# DIRIS Digiware *Iac*

## Current acquisition modules

**DIRIS Digiware Iac-3x**    **DIRIS Digiware Iac-4x**    **DIRIS Digiware Iac-6x**

*Configuration with Easy Config System.*

## Function

**DIRIS Digiware Iac** modules measure consumptions and monitor the system at the closest point to the loads. The flexibility of these modules allow you to allocate the loads to be measured or monitored through independent current inputs.

For example:
- 1 three-phase load,
- 3 single-phase loads.

The RJ45 and RJ12 connections allow you to connect modules very quickly and to automatically configure connected current sensors:
- communication address,
- load type,
- sensor type and ratio,
- automatic rating detection and verification of current flow direction.

Wiring errors are also prevented and installation is simplified.

## Advantages

- RJ45 and RJ12 rapid connection.
- Available with 3, 4 or 6 inputs.
- Single-output or multi-output for maximum optimization of the number of products.
- Compact format: 1 or 2 modules sized for integration at the closest point to the loads.
- A complete, dedicated solution:
  - metering,
  - monitoring,
  - quality analysis.
- Better than revenue grade.
- Compliant with standard ANSI C12.20 and IEC 61557-12 standards, guaranteeing the quality and accuracy of the system:
  - Class 0.2 for the meter alone
  - Class 0.5 from 2% to 120% of the rated current (full scale), for the global measurement chain (with TE/iTR/ TF current sensors)

## The solution for

- > Industry
- > Building
- > Infrastructure
- > Data center

## Strong points

- > Multi-circuit
- > Plug and Play
- > Compact
- > High-precision measurement chain

## Integrated technologies

**Preci**Sense    **Auto**Correct    **Virtual**Monitor

*For more information see our website www.socomec.com*

## Conformity to standards

- > UL 61010 guide PICQ file E257746
- > IEC 61557-12
- > ISO 14025

## Create your project

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

**METER SELECTOR**
DIGITAL TOOL AVAILABLE

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Innovative Power Solutions

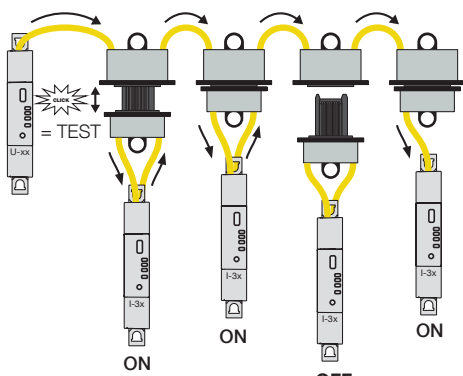| Application | Current measurement modules | | | | | | |
|---|---|---|---|---|---|---|---|
| | Metering | | Analysis | Monitoring | Analysis | Metering | |
| |  |  |  |  |  |  |  |
| **DIRIS Digiware I** | **I-30** | **I-31** | **I-35** | **I-43** | **I-45** | **I-60** | **I-61** |
| Number of current inputs | | | | | | | |
| | 3 | 3 | 3 | 4 | 4 | 6 | 6 |
| Metering | | | | | | | |
| ± kWh, ± kvarh, kVAh | • | • | • | • | • | • | • |
| Demand profiles | | • | • | | • | | • |
| Multi-tariff | | • | • | | • | | • |
| 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 | | | | | | | |
| On threshold | | ○ | • | | • | | ○ |
| Inputs/outputs | | | | 2/2 | 2/2 | | |
| History | | | | | | | |
| Average values | | | • | | • | | |
| Format | | | | | | | |
| Width/number of modules | 0.71 in / 1 | 0.71 in / 1 | 0.71 in / 1 | 1.06 in / 1.5 | 1.06 in / 1.5 | 1.42 in / 2 | 1.42 in / 2 |

○ : only for total power (P,Q,S).

