MTE Meter Test Equipment

PPS 400.3

Three-phase Portable Power Source (12 A or 120 A / 300 V)

The PPS 400.3 is a powerful and portable three-phase current and voltage source. All test values are generated absolutely synthetically with a high degree of accuracy and stability.

The PPS 400.3 is available in two versions:

- PPS 400.3-12 A (maximum current up to 12 A)
- PPS 400.3-120 A (maximum current up to 120 A)

The PPS 400.3, portable power source may be used as enhancement of the reference standard PRS 400.3 as well as independently. The control software automatically recognises the model. It may therefore immediately be taken into operation, and automatic measurement of a load curve of the meter may begin.

Advantages of the PPS 400.3

- Three-phase portable precision type source with single-phase mains supply
- Current and voltage source facilities can be selected independently

- Current, voltage and phase shift are adjustable to high accuracy by using keys
- The values are shown on a display and can be read out via the RS 232 C interface
- The values set are stabilised by digital and analogue control
- Integrated RS 232 C interface for external program control via PC. It is possible to read out the current and voltage values
- Generation of harmonics (up to 31th)
- The Portable Control Module PCS 400.3 can be on a stand-alone basis and the power source is in this application controlled via blue-tooth

Options

- Software CAMCAL for Windows or CALegration

Technical data PPS 400.3 + PCS 400.3

Model	Description	PPS 400.3-12 A	PPS 400.3-120 A
Supply voltage		88 V … 280 V, 45 … 65 Hz	
Power consumption		max. 300 VA	max. 500 VA
Housing		Metal, rubber protection	
Dimensions	Width x Height x Depth	520 x 195 x 365 mm	520 x 195 x 365 mm
Weight		approx. 20.5 kg	approx. 23.5 kg
Ambient temperature	Operating / Specified range	-10 °C … +50 °C / +10 °C … +40 °C	
Influence of auxiliary voltage on the measuring results		≤ 0.005 % at 10 % variation	
Frequency range		45 … 400 Hz	
Frequency resolution		0.01 Hz	
Phase angle range		-180°… +180°	
Phase angle resolution		0.01°	
Phase angle error		$\leq 0.1°$	
Voltage source			
Voltage range	Phase - Neutral	3 x 0 V … 3 x 300 V / 520 V	
Internal ranges / Peak values	Range / Peak voltage	Power / Peak current	
	150 V … 300 V 467 V	50 VA / 0.26 A	
	75 V … 150 V 233 V	50 VA / 0.52 A	
	30 V … 75 V 117 V	50 VA / 1.04 A	
Resolution	at the final range value	0.01 %	
Adjustment error	at the final range value	< 0.05 %	
Distortion factor	on linear Load	< 0.5 %	
Stability	Time base 5 s	better than 0.05 % / 2 min	
	Time base 150 s	better than 0.005 % / h	
Load regulation	0 % - 100 % Load	< 0.01 %	
Power factor of load		0.1 lead … 1 … 0 lag	
Efficiency		> 85 %	
Current source			
Current range		3 x 1 mA … 3 x 12 A	3 x 1 mA … 3 x 120 A
Internal ranges / Peak values	Range / Peak current	Power / Peak voltage	Power / Peak voltage
	80 A … 120 A 187 A	---	80 VA / 1.04 V
	12 A … 80 A 124 A	---	80 VA / 1.56 V
	1.2 A … 12 A 18.7 A	30 VA / 3.89 V	80 VA / 10.4 V
	120 mA … 1.2 A 1.87 A	3 VA / 3.89 V	8 VA / 10.4 V
	12 mA ... 120 mA 187 mA	0.3 VA / 3.89 V	0.8 VA / 10.4 V
	1 mA ... 12 mA 18.7 mA	0.1 VA / 3.89 V	0.1 VA / 10.4 V
Resolution	at the final range value	0.01 %	
Adjustment error	at the final range value	< 0.05 %	
Distortion factor	on linear Load	< 0.5 %	
Stability	Time base 5 s	better than 0.05 % / 2 min	
Stability	Time base 150 s	better than 0.005 % / h	
Load regulation	0 % - 100 % Load	< 0.01 %	
Power factor of load		1 ... 0.1 lag	
Efficiency		> 85 %	
Generation of harmonics			
Fundamental frequency range		45 … 65 Hz	
Amplitude	2. - 6. Harmonics	max. 40 %	
	7. - 31. Harmonics	max. 10 %	
Sum of all harmonics		max. 40 %	
Sum of 7. - 31. harmonics		max. 10 %	
Phase shift	Basic waveform / harmonic	0° ... 360°	
Safety Requirements			
CE			
Isolation protection		according EN 61010-1	
Degree of protection		IP-40	
Storage temperature		-20°C ... +55°C	
Relative humidity		≤ 85 % at Ta ≤ 21°C	
Relative humidity at 30 days / year		≤ 95 % at Ta ≤ 21°C	