

# 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:

- Bluetooth connectivity to collect data from environmental sensors,
- 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),
- automatic time synchronisation of all connected devices via SNTP.

## Advantages

### Plug & Play

- Direct Digiware and RS485 to Ethernet gateway.
- Automatic detection of connected devices.
- Easy setup.
- 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

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

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

## 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 embedded web-based software.

## The solution for

- > Data centre
- > Building
- > Industrial process



## Strong points

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



RJ45 (Digiware bus) cables are available.

## Compliance with standards

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



- > UL 61010 Guide FTRZ/PICQ File E257746



- > FCC
- > IC



## 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 Modbus TCP BACnet IP SNMP v1, v2, v3, Traps	Modbus RTU Modbus TCP BACnet IP 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

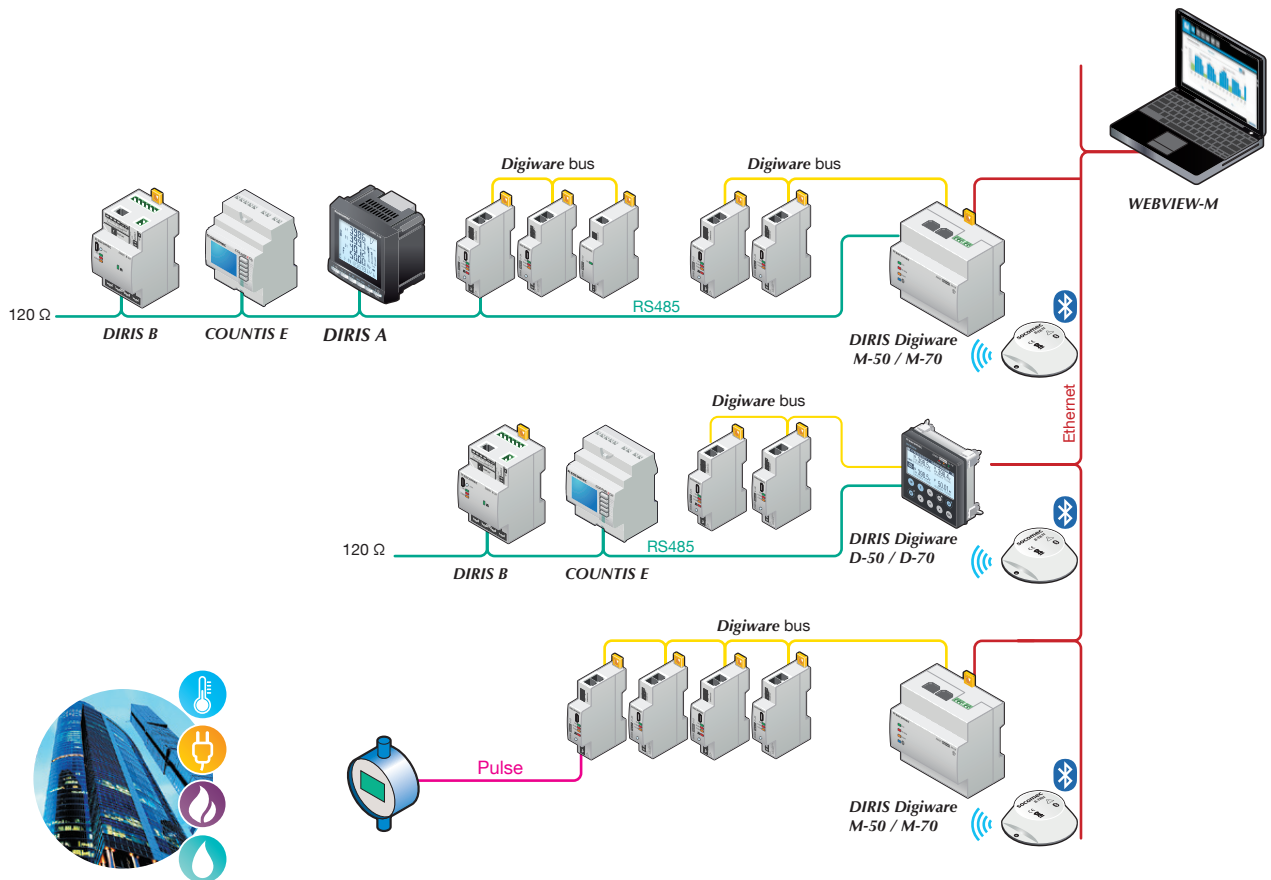
(1) The gateways can be configured as Modbus master (RS485 input) or slave (RS485 output).

