DIRIS Digiware

Power metering and monitoring system
for AC and DC electrical installations

your energy
our expertise

socomec
Innovative Power Solutions

DIRIS Digiware

Power monitoring, accessible everywhere, for everyone

The DIRIS Digiware system is a hub of technological innovations that revolutionises the world of electrical measurement, bringing a high degree of flexibility to installations and making connection and configuration easy.
These innovations, together with unrivalled performance in terms of accuracy and functionality, make DIRIS Digiware the most effective solution for metering consumption, and for measuring and monitoring the quality of electrical energy in industrial and commercial applications.

Flexible

- First measurement system that is 100% customisable and scalable.
- Complete Socomec solution: from the power monitoring devices to the current sensors, including the visualisation and analysis software
- Compatible and interoperable ecosystem.

Accessible to all

- For the measurement of AC and DC loads.
- Use one measurement system from the main incomer to branch circuit monitoring and DC loads.
- Implementation in a quarter of the time for multi-point measurement.

Powerful & innovative

- RJ45 interconnection of modules (Digiware bus).
- Fast RJ12 current sensor connection.
- The best compactness/performance ratio of the market: Digiware S embeds the power monitoring function and 3 current sensors all in one.

Groundbreaking technologies for greater simplicity and performance*

PreciSense

Be guaranteed of the accuracy of your measurements

- For the global measurement chain.
- For reliable measurements.
- For relevant corrective actions.

VirtualMonitor

Access the monitoring of your protective devices

- On your entire electrical installation.
- Remotely and in real-time.
- Without additional hardware or wiring.

AutoCorrect

Be guaranteed your measurement system is working correctly

- Automatic wiring control.
- Correction of errors.
- Feature available off-load.

** Only available with DIRIS Digiware AC.*

VirtualMonitor and AutoCorrect are available with:

DIRIS A-40 and ***DIRIS Digiware I***
Associated with iTR ***sensors***

DIRIS Digiware S

Put together your own AC or DC metering and monitoring system

A single point of access to AC and DC measurement data for local or remote analysis

