

Product description: Energy Module

The Energy Module **measures the electrical power** consumed by the **compressor(s), condenser fans** and also by the circulation **pumps** for indirect systems.

The Energy Module can be configured from the Intelligent Level Detector (DNI) and it is possible to connect up to 3 Energy Modules to one DNI. By taking these power measurements into account, the DNI can calculate the **real COP** of the installation. The DNI will also calculate the instantaneous cooling capacity of the installation.

Connected to **Sentinelle**, the DNI and its Energy Modules provide a **panel of alerts and advice dedicated to improving the performance** of installations.

Composition of the Energy Pack

For an installation with up to 5 compressors and a condenser, Matelex offers an energy pack comprising 2 Energy Modules and Current Transformers (number to be defined).

- Two PT100 temperature sensors: measure the suction gas superheat and the compressor discharge temperature.
- One 4-20 mA pressure transmitter at -1/+7 bar: measures the low pressure. For subcritical CO₂, the refrigeration engineer must provide a suitable pressure transmitter.
- One CT (current transformer) per motor input used, current to be specified when ordering: 50A - 100A - 150A or 300A



Connecting the Energy Module to the Sentinelle web interface:

Sentinelle is the web interface for the Intelligent Level Detector (DNI) and its modules. Connecting the Energy Modules gives access to numerous features:

- Monitoring of energy consumption with trend curves
- Energy drift alerts
- Monitoring of compressor operation: starting frequency, running time
- Alerts in case of a risk of compressor failure
- Comparison of COPs between similar installations and before/after retrofit
- Real-time enthalpy diagram

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