Smartpower Systems

Manufacturing Power Systems for the Future

Digital Panel Meter SPS-DM99

Easy-to-use, High Performance DC Digital Panel Meter

Compact DIN-size (96X48 (WxH) body.
Mounting thickness of only 305 mm required.
Highly visible display with 14.2-mm high LEDs.
Easy to mount snap-in construction.

Features:-

16 bit sigma delta A/D measurement with special DSP software to improve noise immunity.
Only meter in the market to offer adjustable range & measurement capability upto 1Kv.
High accuracy at low cost
Auto zero adjustment & open circuit calibration
Measure both polarities.

Specifications

Supply voltage	90 to 120 VAC; 180 to 265 VAC(50/60 Hz); 24 VDC(internally insulated)
Operating voltage range	-15% to +10% of supply voltage
Power consumption	Rating of 311E
Insulation resistance	10M min. (at 50 VDC) between external terminal and case
Accuracy	1.5% of FS ± 2 digits
Range	200mv- 1KVA
Stability	50PPM /°C
Resolution	0.1/1 count depending upon selected range
Accuracy	±1% of FS ±2 Digits for Power & Energy, .5% for voltage, current freq & P.F
Stability	50 PPM / °C
Sampling Rate	Over 100 samples/sec
Vibration resistance	Malfunction: 10 to 55Hz, 0.5-mm single amplitude for 10 min each in X, Y, and Z directions Destruction: 10 to 55Hz, 0.75-mm single amplitude for 2 hrs each in X, Y, and Z directions
Shock resistance	Malfunction: 98 m/s^2 for 3 times each in 6 directions Destruction: 294 m/s^2 for 3 times each in 6 directions
Ambient temperature	Operating: -10° to 55°C (with no icing) Operating: -20° to 65°C (with no icing)
Ambient humidity	Operating: 35% to 85%(with no consideration)
Dielectric Test	
Insulation Resistance	Greater than 20M? at 500VDC
Display refresh period	2.5 time/s

SMART POWER SOURCES. 1107 Middle River Road #6, Baltimore MD 21220. Website: www.smartpowerusa.com Email:. Smartpower@smartpowerusa.com

Digital Panel Meter SPS-DM99

Max. displayed digits	4 digits
Display	7 –segment red LED
Decimal point display position	By Programming
External control	Short range programming
Dielectric strength	2500 VDC min for 1 min between input & output terminals, input to ground & output to ground. Must observe safty isolation for voltages above 48VDC.
Vibration resistance	Malfunction: 10 to 55Hz, 0.5-mm single amplitude for 10 min each in X, Y, and Z directions Destruction: 10 to 55Hz, 0.75-mm single amplitude for 2 hrs each in X, Y, and Z directions
Shock resistance	Malfunction: 98 m/s^2 for 3 times each in 6 directions Destruction: 294 m/s^2 for 3 times each in 6 directions
Ambient temperature	Operating: -10° to 55°C (with no icing) Operating: -20° to 65°C (with no icing)
Ambient humidity	Operating: 35% to 85%(with no consideration)
Ambient operating atmosphere	No corrosive gas

Characteristics

Input signal	DC voltage/current
A/D conversion method	
Sampling period	Over 100 samples/sec
Display refresh period	2.5 time/s
Max. displayed digits	4 digits
Display	7 –segment red LED
Decimal point display position	By Programming
Sign display	"—"is displayed automatically with negative input signal
Zero suppression	Supported
External control	Range programming
Range	200Mv – 1Kv

Smartpower Systems

Manufacturing Power Systems for the Future

SINGLE PHASE "SMART POWER" METER

Single Phase Power Factor, KVA, KW, KWH Meter.

The meter has micro controller to measure calculate and indicate all basic electrical parameters of Power Source on three separate LED displays. Reduces panel wiring.

Features:-

16 bit sigma delta A/D measurement with special DSP software to improve noise immunity.
Displays true RMS AC Voltage, True RMS current, Frequency, KW, KVA, Power factor & KWH.
True high performance low cost option for all data measurement.

Specifications

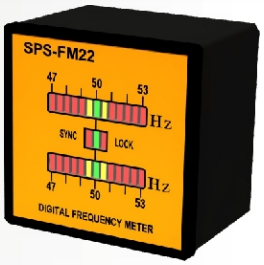
Type	Three in one Panel Meter.
Supply voltage	63.5/110/240 VAC +/- 10%
Operating Voltage range	80 VAC – 550 VAC
Operating Current range	Up to 100A Phase
Frequency	40-65Hz
Resolution	0.1/1 count depending upon selected range
Accuracy	±1% of FS ±2 Digits for Power & Energy, .5% for voltage, current freq & P.F
Stability	50 PPM / °C
Sampling Rate	Over 100 samples/sec
Vibration resistance	Malfunction: 10 to 55Hz, 0.5-mm single amplitude for 10 min each in X, Y, and Z directions Destruction: 10 to 55Hz, 0.75-mm single amplitude for 2 hrs each in X, Y, and Z directions
Shock resistance	Malfunction: 98 m/s² for 3 times each in 6 directions Destruction: 294 m/s² for 3 times each in 6 directions
Dielectric strength	2500 VDC min for 1 min between input & output terminals, input to ground & output to ground. Must observe safty isolation for voltages above 48VDC.
Ambient temperature	Operating: -10° to 55°C (with no icing) Operating: -20° to 65°C (with no icing)
Ambient humidity	Operating: 35% to 85%(with no consideration)
Dielectric Test	
Insulation Resistance	Greater than 20M? at 500VDC
Display refresh period	2.5 time/s
Max. displayed digits	4 digits
Display	7 –segment red LED
Decimal point display position	By Programming
External control	Short range programming

SMART POWER SOURCES. 1107 Middle River Road #6, Baltimore MD 21220. Website: www.smartpowerusa.com Email:. Smartpower@smartpowerusa.com

Smartpower Systems

Manufacturing Power Systems for the Future

DIGITAL FREQUENCY METER



Description & Features.

The meter is used to measure frequency(similar to vibrating reed meter). It uses LED instead of vibrating reeds to measure frequency.

All voltage ranges are available in this single meter. Two sets of LED's with same scale range can be offered, giving two independent meters in one casing. This makes easy to compare the frequency of two voltage supplies for paralleling operation. Phase sync LED indicates the locking of frequencies of two Power Sources in phase & magnitude.

Features:-

16 bit sigma delta A/D measurement with special DSP software to improve noise immunity.

Specifications

Type	Electronic Frequency Meter..
Supply voltage	63.5/110/240 VAC +/- 10%
Operating voltage range	110V~125V, 220V~250V, 380V~440V.(4 Terminals)
Power consumption	Less than 3VA(Single scale), Less than 6VA(Double scale)
Dielectric strength	2kV RMS for 1minute.
Sampling Rate	Over 100 samples/sec
Dielectric strength	2500 VDC min for 1 min between input & output terminals, input to ground & output to ground. Must observe safty isolation for voltages above 48VDC.
Ambient temperature	Operating: -10° to 55°C (with no icing) Operating: -20° to 65°C (with no icing)
Ambient humidity	Operating: 35% to 85%(with no consideration)
Dielectric Test	2Kv RMS for 1 min.
Insulation Resistance	Greater than 20M ohms at 500VDC
Response time	Less than 1 sec.