



DIRIS Digiware

Measurement and monitoring system
for electrical installations
multi-circuit plug & play



Save time and space, reduce cost and improve accuracy

The DIRIS Digiware system is a hub of technological innovations that revolutionises the world of measurement, bringing a high degree of flexibility to installations and making connection and configuration easy.

These innovations, together with unrivaled performance in terms of accuracy and functionality, make DIRIS Digiware the most effective solution for metering consumption and monitoring the quality of electrical energy.



APPLI 637 A

Power management and optimisation

For perfect control of your electrical network, DIRIS Digiware allows you to:

- manage consumption,
- monitor power quality and electrical events.

The accuracy is ensured by compliance with IEC 61557-12 across a wide current range from 2 to 120% of current.

Simplified maintenance

The electrical energy quality monitoring functions offered by DIRIS Digiware make it easier to anticipate electrical malfunctions. The display fitted on the panel door allows operators to quickly read information, on the tablet. The VERTELIS SUITE software allows site managers to remotely monitor their installation.

For new and existing installations

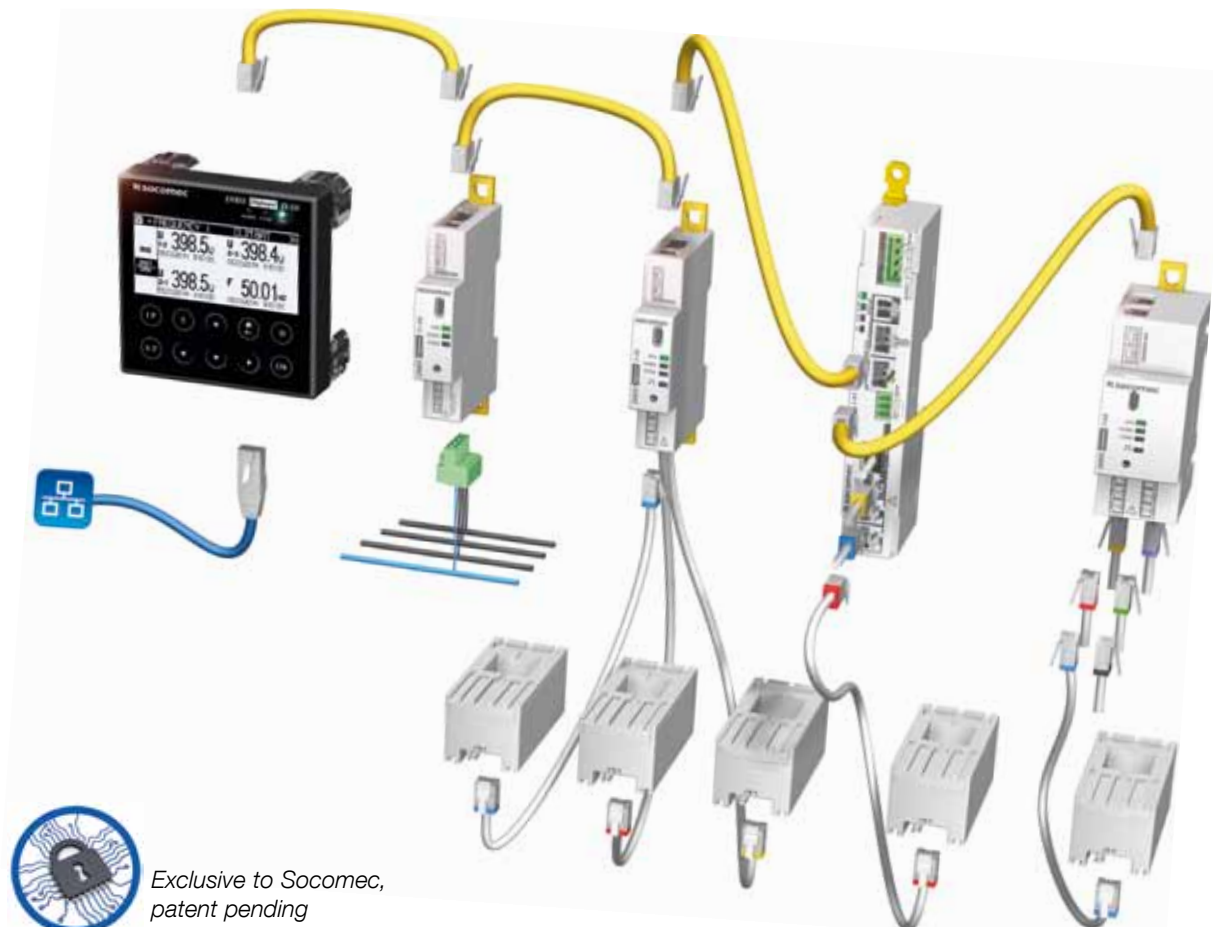
The reduced size of the modules, the various current sensor formats and the multiple connection accessories make the DIRIS Digiware system suitable for even the most space-constrained installations. It can be easily integrated into an existing installation.