1

DIRIS Digiware D

WEBVIEW-M

N'VIEW

Voltage acquisition modules for AC or DC measurement

2

DIRIS Digiware U

DIRIS Digiware Udc

Current acquisition modules for AC or DC measurement

3

DIRIS Digiware S
All-in-one with 3 integrated current sensors

DIRIS Digiware I
To be associated with external AC or DC sensors

DIRIS Digiware Idc

Solid-core and split-core current sensors for AC or DC measurement

4

AC sensors ***TE, TR, iTR, TF***

DC sensors

Digital and analogue input/output modules

5

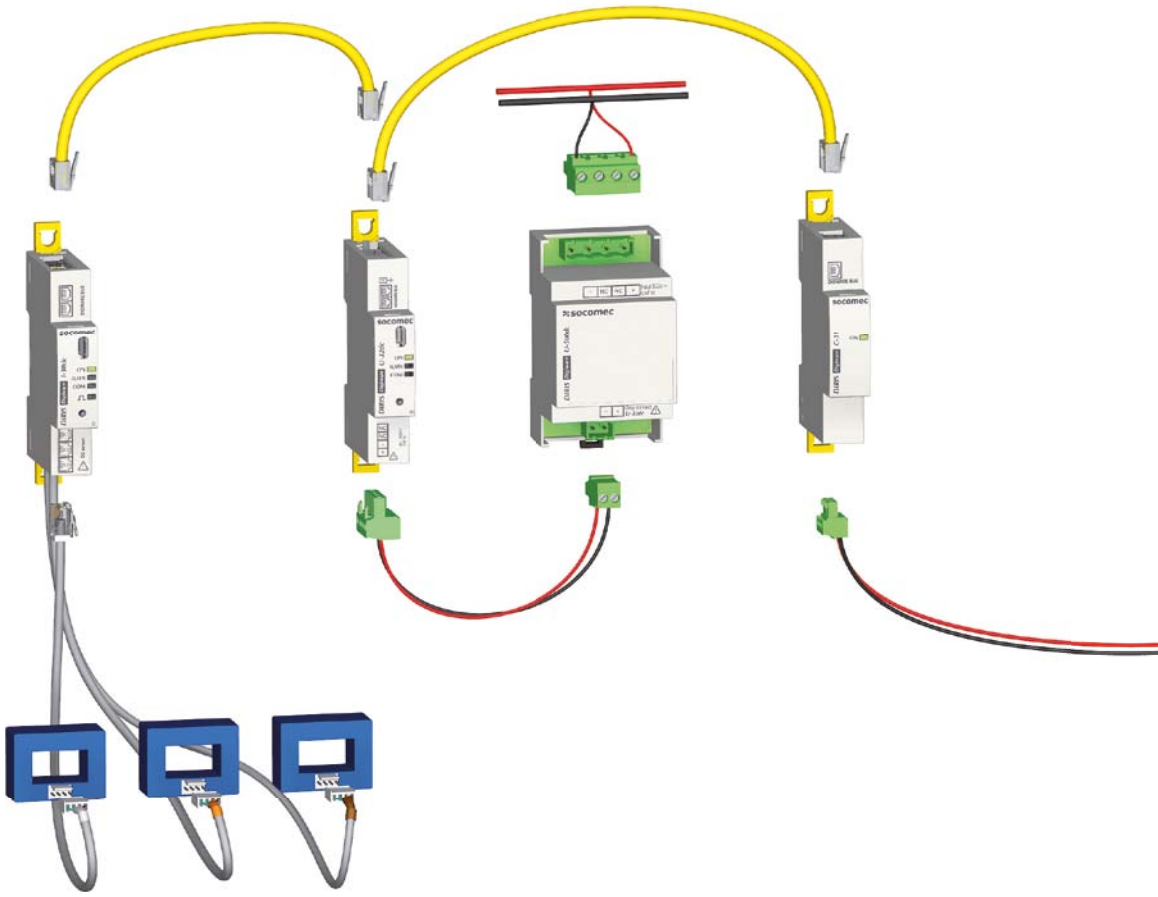
DIRIS Digiware IO-10
4 digital inputs/2 digital outputs

