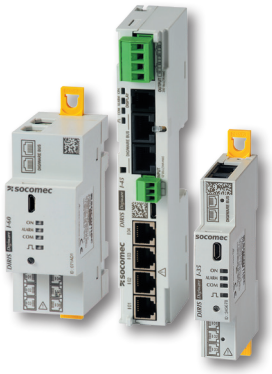
DIRIS Digiware Iac

AC current measurement modules

for the DIRIS Digiware system

new

MID CERTIFIED



Configuration with Easy Config System.

Function

DIRIS Digiware Iac modules measure consumption and monitor the system at the closest point to the loads. The flexibility of these modules enables you to allocate the loads to be measured or to monitor independent current inputs (for example: 1 three-phase load or 3 single-phase loads).

Advantages

Multi-circuit

- One module can monitor up to 2 three-phase circuits or 6 single-phase circuits.
- Up to 31 current measurement modules can be added, making it possible to monitor a large number of circuits within the same DIRIS Digiware system.

Accurate

DIRIS Digiware I modules ensure the quality and accuracy of measurements:

- Class 0.5 from 2 to 120% In for the overall measurement chain, with TE/iTR/TF current sensors and class 1 from 2 to 120% In for the overall measurement chain with TR current sensors (IEC 61557-12).
- Class C (EN 50470).

Compact

Two-module width for monitoring 2 three-phase loads or 6 single-phase loads, making integration close to the load easier.

Plug & Play

- RJ45 cables for quick and simple module connection.
- Colour coded RJ12 cables for connecting current sensors quickly, safely and without errors.
- Automatic detection of the type of user load, type of current sensor and rating.

If connected to iTR current sensors, AutoCorrect technology detects and corrects wiring errors to make the system more reliable.

Cutting-edge technology

- PreciSense: highest accuracy of the overall measurement chain.
- VirtualMonitor: circuit breaker status without using auxiliary contacts.
- AutoCorrect: detection and software correction of wiring errors.

MID certified and much more

Digiware DIRIS I-30MID, I-35MID, I-60MID and I-61MID current modules comply with the MID directive, ensuring accurate and reliable metering. The "B+D module" certification means that an external laboratory has certified the design of the meter and its production process.

They are also equipped with innovative features that go beyond the usual practices found in the market:

- Innovative tamper-resistance systems: the MID modules have a smart alarm system that is more effective than the standard mechanical seals offered by MID meters.
- Built-in PreciSense Technology: MID modules have a Class C energy measurement accuracy, the most accurate class according to the MID directive. In addition, as with any DIRIS Digiware system, the PreciSense technology offers the best accuracy on the market across the entire overall chain (modules and sensors).

General characteristics

- Versions with 3, 4 or 6 RJ12 current inputs.
- Compatible with TE, TR/iTR and TF current sensors.
- DIN-rail mounted.

The solution for

- Data centres
- Healthcare
- Industry

Strong points

- Multi-circuit
- Accurate
- Compact
- Plug & Play
- Cutting-edge technology
- MID certified and much more

Integrated technologies

PreciSense AutoCorrect VirtualMonitor

For further information, visit www.socomec.com

Conformity to standards

- IEC 61557-12
- UL 61010 Guide PICQ File E257746
- ANSI C12.20
- EN 50470-1
- EN 50470-3
- Directive 2014/32/EU

Create your project

- Find the best DIRIS Digiware configuration: **www.meter-selector.com**

METER SELECTOR DIGITAL TOOL AVAILABLE

Application	Current measurement modules										
	Metering			Analysis		Monitoring	Analysis	Metering			
											
DIRIS Digiware Iac	***I-30***	***I-30MID***	***I-31***	***I-35***	***I-35MID***	***I-43***	***I-45***	***I-60***	***I-60MID***	***I-61***	***I-61MID***
Number of current inputs											
	3	3	3	3	3	**4**	4	6	6	6	6
Metering											
±kWh, ±kVArh, kVAh	•	•	•	•	•	•	•	•	•	•	•
Load curves			•	•	•		•			•	•
Multi-tariff			•	•	•		•			•	•
MID		•			•				•		•
Multi-measurement											
I1, I2, I3, In, ΣP, ΣQ, ΣS, ΣPF	•	•	•	•	•	•	•	•	•	•	•
P, Q, S, PF per phase			•	•	•	•	•			•	•
Predictive power				•	•		•				
Current unbalance (Inba, Idir, Iinv, Ihom, Inb)				•	•		•				
Phi, cos Phi, tan Phi				•	•		•				
Quality											
THDi1, THDi2, THDi3, THDin				•	•	•	•				
Individual harmonics I (up to 63rd)				•	•		•				
Overcurrents				•	•		•				
Alarms											
Thresholds and combinations			○	•	•		•			○	○
Inputs/outputs						2/2	2/2				
Trends											
Average values				•	•		•				
Format											
Width/number of modules	18 mm / 1	18 mm / 1	18 mm / 1	18 mm / 1	18 mm / 1	27 mm/1.5	27 mm/1.5	36 mm/2	36 mm/2	36 mm/2	36 mm/2

○: *only for total power (P,Q,S).*
To comply with the MID directive, the DIRIS Digiware system must have a D-50/D-70 display.

