DIGTAL PANEL METER

Introduction

Blue Jay digital panel meter is a digital alternative to analog display instrument,which has lower cost for installation and can make full use of panel space. It is suitable for indication and monitoring of single-phase or three-phase circuits,accepts various inputs (such as voltage,current,frequency,etc.),provides alarm relay, analog signal transmission and optional pulse output.

We supply high-quality,high-precision BPM series standard digital panel meters and APM series multi-function digital panel meters, which can be used to measure various electrical parameters, including voltage,current,frenquency, etc. The large LCD screen helps you easily read the digital results displayed on it.

Measurement Parameter

Voltage	Va, Vb, Vc / Vab, Vbc, Vca
Current	Ia, Ib, Ic
Power	Pa, Pb, Pc, Psum
Reactive power	Qa, Qb, Qc, Qsum
Apparent power	Sa, Sb, Sc, Ssum
Frequency	Fra, Frb, Frc, Fr
Power factor	PFa, PFb, PFc, PF
Active energy	Ep_imp, Ep_exp, Ep_total
Reactive energy	Q_imp, Q_exp, Q_total
Voltage THD *	THD_U%, THD_I%
Harmonic	2~15th / 2~31th / 2~63th
Multi- tariffs	3 Month, 4 Tariffs, 12 Segment
Max demand	Um, Im, Pm, Qm
Power quality	Voltage Drop / Flicker / Unbalance

Reference Standards

Measurement standard

Active energy	IEC 62053-22:2003
Reactive energy	IEC 62053-23:2003
Basic electricity	IEC 61557-12:2007

LVD test standard

IEC/EN 61010-1	2017, CATIII-300V

EMC test

Discharge immunity	IEC 61557-12:2007
Fast transient burst immunity	IEC 62053-22:2003
Surge (Shock) immunity	IEC 62053-23:2003

Application

- Remote data reading.
- Power quality analysis.
- Harmonic measurement.
- Commercial, industrial, utility.
- Medium and low voltage systems.
- Alarm station with voltage-free digital inputs.
- Metering of distribution feeders, transformers, generators, capacitor banks and motors.

APM SERIES MULTI-FUNCTION DIGITAL PANEL METER

Introduction

APM series advanced multifunction digital panel meter. It is the perfect choice for monitoring and controlling power distribution systems, with 4 direct access keys and high-definition LCD display to showing all parameters of 3P3W or 3P4W low voltage installation.

The panel meter can be used as a data acquisition device for an intelligent power distribution system or a factory automation system, and can remote obtain all monitoring data through digital RS485.

Main Features

- PMD measurement accuracy class 0.2/ 0.5.
- Current measurement.../5 or.../1 A.
- Wide range power supply (85-265VAC/DC), 20-60VDC optional.
- 1.6-inch dot matrix LCD display.
- LCD liquid crystal display, with backlight.
- Optional load alarms and time stamps.
- SOE record, virtual alarm function.
- ITF technology: input and output current insulation protection.
- Optional 128MB data logger memory.
- Optional expansion I/O module, ethernet connection port.
- With RS-485 Modbus RTU communication.
- Various advanced electrical parameters can display grid status on site (maximum demand/unbalance degree/crest factor/K factor...).
- 1KHz waveform snapshot, captures voltage, current power flickers/drops with a length of 1 second for event tracking.

Measurement Function

Model	APM-96Z	APM-96Y	APM-96J	APM-4MJ	APM-96Q
Parameters					
Basic parameters(1)	●	●	●	●	●
Split -phase measure	-	-	●	●	●
Harmonic distortion	-	●	●	●	●
Individual harmonic	-	2~31th	2-63rd	2-63rd	2~127th
Time of use (TOU)	-	●	●	●	●
Max demand	-	●	●	●	●
SOE record	-	●	●	●	●
Curr./volt unbalance	-	●	●	●	●
Curr./volt deviation	-	●	●	●	●
Volt flicker/drop/fluct.	-	-	-	-	●
Waveform capture	-	-	-	-	●
128MB memory	-	-	-	-	○
I/O module					
AO (0/4~20mA;0~5V)	○	○	○	-	○
DI/DO	○	○	○	○	○
PO (Pulse output)	○	○	○	○	○
Communication					
RS485	●	●	●	●	●
Ethernet 10/100MB	○	○	○	-	○
Profibus	○	○	○	-	○

●With this function ○Optional function -Without this function

(1) Basic parameters:Voltage,Current,Frequency,Total power factor,Active power, Reactive power,Apparent power,Active energy,Reactive energy.

Ordering Information

APM- 1 2 - 3 4

- 4 — Communication
- 3 — Phase number
- 2 — Function code
- 1 — Panel size

Num.	Code	Description
1	96	96(W)x96(H)x71(D)mm
	72	72(W)x72(H)x71(D)mm
	80	80(W)x80(H)x71(D)mm
	XM	Module width of Din-rail mounting
2	Z	Economic power meter
	Y	Multifunction power meter
	J	Smart power monitor
	Q	Intelligent power analyzer
3	1	Single-phase
	3	Three-phases
4	Blank	**Default:** With RS485 interface, Modbus-RTU
	Eth	Ethernet interface,Modbus-TCP & Modbus-RTU

Technical Characteristics

Model	APM-96Z	APM-96Y	APM-96J	APM-4MJ	APM-96Q
Power supply					
AC voltage	85~265VAC/DC ± 10 %				
Consumption	≤4VA				
Current measurement (TRMS)					
CT secondary	1 or 5 A				
Measurement range	0...11 KA				
Input consumption	<0.4 VA				
Voltage measurement (TRMS)					
Measurement range	18...400 VAC				
PT secondary	100 VAC/400 VAC				
Frequency	50 / 60 Hz				
Input consumption	<0.1 VA				
Elctrical power measurement (IEC 61557-12)					
Accuracy (A, V)	0.5%	0.5%	0.2%	0.2%	0.2%
Accuracy (Power)	0.5s%				
Energy accuracy (IEC 62053-23)					
Active energy	Class 1.0		Class 0.5s		
Reactive energy	Class 2.0		Class 1.0		
Frequency measurement					
Measurement range	45...65 Hz				
Accuracy	±0.02 Hz				
I/O ports					
Pulse output (PO)	2* Pulse, 1600imp/kWh			1* Pulse, 1600imp/kWh	1* Pulse, 1600imp/kWh
Pulse constant	5000imp/kWh,20000imp/kVarh				
Relay output (DO)	5A@250Vac / 5A@30Vdc				
Digital Input (DI)	Dry contact, Ri<500Ω turn on, Ri>100kΩ turn off				
Analog output (AO)	4~20mA, load <390Ω,or 0~10V, load >100KΩ			/	4~20mA, load <390Ω, or 0~10V, load >100KΩ
Communication					
Link method	RS485 (2/3 wires half duplex)				
Protocol	Modbus RTU				
MODBUS speed	4800/9600/19200bauds				
Others					
Calibration environment	27°C ± 5°C				
Operation environment	0 to 50°C, RH < 70%				
Storage environment	-10 to 60°C, RH < 70%				
Dielectric strength (Voltage sampling)	2 kV at 50Hz for 1 min				
Dielectric strength(AUX terminal)	2 kV at 50Hz for 1 min		4 kV at 50Hz for 1 min		