



DIRIS Digiware M

Multi-protocol communication gateways



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, centralizing 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.

Advantages

Plug & Play

- Direct Digiware and RS485 to Ethernet gateway.
- Automatic detection of connected devices.
- Easy setup using the embedded web server.
- Safe 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, for example to communicate measurement data to a second PLC.

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),
- automatic time synchronization of all connected devices via SNTP.

Embedded web server

WEBVIEW-M embedded in the M-70 and available without licence fees, allows users to visualize and analyze real-time and logged data due to graphical tools that are user-friendly and easily accessible to all.

Cyber security

The M-50 and M-70 gateways allow users to secure the transmission of data and reduce the risk of cyber attacks with special IEC 62443-compliant cyber security features:

- secured HTTPS navigation by uploading TLS/SSL certificates,
- secured data push (FTPS, SMTPS),
- possible to block or restrict certain protocols or services to reduce attack potential,
- implementation of a firewall to guard against denial-of-service attacks.

The solution for

- > Building
- > Industry
- > Infrastructure



Strong points

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



RJ45 (Digiware bus) cables are available.

Compliance with standards

- > UL 61010
CSA-C22.2
No. 61010
Guide PICQ
File E257746





- > IEC 62974-1
(Energy Server standard)



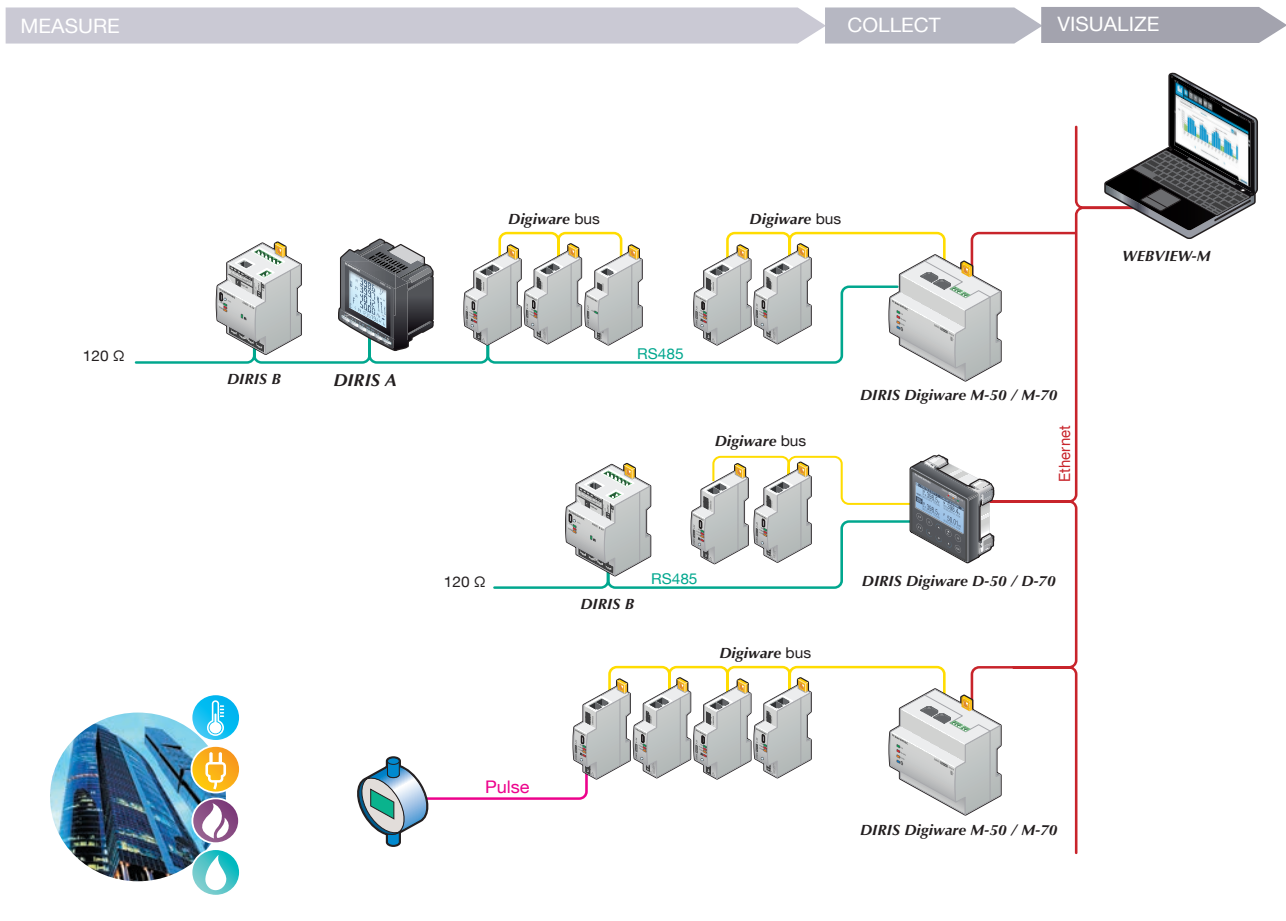
- > IEC 62443
(Cyber security)