DIRIS Digiware IO-20
2 analogue inputs

Create your project
www.meter-selector.com

METER SELECTOR
DIGITAL TOOL AVAILABLE

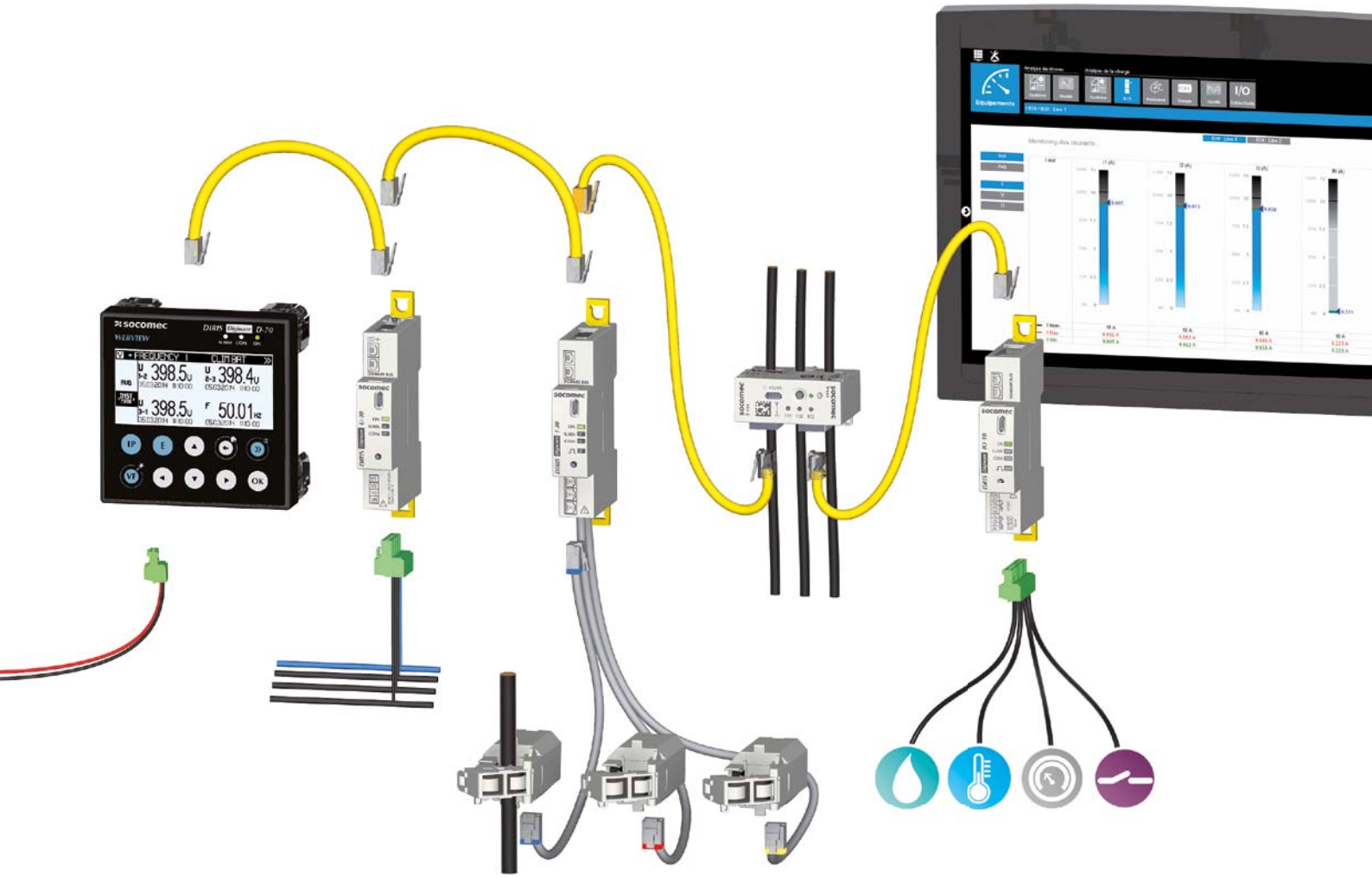
DIRIS Digiware DC system



The solution for

- Telecom
- Control circuits
- Renewable power
- Micro grid

DIRIS Digiware AC system



The solution for

Industry

Building

Data centre

Infrastructure

1 A single point of access to AC and DC measurement data

DIRIS Digiware D

DIRIS Digiware D remote displays offer:
- A local view of the measurement data from DIRIS Digiware U, I, S and IO modules.
- A 24 VDC power supply for the entire DIRIS Digiware system.
- The gateway function: an access to data over Ethernet (D-50/D-70) or RS485 (D-40).

Connected

Multi-protocol (D-70) :
Modbus TCP, BACnet IP,
SNMP v1, v2, v3.

EMS embedded

Analysis and monitoring software
WEBVIEW-M integrated in the D-70.

IOT ready

Automatic and secured export
of data via FTPS.

Ports	D-40	D-50	D-70
Inputs	Digiware	Digiware / RS485	Digiware / RS485
Outputs	RS485	Ethernet	Ethernet
Protocols	Modbus RTU	Modbus TCP / BACnet IP SNMP v1, v2, v3 (1)	Modbus TCP / BACnet IP SNMP v1, v2, v3
Webserver	-	-	WEBVIEW-M

(1) Please contact us.

Solution without screen
DIRIS Digiware C-31

For applications without a local display, the DIRIS Digiware C-31 interface centralises all of the system's data and communicates them via an RS485 Modbus output.

2 AC or DC voltage acquisition modules

DIRIS Digiware U

The DIRIS Digiware U and Udc modules measure the voltage reference for the entire DIRIS Digiware AC and DC system. The RJ45 Digiware bus transmits the voltage measurement as well as power supply to all products connected to the Digiware bus.

Flexible

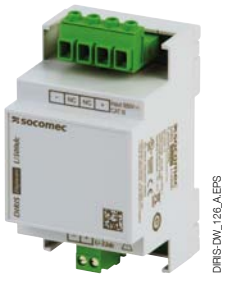
A complete, dedicated offer for metering, monitoring and quality analysis of the voltage supplied to AC or DC electrical installations.

Safe

No hazardous voltage on panel doors.

