DIRIS Digiware MID

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Measuring **I**nstruments **D**irective (MID)

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Ensuring fairness in commercial transactions

Compliance with MID

Thanks to certified measuring instruments

Meters installed in applications requiring billing (residential, commercial, light industrial use, etc.) and sub-billing (co-located data centres, stores in malls or airports, etc.) of consumption must comply with the MID (Measuring Instrument Directive) in Europe.

Fair trading	Compliance
Ensuring consumer protection	Assess the measuring instrument via a notified body

Ensuring a high level of metrological security

The **MID (Measuring Instrument Directive)** is an **EU directive** of the European Parliament and Council of 26 February 2014 (2014/32/EU). It applies to **measuring instruments** such as water, gas, electrical energy, thermal energy, weighing or quantities of liquids meters used in a commercial transaction.

- The MID sets out a **legal framework** to ensure **consumer protection and fair trading**.
- The design and manufacture of a **MID certified measuring instrument** must be of a high standard for metrology and measurement data security.
- The main objective of the MID is to ensure that all parties involved have **confidence in the measurement result**.
- A specific annex of the directive (MI-003) is dedicated to **active electrical energy meters (kWh).**
- Validation time : 8/10 years (depending of the countries)

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Compliance with MID

Thanks to certified measuring instruments

How to assess compliance with the MID?

Conformity assessment of **measuring instruments is carried out by** a **notified body**.

For **electricity meters,** different evaluation procedures are possible.

Most manufacturers choose the **B+D procedure**:

Module B Examination of product design

Module D Production process quality assurance

What are the requirements?

EN 50470-1 & EN50470-3 give **presumption of conformity to the MID.**
They define the requirements in terms of mechanics, electromagnetic compatibility and accuracy. A product designed in accordance with these standards will meet the essential and specific requirements of the MID.

The notified body uses these standards and the directive to verify the conformity of the meters.

The **accuracy of the active energy** measured by the meter is defined as **Class A, B or C**.
Class C is the most accurate.

Value of current for direct connected or transformer operated meters	Power factor	Percentage error limits for meters of class index		
		A	B	C
$I_{min} \le I < I_{tr}$	1	± 2,5	± 1,5	± 1,0
$I_{tr} \le I \le I_{max}$	0,5 ind…1…cap 0,8	± 2,0	± 1,0	± 0,5
NOTE For the relationships I_{min} / I_{tr} and I_{max} / I_{tr} see EN 50470-1, Table 3.				

Extract from EN 50470-3

Ensuring fairness in commercial transactions

Compliance with MID

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The Socomec solution

MID certified measuring instruments

Socomec provides a **wide range of MID certified measuring instruments.** Electrical energy metering is carried out either in direct connection or through current transformers.

Two types are offered:

- The traditional **COUNTIS** meters in a modular format that allow the measurement of active energy from one load.
- The **DIRIS Digiware S-xxMID, I-3xMID and I-6xMID** meters which are part of the Digiware ecosystem. These **Class C certified** meters are ideally suited to accurately measure the consumption of multiple electrical loads. A **single display** simplifies the reading of all measurements.

