Optimize Your Energy Efficiency with the PEL100

Control your consumption, manage your energy spending and monitor your network

With their ergonomic design suitable for all types of cabinets, the PEL loggers provide all your power and energy measurements simultaneously.

- Single-phase, split-phase and three-phase installations
- Installation without cutting off the mains power supply
- Harmonic analysis up to the 50th order
- Bluetooth, Ethernet and USB Communication
- Automatic recognition of the sensors connected
- Recording on SD card
- Real-time communication with a PC and analysis with the PEL Transfer software

www.pel100.com
In the context of a worldwide initiative to protect the environment, Europe has set itself the target of reducing energy consumption by 20%. Today, industry and the building sector account for more than 50% of energy consumption. It is therefore crucial to optimize energy consumption if we are to fulfill the regulatory requirements.

For economical, sustainable buildings, improve your energy efficiency

The PEL102 and PEL103 loggers are power and energy measurement loggers for all electrical installations. The measurements are performed with 3 current sensors and voltage inputs. They can be used to view all the electrical parameters and to take advantage of the measurement, energy metering and communication functions. They offer users all the necessary measurements for successful energy efficiency projects and monitoring of your electricity distribution system. The PEL100 family of energy meters makes it simple to add metering and measurement points in electrical cabinets where most of the space is already occupied. Because they are magnetic, they can be set up very easily in any cabinet and do not cause any obstruction once the cabinet door is closed.

### Functions:

- **RMS frequency, voltage and current**
- **VA, W and var power values**
- **VAh, Wh (source, load) and varh (4 quadrants) energy values, total energy**
- **cos φ, tan Φ and power factor (PF)**
- **Crest factor**
- **THD calculated for currents and voltages**
- **Harmonics up to the 50th order for currents and voltages**
- **DC, 50 Hz, 60 Hz and 400 Hz measurements**
- **RMS AC or AC+DC**
- **Display on LCD screen**
- **Recording of measurements and calculation results on SD card**
- **Automatic recognition of the sensor type connected**
- **Large number of network types: split-phase, three-phase with or without neutral, etc.**
- **Bluetooth, Ethernet and USB Communication**
- **Software for data transfer, real-time communication with a PC and report generation**
Applications

Monitoring and mapping consumption on a site
Our PEL100 loggers can track even the slightest consumption in a factory, workshop, building, agency, etc. They simultaneously allow real-time consumption monitoring alongside historical and comparative analysis of consumption.

Predictive maintenance
When installed for a long period in a cabinet, PEL100 loggers constantly monitor the active, apparent and reactive power values on the electrical network involved. This means they will instantly detect whenever the subscribed power threshold is exceeded.

Networking and centralized consumption management
By setting up several PEL100 loggers on a general electrical distribution system, local authorities for example can simplify their consumption management by controlling the allocation of the different types of consumption:
- street-lighting network
- common-area lighting network
- common service network
- general single-phase distribution network
- three-phase distribution network

Measuring the savings
The recordings made with PEL100 electrical measuring instruments are time/date-stamped. This makes it very simple to measure the gains achieved by comparing the recordings before and after modifying the installation.
The reference is provided by the recordings from the PEL100 loggers before the modifications were made. You can then carry out the necessary work for maintenance or improvement of the electrical network or equipment. A correctly-positioned PEL100 will quickly enable you to target the places where work is needed without delay. Finally, a monitoring phase will help you to determine whether the solutions implemented are sufficient and, above all, to accurately measure any savings achieved.

PEL Transfer software
This application software allows:
- Configuration of PEL100 loggers
- Verification of the connections before starting to record
- Downloading of the measurements recorded in the PEL100 loggers
- Display of the various measurement and analysis results

With the comprehensive DataView® processing software, you can also create customized reports.

DataView® can thus be used to generate energy consumption reports more easily.

The monitoring by the PEL100 provides the recordings which will be compared with the reference.
### SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Models</th>
<th>PEL102</th>
<th>PEL103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Without</td>
<td>Triple digital display</td>
</tr>
<tr>
<td>Installation types</td>
<td>Single-phase, split-phase, three-phase with or without neutral and many other specific configurations</td>
<td></td>
</tr>
<tr>
<td>Number of channels</td>
<td>3 voltage inputs / 3 current inputs (calculation of neutral current)</td>
<td></td>
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#### Measurements

<table>
<thead>
<tr>
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<th>PEL103</th>
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<tbody>
<tr>
<td>Network frequency</td>
<td>50 Hz, 60 Hz &amp; 400 Hz</td>
</tr>
<tr>
<td>Voltage (measurement ranges / best accuracy)</td>
<td>10.00 - 1.000 Vac/occ / ± 0.2 % + 0.5 V</td>
</tr>
<tr>
<td>Current (depending on sensor)</td>
<td>5 mAac to 10 kAac / 50 mAac to 1.4 kAac / ±0.5 %</td>
</tr>
</tbody>
</table>

#### Calculated measurements

| Ratio | Up to 650,000 V / up to 25,000 A |
| Power | 10 W to 10 GW / 10 var to 10 Gvar / 10 VA to 10 GVA |
| Energy | up to 4 EWh / 4 Evarh / 4 EVAh (E = 1018) |

#### Complementary functions

| Phase order | Yes |
| Min / Max | Yes |
| Mounting | Magnet, hook |

#### Recording

| Sampling / Acquisition rate / Aggregation | 128 S/period - 1 measurement per second - from 1 min to 60 min |
| Memory | SD card 2 GB (SD-HC up to 32 GB) |
| Communication | Ethernet, Bluetooth and USB |
| Power supply | 110 V - 250 V (+10 %, -15 %) at 50-60 Hz & 400 Hz |
| Safety | IEC 61010 600 V |

#### Mechanical Specifications

| Dimensions | 256 x 125 x 37 mm without sensor |
| Weight | 900 g / 950 g |
| Casing | IP54, UL (pending) |

### STATE AT DELIVERY:

Each PEL102 or PEL103 power and energy logger:

- 4 measurement leads (straight banana / straight banana – 3 m long – black)
- 4 crocodile clips (black), 1 SD card (2 GB), 1 set of rings and inserts (for ends of leads and current sensors), 1 mains cable, 1 USB cable (Type A / Type B), 1 MultiFIX mounting systems, 1 operating manual (on CD), 1 safety datasheet, PEL Transfer PC software, a quick start-up guide, 1 SD-USB adapter.

### ACCESSORIES

- DataVIEW® software
- Leads/clamps kit
- Set of id. rings/inserts
- 5 A box
- MN93 clamp
- MN93A clamp
- C193 clamp
- PAC93 clamp
- AmpFlex® A193-450 mm clamp
- AmpFlex® A193-800 mm clamp
- MiniFlex® MA193-250 mm clamp
- MiniFlex® MA193-350 mm clamp
- E3N clamp
- E3N adapter
- J93 clamp
- MultiFIX
- Mains power cable
- PEL100 mains adapter

### REFERENCE TO ORDER:

- PEL102 Logger without current sensors: P01157152
- PEL103 Logger without current sensors: P01157153

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