DIRIS G

Wireless and cabled RS485 to Ethernet communication gateways

new

Configuration with EasyConfig, see page 142.

DIRIS G-30
RS485 / Ethernet

DIRIS G-40
RS485 - wireless / Ethernet
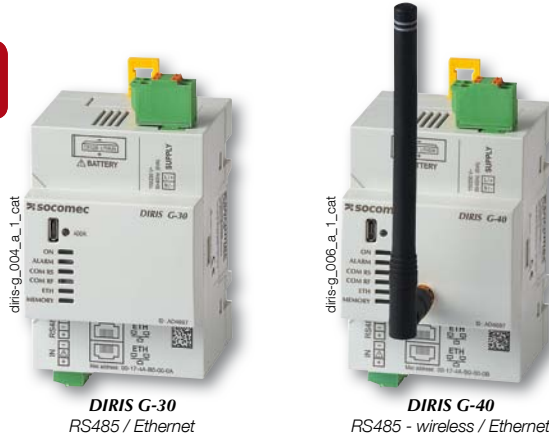
The solution for

> Industry
> Building
> Infrastructure
> Local authority

Strong points

> WEBVIEW embedded web server
> Plug & Play
> Scalable

Conformity to standards

> IEC 61010
> ISO 14025
> UL

Function

With **DIRIS G** communication gateways, all information from metering 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 Modbus TCP.

The gateway has an embedded WEBVIEW web server, allowing real time monitoring of electrical values and analysis of consumption data. The user can be alerted of any alarms via email.

Advantages

WEBVIEW embedded web server[1]
DIRIS G gateways include an embedded web server. Two versions are available:
- Power Monitoring:
  - Real time measurements and alarms
- Power & Energy Monitoring:
  - Real time measurements and alarms,
  - Historical of measurements and analysis of consumptions.
- DIRIS D-90 touch-screen tablet can be fitted on the panel door to display WEBVIEW pages.

(1) See page 138.

Plug & Play
Connected metering and measurement devices are automatically addressed and detected by the DIRIS G gateway.
DIRIS G gateways provide:
- Automatic clock synchronisation (SNTP) with battery recording.
- Synchronisation of connected devices.
- Warning messages in case of alarms (e-mail SMTP).
- Automatic recording and storage of measurements and consumption data.
- Automatic display of tariff changes.

Scalable
Several optional modules are available:
- Digital inputs/outputs.
- Analogue inputs/outputs.
- Temperature inputs.
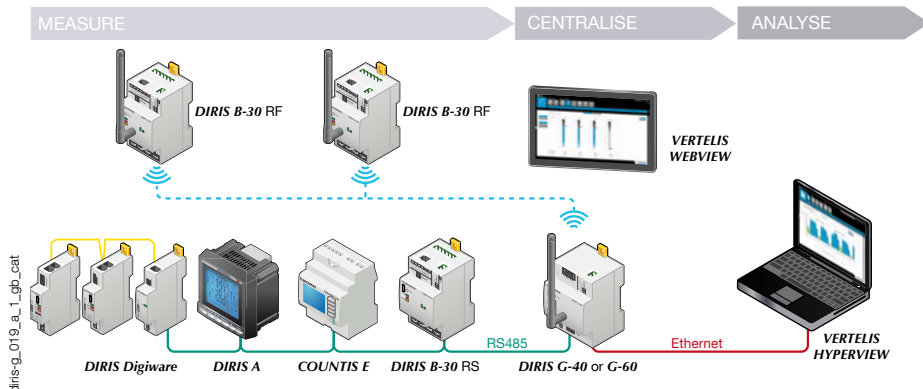
Functions

DIRIS G-30 / DIRIS G-50
- RS485 and Ethernet ports (2 ports with integrated switch)
- Automatic addressing and detection of connected devices.
- Historical of measurements: max 1 year
- Internal clock (SNTP synchronisation)
- Sending of alarm by email (SMTP)
- WEBVIEW embedded web server

DIRIS G-40 / DIRIS G-60
- Same functions as DIRIS G-30/G-50
- Wireless connection

Selection guide

	Gateway	DIRIS G-30	DIRIS G-40	DIRIS G-50	DIRIS G-60
Communication	RS485 Modbus	•	•	•	•
	Radio frequency Communication (wireless)		•		•
	Ethernet	•	•	•	•
WEBVIEW embedded web server	Power Monitoring	•	•	•	•
	Power & Energy Monitoring			•	•

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Architecture

Example of communication architecture with DIRIS G gateway and WEBVIEW embedded WEB server

MEASURE → CENTRALISE → ANALYSE

DIRIS B-30 RF   *DIRIS B-30* RF   *VERTELIS WEBVIEW*

DIRIS Digiware   *DIRIS A*   *COUNTIS E*   *DIRIS B-30* RS   *DIRIS G-40* or *G-60*

RS485   Ethernet   *VERTELIS HYPERVIEW*

Tablet

D-90 Touch-screen tablet
• Door mounting
• Connected to Ethernet or Wi-Fi (via router)

Embedded web server

WEBVIEW embedded web server[1]
• Power Monitoring version: embedded in DIRIS G-30 and G-40
• Power & Energy Monitoring version: embedded in DIRIS G-50 and G-60
• 32 devices max (RS485 and wireless indifferently)

(1) For more details see page 138.