COUNTIS MID & DIRIS A-14

DIRIS Digiware S-xxMID

DIRIS Digiware I-3xMID & I-6xMID

DIRIS Digiware MID offer and features

DIRIS Digiware MID : Demo

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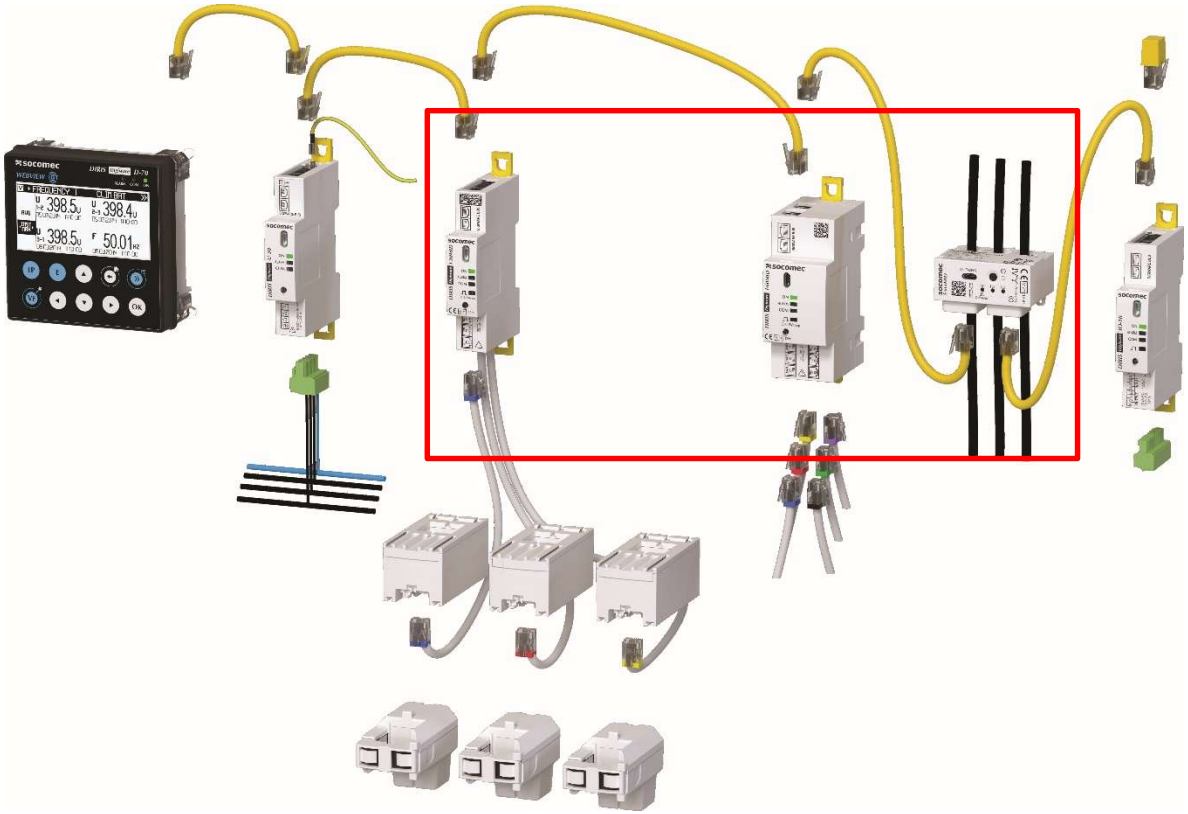
DIRIS Digiware MID



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DIRIS Digiware MID

Part no	Description
48290163	DIRIS Digiware S-130MID
48290164	DIRIS Digiware S-135MID
48290133	DIRIS Digiware I-30MID
48290134	DIRIS Digiware I-60MID
48290135	DIRIS Digiware I-35MID
48290136	DIRIS Digiware I-61MID

Features :

- D-50/D-70 display **mandatory** (Digiware system equipped with M-50/M-70 is not compliant with **MID**)

- 1or 2 clips to seal the RJ12 inputs for I-3x/I-6x

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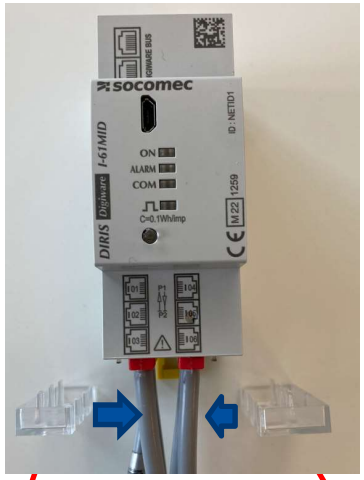
DIRIS Digiware MID : Clips mounting I-6x

1

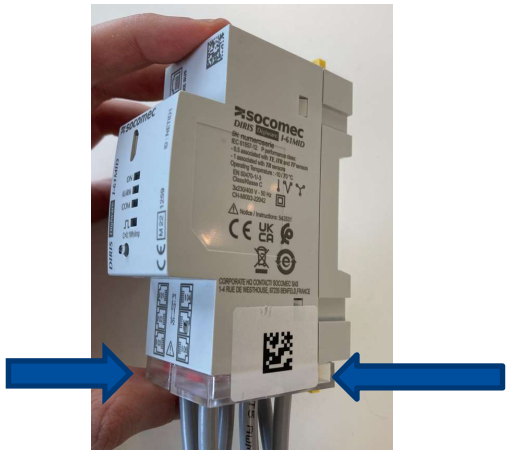


Left

Right

2

3



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DIRIS Digiware MID : Clips mounting I-3x

