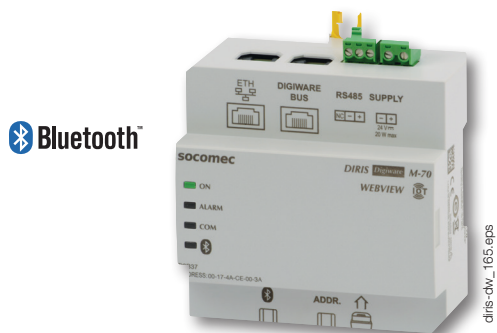


# DIRIS Digiware M

Multi-protocol communication gateways  
for the DIRIS Digiware system



DIRIS Digiware M-50 - M-70 gateway

## Function

The **DIRIS Digiware M-50** and **M-70** communication gateways are the access point for the DIRIS Digiware system, centralising the 24 VDC power supply and communication in one single point.

The M-50 and M-70 act as the Ethernet gateway for all the devices connected on the Digiware or RS485 bus, and integrate a web server to configure the network parameters and to remotely display measurement data.

The M-50 and M-70 gateways offer a wide range of functionalities, including:

- memory extension for connected devices,
- automatic export of logged consumption and data to an FTP(S) server,
- notification emails if there is an alarm on one of the connected devices (SMTPS),
- automated time synchronisation of all connected devices via SNTP.

## Advantages

### Plug & Play

- Direct Digiware and RS485 to Ethernet gateway.
- Automatic detection of connected devices.
- Easy configuration.
- Safety Extra Low Voltage 24 VDC power supply.

### Advanced connectivity

- Ethernet output for communication using multiple protocols: Modbus TCP, BACnet IP and SNMP v1, v2, v3 (encrypted) to suit any metering and power monitoring application.
- Possible to configure as RS485 slave to communicate measurement data to a second PLC, for example.

### Embedded web server

WEB-CONFIG is built in to the M-50 gateway to configure the communication architecture.

WEBVIEW-M is built in to the M-70 gateway and available without license fees to view measurements and consumption remotely.

### Cyber security

The M-50 and M-70 gateways include advanced IEC 62443-compliant cyber security features to secure data transmission and reduce the risk of cyberattacks:

- customised security policy (blockage or restriction of certain protocols or services),
- secure HTTPS navigation by uploading TLS/SSL certificates,
- secure data push (FTPS, SMTPS),
- implementation of a firewall and white-list rules to guard against denial-of-service attacks.

### Email notifications

The M-50/M-70 gateway can send email notifications in the event of alarms.

## General characteristics

- 24 VDC power supply.
- Modbus RTU/TCP, BACnet IP, SNMP v1, v2, v3 & Traps, HTTPS, FTPS, SMTPS, SNTP, DHCP.
- Up to 32 devices (max. 196 circuits) displayed.
- Free built-in Web-based software.

## The solution for

- > Data centre
- > Healthcare
- > Energy



## Strong points

- > Plug & Play
- > Advanced connectivity
- > Embedded web server
- > Cyber security
- > Email notifications



RJ45 (Digiware Bus) cables are available.

## Conformity to standards

- > IEC 62974-1 (Energy server)
- > IEC 62443 (Cyber security)



- > UL 61010 Guide FTRZ/PICQ File E257746

- > FCC
- > IC



## Compatible with

- > Cloud solutions



## Create your project

- > Find the best DIRIS Digiware configuration:  
[www.meter-selector.com](http://www.meter-selector.com)



| Application                                    | Multi-protocol communication gateway                                              |                                                                                     |
|------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                |  |  |
| <b>DIRIS Digiware M</b>                        | <b>M-50</b>                                                                       | <b>M-70</b>                                                                         |
| Digiware bus input                             | •                                                                                 | •                                                                                   |
| RS485                                          | Input/output <sup>(1)</sup>                                                       | Input/output <sup>(1)</sup>                                                         |
| Ethernet output                                | •                                                                                 | •                                                                                   |
| Compatible protocols                           | Modbus RTU<br>Modbus TCP<br>BACnet IP<br>SNMP v1, v2, v3, Traps                   | Modbus RTU<br>Modbus TCP<br>BACnet IP<br>SNMP v1, v2, v3, Traps                     |
| Bluetooth                                      | •                                                                                 | •                                                                                   |
| FTP(S) (automatic data export)                 | •                                                                                 | •                                                                                   |
| SMTP(S) (email notifications in case of alarm) | •                                                                                 | •                                                                                   |
| SNTP (time synchronisation)                    | •                                                                                 | •                                                                                   |
| Web server                                     | WEB-CONFIG                                                                        | WEBVIEW-M                                                                           |