DIRIS O optional modules

Maximum 4 optional modules can be connected to a DIRIS G gateway to ensure control/command functions.

DIRIS O-iod	2 digital inputs / 2 digital outputs
DIRIS O-ioa	2 analogue inputs / 2 analogue outputs
DIRIS O-it	3 temperature inputs
DIRIS O-m	Additional RS485 slave communication

For more information see DIRIS O optional modules see page 27.

Optional module   DIRIS G
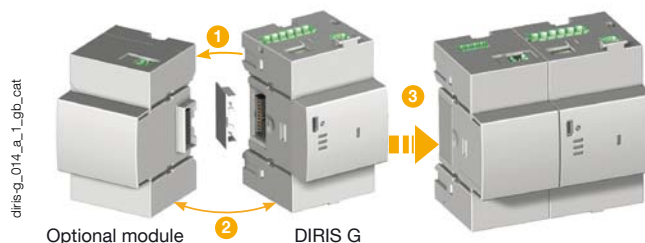
Accessories

Remote radio antenna
• Allows the antenna to be mounted outside the enclosure to increase the transmission distance up to 300 m if there are no obstacles.

USB configuration cable
• Configuration of DIRIS G gateways can be achieved using the EASY CONFIG software via Ethernet or direct USB connection.
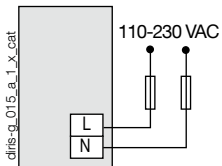
Wifi router
• The wifi router is connected to the gateway to allow wifi access to the WEBVIEW web server via the D-90 tablet.
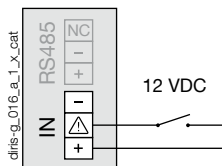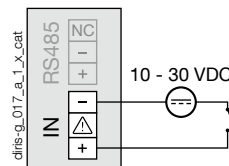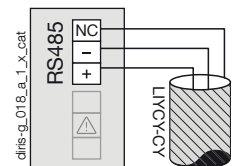
DIRIS G
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DIRIS G terminals

Power supply

110-230 VAC
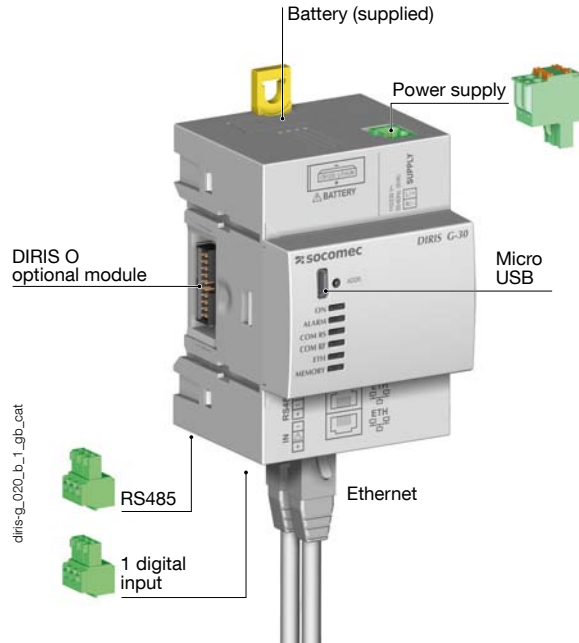
Input supplied by the product