## Architecture

MEASURE

COLLECT

VISUALISE



diris-dw\_169

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## Embedded webserver

### WEB-CONFIG (M-50)

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

- configure the device hierarchy and data access,
- block or restrict access to certain peripherals, protocols or services.

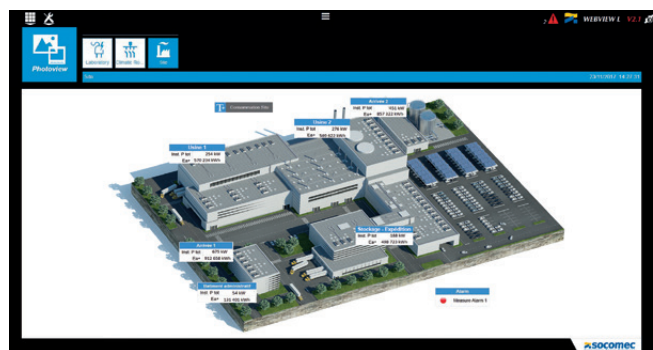
### WEBVIEW-M (M-70)

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

- Real-time measurements.
- On-going and terminated alarms.
- 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

### Device consumption

Device	Power supplied (W)
<b>Power supply</b>	
P15 100-240 VAC / 24 VDC	15
P30 100-240 VAC / 24 VDC	20
Device	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 devices connected to the Digiware bus must not exceed the power from the 24 VDC supply.

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

#### Size 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 current modules S-xx ( $29 \times 0.35 = 10.15$  W)  
⇒ **Total power = 14.87 W**

or

- 9 DIRIS Digiware current modules I-4x ( $9 \times 1.125 = 10.125$  W)  
⇒ **Total power = 14.845 W.**

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

Possible options include:

- 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 current modules I-3x ( $30 \times 0.52 = 15.08$  W)  
⇒ **Total power = 19.8 W**