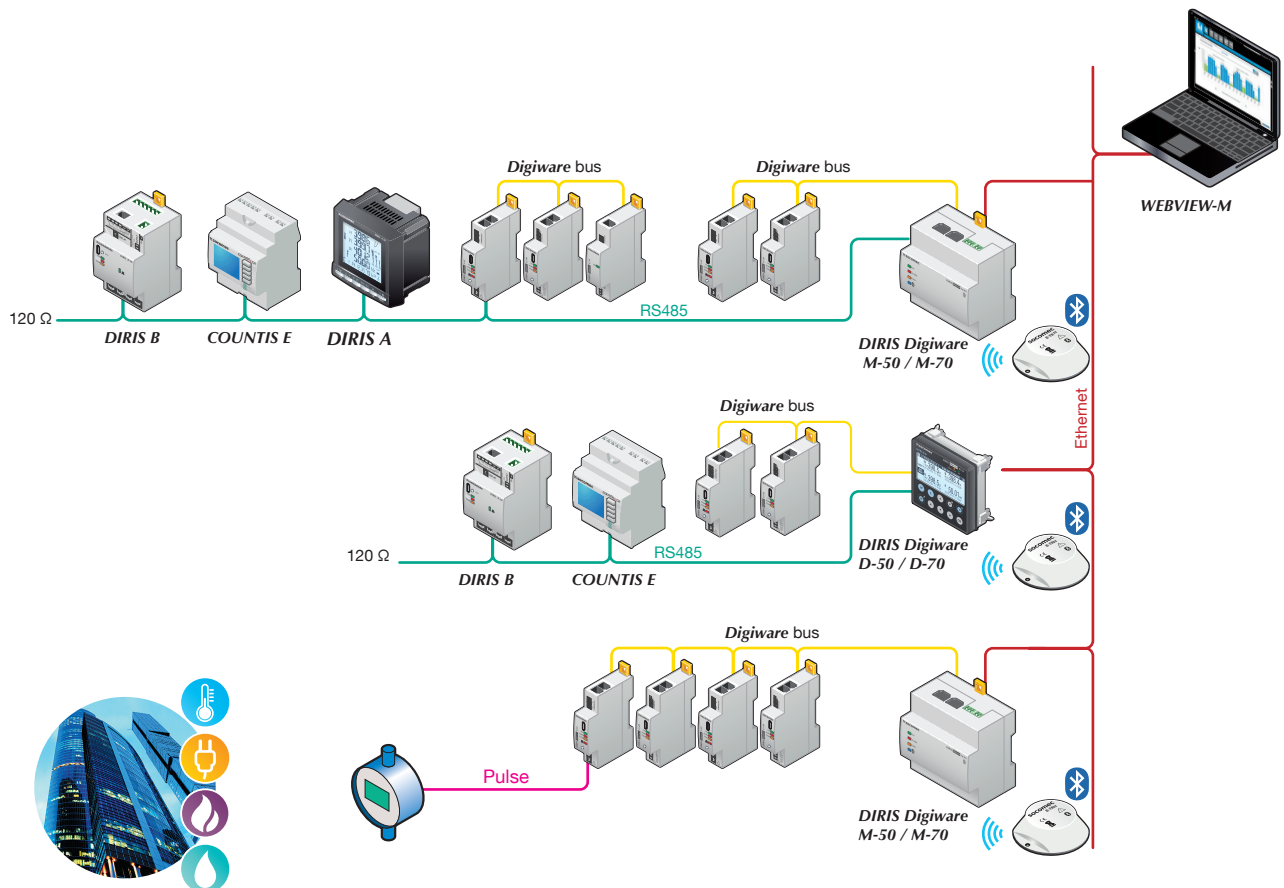
(1) The gateways can be configured as Modbus master (RS485 input) or slave (RS485 output).

