

| Number of channels | | |
|--|--|-------------------------|
| Channels per device | max. 12 ¹⁾ | |
| Channels per system | max. 72 ¹⁾ | |
| Operating modes | | |
| Basic operating modes | CC, CP, CR, CV | |
| Combined operating modes | CC+CV, CP+CV, CR+CV, CP+CC, CR+CC, CV+CC | |
| Accuracy of setting | | |
| | of setting | of corresponding range |
| Voltage | ±0.1 % | ±0.1 % |
| Current | 40 V/60 V modules ±0.25% others ±0.1 % | ±0.1 % |
| Resistance (at 5 % to 100 % of voltage range) | 40 V/60 V modules ±2.8 % others ±1.4 % | ±0.3 % of current range |
| Power (at V and I > 10 % of range) (at V or I 5 ... 10 % of range) | 40 V/60 V modules ±1.4 % others ±0.7 % 40 V/60 V modules ±4 % others ±2 % | |
| Resolution | 12 bits | |
| Accuracy of adjustable protections | | |
| | of setting | of corresponding range |
| Overcurrent protection | 40 V/60 V modules ±0.4% others ±0.2 % | ±0.2 % |
| Undervoltage protection | ±0.2 % | ±0.2 % |
| Resolution | 12 bits | |
| Accuracy of measurement | | |
| | of measured value (real value) | of corresponding range |
| Voltage | ±0.1 % | ±0.05 % |
| Current | 40 V/60 V modules ±0.4 % others ±0.2 % | ±0.05 % |
| Resistance | calculated from voltage and current | |
| Power | calculated from voltage and current | |
| Resolution | 16 bits | |
| Sampling time | 100 µs, not triggerable | |
| Accuracy of display (user interface) | | |
| Display user interface | Accuracy of corresponding measurement ±1 digit of displayed value | |
| Dynamic function (LIST) | | |
| Number of load levels | max. 100, with corresponding ramp and dwell time | |
| | min. | max. |
| Dwell time | 1 ms | 100 s |
| Ramp time | 0 s | 100 s |
| Resolution | 1 ms | |
| Accuracy of setting times | ±0.02 % | |
| Delay time at triggered start | max. 200 µs | |
| Data acquisition | | |
| | of measured (actual) value | of corresponding range |
| Accuracy voltage | ±0.1 % | ±0.05 % ±1 LSB |
| Accuracy current | 40 V/60 V modules ±0.4 % others ±0.2 % | ±0.05 % ±1 LSB |
| Resolution | 16 bits | |

| to internal memory | | |
|--|--|------------------------|
| Sampling time | 1 ms ... 100 s, resolution 1 ms | |
| Measurement data | timestamp, voltage, current | |
| No. of measurement points | max. 100 per channel | |
| Settings memory | | |
| No. of user settings | 10, selectable (incl. programmed list) | |
| I/O port: Accuracy analog control 0 ... 10 V | | |
| | of setting | of corresponding range |
| Voltage | ±0.2 % | ±0.1 % |
| Current | 40 V/60 V modules ±0.4 % others ±0.2 % | ±0.1 % |
| | Input resistance of analog inputs >10 kΩ GND max. 2 V ²⁾ with respect to negative load input | |

I/O port: control inputs

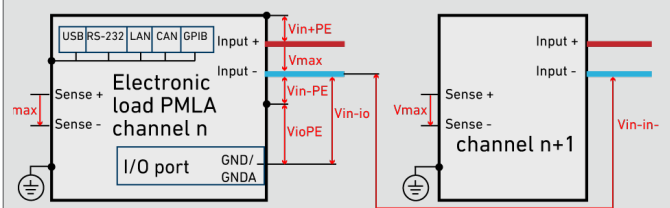
| | |
|---------------|---|
| Control input | load input state on - off (per channel, low active) |
| Input level | 3 ... 30 V |

I/O port: Accuracy of analog monitor signals 0 ... 10 V

| | of analog signal of real value | offset voltage |
|---------|---|----------------|
| Voltage | ±0.1 % | ±15 mV |
| Current | 40 V/60 V modules ±0.4 % others ±0.2 % | ±15 mV |
| | Maximum load capacity 2 kΩ | |

I/O port: permissible voltages

| | |
|--------------------------------|--------------------------|
| Vin-io (GND - neg. load input) | max. 2 V ²⁾ |
| VioPE (GND - PE) | max. 100 V ²⁾ |