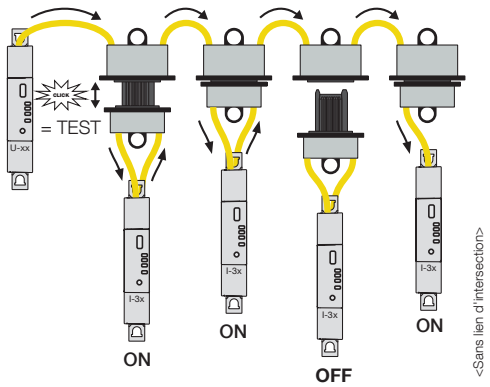
Accessories

Digiware plug-in connector

The plug-in Digiware connector makes it possible to disconnect a DIRIS Digiware module from the Bus while still ensuring continuity of operation on the rest of the downstream DIRIS Digiware system. This accessory is particularly useful in applications with retractable drawers or critical applications such as in data centres.

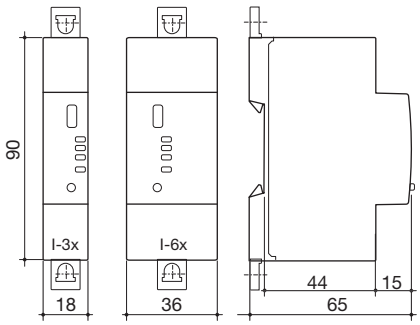


Operation

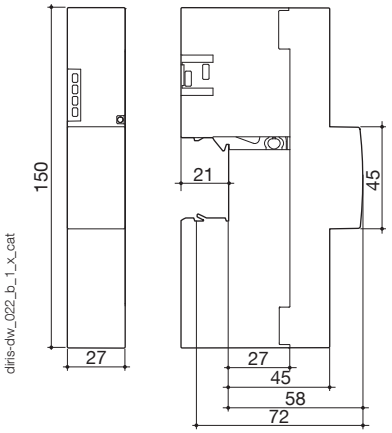


Dimensions

DIRIS Digiware I-3xac / I-6xac



DIRIS Digiware I-4xac



Connections

Associated current sensors

Various types of current sensor are associated with DIRIS Digiware: solid-core (TE), split-core (TR/iTR) or flexible (TF). This range of sensors can be adapted to all types of new or existing installations. A quick RJ12 connection makes wiring easy and reliable and prevents wiring errors. The DIRIS Digiware system automatically recognises the sensor rating and type. This guarantees the overall accuracy of the DIRIS Digiware + current sensor measurement chain.

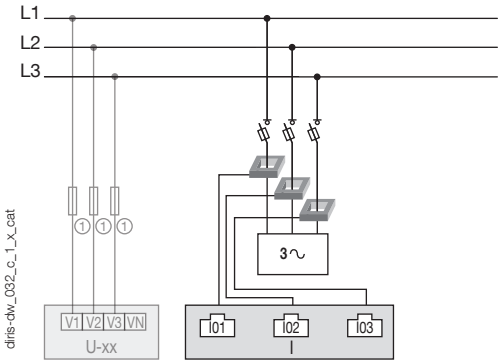
For further information, see the page on "TE, TR, iTR and TF sensors".

Networks and connection examples

I-3x/I-3xMID

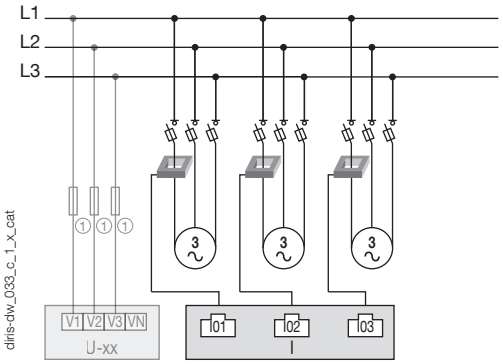
Three-phase

3P - 3CT (1 three-phase load)



Three-phase

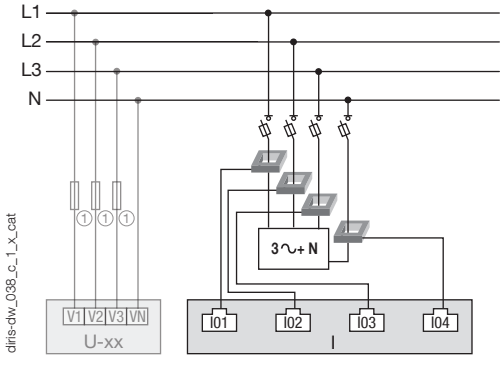
3P - 1CT (3 balanced three-phase loads)