## Architecture

MEASURE

COLLECT

VISUALISE



diris-dw\_169

## Embedded Web server

### WEB-CONFIG (M-50)

The M-50 gateway includes a WEB-CONFIG enabling you to:

- Configure the device hierarchy and data access,
- Block or restrict access to specific peripherals, protocols or services.

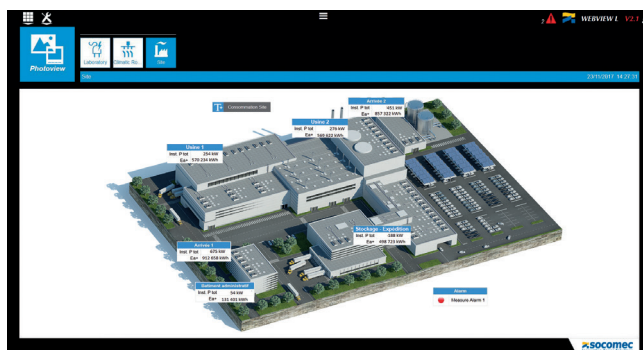
### WEBVIEW-M (M-70)

In addition to the WEB-CONFIG, the M-70 gateway enables remote viewing of data on the embedded WEBVIEW-M software, available without licence fees.

- Viewing of real-time measurements.
- Display of on-going alarms and alarm log.
- Viewing of consumption curves and load curves per load or usage.
- Photoview: displays electrical parameters on a customised background such as a site map, an electrical diagram or a panel picture to provide an overview of your electrical installation.

### Data storage

These gateways extend the memory of connected devices so you can log a year's worth of measurements, load curves and consumption curves.



## Configuration

### Equipment consumption

| Product                                        | Power delivered (W) |
|------------------------------------------------|---------------------|
| <b>Power supply</b>                            |                     |
| P15 100-240 VAC / 24 VDC                       | 15                  |
| P30 100-240 VAC / 24 VDC                       | 20                  |
| Product                                        | Power consumed (W)  |
| <b>Cables</b>                                  |                     |
| 50-metre package                               | 1.5                 |
| <b>System interfaces</b>                       |                     |
| DIRIS Digiware C-31                            | 0.8                 |
| DIRIS Digiware D-50/D-70                       | 2.5                 |
| DIRIS Digiware M-50/M-70                       | 2.5                 |
| <b>Voltage module</b>                          |                     |
| DIRIS Digiware U-xx                            | 0.72                |
| DIRIS Digiware U-3xdc                          | 0.6                 |
| <b>Current modules</b>                         |                     |
| DIRIS Digiware I-3x                            | 0.52                |
| DIRIS Digiware I-4x                            | 1.125               |
| DIRIS Digiware I-6x                            | 0.7                 |
| DIRIS Digiware I-3xdc (+ 3 DC current sensors) | 2                   |
| DIRIS Digiware S-xx                            | 0.35                |
| <b>Input/output modules</b>                    |                     |
| DIRIS Digiware IO-10/IO-20                     | 0.5                 |
| <b>Repeater</b>                                |                     |
| DIRIS Digiware C-32                            | 1.5                 |

### Calculation rules for the max. number of devices on the Digiware bus

The total power consumed by the equipment connected to the Digiware bus must not exceed the power delivered by 24 VDC.

The power supply must not exceed 20 W / 70 °C or 27 W / 40 °C.

#### Configuration with P15 power supply (ref: 4829 0120) delivering 15 W

For example, it is possible to use

- 1 DIRIS Digiware M-50 gateway (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware S-xx current modules (29x 0.35 = 10.15 W)

⇒ **Total power = 14.87 W**

or

- 9 DIRIS Digiware I-4x current modules (9 x 1.125 = 10.125 W)

⇒ **Total power = 14.845 W.**

#### Configuration with a 24 VDC power supply delivering a maximum of 20 W (P30 ref. 4729 0603)

For example, it is possible to use

- 1 DIRIS Digiware M-50 gateway (2.5 W)
- 1 DIRIS Digiware voltage module U-xx (0.72 W)
- 50 metres of cable (1.5 W)

and

- 29 DIRIS Digiware I-3x current modules (30 x 0.52 = 15.08 W)

