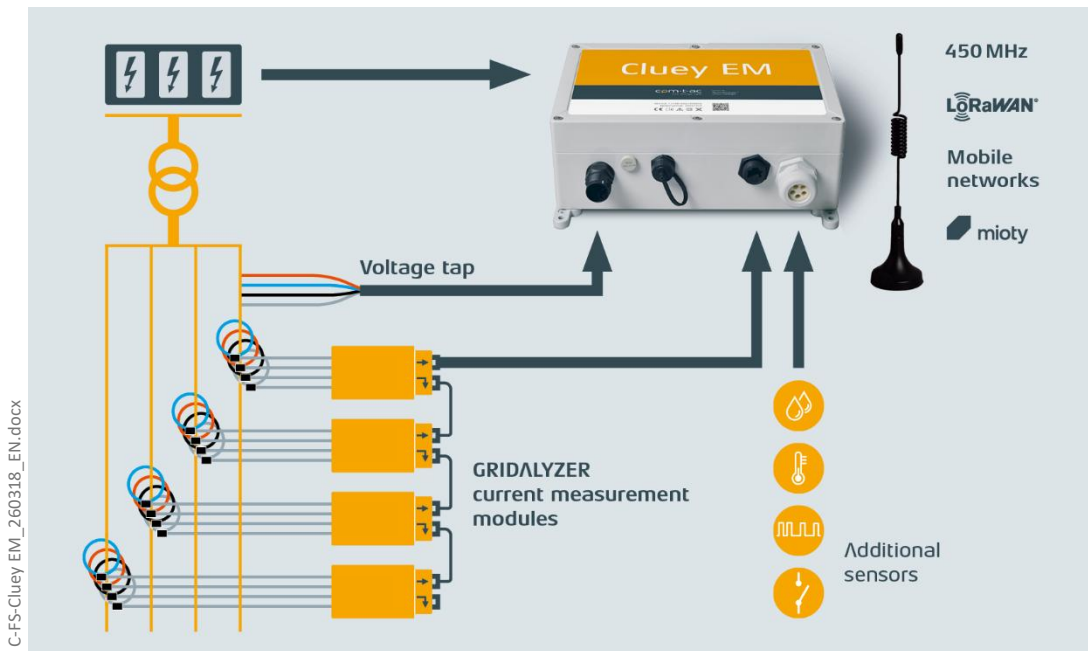


## Cluey EM

### AI-supported monitoring for transformer stations & cable distributors



- **Measuring system for U, I, P, Q, S, CosPhi up to 20 outputs with 4 phases**
  - **AI-supported voltage quality indicators**
  - **Communication: Mobile/CAT-M, 450 MHz/CAT-M, LoRaWAN®, mioty, Ethernet**
  - **Modbus RTU, analogue and digital I/O**
  - **MQTTs / JSON**
  - **Remote device management**
  - **Compact wall-mount housing IP65**
  - **CAT IV @600V**
- [www.comtac.ch](http://www.comtac.ch)

The Cluey EM is designed for load flow monitoring in transformer stations and cable distributors in low-voltage networks: simple, space-saving installation, quick commissioning and system openness are all taken into account.

Together with the GRIDALYZER current measurement modules, up to 20 outputs with 4 phases each can be measured. The integrated GRIDALYZER voltage measurement module provides low-voltage measurements and additional AI-generated quality indicators.

**Secure data exchange:** station data can be transferred to higher-level systems using open standard protocols, e.g. MQTTs/JSON.

**Device management:** secure remote firmware, configuration and certificate updates are integrated and support rollout and device maintenance.

**Measurement range:** it calculates active, apparent and reactive power, power factor, Cos  $\phi$  and harmonic components for voltages and currents from current and voltage values. These are available as current measurements as well as average, minimum and maximum values (interval configurable).

## **Cluey EM** **Load flow monitoring**

### Transparency in the distribution network – a clever solution!

**Quality indicators:** Deviations from the sinusoidal voltage curve are evaluated by an AI algorithm and assigned to seven different classes for easy assessment of voltage quality.

**Galvanic inputs/outputs:** for recording digital messages, e.g. short-circuit and earth fault messages, door contacts and analogue values such as temperature and humidity. The outputs enable, for example, short-circuit messages to be reset remotely.

**Modbus RTU interface:** Connection of additional measuring devices (e.g. medium-voltage measurements, earth fault direction).

**Power failure bridging:** the integrated buffering enables message transmission in the event of a low-voltage power failure.

**Voltage tap:** Voltage measurement and supply are provided via system cables with busbar terminals or blade contacts for NH fuses.

**Added value:** With its compact design, open interfaces and flexible communication options, Cluey offers the ideal solution for recording low-voltage data as a basis for load and feed-in management, network transparency, localisation of critical conditions, expansion planning, digital twins and artificial intelligence to avoid overloads, bottlenecks and failures.

**System openness:** You remain the owner of the collected data and have freedom of choice with regard to the higher-level system – no vendor lock-in!

#### Technical data:

Low voltage measurements		Communication	
Low voltage	L1, L2, L3, LN, U12, U23, U31	Radio	Mobile communications, CAT-M1, 450 MHz, mioty, LoRaWAN®
Measuring range	1000V	Wired	Ethernet
Per phase and output	I, P, Q, S, PF, CosPhi, THD (U&I)	Power supply	
Quality indicators	7 classes for anomalies (voltage curve)	External	Via 4-phase system cable, 230 V
GRIDALYZER current sensors		Buffering	3V lithium battery, C cell
Cabling	Daisy chain with IP67 system cables	Housing	
Number of outputs	Up to 20 outputs / 3 or 4-phase	Dimensions	252 mm x 162 mm x 90 mm
Measuring range	1 kA or 2 kA	Mount	With screws/magnets
Inputs/outputs & fieldbus		Protection	IP65
Number/type	8 digital inputs 8 analogue inputs (10V/20 mA) 4 digital outputs	Ambient conditions	
Fieldbus	Modbus RTU	Operating temperature range	-20°C to +60°C
		Relative humidity	0 ... 95% (non-condensing)

As of March 2026 – subject to technical changes.