DIRIS Digiware

An energy measurement and monitoring system that revolutionises electrical installations

Build your system:

- 1 display
- 1 voltage measurement module
- Multiple current measurement modules
- Current sensors



Exclusive to Socomec,
patent pending

DIRIS_DW_011_A_1_Cat

A leader in Energy & Power Management

- A recognised energy efficiency specialist for 20 years.
 - The creator of the DIRIS.
 - A single point of contact, from the initial quote through to implementation.
 - A tailored support: experts ready to listen and services to make your life easier.
- A comprehensive solution: from sensors to energy management software including services.
 - A solution adapted for industrial and commercial applications and for infrastructure projects.



Advantages of the *DIRIS Digiware* system



Flexible

Shared functions

- Common display.
- A single voltage reference for the entire system.
- Single auxiliary power supply.

Installation of components close to the load

- Modules and sensors can be installed at the closest point to the values to be measured.
- Elimination of hazardous voltage on panel doors.

Compact design

- Compact voltage and current modules (1 to 2 modules).
- System suited to integration in existing space-constrained installations.

Wide choice of current sensors

- Solid, split-core or rogowski coil.
- Various sizes and formats.
- Numerous accessories allow the system to be installed in all panel configurations.



Multi-circuit

Ability to monitor several outputs via a single current measurement module due to independent current inputs.



Accurate

Accuracy of measurements guaranteed according to IEC standard 61557-12:

- Class 0.5 from 2% to 120% of rated current for the global measurement chain (associated with TE current sensors).
- Class 0.2 for the meter alone.



Cost effective

- Implementation in a quarter of the time vs existing technologies.
- Save space in panels.
- Common voltage measurement functions, display and communication.
- Up to 30% saving compared to existing metering technology.



Plug & Play

RJ12 current sensor connection

- Fast: automatic detection of ratings and verification of current flow direction.
- Reliable: identification of cables by color-coding and wiring control by the system.
- Disconnection of the current sensor secondary under load.

RJ45 interconnection of modules (Digiware bus)

- Fast: a single connection, no tools required.
- Intelligent: allows communication and interaction between various modules.
- Reliable: ensures auxiliary power supply to modules without the risk of disconnection.

Auto-configuration of parameters

- Network type (single-phase, three-phase).
- Load type.
- Addressing of devices connected to the bus.



Build your own system



Control and power supply interface (24 VDC)

DIRIS Digiware D with display **DIRIS Digiware C** without display

Voltage measurement module

DIRIS Digiware U-x

Current measurement modules

DIRIS Digiware I-3x 3 current sensor inputs **DIRIS Digiware I-4x** 4 current sensor inputs **DIRIS Digiware I-6x** 6 current sensor inputs

Current sensors

TE Solid **TR** Split-core **TF** Flexible

Communication gateway

DIRIS G RS485 and/or wireless to Ethernet

DIRIS D-90 Touch-screen tablet that can be fitted on the panel door

VERTELIS SUITE: the perfect companion to drive reductions in your energy consumption

Energy and facility managers of commercial and industrial sites, Do you want :

- To understand your site, buildings & processes?
- To reduce your energy consumption, costs & carbon emissions?
- To drive a legislation compliance process?
- To monitor, allocate and sub-bill energy costs?
- To implement a corporate green communication?

VERTELIS SUITE software is the key tool to implement an organisational energy policy within your company. The software allows you to **reduce your energy bills** by up to 30%.

