmps
+/- Watts	0.2%	0-9999 Watts, kWatts, MWatts
+/-Wh	0.2%	5 to 8 Digits Programmable
+/-VARs	0.2%	0-9999 VARs, kVARs, MVARs
+/-VARh	0.2%	5 to 8 Digits Programmable
VA	0.2%	0-9999 VA, kVA, MVA
VAh	0.2%	5 to 8 Digits Programmable
PF	0.2%	+/- 0.5 to 1.0
Frequency	0.01 Hz	45 to 65 Hz
%THD	5.0%	0 to 100%

Update Rate

- Watts, VAr and VA-100msec
- All other parameters-1second

Compliance:

- IEC687 (0.2% Accuracy)
- ANSI C12.20 (0.2% Accuracy)
- ANSI (IEEE) C37.90.1 Surge Withstand
- ANSI C62.41 (Burst)
- IEC1000-4-2 – ESD
- IEC1000-4-3 – Radiated Immunity
- IEC1000-4-4 – Fast Transient
- IEC1000-4-5 – Surge Immunity