	AC voltage measurement			DC voltage measurement	
Applications	**Metering**	**Monitoring**	**Analysis**	**Analysis**	**Analysis**
DIRIS Digiware U	**U-10**	**U-20**	**U-30**	**U-31dc**	**U-32dc**
Measuring range (min-max)	50-300 VAC Ph/N			19.2 VDC - 60 VDC	48 VDC - 180 VDC
Multi-measurement AC					
U12, U23, U31, V1, V2, V3, f	•	•	•		
U system, V system			•		
Ph/N & Ph/Ph unbalance			•		
AC quality					
THD U, THD V		•	•		
Individual harmonics U/V			•		
Voltage dips, cut-offs and swells (EN50160)			•		
Multi-measurement and DC quality					
DC voltage (VDC)				•	•
Ripple voltage (V ripple)				•	•
Vrms				•	•
Alarms (threshold)			•	•	•
History of average values			•	•	•
Format / Number of modules	**18 mm / 1**	**18 mm / 1**	**18 mm / 1**	**18 mm / 1**	**18 mm / 1**

U500dc, U1000dc and U1500dc adaptors
To be combined with a *DIRIS Digiware Udc* module



The DC voltage adaptors are optionally used in addition to Udc voltage acquisition modules enabling the measurement of higher voltages up to 1500 VDC.
These adaptors make the DIRIS Digiware DC system suitable anywhere along the low voltage DC electrical distribution, regardless of the voltage level.

3 AC or DC current acquisition modules

DIRIS Digiware I

The DIRIS Digiware I and Idc modules are associated with external current sensors for metering, monitoring and analysing the quality of AC and DC loads.
The RJ45 connection allow you to quickly add up to 32 DIRIS Digiware I or Idc modules, therefore enabling the monitoring of a large number of loads.

DIRIS Digiware I

DIRIS Digiware Idc

Plug & Play

- RJ45 interconnection of modules (Digiware bus).
- Fast RJ12 connection of current sensors.
- Automatic configuration of connected current sensors load type, sensor type and rating, verification of current flow direction.

Efficient

- A complete range dedicated to the metering, monitoring and analysis of the quality of AC or DC loads.
- Available in versions with 3, 4 or 6 outgoing circuits.

Removable connector

The removable Digiware connector allows you to disconnect a Digiware module from the bus, while ensuring the continued operation of the rest of the DIRIS Digiware system.
The accessory is very useful in applications using pullout drawers or critical applications such as data centers.

	I-30	I-31	I-33	I-35	I-43	I-45	I-60	I-61	I-30dc	I-35dc
	Current measurement (AC)								Current measurement (DC)	
Application	Metering		Monitoring	Analysis	Monitoring	Analysis	Metering		Metering	Analysis
Number of current inputs	3	3	3	3	4	4	6	6	3	3
Metering										
+/- kWh, +/- kVarh, kVAh	•	•	•	•	•	•	•	•	• (+/-) kWh	• (+/-) kWh
Multi-tariff (max. 8)		•		•		•		•		•
Load curves		•		•		•		•		•
Maximum demand				•		•				•
Multi-measurement AC										
I1, I2, I3, In, ∑P, ∑Q, ∑S, ∑FP	•	•	•	•	•	•	•	•		
P, Q, S, FP per phase			•	•	•	•				
Predictive power				•		•				
Current unbalance				•		•				
Phi, cos Phi, tan Phi				•						
AC quality										
THDI			•	•	•	•				
Individual harmonics I				•		•				
Overcurrents				•		•				
Multi-measurement DC										
DC current and power (I DC, P DC)									•	•
DC predictive power										•
DC quality										
Ripple current (I ripple)										•
I RMS										•
Alarms on thresholds				•		•				•
Inputs/outputs					2/2	2/2				
History of average values				•		•				•
Format/ 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	18 mm/1	18 mm/1
Accessories										
Digiware removable connector (x5)	Allows you to disconnect a Digiware module form the bus while ensuring the system continues to run downstream									

4 AC or DC current sensors

Smart sensors

- Sensors with an extended operational range.
- Automatic rating configuration.
- Safe disconnection of the current sensor under load.
- Fast connection via RJ12 and identification of cables by colour-coding.

Compact

- The most compact in the market.
- Linear assembly.
- Staggered assembly.
- Match the pitch of protective devices.

PreciSense

Guaranteed accuracy in accordance with the IEC 61557-12 standard: class 0.5 for the global measurement chain, from 2 to 120% of In.

