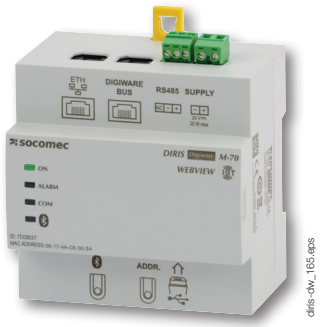
DIRIS Digiware M

Multi-protocol communication gateway



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DIRIS Digiware M-50 - M-70

Configuration with Easy Config System

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 to a single device.

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 via MQTT or FTP(S).
- notification emails if there is an alarm on one of the connected devices (SMTPS)
- automatic time synchronization 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, for example to communicate measurement data to a second PLC.
- IoT MQTT data push to simplify integration to third-party EMS/BMS

Embedded web server

WEBVIEW-M embedded in the M-70 and available without license 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

M-50 and M-70 gateways include advanced cybersecurity features in compliance with IEC 62443 for secure data transmission and reduce the risk of cyberattacks:

- Customized security policy (blocking or restricting certain protocols and services);
- HTTPS secured navigation using TLS/SSL certificates;
- Secured data exports (FTPS, MQTT, SMTPS);
- Firewalls and whitelist protocols to guard against denial-of-service attacks.

The solution for

> Building
> Industry
> Infrastructure
> Data Center

Strong points

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

Compliance with standards

> UL 61010-1, CSA-C22.22 No. 61010-1, Guide FTRZ/PICQ, File E257746

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> IEC 62974-1 (Energy Server standard)

IEC

> IEC 62443 (Cyber security)

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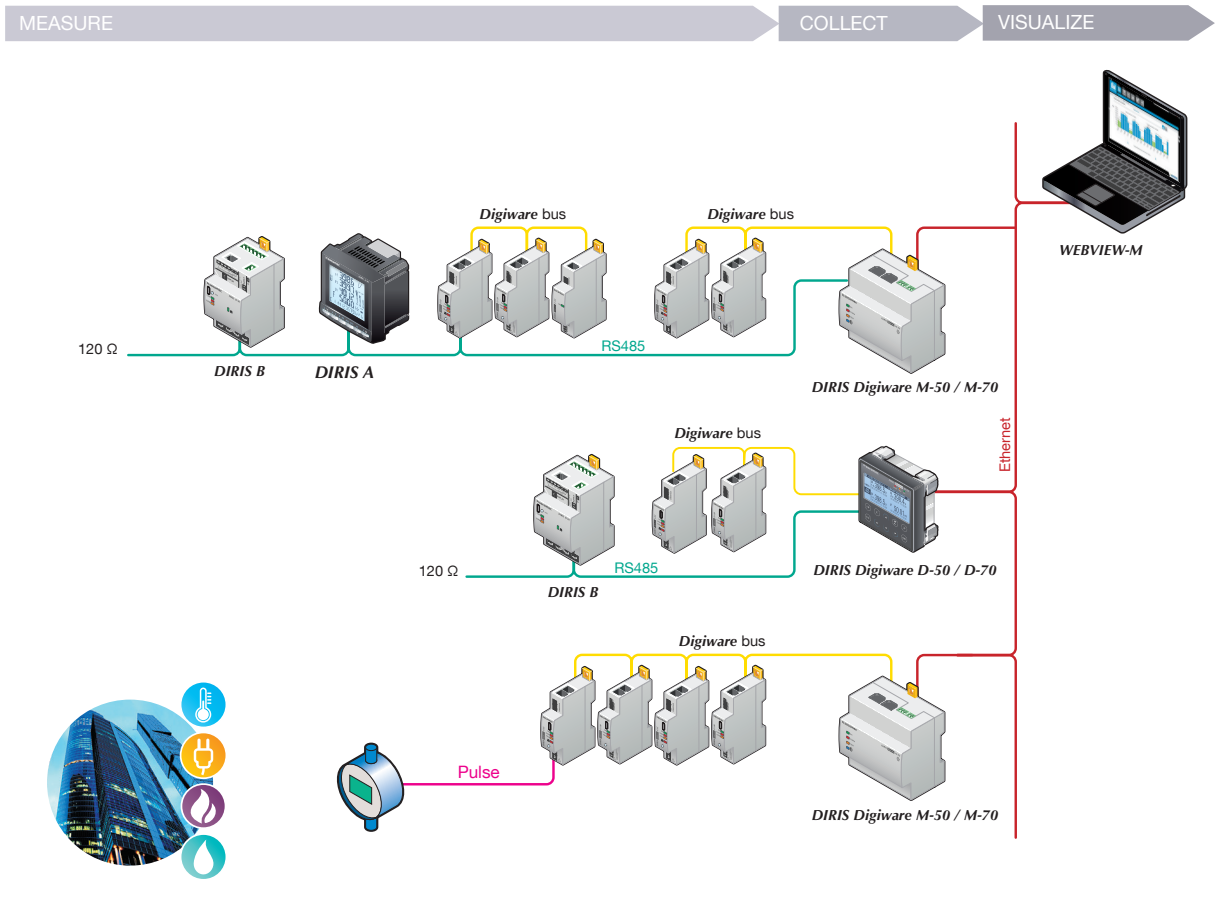
Create your project