⇒ **Total power = 19.8 W**

or

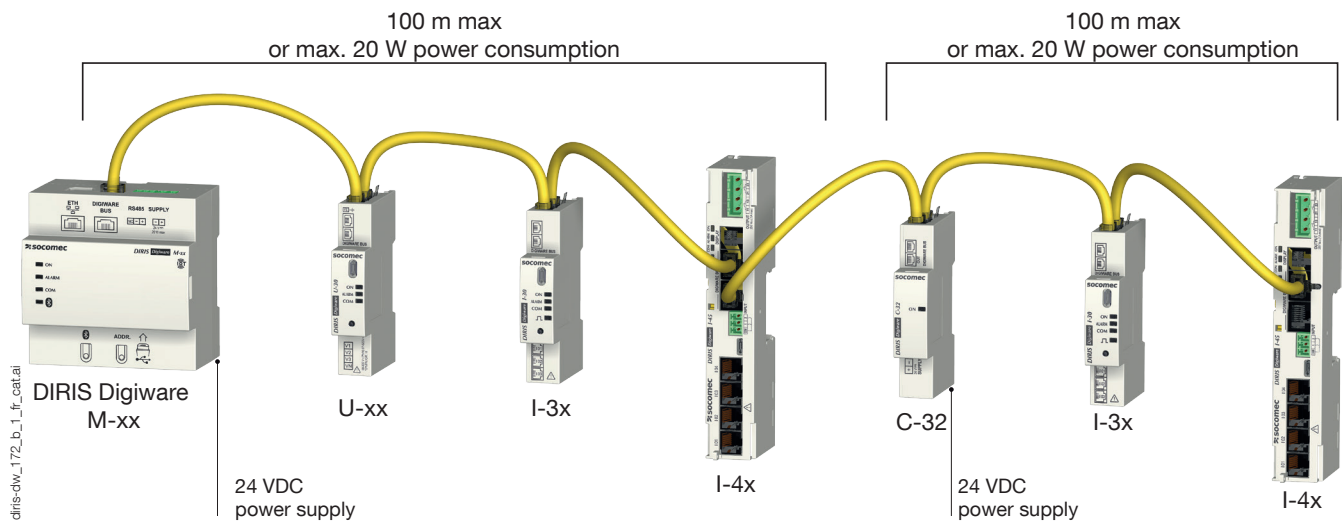
- 14 DIRIS Digiware I-4x current modules (13 x 1.125 = 15.72 W)

⇒ **Total power = 19.345 W.**

### Repeater

With power consumptions higher than 20 W or distances greater than 100 m, a DIRIS Digiware C-32 repeater is required.

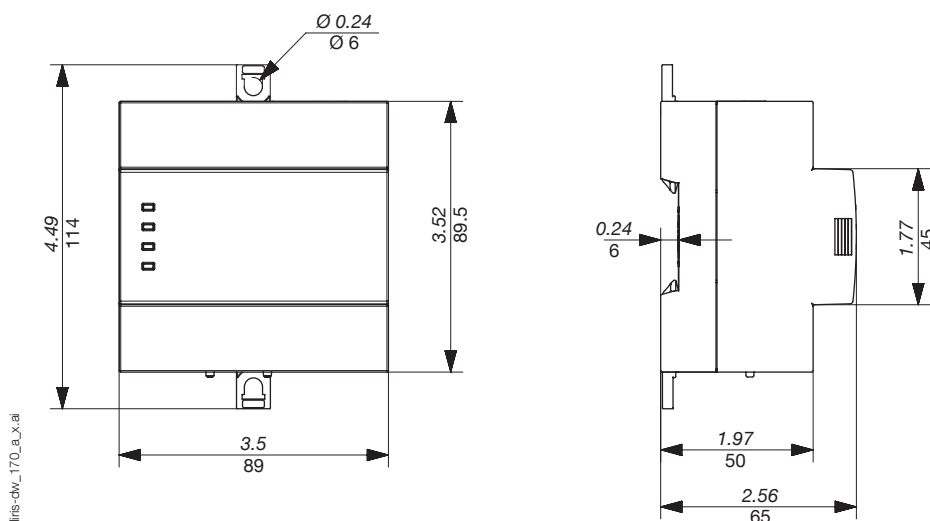
In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



# DIRIS Digiware M

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## Dimensions (in/mm)



