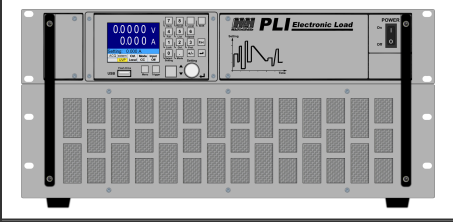


Datasheet Series PLI

| | | |
|--|-----------------------------|---|
| Model | PLI4230 |  |
| Order no. | 17-023-000-02 | |
| Max. input voltage Vmax | 300 V | |
| Min. input voltage Vmin | 2 V | |
| Max. load current Imax | 90 A | |
| Continuous power | 4200 W | |
| Short-time power ¹⁾ | 6300 W | |
| Voltage setting | 0 ... 300 V | |
| Current setting | 0 ... 90 A | |
| Resistance setting | 0.02222 Ohm ... 35.8447 Ohm | |
| Power setting ²⁾ | 0 ... 6300 W | |
| Rise and fall time fast / medium / slow ³⁾ | 20 µs | |
| Load terminals (front) ⁴⁾ | | |
| Load terminals (rear) ⁵⁾ | FKS25/10-SM10 | |
| Power consumption | 190 VA | |
| Max. noise ⁶⁾ | 71 dB(A) | |
| Weight ca. | 39 kg | |
| Housing ⁷⁾ | 19" - 5 HU | |

1. Level and duration of the peak power, see diagram on page 2.
2. The setting range extends max. to the possible peak power.
3. Rise and fall times are defined of 10 % ... 90 % and 90 % ... 10 % of the maximum current. (current mode, FAST, tolerance ±20 %) Rise and fall time at setting "medium": ca. 500 µs, "slow": ca. 5 ms.
4. PK4-30: Pole terminal touch-protected for 4 mm laboratory jack + stripped wires, max. 30 A
PK4-60: Pole terminal touch-protected for 4 mm laboratory jack + stripped wires, max. 60 A
FK8: Flat copper rail 8x5 mm with M8 screw
FK25: Flat copper rail 25x10 mm with M10 screw
FK40: Flat copper rail 40x12 mm with 4 mm hole and M14 screw
5. PK4-30: Pole terminal touch-protected for 4 mm laboratory jack + stripped wires, max. 30 A
PK4-60: Pole terminal touch-protected for 4 mm laboratory jack + stripped wires, max. 60 A
FK8: Flat copper rail 8x5 mm with M8 screw
FK25: Flat copper rail 25x10 mm with M10 screw
FK40: Flat copper rail 40x12 mm with 4 mm hole and M14 screw
6. Measured on the front from distance of 1 m
7. 1 HU = 44.45 mm

| Accuracy of setting | | |
|---|--|-------------------------|
| | of setting | of corresponding range |
| Voltage | ±0.2 % | ±0.05 % |
| Current | ±0.2 % | ±0.05 % |
| Resistance (t 5 % to 100 % of voltage range) | ±1.4 % | ±0.3 % of current range |
| Power (at V and I > 30 % of range) | ±0.35 % | ±0.1 % |
| Power (at V or I < 30 % of range) | ±0.7 % | ±0.25 % |
| Resolution | 14 bits | |
| Accuracy of adjustable settings | | |
| | of setting | of corresponding range |
| Overcurrent protection | ±1.4 % | ±0.3 % |
| Undervoltage protection | ±1.4 % | ±0.3 % |
| Resolution | 12 bits | |
| Accuracy of display/measurement slow | | |
| | of measured value (real value) | of corresponding range |
| Voltage | ±0.01 % | ±0.005 % |
| Current | ±0.2 % | ±0.05 % |
| Resistance | is calculated from current and voltage | |
| Power | is calculated from current and voltage | |
| Resolution | 23 bits | |
| Sampling rate | 250 ms, not triggerable | |
| Accuracy of measurement fast | | |
| | of measured value (real value) | of corresponding range |
| Voltage | ±0.1 % | ±0.05 % |
| Current | ±0.2 % | ±0.1 % |
| Resistance | calculated from voltage and current values | |
| Power | calculated from voltage and current values | |
| Resolution | 16 Bit | |
| Sampling rate | 200 µs ... 1000 s | |
| Accuracy of trigger voltage and current measurement | | |
| Voltage | ±1 % of range | |
| Current | ±1 % of range | |
| Dynamic function (LIST) | | |
| No. of load levels | max. 300, ith ramp and dwell time setting | |
| | min. | max. |
| Dwell time | 200 µs | 1000 s |
| Ramp time | 0 s | 1000 s |
| Resolution | 200 µs | |
| Accuracy of the setting times | ±0.02 % | |
| Delay at triggered start | max. 300 µs | |

