VoltEdge

# VE-PM5110

## Multi-function three-phase Power Meter


1.Embedded panel installation, Size 96*96 with Touch Button Design

2.Support Direct access of rogowski coil and current transformer

3.Provide multi-function measurement parameter (Voltage, current, active, reactive, apparent power, power factor.

4.Provide analysis parameter, unbalance voltage peak factor and current K coesfficient support subharmonic up to 63 times.

5.Support bidirectional energy and multi-tarrif with monthly abd daily consumption statistics.

6.Support 2 way passive pulse output, 1 RS485 com., Baud rate max 38400bps

# Technical parameter

## Electrical Characteristics

| | |
|---|---|
| Supply voltage | 85 to 300V AC or 100 to 420V DC |
| Power consumption | <4VA/0.5W |
| Rate voltage (Un) | 3*110 / 190V or 3*230 / 400V AC |
| Operational voltage | L-N: 30 - 350V AC ; L-L: 30 - 660V AC |
| PT1(Primary) | 30 - 600000V |
| Impedance of voltage measures circuit | 1MΩ |
| Overload capacity of voltage | 2*Un for 1 second |
| Rate current(Ib) | 5A |
| Maximum current(Imax) | 6A |
| Operational current | 0.1%Ib – Imax |
| CT1(Primay) | 1 to 9999 A |
| Impedance of current measures circuit | <0.01 ohm |
| Overload capacity of current | 20*Imax for 0.5 second |
| Operational frequency range | 45 – 65Hz |
| Pulse constant | 5000imp/kWh |
| Display | LCD with backlight |
| Maximum reading of energy | 999999.99 kWh/kVarh |
| Measure type | Three phase four wire, Single phase two wire |
| | Three phase three wire, Two phase three wire |

## Measurement accuracy

| | |
|---|---|
| Voltage, Current | ±0.5% |
| Active power | ±0.5% |
| Reactive power | ±2.0% |
| Apparent power | ±1.0% |
| Active energy | ±0.5% |
| Reactive energy | ±2.0% |
| Power factor | ±1.0% |
| Frequency | ±0.2% |

## Environmental Characteristics

| | |
|---|---|
| Operating Temperature | –25 – +55℃ |
| Storage Temperature | –40 – +80℃ |
| Humidity | < 90%, non–condensing |
| Pollution Degree | 2 |
| Altitude | Up to 2000m |
| Vibration | 10 Hz to 150Hz, IEC 60068–2–6 |
| IP Degree of Protection | Designed to IP51 front display, IP30 meter body |

## Electromagnetic Characteristics

| | |
|---|---|
| Electrostatic Discharge | ±8kV(contact discharge),±15kV(air discharge) |
| Immunity to Radiated Fields | 10V/m, 80 – 2000MHz |
| Immunity to Electrical Fast Transients | ±4kV |
| Immunity to Surges | ±4kV |
| Immunity to Conducted Disturbances | 10V, 0.15 – 80MHz |
| Immunity to Magnetic Fields | IEC 61000–4–8 |
| Immunity to Voltage Dips | IEC 61000–4–11 |
| Radiated Emissions | Class B, according EN55011 |
| Conducted Emissions | Class B, according EN55011 |
| Harmonics Emissions | IEC 61000–3–2 |

## Safety

| | |
|---|---|
| Overvoltage Category | CAT III, according IEC 61010–1 |
| Measurement Category | CAT III, according IEC 61010–1 |
| Insulation | AC Voltage Test: 4kV for 1 minute |
| | Impulse Voltage Test: 6kV – 1.2/50μS waveform |
| Protective Class | II, according IEC61010–1 |

## Communications

| | |
|---|---|
| Interfaces standard and protocols | 2–wire RS485, Modbus RTU<br>Optional: Mbus |
| Buad rate | 1200 to 38400 bps, default is 9600 bps |
| Parity bit | None, Even, Odd, default is None |
| Stop bit | 1 or 2, default is 1 |
| Response time | <100ms |
| Transmission mode | half–duplex |
| Transmission distance | Up to 1000m |
| Max. Bus loading | 64 pcs |

## Pulse output

| | |
|---|---|
| Interface type | Open collector optocoupler |
| Pulse constant | Per pulse equal 0.001/0.01/0.1/<br>1 kWh/kvarh (Configurable) |
| Pulse width | 60/100/200 milliseconds (Configurable),<br>default is 100milliseconds |
| Pulse output type | Import/export/total active energy, Import/<br>export/total reactive energy (Configurable) |
| Class | Class A, according IEC 62053–31 |
| Input voltage | 5 to 27 VDC |

## Digital input(DI)

| | |
|---|---|
| Number,Type | 4,Support dry contact input<br>(built-in power supply:20 yo 24VDC) |
| Input Resistance | 10kΩ |
| Maximum frequency | 250Hz |
| Response time | 2milliseconds |
| Isolation | 2.5 kVrms |

## Digital input(DI)

| | |
|---|---|
| Number,Type | 2-electromagnetic relay |
| Output frequency | 10Hz maximum |
| Switching current | 250V AC at 3.0 Amps,100k cycles |
| Isolation | 2.5 kVrms |

## Product size chart