Application	Multi-protocol communication gateway	
		
DIRIS Digiware M	M-50	M-70
Digiware bus input	•	•
RS485	Input/output ⁽¹⁾	Input/output ⁽¹⁾
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
FTP(S) (automatic data export)	•	•
SMTP(S) (email notifications in case of alarm)	•	•
SNTP (time synchronization)	•	•
Web Server	WEB-CONFIG	WEBVIEW-M

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

Architecture



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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.

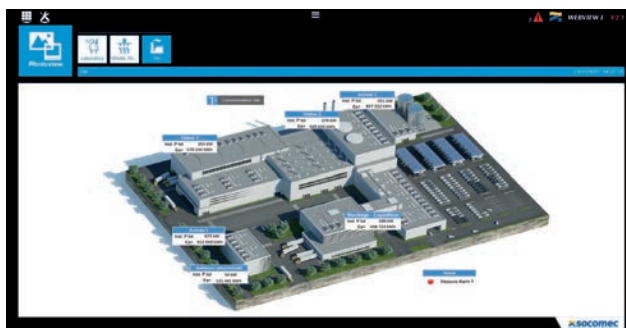
WEBVIEW-M (M-70)

In addition to the WEB-CONFIG, the M-70 gateway allows a remote visualization 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 customized 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)
Power supply	
P15 100-240 VAC / 24 VDC	15
P30 100-240 VAC / 24 VDC	20
Device	Power consumed (W)
Cables	
50-metre package	1.5
System interfaces	
DIRIS Digiware C-31	0.8
DIRIS Digiware D-50/D-70	2.5
DIRIS Digiware M-50/M-70	2.5
Voltage module	
DIRIS Digiware U-xx	0.72
DIRIS Digiware U-3xdc	0.6
Current modules	
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
Input/output modules	
DIRIS Digiware IO-10/IO-20	0.5
Repeater	
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 / 158 °F / 70 °C or 27 W / 104 °F / 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)
- 164 ft / 50 m of cable (1.5 W)

and

- 29 DIRIS Digiware current modules S-xx (29x 0.35 = 10.15 W)
- ⇒ **Total power = 14.87 W**

or

- 9 DIRIS Digiware current modules I-4x (9 x 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)
- 164 ft / 50 m of cable (1.5 W)

