



# DIRIS Digiware I

## Current measurement modules

Multi-circuit metering & measurement



DIRIS Digiware I-3x



DIRIS Digiware I-4x



DIRIS Digiware I-6x

### The solution for

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



### Strong points

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

### Conformity to standards

- > UL E257746



- > IEC 61557-12



- > ISO 14025



Configuration with EasyConfig, see page 64.

### Function

DIRIS Digiware I modules measure consumption and monitor the system at the closest point to the loads. The flexibility of these modules allows 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 and verification of current travel direction.

Wiring errors are also prevented and installation is simplified.

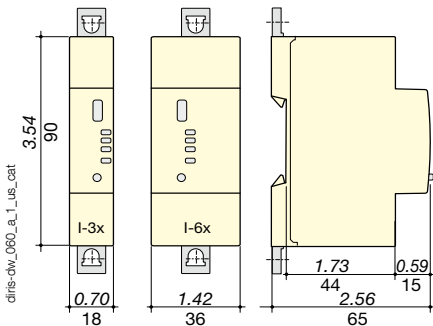
### Advantages

- 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.
- 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/TF current sensors)

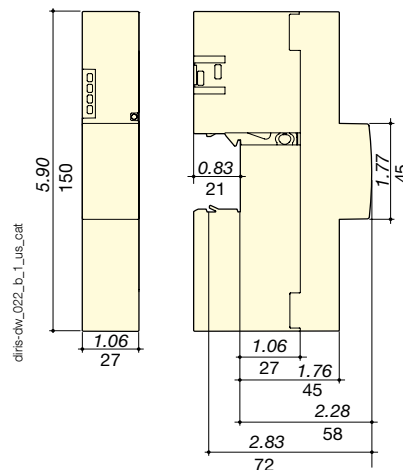
Application	Current measurement modules							
	Metering		Monitoring	Analysis	Monitoring	Analysis	Metering	
<i>DIRIS Digiware I</i>								
	<i>I-30</i>	<i>I-31</i>	<i>I-33</i>	<i>I-35</i>	<i>I-43</i>	<i>I-45</i>	<i>I-60</i>	<i>I-61</i>
Number of current inputs								
	3	3	3	3	4	4	6	6
<b>Metering</b>								
± kWh, ± kvarh, kVAh	•	•	•	•	•	•	•	•
Demand profiles		•		•		•		•
Multi-tariff		•		•		•		•
<b>Multi-measurement</b>								
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				•		•		
<b>Quality</b>								
THDi1, THDi2, THDi3, THDin			•	•	•	•		
Individual harmonics I (up to level 63)				•		•		
Overcurrents				•		•		
<b>Alarms</b>								
On threshold				•		•		
Inputs/outputs					2/2	2/2		
<b>History of average values</b>								
45 days (max)				•		•		
<b>Format</b>								
Width/number of modules	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

**Dimensions (in/mm)**

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



**DIRIS Digiware I-4x**



## Connections

### Associated current sensors

Various types of current sensors are connected to the DIRIS Digiware: closed (TE), split core (TR) 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 and reliable and prevents wiring errors. The DIRIS Digiware system automatically recognizes the sensor size and type. This guarantees the overall accuracy of the DIRIS Digiware + current sensor measurement chain.

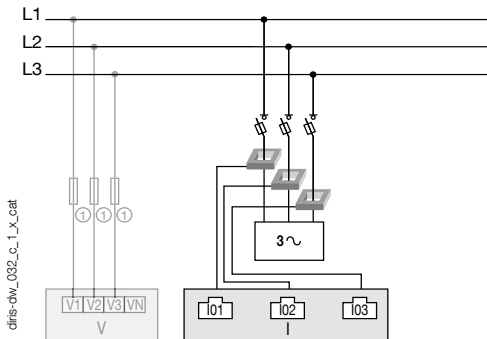
For more information: see page 56.

## Network and connection examples

### I3x

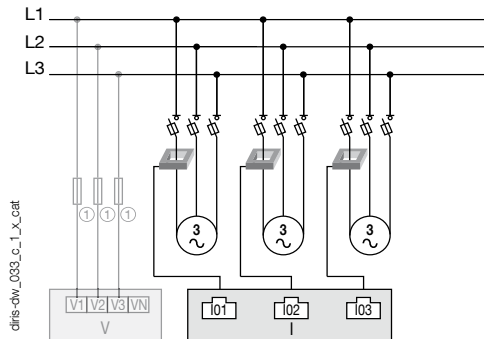
#### Three-phase

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



#### Three-phase

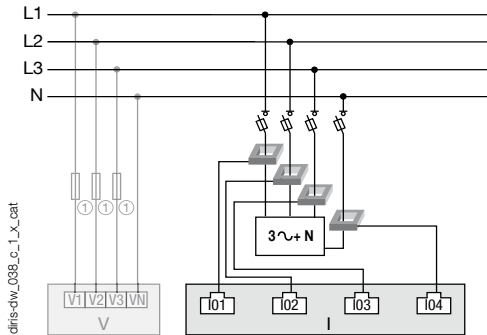
3P - 1CT (3 balanced, three-phase loads)



### I4x

#### Three phase + neutral

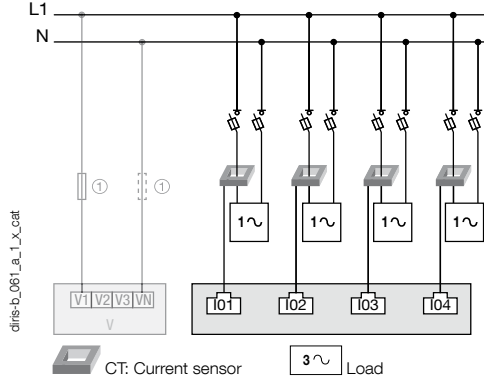
3P+N - 4CT (1 three-phase load + Neutral measured)



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

#### Single-phase

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



## Accessories

### Digiware plug-in connector

With the Digiware plug-in connector you can disconnect a Digiware module from 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 in data centers.

## 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, flexible TF current sensors
Accuracy of current measurement	0.2 DIRIS Digiware class only Class 0.5 with TE or TF sensors 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 polarization 12 VDC max, 1mA
Input functions	Logic status, pulse meter, multi-tariff
Connection	Removable screw terminal block, stranded or solid AWG 15 to AWG 35 or 0.14-1.5 mm <sup>2</sup> cable

Outputs - DIRIS Digiware I-45	
Number of outputs	2
Relay type	230 VAC ±15 % - 1 A
Function	Configurable alarm (current, power, etc.) when 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 mm <sup>2</sup> 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 + load curve - 3 current inputs 4829 0111
I-33	Monitoring - 3 current inputs 4829 0128
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 + load curve - 6 current inputs 4829 0113

Accessories	Reference
Digiware x 5 plug-in connector	4829 0605

Digiware connection cables	Reference	
RJ45 cables for Digiware Bus	0.32 feet / 0.10 m length	4829 0181
	0.66 feet / 0.20 m length	4829 0188
	1.64 feet / 0.50 m length	4829 0182
	3.28 feet / 1 m length	4829 0183
	6.56 feet / 2 m length	4829 0184
	16.4 feet / 5 m length	4829 0186
	32.8 feet / 10 m length	4829 0187
Digiware bus terminating resistor (supplied with C and D devices)	4829 0180	
USB configuration cable	4829 0050	

(1) DIRIS D-30 display characteristics see page 29.