Input

| | |
|----------------------------|---|
| Input resistance | >50 kΩ when load input is off diode function at reverse polarity up to nominal current |
| Input capacity | see module overview |
| Parallel operation | up to 5 channels in Master-Slave operation (hardware-controlled) |
| Maximum input voltage Vmax | see module overview |
| Minimum input voltage Vmin | see module overview |
| Continuous power | see module overview (at Ta = 21 °C) |
| Derating | -1,2 %/°C for Ta > 21 °C |

Input: permissible voltages

| | |
|---|--|
| Vin-PE (neg. load input - PE) | max. 100 V ²⁾ |
| Vin+PE (pos. load input - PE) | Vmax + Vin-PE, but not more than 240 V ²⁾ |
| Vin-in- (neg. load inputs between two channels) | max. 100 V ²⁾ |

Protection and monitoring

| | |
|--------------------|---|
| Protective devices | overcurrent overpower overtemperature |
| Monitoring | overvoltage undervoltage (if the input voltage is too low for the set current) reverse polarity |

The specified accuracies refer to an ambient temperature of 23 ±5 °C. The specified accuracies are valid when the sense lines are connected and when the unit is connected to undisturbed voltages (ripple and noise < 0.1 %). At voltages with higher disturbance values the accuracy can change for the worse.

- with all modules of 150 W
- positive/negative DC voltage or RMS value of a sinusoidal AC voltage

Technical Data

| Operating conditions | |
|--|--|
| Operating temperature | 5 ... 40 °C |
| Stock temperature | -25 ... 65 °C |
| Max. operating height | 2000 m above sea level |
| Pollution degree | 2 |
| Max. humidity | 80 % at 31 °C, linear decreasing to 50 % at 40 °C |
| Min. distance rear panel - wall or other objects | 70 cm |
| Cooling | temperature-controlled air cooling |
| Noise | max. ca. 69 dB(A) measured in distance of 1 m |
| Mains voltage | 1/N/PE AC 80 ... 264 V ±10 % 47 ... 63 Hz |
| Mains cable | length max. 3 m cross-section of mains leads min. 1 mm ² |
| Power consumption | max. 90 VA |

| Terminals | |
|------------|-------------------------------|
| Load input | Phoenix Contact PH8/7.62-ST43 |
| Sense | Sub-D at I/O port |

| Housing | |
|--|---|
| Color | Front RAL7035 (light grey) Rear stainless steel Side panels, top RAL7037 (dusty grey) |
| Housing Dimensions (B x H x T) 3D models ¹⁾ | 19", 2 U 485 x 88 x 485 mm (with mating connector, without feet) PMLA_M1 Master, PMLA_M10 Slave |
| Weight | max. 18.3 kg |

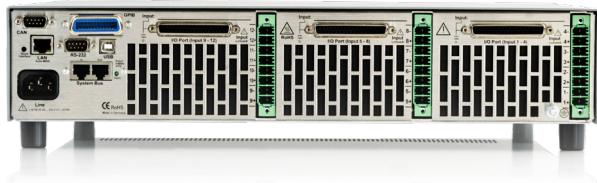
| Safety and EMC | |
|--------------------|--|
| Protection class | 1 |
| Measuring category | 0 (CAT I according to EN 61010:2004) |
| Electrical safety | DIN EN 61010-1 DIN EN 61010-2-030 |
| EMC | DIN EN 55011 DIN EN 61326-1 DIN EN 61000-3-2 DIN EN 61000-3-3 |

| Standard interfaces | |
|---------------------|---|
| Data interfaces | RS-232, USB, LAN (each only for Master) |
| I/O port | standard I/O port (not isolated) |

| Available options | |
|-------------------------------------|---|
| Data interfaces PMLA02 PMLA03 | GPIB (only for Master) CAN (only for Master) |
| Hardware extensions PMLA15 | extra mating plug for 1x cooling unit |

| Calibration, warranty | |
|-----------------------|---|
| FCC-PMLA/CH | Factory Calibration Certificate, 2 x for free |
| Warranty | 2 years |

PMLA-M Master



PMLA-S Slave



1. 1 U = 44.45 mm. Detailed dimensions by means of 3D models at www.hoerchert-hackl.com/downloads.

Technical data of production series C, rev. 6. Subject to technical changes without notice.
Series-specific data from catalog rev. 6.01