1

2

3

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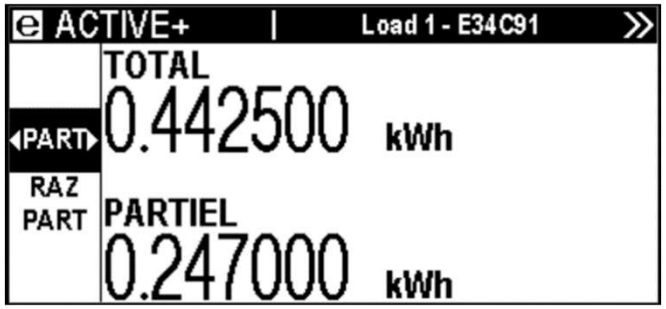
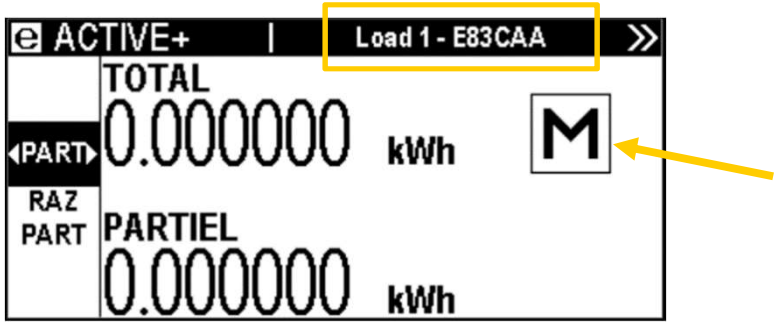
DIRIS Digiware MID : Energy visualisation

- Energy readings from MID meters are identified with an “M”
- Energy meter is identified in the top right corner (name can be customized)
- Total Energy meters cannot be reset

Standard ***DIRIS Digiware I-xx / S-xx***

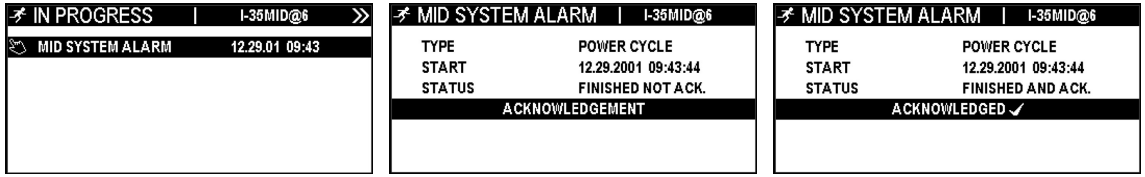


DIRIS Digiware I-xxMID / S-xxMID



MID System Alarm

Any change (both intentional and accidental) impacting the authenticity of energy readings will result in the activation of a dedicated MID SYSTEM ALARM.



- Upon activation, red ALARM LED on energy meter and D-xx will blink
- Must be acknowledged manually
- A MID Event Log is available

*When the DIRIS Digiware MID system is in operating condition, the activation of a MID System Alarm should encourage the user to consult their **MID EVENT LOG** to verify the reason for the MID alarm activation.*

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List of changes impacting energies

The following changes may impact the authenticity of energy readings and will activate the MID System Alarm

- **Intentional configuration change**
  - > Electrical network
  - > Nominal frequency
  - > Voltage transformer (use an ratio change)
  - > Load status change
  - > Load name
  - > Load type
  - > CT rating
  - > CT orientation
  - > CT associated voltage
  - > Date/time
- **Physical tampering**
  - > U-xx module Swap
  - > Inconsistent CT
  - > CT disconnection
  - > Power cycle
  - > Digiware bus alteration
- **MID CRC periodic check failure (accidental changes)**
  - > Software ID
  - > Calibration values
  - > Energies
  - > Legal parameters

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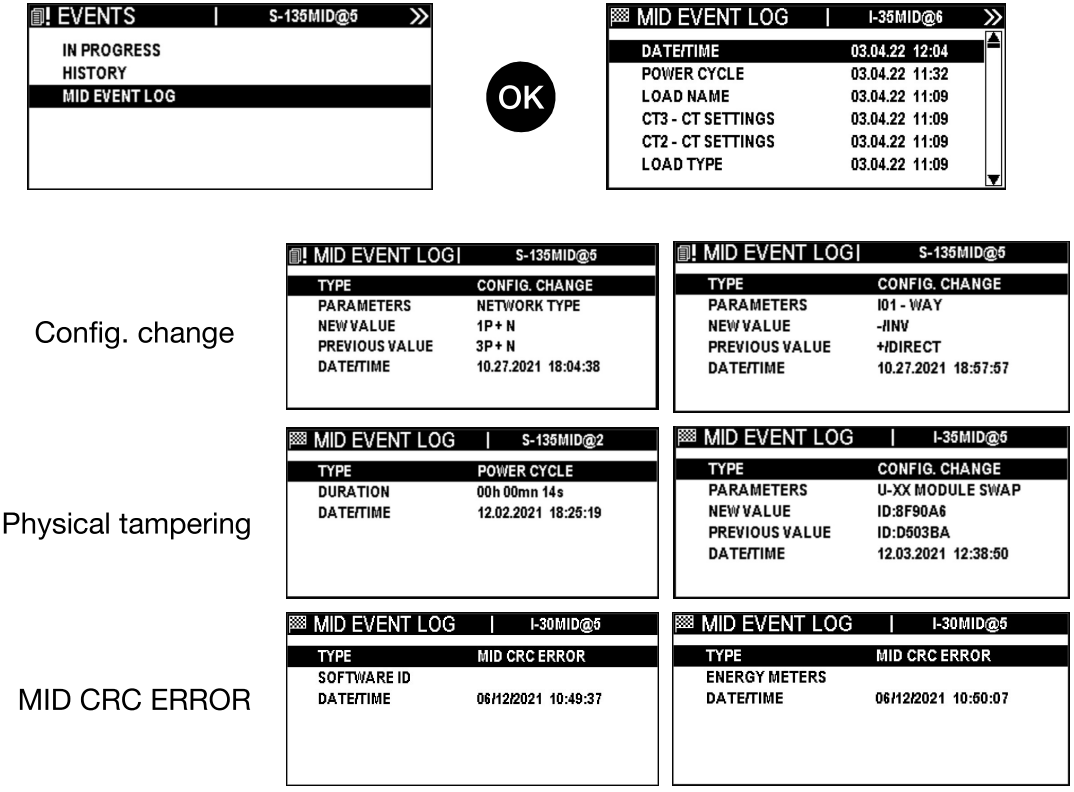
DIRIS Digiware MID : MID event log