TE solid-core sensors	Rated currents (A) 5	20	25	40	63	160	250	400	600	630	1000	2000	Real range covered (A)	Pitch (mm)	Aperture (mm)	Dimensions (mm)
TE-90									◄	►	►	►	12 … 2400	90	64 x 64	126 x 90 x 24.6
TE-55								◄	►	►	►	►	8 … 1200	55	41 x 41	100 x 55 x 32.5
TE-45						◄	►	►	►	►	►		3.2 … 756	45	31 x 31	86 x 45 x 32.5
TE-35					◄	►	►	►					1.26 … 300	35	21 x 21	71 x 35 x 32.5
TE-25				◄	►	►							0.8 … 192	25	13.5 x 13.5	65 x 25 x 32.5
TE-18			◄	►	►								0.5 … 75	18	Ø 8.6	45 x 28 x 20
TE-18	◄	►											0.1 … 24	18	Ø 8.6	45 x 28 x 20

TR / iTR split-core sensors	Rated currents (A) 25	40	63	160	250	600	Real range covered (A)	Aperture (mm)	Dimensions (mm)
TR/iTR-32				◄	►	►	3.2 … 720	Ø 32	53 x 86 x 47
TR/iTR-21			◄	►	►		1.26 … 300	Ø 21	37 x 65 x 43
TR/iTR-14		◄	►	►			0.8 ... 192	Ø 14	29 x 67 x 28
TR/iTR-10	◄	►	►				0.5 … 75	Ø 10	26 x 44 x 28

TF flexible sensors	Rated currents (A) 150	500	600	1600	2000	6000	Real range covered (A)	Aperture (mm)
TF-300				◄	►	►	32 … 7200	Ø 300
TF-120		◄	►	►	►		10 … 2400	Ø 120
TF-55	◄	►	►				3 … 720	Ø 55

DC current sensors

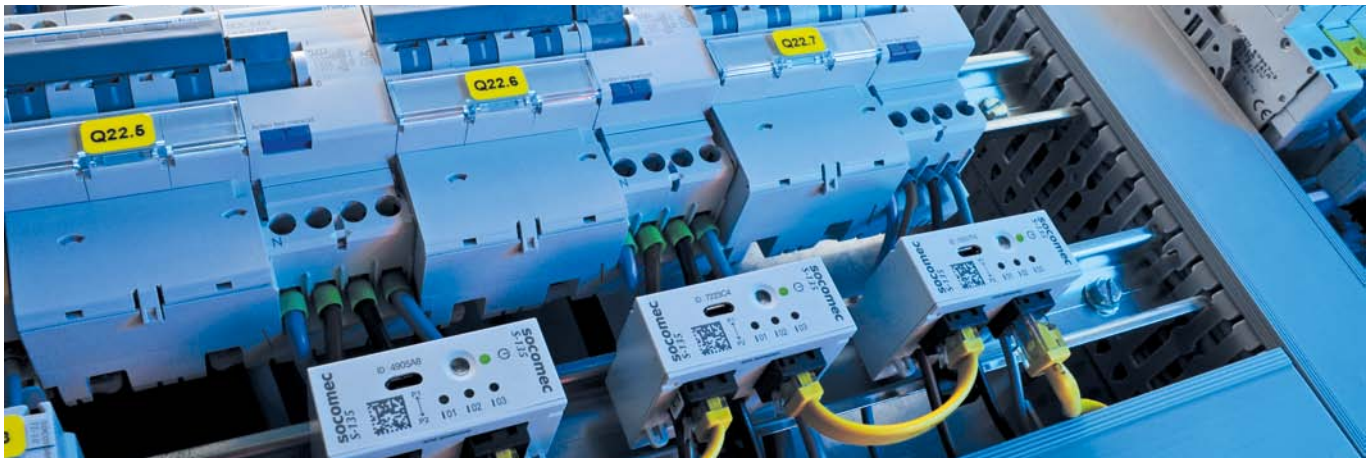
DC current sensors measure the load currents of a DC electrical installation and transmit the information to DIRIS Digiware Idc modules via a quick RJ12 connection with color-coded cables for an easy identification of circuits.
The range comprises solid-core and split-core sensors, from 50 to 5000 A in various sizes, suitable for new or retrofit applications.

- Easy connection to prevent wiring errors.
- Up to 3 sensors on each DIRIS Digiware Idc measurement module.

3 All-in-one current acquisition modules

DIRIS Digiware S

DIRIS Digiware S is a Power Metering and Monitoring Device with 3 integrated current sensors enabling the measurement of one three-phase or three single-phase circuits up to 63 A.
Opt for the DIRIS Digiware system, combining Digiware I modules with external sensors for the monitoring of heavy loads including the incomers, and Digiware S modules for outgoing final circuits powering smaller loads. Thanks to Digiware, you have access in record time to high-end monitoring of your entire new or existing electrical panel.