## Accessories

### Digiware plug-in connector

With the Digiware plug-in connector you can disconnect a DIRIS Digiware module form the Bus
while ensuring the DIRIS Digiware system continues to run downstream.
This accessory is particularly useful in applications with retractable drawers or
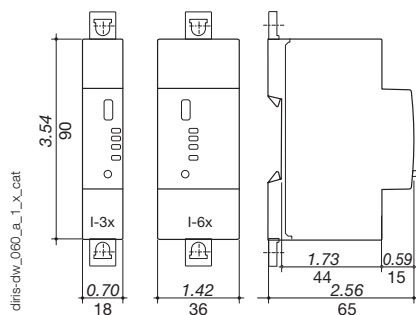critical applications such as data centers.
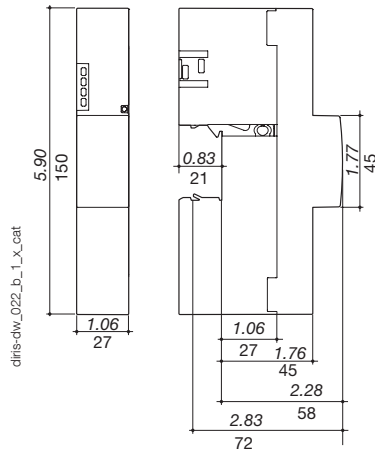


diris-o_025.eps



diris-o_026.ai

# DIRIS Digiware *Iac*
Current acquisition modules

## Dimensions (in/mm)

**DIRIS Digiware I-3x / I-6x**



diris-dw_060_a_1_x_cat

3.54 / 90
I-3x
0.70 / 18

I-6x
1.42 / 36

1.73 / 44    0.59 / 15
2.56 / 65

**DIRIS Digiware I-4x**



diris-dw_022_b_1_x_cat

5.90 / 150

0.83 / 21    1.77 / 45
1.06 / 27

1.06 / 27    1.76 / 45
2.28 / 58
2.83 / 72

## Connections

### Associated current sensors
Various types of current sensors are connected to the DIRIS Digiware: closed (TE), split core (TR/iTR) or flexible (TF). This range of sensors can be adapted to all types of new or existing installations. A rapid RJ12 connection makes wiring easy, reliable, and error-free. The DIRIS Digiware system automatically recognizes the sensor size and type. This guarantees the overall accuracy of the DIRIS Digiware + current sensor measurement chain.
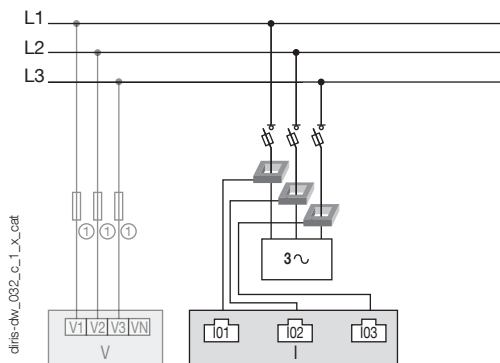*For more information see "TE, TR and TF sensors" pages.*
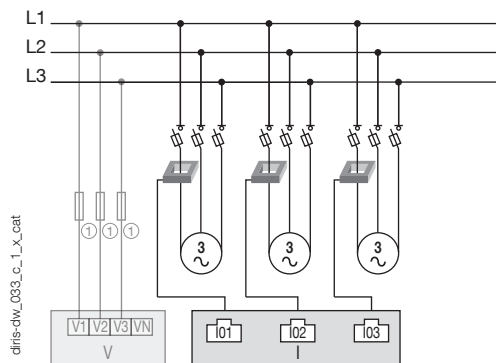
## Network and connection examples