and

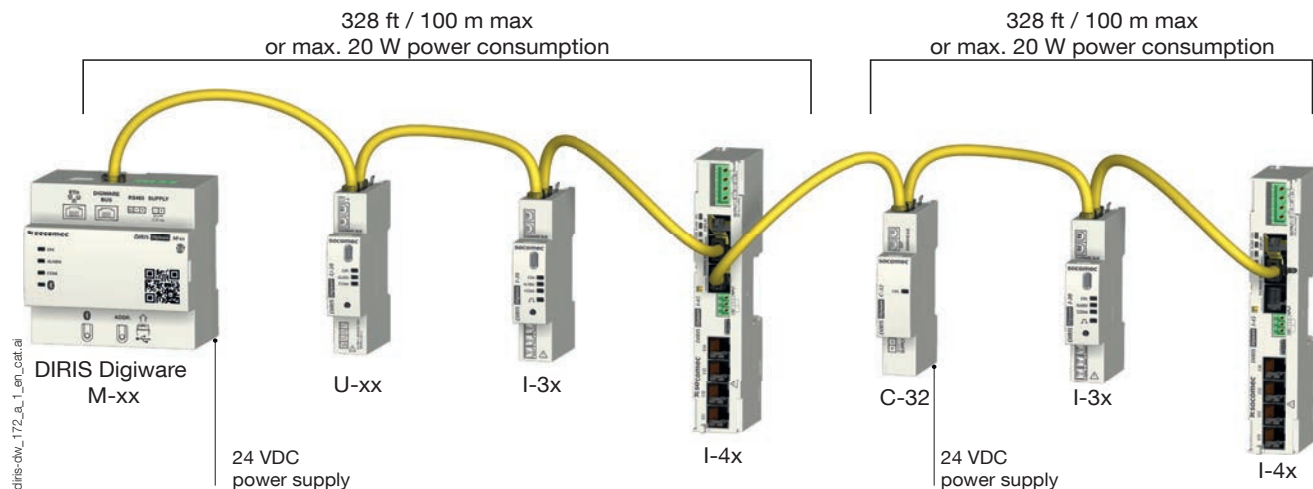
- 29 DIRIS Digiware current modules I-3x (30 x 0.52 = 15.08 W)
- ⇒ **Total power = 19.8 W**

or

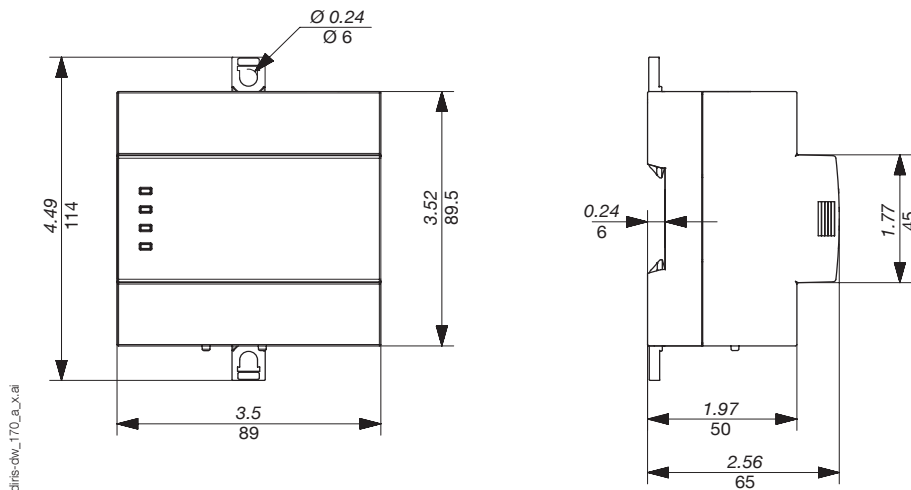
- 14 DIRIS Digiware current modules I-4x (13 x 1.125 = 15.72)
- ⇒ **Total power = 19.345 W.**

Repeater

With power consumptions higher than 20 W or distances greater than 328 ft / 100 m, a DIRIS Digiware C-32 repeater is required.
In a DIRIS Digiware system, a maximum of 2 repeaters may be used.



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	0.14 lb / 166 g
Protection degree	IP40 on the nose in modular assembly

Environmental characteristics

Ambient operating temperature	14 ... 131 °F / -10 ... +55°C
Storage temperature	-13 ... 158 °F / -25 ... +70°C
Operating humidity	95% at 104 °F / 40 °C
Operating altitude	< 6560 ft / 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 0221
M-70	Multi-protocol Ethernet gateway with embedded WEBVIEW-M web server	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 0.2 ft / 0.06 m	4829 0189
	Length 0.32 ft / 0.10 m	4829 0181
	Length 0.64 ft / 0.20 m	4829 0188
	Length 1.64 ft / 0.50 m	4829 0182
	Length 3.28 ft / 1 m	4829 0183
	Length 6.56 ft / 2 m	4829 0184
	Length 9.85 ft / 3 m	4829 0190
	Length 16.4 ft / 5 m	4829 0186
	Length 32.8 ft / 10 m	4829 0187
	164 ft / 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		Reference
		Available for order in multiples of
Fuse holder class CC to protect voltage input 3 pole		4 5705 0003
Class CC 0.5 A fuse		10 6CC0 5000

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