12 VDC

Input with external power supply
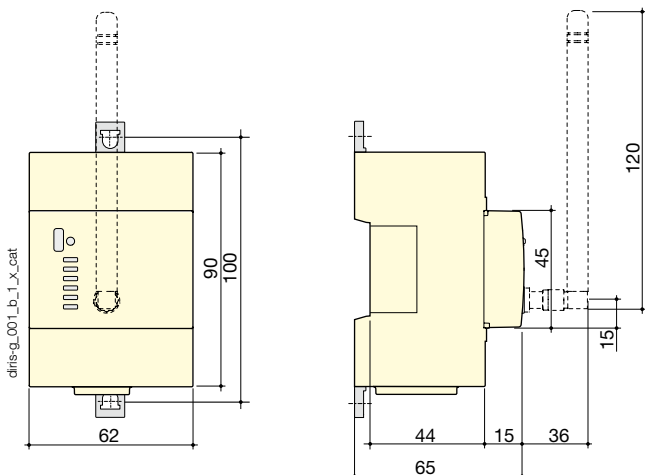

10 - 30 VDC

RS485
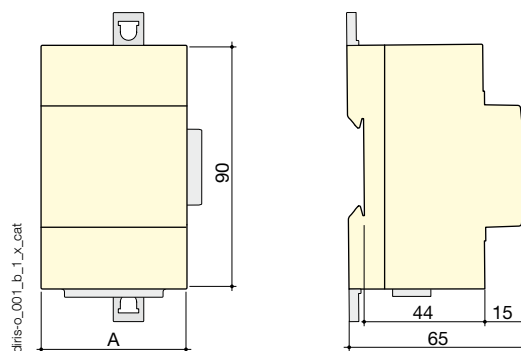

Terminals of DIRIS O optional modules

Optional modules are common to the DIRIS B-30 monitoring device.
For terminal description, see page 28.

Dimensions (mm)

DIRIS G-30 / G-40 / G-50 / G-60

DIRIS O optional modules

DIRIS O optional modules	A
DIRIS O-iod - DIRIS O-ioa - DIRIS O-it	45 mm

Technical characteristics

Mechanical characteristics

Casing type	Modular for DIN-rail or back plate mounting
Case degree of protection	IP20 / IK06
Front degree of protection	IP40 (panel face with modular mounting) / IK08
Weight	DIRIS G-30, G-50 = 190 g DIRIS G-40, G-60 = 215 g

Electrical characteristics

Power supply

AC voltage	110-230 VAC ±15% (Ph/N or Ph/Ph) Cat III
Frequency	50/60 Hz
Consumption	6 VA
Battery	CR 1220 3 V lithium button cell battery

Input

Number	1
Type / Power supply	Optocoupler internal polarisation (12 VDC ± 10 %) or external polarisation (10-30 VDC ± 10%)
Input function	Logic status, pulse meter or synchronisation pulse status

Communication characteristics

DIRIS G

Link	RS485
Connection type	2 … 3 half duplex wires
Protocol	Modbus RTU
Speed	2400 … 115200 bauds
Function	Communication with PMDs and meters

DIRIS G-40 and DIRIS G-60

Link	Radio frequency (wireless)
Frequency band	868 MHz (low frequency: 868.1 MHz and high frequency: 869.5875 MHz)
Speed	38400 bauds
Function	Communication with DIRIS B-30 RF
Scope	300 m (open field)

Ethernet

Link	Ethernet 10/100 base-T, 2 RJ45 bases with integrated switch
Protocol	Modbus TCP (port 502), Modbus RTU over TCP (port 503), HTTP, SMTP, SNTP, DHCP
Clock	Internal
SNTP protocol	Gateway time updating from an NTP server. Connected PMDs time updating.
SMTP protocol	Sending of alarm emails from the gateway
Function	Configuration of the gateway, connected PMDs and meters Access to the WEBVIEW web server, data centralisation

USB

Connection type	USB 2 (Easy Config software required)
Protocol	Modbus RTU over USB
Function	Configuration of the gateway, connected PMDs and meters
Connection	B-type micro USB connector

Memory capacity

Historical of consumptions (memory capacity extension of meters and monitoring devices)	1 year (1-hour period)
Electrical values	2 months (10-minute period)
Number of events	Alarms: 1000 Network quality as per EN 50160: 1000

Environment characteristics

Operating temperature	-10 … +70 °C
Storage temperature	-25 … +85 °C
Operating humidity	55 °C / 97% relative humidity

References

DIRIS G gateways		Reference
DIRIS G-30	RS485 / Ethernet - WEBVIEW Power Monitoring	4829 **0300**
DIRIS G-40	RS485-RF / Ethernet - WEBVIEW Power Monitoring	4829 **0301**
DIRIS G-50	RS485 / Ethernet - WEBVIEW Power & Energy Monitoring	4829 **0302**
DIRIS G-60	RS485-RF / Ethernet - WEBVIEW Power & Energy Monitoring	4829 **0303**
DIRIS O optional modules		**Reference**
DIRIS O-iod	2 digital inputs / 2 digital outputs	4829 **0030**
DIRIS O-ioa	2 analogue inputs/2 analogue outputs, 4-20 mA	4829 **0031**
DIRIS O-it	3 temperature inputs PT 100 / PT 1000	4829 **0032**
DIRIS O-m	RS485 Modbus communication	4829 **0033**
Tablet		**Reference**
DIRIS D-90		4829 **0210**
Accessories		**Reference**
Wireless remote antenna, 868 MHz - 210 mm height		4854 **0126**
Cable for remote antenna - SMA connector - 3 meter length		4854 **0127**
USB configuration cable		4829 **0050**