### I-3x
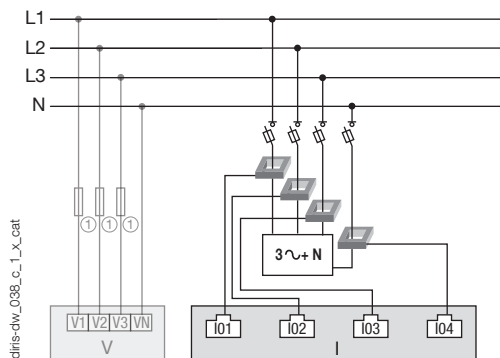**Three-phase**
3P - 3CT (1 three-phase load)



diris-dw_032_c_1_x_cat

**Three-phase**
3P - 1CT (3 balanced, three-phase loads)



diris-dw_033_c_1_x_cat

### I-4x
**Three phase + neutral**
3P+N - 4CT (1 three-phase load + Neutral measured)



diris-dw_038_c_1_x_cat

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

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



diris-b_061_a_1_x_cat

CT: Current sensor        Load

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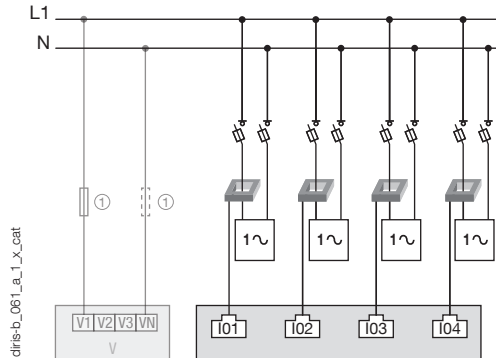
## Specifications

### Measuring characteristics

| Current measurement - DIRIS Digiware I | |
|---|---|
| Number of current inputs | I-3x: 3 / I-45: 4 / I-6x: 6 |
| Associated current sensors | Solid TE, split-core TR/iTR, flexible TF current sensors |
| Accuracy of current measurement | 0.2 DIRIS Digiware class only<br>Class 0.5 with TE, iTR or TF sensors<br>Class 1 with TR sensors |
| Connection | Specific Socomec cable with RJ12 connectors |

| Inputs - DIRIS Digiware I-45 | |
|---|---|
| Number of inputs | 2 |
| Type / Power supply | Non-insulated input, internal polarisation 12 VDC max, 1mA |
| Input functions | Logical status, pulse meter, multi-tariff |
| Connection | Removable screw terminal block, stranded or solid AWG 15 to AWG 35 or 0.14-1.5 mm² cable |

| Outputs - DIRIS Digiware I-45 | |
|---|---|
| Number of outputs | 2 |
| Relay type | 230 VAC ±15 % - 1 A<br>30 VDC - 3 A |
| Function | Configurable alarm (current, power, etc.) when a threshold is exceeded or remote controlled status |
| Connection | Removable screw terminal block, stranded or solid AWG 10 to AWG 32 or 0.2-2.5 mm² cable |

### Communication specifications

| USB | |
|---|---|
| Protocol | Modbus RTU on 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-31 | Metering + demand profiles - 3 current inputs | 4829 **0111** |
| I-35 | Analysis - 3 current inputs | 4829 **0130** |
| 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-61 | Metering + demand profiles - 6 current inputs | 4829 **0113** |

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

| Digiware connection cables | | Reference |
|---|---|---|
| RJ45 cables for Digiware Bus | Length 0.20 feet / 0.06 m[1] | 4829 **0189** |
| | Length 0.32 feet / 0.10 m | 4829 **0181** |
| | Length 0.64 feet / 0.20 m | 4829 **0188** |
| | Length 1.64 feet / 0.50 m | 4829 **0182** |
| | Length 3.28 feet / 1 m | 4829 **0183** |
| | Length 6.56 feet / 2 m | 4829 **0184** |
| | Length 9.84 feet / 3 m | 4829 **0190** |
| | Length 16.4 feet / 5 m | 4829 **0186** |
| | Length 32.8 feet / 10 m | 4829 **0187** |
| | 164 feet / 50 m reel + 100 connectors | 4829 **0185** |
| Termination for Digiware Bus (supplied with interfaces C and D) | | 4829 **0180** |
| USB configuration cable | | 4829 **0050** |