Compact

DIRIS Digiware S is the combination of a DIRIS Digiware I module and 3 current sensors associated with 3 RJ12 cables. Matching the pitch of protective devices, Digiware S modules solve issues of space constraints inside electrical panels.

Intelligent

DIRIS Digiware S can be mounted upstream or downstream of the protective device. The VirtualMonitor technology allows an advanced monitoring of the protective device (position, trip etc.) without using auxiliary contacts. The phase sequencing detection and configuration are automatic thanks to the AutoCorrect technology.

DIRIS Digiware S	S-130	S-135	S-Datacenter
Number of current inputs	**3**	**3**	**3**
Application	**Metering**	**Analysis**	**Single-phase monitoring**
Metering			
+/-kWh, +/-kvarh, kvah	•	•	•
Multi-tariff (max. 8)		•	
Load curves		•	
Maximum demand		•	•
Multi-measurement			
I1, I2, I3, In, ∑P, ∑Q, ∑S, ∑PF		•	•
P, Q, S by phase		•	•
Predictive power		•	
Current unbalance		•	
Phi, cosPhi, tanPhi		•	•
Quality			
THD I		•	•
Individual harmonics I		•	•
Overcurrents		•	
Alarms (threshold)		•	•
History of average values		•	•

5 Input/output modules

DIRIS Digiware IO

The DIRIS Digiware IO input/output modules enrich the measurement system with multiple features.

The IO-10 modules have 4 digital inputs and 2 digital outputs, which can be used:
- To monitor the position of protective devices and pull-out drawers (open/closed, trip).
- To monitor changes of status of an input.
- To collect pulses from multi-fluid meters (water, gas…).
- To remotely command devices by sending a digital output signal.

The IO-20 modules have 2 analogue inputs allowing:
- To collect data from analogue sensors, e.g. pressure, humidity, temperature, levels (fuel…).
- To access via communication the measurements from devices with analogue outputs.
- To monitor levels by setting up alarms on chosen thresholds.

DIRIS Digiware IO-10

DIRIS Digiware IO-20

Ease of integration

The IO modules can be easily added anywhere within the measurement system thanks to a quick RJ45 connection. Their modular format allows the quick connection of a large number of modules.

Connected

All the reported information is accessible from the displays, from our WEBVIEW software solution or from any other centralized management software.

Applications	**Monitoring**	**Metering**
DIRIS Digiware IO	**IO-10**	**IO-20**
Number of digital inputs/outputs	4/2	-
Number of analogue inputs	-	2
Multi-tariff (max. 8)	•	
Alarms (threshold)	•	•
Alarms (change of status)	•	
History of average values		•
Format/number of modules	18 mm/1	18 mm/1

WEBVIEW energy server solution embedded in the communication gateways

SOCOMEC's communication gateways centralise the measurement data from both DIRIS Digiware AC and DC systems. They embed the WEBVIEW software solution for visualisation and analysis of real time and historical measurements from a large number of connected devices.

Embedded EMS

No installation required: WEBVIEW analysis and monitoring software is integrated in DIRIS G, DIRIS Digiware D 70 and DATALOG H products.

Connected to the cloud

DIRIS Digiware D-70, DIRIS G and DATALOG H products are connected to the cloud offering a higher level of analysis.

Photoview functionality

Display of electrical parameters from multiple devices on a customised background picture such as an electrical diagram or a site drawing.

Monitoring and alarms

- Measurement in real-time of electrical values.
- Power quality analysis of the grid and loads.
- Alarms whenever thresholds are exceeded.
- Summary of alarms in progress and log of finished alarms
- Sending of alarms by e-mail.

Viewing

- Graphical visualisation of real-time and historical values.
- High storage capacity of historical records of measurements and consumptions.
- User-customisable overview of the electrical installation.
- Cartography of the metering system.

Analysis

- Analysis of energy consumption.
- Distribution by location, usage and by fluid type.
- Secured automatic export of data in CSV format.