> Find the best DIRIS Digiware configuration: **www.meter-selector.com**

METER SELECTOR DIGITAL TOOL AVAILABLE

Application	Multi-protocol communication gateway	
		
DIRIS Digiware M	***M-50***	***M-70***
Digiware Bus	•	•
RS485	Configurable as Modbus Master or Slave	Configurable as Modbus Master or Slave
Ethernet	Modbus TCP BACnet IP SNMP MQTT, FTP(S) (data export) SMTP(S) (email notification) SNTP (time synchronization)	Modbus TCP BACnet IP SNMP MQTT, FTP(S) (data export) SMTP(S) (email notification) SNTP (time synchronization)
Webserver	WEB-CONFIG	WEBVIEW-M

Architecture



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

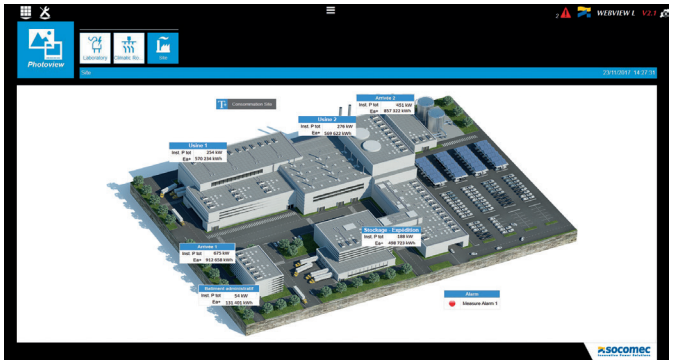
WEBVIEW-M (M-70)

In addition to the WEB-CONFIG, the M-70 gateway allows a remote visualization of data on the embedded WEBVIEW-M software, available without license 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 logging

The M-70 gateway extends the memory of connected devices so you can log a year's worth of measurements, load curves and consumption curves.



Power Supply Sizing

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)**
Digiware Bus cables	
164 feet / 50 meter 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 modules	
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
DIRIS Digiware BCM	1.25
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

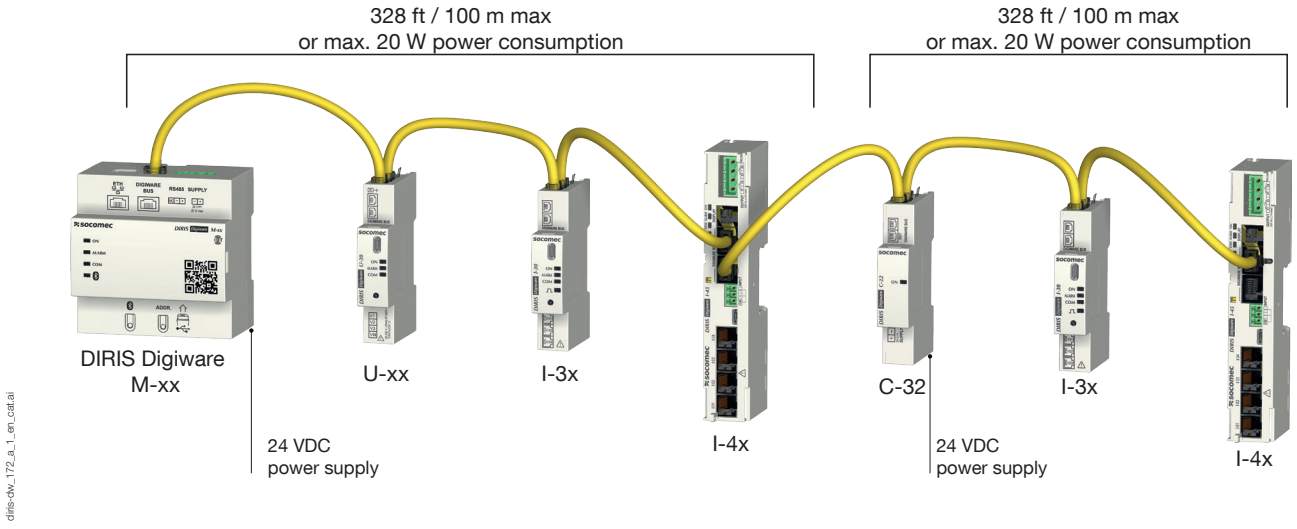
- 29 DIRIS Digiware current modules I-3x (30 x 0.52 = 15.08 W)
  ⇨ Total power = 19.8 W

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.