- All events which might have altered the energy reading
- Provides additional information about each change
- The MID EVENT log cannot be reset

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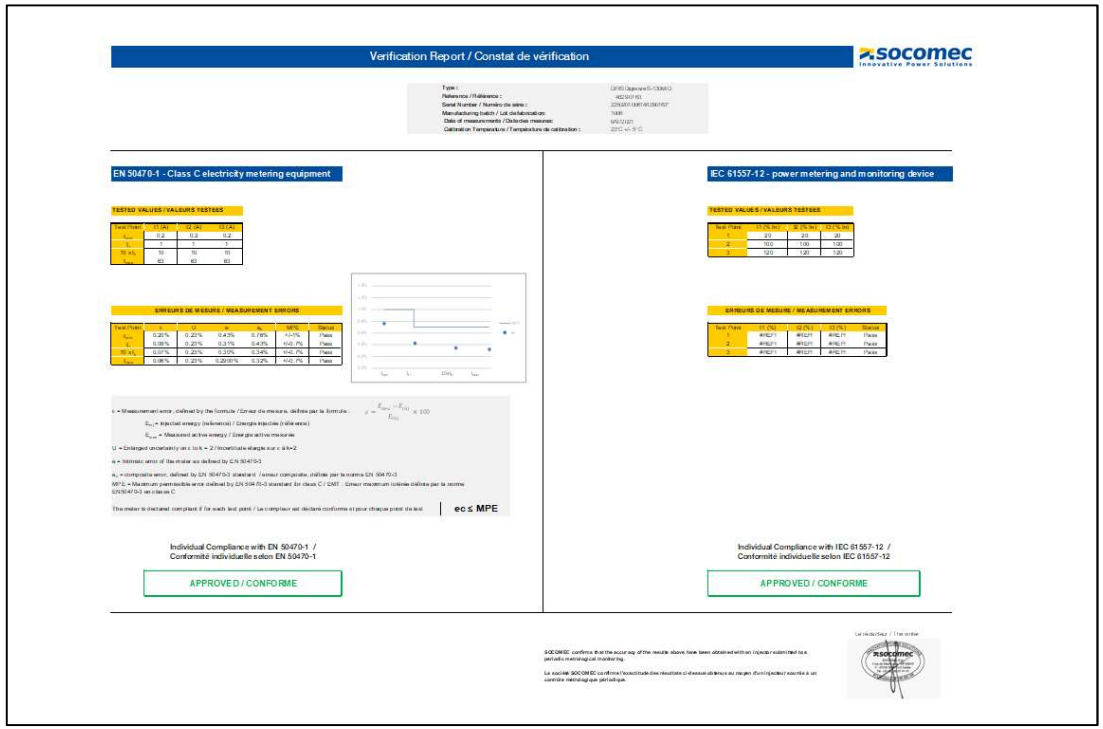
DIRIS Digiware MID verification reports

DIRIS Digiware MID : verification reports

- MID : mandatory to provide verification reports individually for each device
- Sustainable connected approach
- Online access to verification reports by typing the **netID** or **Serial Number**


Verification Report / Constat de vérification

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EN 50470-1 - Class C electricity metering equipment

IEC 61557-12 - power metering and monitoring device

Individual Compliance with EN 50470-1 / Conformité individuelle selon EN 50470-1

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Individual Compliance with IEC 61557-12 / Conformité individuelle selon IEC 61557-12

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