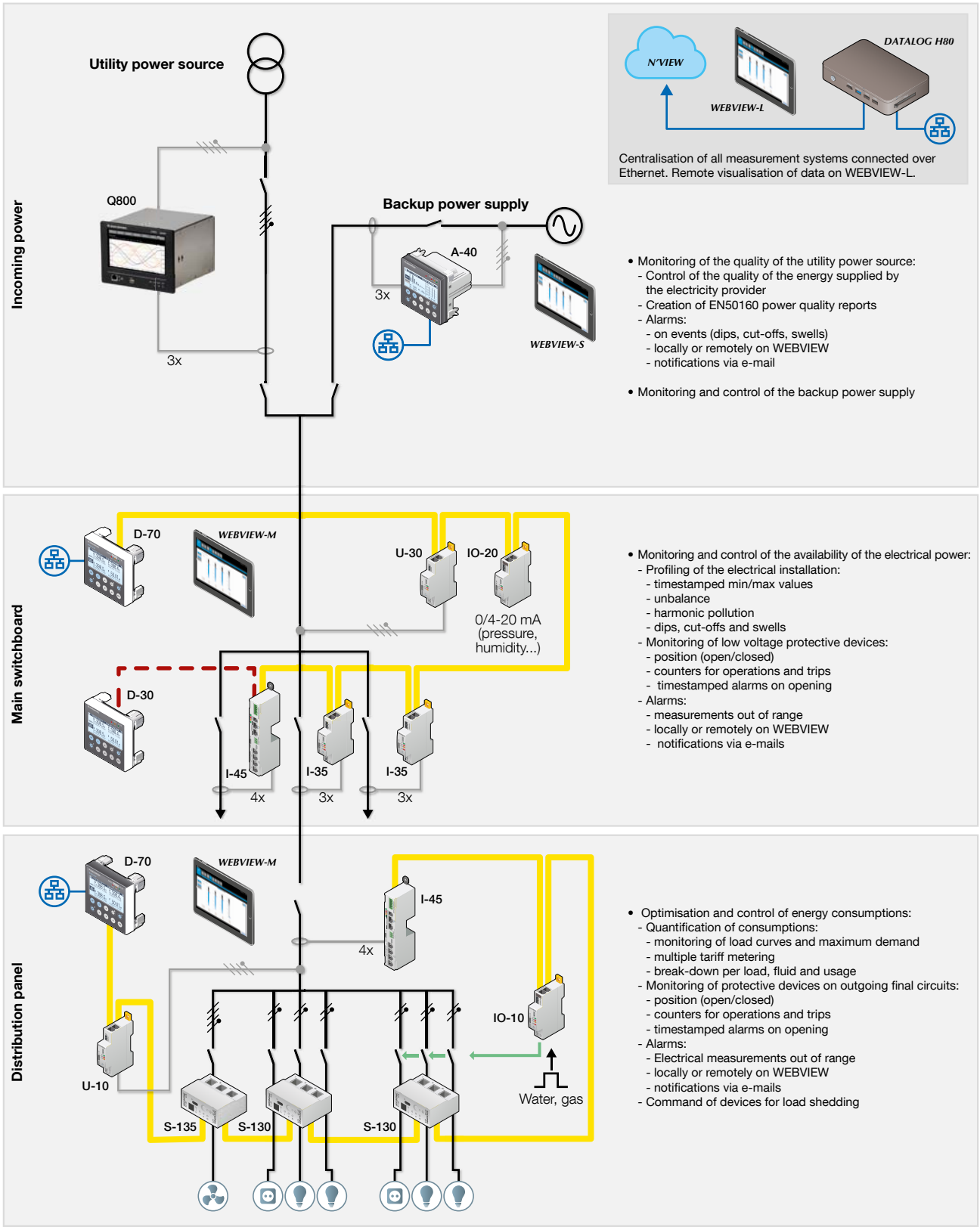
WEBVIEW-L solution

datal_018_a

WEBVIEW-L is available as an integrated software solution with the DATALOG H:

- Connection of up to 200 devices.
- Retrieval of data from third-party applications and equipment.
- Display of measurements from multiple devices on a single graph.
- Data export through 3G connection.

Example of ***DIRIS Digiware*** system architecture



Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,200 employees worldwide

10 % of sales revenue dedicated to R&D

400 experts dedicated to service provision

Your power management expert

POWER SWITCHING

POWER MONITORING

POWER CONVERSION

EXPERT SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

8 **production sites**
- France (x3)
- Italy
- Tunisia
- India
- China (x2)

27 **subsidiaries**
- Australia • Belgium • China • France
- Germany • India • Italy • Netherlands
- Poland • Romania • Singapore
- Slovenia • Spain • Switzerland • Thailand
- Tunisia • Turkey • UK • USA

80 **countries**
where our brand is distributed

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