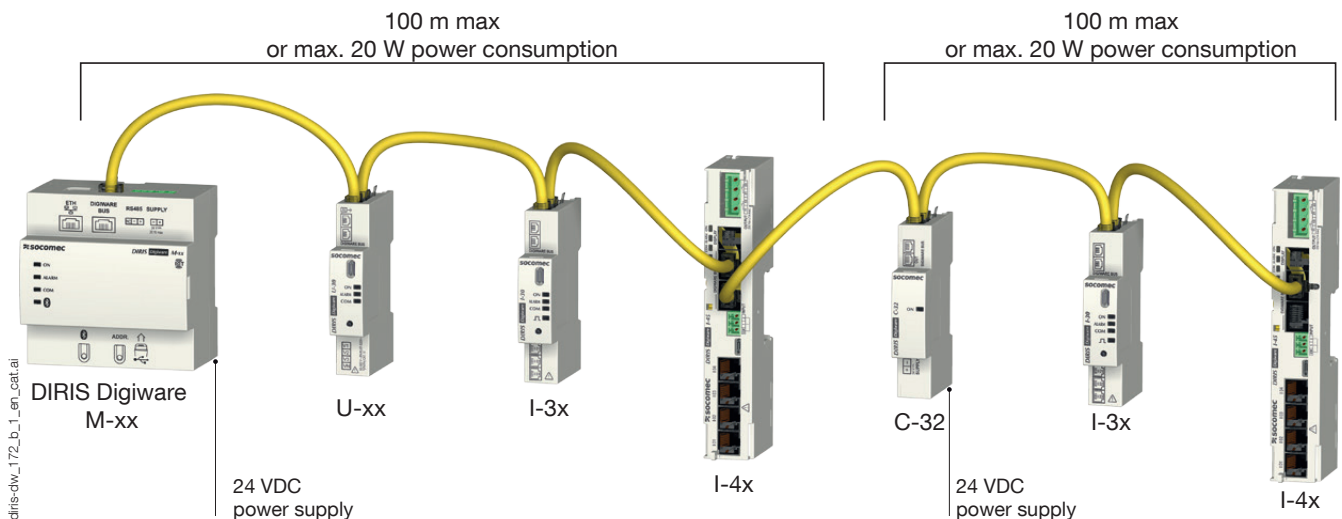
or

- 14 DIRIS Digiware current modules I-4x ( $13 \times 1.125 = 15.72$ )  
⇒ **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.

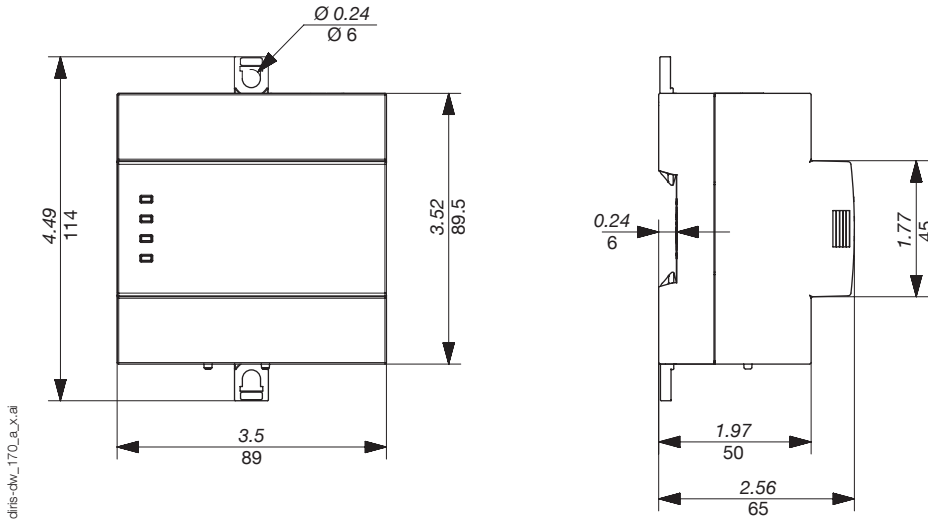
In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



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## Dimensions (in/mm)



## Technical characteristics

### Electrical characteristics

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

### Mechanical characteristics

Casing type	DIN-rail or back plate mounting
Weight	166 g
Protection degree	IP40 on the nose 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): Modbus TCP BACnet IP SNMP v1, v2, v3, Traps
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### Digiware bus

Function	2 to 3 half duplex wires
Cable type	Specific Socomec cable with RJ45 connection

### RS485

Connection type	24 VDC +10 % / -20%
Protocol	Modbus RTU
Baudrate	9600 bds (max. 10 devices) 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/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 (spare part ref. only as already supplied with M-50 and M-70 gateways)		4829 0180
USB configuration cable		4829 0050
Accessories	Available for order in multiples of	Reference
Fuse circuit breakers to protect voltage inputs (type RM) 1 pole + neutral	4	5701 0017
gG 10x38 0.5 A fuses	10	6012 0000

## Expert Services

### Need help to integrate this system in your network?

No problem for our "Expert Services" team. They will fully integrate all your SOCOMEC devices, **audit** your system, **commission** selected equipment and **train** your staff on its use. For further information, please contact your nearest SOCOMEC branch.