



# PMA Series Digital Multimeters

- ▶ PMA-01
- ▶ PMA-120D
- ▶ PMA-02
- ▶ PMA-03



Our PMA Series Multimeters are able to calculate Current, Voltage, Frequency, Apparent Power, Minimum and Maximum Voltage, Current Demand, Maximum Current Demand values of 3-phase electrical systems, with the hard work of our expert R&D team in the field of Power Quality and Energy solutions. It is designed and manufactured to measure and protect the system with alarm options.

It offers design and efficiency together with its 45-265V AC/DC wide supply range, ergonomic design in 96x96x51 mm dimensions and product range with advanced features.

- 4 x 4 Digit 14 mm Digital LED Display
- Easy-to-Use Menu
- Voltage, Current and Frequency Protection
- Phase-Phase or Phase-Neutral Protection
- Phase Sequence Error Information and Protection
- Three-phase L-N and L-L Voltage Information
- Three-phase Current and Frequency Information
- Adjustable Relay Outputs
- V, A, S, ve  $\sum S$  (Monitoring Parameters)
- RS-485 Communication (Modbus RTU)
- Min, Max and Demands
- Connection Type ( $\Delta$ ,  $\Delta$ )

Product Code	Product Description	Dimensions (mm)	Basic Parameters (Current-Voltage-Frequency)	7 Segment LED Display (14 mm)	Apparent Power (S1,S2,S3, $\sum S$ )	Demand - Max. Demand	Max-Min Values	Voltage / Current Unbalance	Over-Under Voltage Protection	Over-Under Current Protection	Over-Under Frequency Protection	Phase Seq. / Absence Protection	Inrush Current Protection	X/5	CT-120	RS-485 Modbus Communication	Total Hours of Operation	Relay Output (x2)	Alarm State Modes	45-265 V AC/DC Supply
PMA-01	Multimeter	96x96	•	•	•	•	•							•						•
PMA-120D	Direct Multimeter (120A)	96x96	•	•	•	•	•								•					•
PMA-02	Adjustable Multimeter	96x96	•	•	•	•	•	•	•	•	•	•		•				•	•	•
PMA-03	Communication, Adjustable Multimeter	96x96	•	•	•	•	•	•	•	•	•	•		•		•		•	•	•

### General Specifications Table

Product Code	PMA-01	PMA-120D	PMA-02	PMA-03
Operating Voltage	45-265 V AC/DC	45-265 V AC/DC	45-265 V AC/DC	45-265 V AC/DC
Operating Frequency	45 - 65 Hz	45 - 65 Hz	45 - 65 Hz	45 - 65 Hz
Current Transformer Ratio Range	1 ... 2000	CT-30 (120A)	1 ... 2000	1 ... 2000
Voltage Transformer Ratio Range	0,1 ... 4000,0	0,1 ... 4000,0	0,1 ... 4000,0	0,1 ... 4000,0
Current Measurement Range	0,05 - 5,5 AAC	1 - 120 AAC	0,05 - 5,5 AAC	0,05 - 5,5 AAC
Voltage Measurement Range	10 - 300 Vac (L-N) 20 - 520 Vac (L-L)	10 - 300 Vac (L-N) 20 - 520 Vac (L-L)	10 - 300 Vac (L-N) 20 - 520 Vac (L-L)	10 - 300 Vac (L-N) 20 - 520 Vac (L-L)
Frequency	√	√	√	√
Cosφ	-	-	-	-
Neutral Current	-	-	-	-
Max-Min Voltage	√	√	√	√
Demand-Max Demand	√	√	√	√
Active Power	-	-	-	-
Reactive Power	-	-	-	-
Apparent Power	S1, S2, S3, ΣS	S1, S2, S3, ΣS	S1, S2, S3, ΣS	S1, S2, S3, ΣS
Over / Under Voltage Protection	-	-	√	√
Over / Under Current Protection	-	-	√	√
Over / Under Frequency Protection	-	-	√	√
Over Neutral Current Protection	-	-	-	-
Voltage Unbalance Protection	-	-	√	√
Current Unbalance Protection	-	-	√	√
Phase Seq. / Absence Protection	-	-	√	√
Sudden Tripping (Current / Voltage)	-	-	-	-
Resetable Total Hours of Operation	-	-	-	-
RS-485 Communication	-	-	-	√
Protection Class	IP54 (Front Panel) IP20 (Body)	IP54 (Front Panel) IP20 (Body)	IP54 (Front Panel) IP20 (Body)	IP54 (Front Panel) IP20 (Body)
Output Relay X2	-	-	Max 5A 250 Vac Cosφ=1	Max 5A 250 Vac Cosφ=1
Indicator	4x4 14 mm LED Display	4x4 14 mm LED Display	4x4 14 mm LED Display	4x4 14 mm LED Display
Operating Temperature	-25°C....70°C	-25°C....70°C	-25°C....70°C	-25°C....70°C
Dimensions (mm)	96x96	96x96	96x96	96x96

### Technical Specifications Table

<b>Operating Voltage</b>	45 – 265 VAC / DC %10
<b>Operating Range</b>	Un x (0,9 – 1,1)
<b>Operating Frequency</b>	45 – 65 Hz.
<b>Power Consumption</b>	3 – 6 VA
<b>Measuring Inputs Power Consumption</b>	< 0,5 VA
<b>Current Measurement Range</b>	50 mA AC – 5,5 A AC
<b>Voltage Measurement Range</b>	10 – 300 V AC (L-N) 20 – 500 V AC (L-L)
<b>Current Transformer Ratio</b>	1 – 2000 (10000/5) (PMA-120D hariç)
<b>Voltage Transformer Ratio</b>	1.0 – 4000.0
<b>Measurement Accuracy</b>	
<b>Voltage</b>	%1
<b>Current</b>	%1
<b>Frequency</b>	%1
<b>Apparent Power</b>	%1
<b>Relay Output</b>	2 SPDT Relay NO Max 5A AC 250 VAC Cosφ=1
<b>Protection Class</b>	IP54 (Front Panel) IP20 (Body)
<b>Device Protection Class</b>	Double Insulated
<b>Operating Temperature Range</b>	-25 °C .....+70 °C
<b>Humidity</b>	Maximum %90
<b>Operating Altitude</b>	<2000 m
<b>Panel Connection Type</b>	Front
<b>Connection Type</b>	3P3W (Δ), 3P4W (▲)
<b>IK Code</b>	IK06
<b>Supply Terminal Cable Cross Section</b>	Max 2,5 mm
<b>Voltage Terminal Cable Cross Section</b>	Max 2,5 mm
<b>Current Terminal Cable Cross Section</b>	Max 2,5 mm
<b>Weight</b>	238 gr
<b>Dimensions</b>	96 x 96 x 51 mm
<b>Panel Mounting Dimensions</b>	92 x 92 mm