SYDV_083_C
SYDV_084_C

DIRIS Digiware **D** and **C** control and power supply interfaces

DIRIS Digiware display

The DIRIS Digiware remote display screens provide:

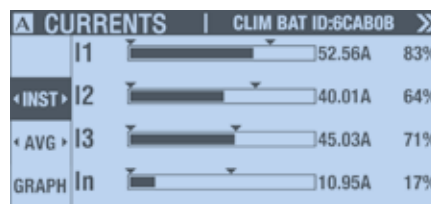
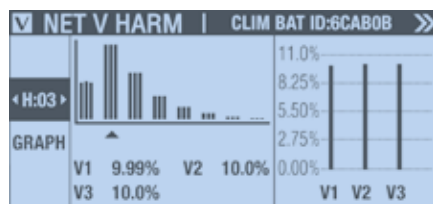
- a local view of the data from the DIRIS Digiware voltage and current modules,
- a power supply to the DIRIS Digiware modules.
- access to the data over Ethernet (D-50) or RS485 (D-40)

Via an RS485 connection, the DIRIS Digiware D-50 display also acts as a gateway, centralising the data from DIRIS A, DIRIS B and COUNTIS E and makes this information available over Ethernet. The DIRIS Digiware D-50 screen is supplied with 24 VDC.



Strong points

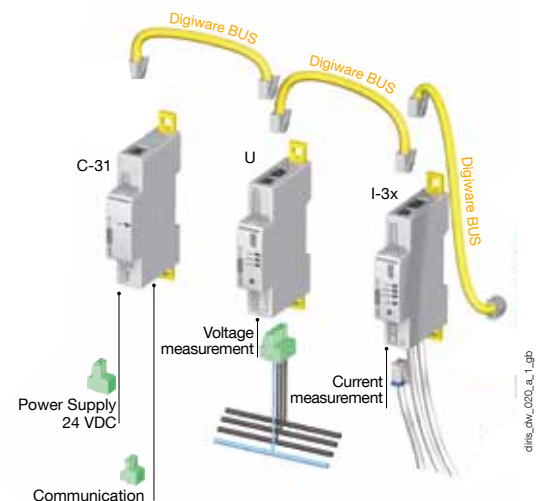
- High-resolution graphical display.
- 24 VDC supply: elimination of hazardous voltage at the panel doors.
- Ergonomic and easy to use due to direct access buttons for:
 - measurement information,
 - circuit selection,
 - device configuration.
- Centralisation of measurement points:
 - circuit selection,
 - data view.



Ports	D-40	D-50
Input	Digiware	Digiware RS485
Output	RS485	Ethernet

DIRIS Digiware C-31 interface system

For applications without a local display, the DIRIS Digiware C-31 interface centralises all of the system's data. An RS485 Modbus output allows this system to provide all information to VERTELIS SUITE user software (DIRIS G communication gateways are available for communication via Ethernet - Modbus TCP). The DIRIS Digiware C-31 interface is supplied with 24 VDC.



References

DIRIS Digiware D	Reference
DIRIS D-30 single-point display ⁽¹⁾	4829 0200
DIRIS Digiware D-40 multi-circuit display panel with RS485 output	4829 0199
DIRIS Digiware D-50 multi-point display Ethernet output	4829 0201
DIRIS Digiware C-31	Reference
C-31 system interface	4829 0101

⁽¹⁾ The DIRIS D-30 display can be connected to the DIRIS Digiware I-4x current measurement device, providing a local display of data.

DIRIS Digiware U voltage measurement module

The DIRIS Digiware U module measures the reference voltage for the entire system. The Digiware RJ45 bus allows you to measure the voltage as well as supply power to all connected devices.



Strong points

- 1 single voltage measurement point for the entire system.
- A complete, dedicated solution:
 - for metering,
 - for voltage monitoring,
 - for quality analysis of the voltage.
- No hazardous voltage at the panel doors.



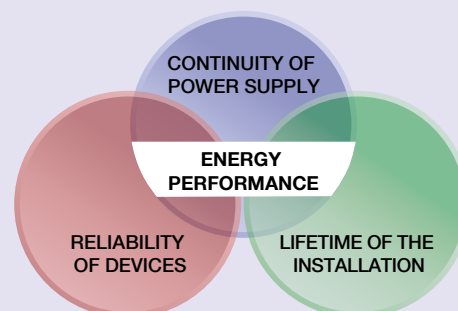
RJ45 cables (Digiware bus) are available; refer to the relevant pages of the catalog.