I-4x

Three phase + neutral

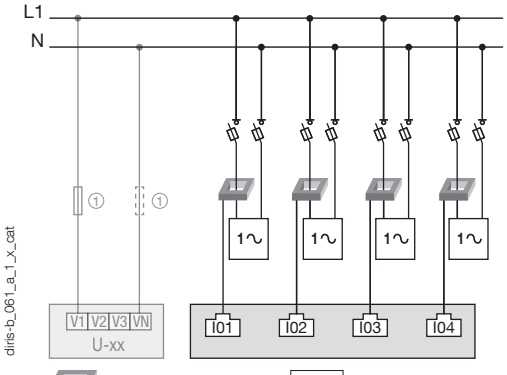
3P+N - 4CT (1 three-phase load + Neutral measured)



1. 0.5 A gG / 0.5 A class CC fuses.

Single-phase

1P+N-1CT (4 single-phase loads)



CT: Current transformer Load

Technical characteristics

Measurement characteristics

Current measurement - DIRIS Digiware Iac	
Number of current inputs	I-3x / I-3xMID: 3 inputs I-4x: 4 inputs I-6x / -6xMID: 6 inputs
Associated current sensors	Solid-core TE, split-core TR/iTR, flexible TF current sensors
Current measurement accuracy	Class 0.2 DIRIS Digiware alone Class 0.5 with TE, iTR or TF sensors Class 1 with TR sensors
Connection	Specific Socomec cable with RJ12 connectors
Energy measurement	
Active energy accuracy	Class 0.5 (IEC 61557-12) / Class C (EN 50470)

Inputs - DIRIS Digiware I-45ac	
Number of inputs	2
Type / Power supply	Non-insulated input, internal bias 12 VDC max, 1mA
Input functions	Logic status, pulse meter, multi-tariff
Connection	Removable screw terminal block, stranded or solid 0.14-1.5 mm² cable

Outputs - DIRIS Digiware I-45ac	
Number of outputs	2
Relay type	230 VAC ±15% - 1 A 30 VDC - 3 A
Function	Configurable alarm (current, power, etc.) on exceeded thresholds or remote controlled status
Connection	Removable screw terminal block, stranded or solid 0.2-2.5 mm² cable

Communication characteristics

USB	
Protocol	Modbus RTU over USB
Function	Configuration of DIRIS Digiware U and I modules
Location	On each DIRIS Digiware U and I measurement module
Connection	Type B micro USB connector

References

DIRIS Digiware		Reference
I-30	Metering - 3 current inputs	4829 **0110**
I-30MID	Metering - 3 current inputs + MID	4829 **0133**
I-31	Metering + load curve - 3 current inputs	4829 **0111**
I-35	Analysis - 3 current inputs	4829 **0130**
I-35MID	Analysis - 3 current inputs + MID	4829 **0135**
I-43	Monitoring - 2 inputs/ 2 outputs - 4 current inputs	4829 **0129**
I-45	Analysis - 2 inputs/ 2 outputs - 4 current inputs	4829 **0131**
I-60	Metering - 6 current inputs	4829 **0112**
I-60MID	Metering - 6 current inputs + MID	4829 **0134**
I-61	Metering + load curve - 6 current inputs	4829 **0113**
I-61MID	Metering + load curve - 6 current inputs + MID	4829 **0136**
Digiware connection cables		**Reference**

Accessories	Reference
Digiware x 5 plug-in connector	4829 **0605**

To comply with the MID directive, the DIRIS Digiware system must have a D-50/D-70 display.

RJ45 cables for Digiware Bus	Length 0.10 m	4829 **0181**
	Length 0.20 m	4829 **0188**
	Length 0.50 m	4829 **0182**
	Length 1 m	4829 **0183**
	Length 2 m	4829 **0184**
	Length 3 m	4829 **0190**
	Length 5 m	4829 **0186**
	Length 10 m	4829 **0187**
	50 m reel + 100 connectors	4829 **0185**
Termination for Digiware Bus (supplied with interfaces C and D)		4829 **0180**
USB configuration cable		4829 **0050**

Expert Services

EXPERT SERVICES

Socomec offers a wide range of services to continuously ensure a functional and accurate energy monitoring system:

- Device integration
- System audit
- Commissioning
- Training for your teams

Ideal for ISO 50001 sites (periodic verification):

- Measurement consistency check to 3%
- Measurement accuracy check to 0.2%

For further information, please talk to your Socomec contact.