## Technical characteristics

### Electrical characteristics

|              |                              |
|--------------|------------------------------|
| Power supply | 24 VDC $\pm 10\%$ - 20 W max |
| Consumption  | 2.5 W                        |
| Battery life | 10 years                     |

### Mechanical characteristics

|                           |                                             |
|---------------------------|---------------------------------------------|
| Case type                 | Modular for DIN-rail and backplate mounting |
| Weight                    | 166 g                                       |
| Ingress Protection rating | IP40 front face in modular assembly         |

### Environmental characteristics

|                               |                |
|-------------------------------|----------------|
| Ambient operating temperature | -10 ... +55 °C |
| Storage temperature           | -25 ... +70 °C |
| Operating humidity            | 95% at 40 °C   |
| Operating altitude            | < 2000 m       |

### Communication characteristics

|                           |                                                                                    |
|---------------------------|------------------------------------------------------------------------------------|
| Ethernet RJ45 10/100 Mbps | Gateway function (M-50/M-70):<br>Modbus TCP<br>BACnet IP<br>SNMP v1, v2, v3, Traps |
|---------------------------|------------------------------------------------------------------------------------|

#### Digiware bus

|            |                                             |
|------------|---------------------------------------------|
| Function   | 2 ... 3 fils half duplex                    |
| Cable type | Specific Socomec cable with RJ45 connection |

#### RS485

|           |                                                                                      |
|-----------|--------------------------------------------------------------------------------------|
| Link type | 24 VDC +10% / -20%                                                                   |
| Protocol  | Modbus RTU                                                                           |
| Speed     | 9600 bds (max. 10 devices)<br>38400 bds - 115200 bds (max. 32 devices)               |
| Function  | Communication with PMD and meters or energy management systems (in RS485 slave mode) |

#### USB

|          |                                                        |
|----------|--------------------------------------------------------|
| Protocol | Modbus RTU over USB                                    |
| Function | Configuration of gateway and connected PMDs/<br>meters |

## References

| DIRIS Digiware                                                                                    |                                                                                                  | Reference |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------|
| M-50                                                                                              | Multi-protocol Ethernet gateway                                                                  | 4829 0219 |
| M-70                                                                                              | Multi-protocol Ethernet gateway with embedded WEBVIEW-M web server                               | 4829 0220 |
| M-50 Bluetooth                                                                                    | Multi-protocol Ethernet gateway (with Bluetooth connectivity)                                    | 4829 0221 |
| M-70 Bluetooth                                                                                    | Multi-protocol Ethernet gateway with embedded WEBVIEW-M web server (with Bluetooth connectivity) | 4829 0222 |
| Power supply                                                                                      |                                                                                                  | Reference |
| P15                                                                                               | Power supply 100-240 VAC/ 24 VDC 15 W                                                            | 4829 0120 |
| P30                                                                                               | Power supply 100-240 VAC / 24 VDC 20 W                                                           | 4729 0603 |
| Digiware connection cables                                                                        |                                                                                                  | Reference |
| RJ45 cables for Digiware Bus                                                                      | Length 0.06 m                                                                                    | 4829 0189 |
|                                                                                                   | Length 0.10 m                                                                                    | 4829 0181 |
|                                                                                                   | Length 0.20 m                                                                                    | 4829 0188 |
|                                                                                                   | Length 0.50 m                                                                                    | 4829 0182 |
|                                                                                                   | Length 1 m                                                                                       | 4829 0183 |
|                                                                                                   | Length 2 m                                                                                       | 4829 0184 |
|                                                                                                   | Length 3 m                                                                                       | 4829 0190 |
|                                                                                                   | Length 5 m                                                                                       | 4829 0186 |
|                                                                                                   | Length 10 m                                                                                      | 4829 0187 |
|                                                                                                   | 50 m reel + 100 connectors                                                                       | 4829 0185 |
| Terminal for Digiware bus (replacement ref. only as already supplied with M-50 and M-70 gateways) |                                                                                                  | 4829 0180 |
| USB configuration cable                                                                           |                                                                                                  | 4829 0050 |
| Accessories                                                                                       |                                                                                                  | Reference |
| Fused disconnect switches to protect voltage inputs (RM type) 1 pole + neutral                    |                                                                                                  | 5701 0017 |
| 0.5 A 10x38 gG fuses                                                                              |                                                                                                  | 6012 0000 |

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