References

	U-10	U-20	U-30
Application	Metering	Monitoring	Analysis
Multi-measurement			
U12, U23, U31, V1, V2, V3, f	•	•	•
U system, V system			•
Ph/N unbalance			•
Ph/Ph unbalance			•
Quality			
THD U, THD V,		•	•
Individual harmonics U/ V (up to rank 63)			•
Voltage dips, cut-offs and surges (EN50160)			•
Alarms (threshold)			•
History of average values			•
Format/number of modules	18 mm / 1	18 mm / 1	18 mm / 1
Reference	4829 0105	4829 0106	4829 0102

Why do you need power quality monitoring?

- To ensure a continuous power supply.
- To lower electricity bills and avoid penalties associated with reactive energy.
- To optimise the size of the installation.
- To extend the lifetime of equipment (on networks polluted by harmonics).
- To identify polluting loads and improve the energy efficiency of the installation.



DIRIS Digiware I current measurement modules

DIRIS Digiware I modules measure consumption at the closest point to the loads. The flexibility of these modules allows you to allocate the loads to be measured or to monitor 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 flow direction.

Wiring errors are also prevented and implementation is simplified.



diris-dw_004_a_1_001




(up to 32 DIRIS Digiware I-xx per system. Please contact us for higher requirements).

Strong points

- RJ45 and RJ12 rapid connection.
- Available with 3, 4 or 6 inputs.
- Single-circuit or multi-circuit for maximum optimisation 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:
 - for metering,
 - for power monitoring,
 - for quality analysis.
- Compliant with standard IEC 61557-12, guaranteeing the quality and accuracy of the system:
 - Class 0.5 from 2% to 120% of rated current for the global measurement chain (associated with TE current sensors).



RJ45 cables (Digiware bus) are available; refer to the relevant pages of the catalog.

	I-30	I-31	I-33	I-35	I-43	I-45	I-60	I-61
								
Application	Metering		Monitoring	Analysis	Monitoring	Analysis	Metering	
Number of current inputs	3	3	3	3	4	4	6	6
Metering								
+/- kWh, +/- kvarh, kvah	•	•	•	•	•	•	•	•
Multi-tariff (8 max.)		•		•		•		•
Load curves		•		•		•		•
Multi-measurement								
I1, I2, I3, In, ΣP, ΣQ, ΣS, ΣFP	•	•	•	•	•	•	•	•
P, Q, S, FP per phase			•	•	•	•		
Predictive power				•		•		
Current unbalance				•		•		
Phi, cos Phi, tan Phi				•		•		
Quality								
THDI			•	•	•	•		
Individual harmonics I (up to rank 63)				•		•		
Overcurrents				•		•		
Alarms				•		•		
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
References	4829 0110	4829 0111	4829 0128	4829 0130	4829 0129	4829 0131	4829 0112	4829 0113

TE, TR and TF current sensors

TE solid current sensors

Suitable for new installations - Match the pitch of protective devices.

	TE-18		TE-25	TE-35	TE-45	TE-55
Nominal current	from 5 to 20 A	from 25 to 63 A	from 40 to 160 A	from 63 to 250 A	from 160 to 630 A	from 400 to 1000 A
Aperture (mm)	Ø 8.4	Ø 8.4	13.5 x 13.5	21 x 21	31 x 31	41 x 41
Dimensions (mm)	28x20x45	28x20x45	25x32.5x65	35x32.5x71	45x32.5x86	55x32.5x100
Connection	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12
References	4829 0500	4829 0501	4829 0502	4829 0503	4829 0504	4829 0505

For loads greater than 1000 A, use the the 5 A / RJ12 adapter associated with 5A secondary CTs.

Staggered assembly



Linear assembly



Strong points

- Rapid RJ12 connection.
- High precision: class 0.5 in accordance with standard IEC 61557-12 for the global measurement chain (with TE current sensors).
- 6 models with differing ratings (5 to 1000 A), matching the pitch of protective devices (18/25/35/45/55 mm).
- 5 A / RJ12 adapter for compatibility with TC / 5 A.
- Accessories provided for assembly on a DIN rail/cable/bar.