| Data acquisition | | |
|---|---|----------------------------------|
| to external USB flash drive | | |
| Sampling rate | 0.5 to 30 s, resolution 0.1 s | |
| Measurement data | timestamp, voltage, current | |
| No. of measurement points | limited by USB memory capacity | |
| File format | .csv | |
| to internal memory | | |
| Sampling rate | 200 µs ... 1000 s, resolution 200 µs, synchronized with dynamic function | |
| Measurement data | timestamp, voltage, current | |
| No. of measurement points | max. 40,000 | |
| Settings memories | | |
| No. of user settings | 9, selectable (incl. programmed list) 1 for last device settings at power-off or power fail | |
| I/O port: accuracy of analog control 0 ... 10 V | | |
| | of setting | of corresponding range |
| Voltage | ±0.2 % | ±0.1 % |
| Current | ±0.2 % | ±0.1 % |
| Overcurrent protection | ±1 % | ±0.4 % |
| Undervoltage protection | ±1 % | ±0.4 % |
| | Input resistance of analog inputs >10 kΩ | |
| I/O port: accuracy of analog monitor outputs 0 ... 10 V | | |
| | of analog signal of real value | offset voltage |
| Voltage | ±0.2 % | ±15 mV |
| Current | ±0.2 % | ±15 mV |
| | load capacity minimal 2 kΩ | |
| I/O port: permissible potentials | | |
| | standard I/O port | isolated I/O port (option PLI06) |
| GND - neg. load input | max. 2 V ¹⁾ | max. 800 V ¹⁾ |
| GND - PE | max. 125 V ¹⁾ | max. 125 V ¹⁾ |
| I/O port: control outputs and inputs | | |
| Outputs | status load input (on/off) overload (OV, OCP, OPP, OTP) trigger output programmable output (by SCPI command) | |
| Output level | selectable, 3.3 V, 5 V, 12 V or externally programmable up to 30 V | |
| Control inputs | load input on/off operating mode selection trigger input digital input control input (activates analog control signals) Remote shut-down | |
| input level | 3 ... 30 V | |

The specified accuracies refer to an ambient temperature of 23 ±5 °C. The specified accuracies are valid 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.

¹⁾ positive/negative DC voltage or RMS value of a sinusoidal AC voltage

Technical Data (continued)

| Input | |
|---|--|
| Input resistance | > 50 kΩ when load input is off diode function at reverse polarity up to nominal current |
| Input capacity | ca. 2 μF/600 W |
| Parallel operation | up to 5 devices in Master-Slave operation |
| Max. input voltage V _{max} | see model overview |
| Min. input voltage V _{min} for max. current I _{max} | models up to 120 V: 1.2 V models from 300 V: 2 V PLIxxxxEC: 5 V |



Input: permissible potentials

| | standard I/O port | isolated I/O port (option PLI06) |
|----------------------|--------------------------|----------------------------------|
| neg. load input - PE | max. 125 V ¹⁾ | max. 800 V ¹⁾ |

Power

| | |
|--|--|
| Continuous power | see model overview (at T _a = 21 °C) |
| Derating | -1,2 %/°C for T _a > 21 °C |
| Overload capability (short-time power) | see model overview The max. possible overload P _o depends on the temperature of the device and therefore on the previously consumed continuous power P _d . The possible overload duration depends on the value of the overload P _x . |



Protection and monitoring

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

Terminals

| | |
|------------|---|
| Load input | see model overview |
| Sense | PH2/7.62-BU16, see starting at page 101 |

| Operating conditions | |
|--|--|
| Operating temperature | 5 ... 40 °C |
| Stock temperature | -25 ... 65 °C |
| Max. operating height | 2,000 m above sea level |
| Pollution degree | 2 |
| Overvoltage category of mains | II |
| 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 weight | see model overview |
| Supply voltage (mains) with option PLI18 | 115/230 V AC (±10 %), selectable, 50 ... 60 Hz 11 ... 15 V DC |
| Power consumption | see model overview |

Housing

| | |
|------------------|----------------------|
| Color | |
| Front | RAL7035 (light grey) |
| Rear | stainless steel |
| Top, side panels | RAL7037 (dusty grey) |

Safety and EMC

| | |
|--------------------|--|
| Protection class | 1 |
| Protection | IP20 |
| Measuring category | O (CAT I according to EN61010:2004) |
| Electrical safety | DIN EN 61010-1 DIN EN 61010-2-030 |
| EMV | DIN EN 61326-1 DIN EN 55011 DIN EN 61000-3-2 DIN EN 61000-3-3 |

Calibration, warranty

| | |
|-----------|---|
| FCC-PLIxx | Factory Calibration Certificate, twice for free |
| Warranty | 2 years |

¹⁾ positive/negative DC voltage or RMS value of a sinusoidal AC voltage