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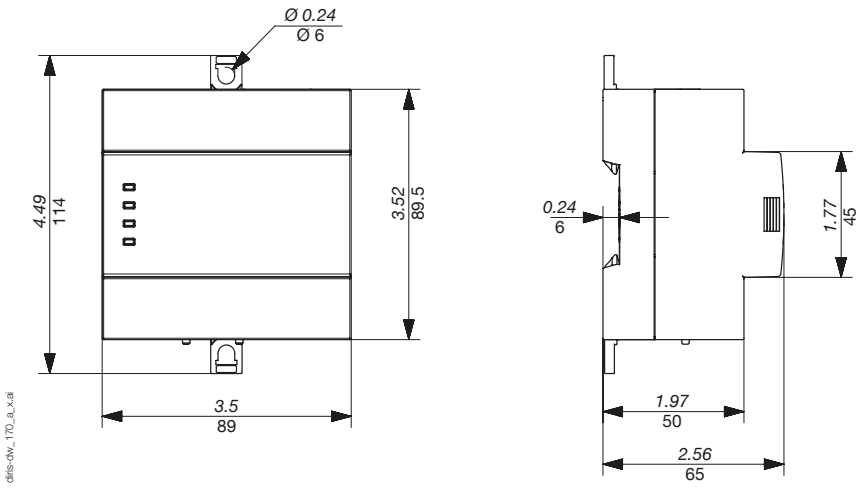
Dimensions (in/mm)



Technical characteristics

Mechanical characteristics	
Mounting	DIN-rail or back plate
Protection degree	IP40, front face
Electrical characteristics	
Power supply	24 VDC ±10% - 20 W max
Power consumption	2.5 VA
Battery lifetime	10 years
Connection	Removable screw terminal block, 2 positions, AWG 16 ... AWG 24 or 0.25 … 1.5 mm² stranded or solid cable
Environmental characteristics	
Storage temperature	-13 ... +158 °F / -25 ... +70°C
Operating temperature	+14 ... +131 °F / -10 ... +55°C
Humidity	0% to 97% RH / +131°F/+55°C, non condensing
Operating altitude	≤ 6560 ft / 2000 m

Communication characteristics	
Digiware Bus	
Connection type	Socomec RJ45 cable
Function	Proprietary bus connecting Digiware units
RS485	
Connection type	Half-Duplex, 2-3 wires
Protocol	Modbus RTU, configurable as Master or Slave
Baudrate	9600 bds (max. 10 devices) 38400 bds - 115200 bds (max. 32 devices)
Ethernet	
Connection type	RJ45 10/100 Mbs
Protocol	Modbus TCP/IP, BACnet IP, SNMP v1, v2, v3, HTTP(S), FTP(S), SMTP(S), MQTT
USB	
Connection type	USB Type Micro-B
Protocol	Modbus RTU over USB
Function	Firmware upgrade and configuration

References

DIRIS Digiware M		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 & repeater		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**
C-32	Power supply repeater for Digiware system	4829 **0103**

Accessories	Sold in multiples of	Reference
2-pole RM Class CC fuse holder to protect power supply input	6	5705 **0002**
Digiware Bus terminating resistor (already supplied with DIRIS Digiware C, M & D)	1	4829 **0180**
6.5-ft USB Cable for configuration - Type A to Type Micro-B	1	4829 **0050**

Digiware bus cables [1]		Reference
RJ45 cables for Digiware Bus	Length 0.20 ft / 0.06 m	4829 **0189**
	Length 0.32 ft / 0.10 m	4829 **0181**
	Length 0.66 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 9.84 ft / 3 m	4829 **0190**
	Length 16.4 ft / 5 m	4829 **0186**
	Length 32.8 ft / 10 m	4829 **0187**
	164.04 ft / 50 m reel + 100 connectors	4829 **0185**

(1) To guarantee the proper operation of the DIRIS Digiware system, do not substitute Socomec Digiware bus cables with standard Ethernet RJ45 cables.

Commissioning		Reference
1/2 day remote commissioning	Remote commissioning including installation verification, programming and communication testing	9230**100027**
1/2 day on-site commissioning	On-site commissioning including installation verification, programming and communication testing	9230**100004**

Expert Services

Our service engineers are an essential part of our team, and they are dedicated to ensuring your power monitoring system provides accurate and reliable measurements to your EPMS software or SCADA system.

Our services include:

- Site audits to verify the proper wiring of your system
- Personnel training on how to configure, operate and maintain power monitoring equipment and associated software
- Remote and on-site commissioning to ensure that your system is up and running quickly, with peace of mind.

For further information, please contact your nearest SOCOMEC branch.