RJ12 cables with fail-safe mechanisms are available; refer to the relevant pages of the catalog.

TR split-core current sensors

Suitable for existing installations.

	TR-10	TR-16	TR-24	TR-36
Nominal current	from 25 to 75 A	from 32 to 100 A	from 63 to 200 A	from 200 to 600 A
Diameter (mm)	Ø 10	Ø 16	Ø 24	Ø 36
Dimensions (mm)	25x39x71	30x42x74	45x44x95	57x42x111
Connection	RJ12	RJ12	RJ12	RJ12
References	4829 0551	4829 0552	4829 0553	4829 0554

For loads greater than 600 A, use the the 5 A / RJ12 adapter associated with 5A secondary CTs.

Strong points

- Rapid RJ12 connection.
- Precision: class 1 in accordance with standard IEC 61557-12 for the global measurement chain.
- 4 models ranging from 25 to 600 A.
- Diameter from 10 to 36 mm.

TF Flexible (Rogowski) current sensors

Suitable for existing installations with space restrictions or with high-intensity currents.

	TF-55	TF-120	TF-300
Nominal current	from 150 to 600 A	from 500 to 2000 A	from 1600 to 6000 A
Diameter (mm)	Ø 55	Ø 120	Ø 300
Connection	RJ12	RJ12	RJ12
References	4829 0570	4829 0571	4829 0572

Strong points

- Rapid RJ12 connection.
- Precision: class 0.5 in accordance with standard IEC 61557-12 for the global measurement chain.
- 3 models ranging from 150 A to 6000 A.
- Diameter from 55 to 300 mm.

DIRIS G communication gateways

With DIRIS G communication gateways, all information from meters and measurement devices communicating wirelessly or via the RS485 bus are centralised in a single device and then made available on the Ethernet network via the modbus TCP.

The gateway has an embedded WEBVIEW web server, allowing real time monitoring of electrical values and analysis of consumption data.



DIRIS G-30/G-50
RS485 Modbus



DIRIS G-40/G-60
Wireless and RS485 Modbus

Strong points

- WEBVIEW web server embedded in the gateway, view of data via an Internet browser.
- Automatic addressing and detection of devices.
- Automatic recording and storage of measurements and consumption data.
- Automatic sending of alarm emails (SMTP).
- Automatic clock synchronisation (SNTP).
- Several optional modules available:
 - analogue inputs/outputs,
 - digital inputs/outputs,
 - temperature measurement.

Two versions of the WEBVIEW embedded web server

Power Monitoring

Monitor

- Automatic detection of connected devices.
- Up to 32 counting and measurement devices.
- Measurements of voltage, current, power, power factor, harmonic distortion rate (THD) and harmonics per rank.
- Total & partial energy consumption per load.
- Input/output status.
- Synchronisation of device clocks.

Alarm

- Alarms for overloads, events & input status changes.
- Display of alarm history.
- Sorting by type, nature, criticality or state.
- Alarm displayed on the main page.
- Sending of alarm by email (SMTP).

Power & Energy Monitoring

View

- Historical measurements and consumption (one year of data).
- Distribution of consumption by usage and by utility (water, gas, electricity, etc.).
- Export of consumption data in CSV format.

Power & Energy Monitoring also includes "Monitor" and "Alarm" functions.

Real time views



Alarm history



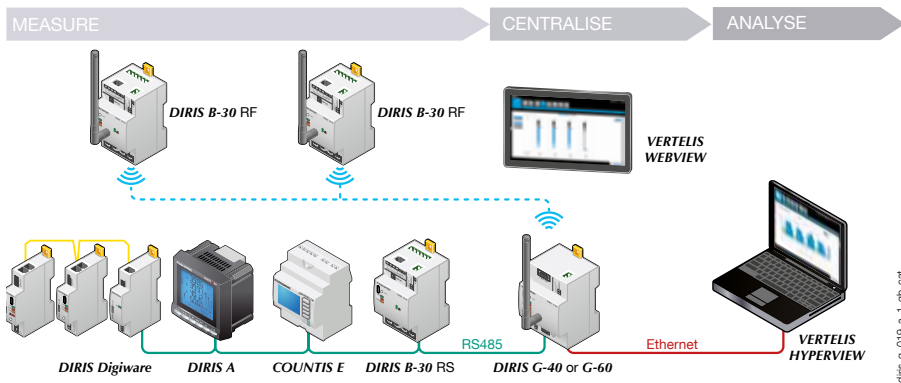
Consumption history



WEBVIEW is a VERTELIS SUITE software

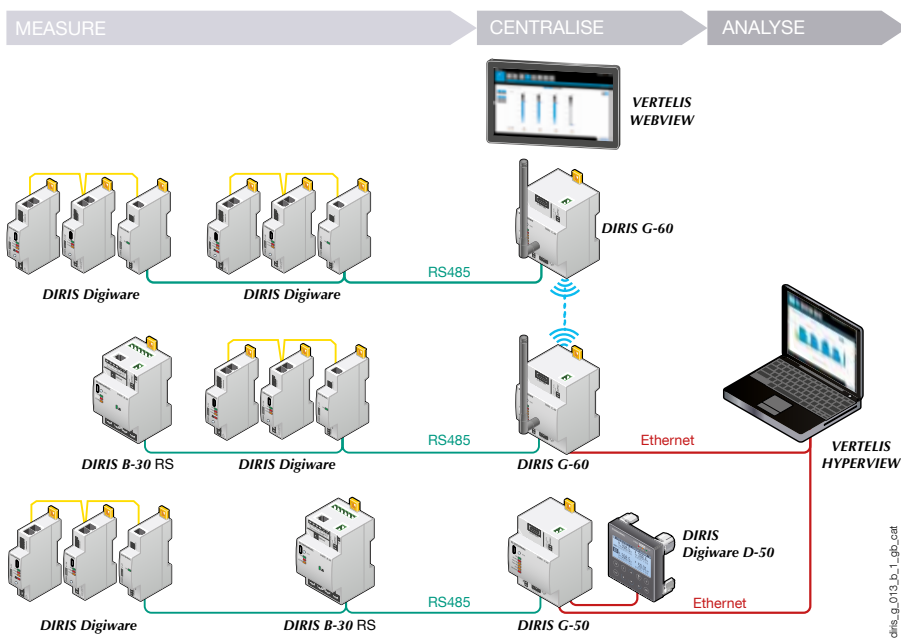
Communication architecture

Single-gateway architecture: centralisation of data on a single gateway



- Strong points**
- Centralisation of data from wireless & RS485 Modbus devices.
 - WEBVIEW embedded web server.
 - Compatible with DIRIS Digiware, DIRIS B, DIRIS A and COUNTIS E.

Multi-gateway architecture: centralisation of data on several cascading or parallel gateways



- Strong points**
- Suitable for all network types.
 - Multi-gateway communication with wireless options.
 - Local view of all devices linked to the connected gateways on a DIRIS Digiware D-50 display.
 - WEBVIEW embedded web server.
 - Compatible with DIRIS Digiware, DIRIS B, DIRIS A and COUNTIS E.

References

	DIRIS G-30	DIRIS G-40	DIRIS G-50	DIRIS G-60
Standard interfaces				
Ethernet	•	•	•	•
RS485 Modbus	•	•	•	•
Wireless		•		•
Embedded web server				
WEBVIEW Power Monitoring	•	•	•	•
WEBVIEW Power & Energy Monitoring			•	•
Main specifications				
Dimensions	3.5 modules	3.5 modules	3.5 modules	3.5 modules
References	4829 0300	4829 0301	4829 0302	4829 0303

OPTIONAL MODULES ⁽¹⁾	
2 inputs/ 2 outputs, digital	4829 0030
2 inputs/ 2 outputs, analogue, 4-20 mA	4829 0031
3 temperature inputs, PT100/PT1000	4829 0032
RS485 Modbus slave interface	4829 0033

(1) Up to 4 optional modules per gateway.



DIRIS D-90 (ref: 4829 0210)
Touch-screen tablet that can be fitted on the panel door, connected by Ethernet cable or Wi-Fi (via a router)

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