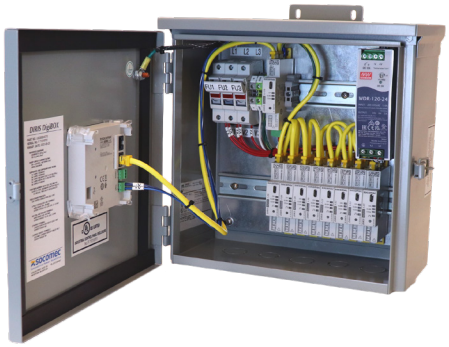
DIRIS DigiBOX M

Multi-circuit power meter - enclosed



DIRIS DigiBOX M8
Multi-point power meter

Configuration with Easy Config System

Function

Socomec's enclosed **DIRIS DigiBOX M** submetering line is designed to offer a complete and modular multi-circuit metering solution in NEMA 12/3R enclosures for indoor and outdoor use.

With ease of installation for retrofit applications and factory pre-wired Plug & Play technology, DIRIS DigiBOX solutions provide considerable savings in installation costs and customer site downtime. The solution offers the benefits of the scalable & customizable Digiware technology.

Advantages

Plug & Play
- Factory pre-wired
- Color-coded RJ12 cables for easy phase identification when wiring current sensors to the DigiBOX meters.
- Automatic detection of current sensor types and ratings
- Using low-voltage mV current sensors, no shorting blocks are needed, they can be disconnected safely under load

Accurate

Accuracy of measurements meets ANSI C12.20 and IEC 61557-12 standards:
- Class 0.5 system accuracy (Meter + TE / iTR / TF current sensors) from 2% to 120% of rated current
- Class 0.2 DigiBOX M meter accuracy

Safe & reliable
- Durable NEMA 12, 3R
- cULus listed enclosures and components
- Assembled at our cULus 508A facility
- Fused voltage connections
- Detailed installation and commissioning instruction guides

The solution for

> Industry
> Building
> Infrastructure
> Data center

The solution for

> Plug & Play
> Accurate
> Safe & reliable

Conformity to standards

> cULus 508A

> IEC 61557-12

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

Create your project

> Find the best power monitoring configuration:
www.meter-selector.com

METER SELECTOR DIGITAL TOOL AVAILABLE

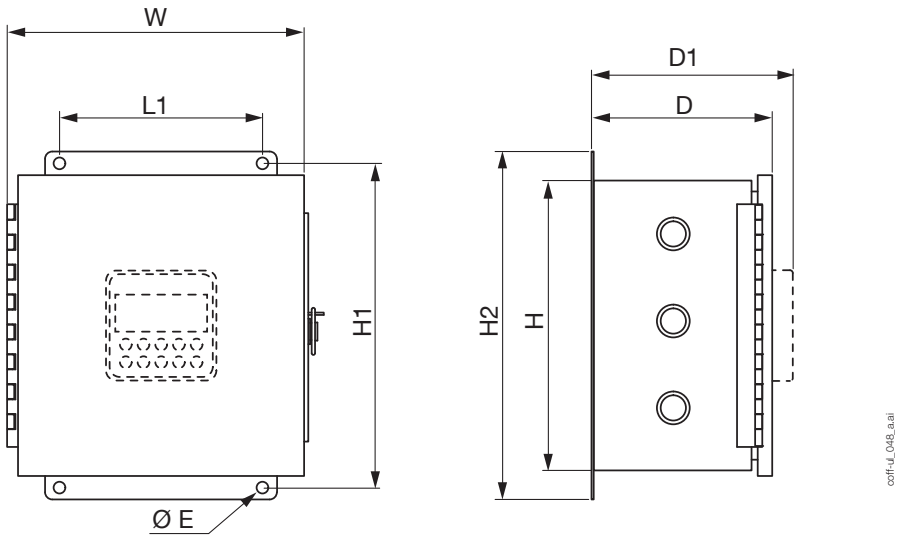
socomec Innovative Power Solutions

Selection Guide

	DigiBOX M4		DigiBOX M8		DigiBOX M4 Pro			
								
Metering technology	DIRIS Digiware system		DIRIS Digiware system		DIRIS Digiware system		DIRIS Digiware system	
Number of metering points (3P)	4		8		4		8	
Number of current inputs	12		24		12		24	
Display		•		•		•		•
WEBVIEW web interface						•		•
Communication								
RS485 (*)	•	•	•	•	•	•	•	•
Ethernet (**)		•		•		•		•
Enclosure								
Type	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
Rating	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R	NEMA 12/3R
Dimensions (H x W x D)	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in	12 x 12 x 6 in
Electrical characteristics								
Voltage Input	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC	200 - 480 VAC
Energy metering								
kWh (+/-), kvarh (+/-), kVAh	•	•	•	•	•	•	•	•
∑P (kW), ∑Q (kvar), ∑S (kVA), PF	•	•	•	•	•	•	•	•
P (kW), Q (kvar), S (kVA), PF per phase	•	•	•	•	•	•	•	•
Multi-measurement								
Amps, Volts, Frequency	•	•	•	•	•	•	•	•
Unbalance U, V, I					•	•	•	•
Power quality								
THD U, V, I					•	•	•	•
Individual Harmonics V, U, I (up to 63rd)					•	•	•	•
PQ Events (sags, swells, interruptions and overcurrents)					•	•	•	•
Alarms								
Measurement thresholds	Power / Energies	Power / Energies	Power / Energies	Power / Energies	•	•	•	•
System alarms	•	•	•	•	•	•	•	•
Email notifications						•		•
References	USDBB04ND0	USDBB04D50	USDBB08ND0	USDBB08D50	USDBP04ND0	USDBP04D70	USDBP08ND0	USDBP08D70

(*) Supported RS485 protocol: Modbus RTU
(**) Supported Ethernet protocols: Modbus TCP/IP, BACnet IP, SNMP V1, V2, V3 & Traps

Dimensions



Technical Characteristics

Electrical characteristics	
Input Power	
Voltage	110-480 VAC
Frequency	50/60 Hz
Measurement characteristics	
Power and energy measurement	
Accuracy active energy and active power	Class 0.2, DigiBOX M alone Class 0.5 with TE, iTR, TF sensors Class 1 with TR sensors
Accuracy reactive energy	Class 1 with TE, iTR, TF sensors
Power factor measurement	
Accuracy	Class 0.5 with TE, iTR, TF sensors Class 1 with TR sensors
Voltage measurement	
Electrical network type	Single-phase (1P2W) / Two-phase (2P2W) / Two-phase with neutral (2P3W) / Three-phase (3P3W) / Three-phase with neutral (3P4W
Voltage measurement rating	500-300 VAC (Ph-N) / 87-520 VAC (Ph-Ph) – CAT III
Voltage accuracy	Class 0.02
Voltage input consumption	≤ 1 VA
Frequency range	45 – 65 Hz
Frequency accuracy	Class 0.2
Current measurement	
Number of current inputs	DigiBOX M4: 12 DigiBOX M8: 24
Associated current sensors	Solid-core TE, split-core TR/iTR, flexible Rogowski TF
Connection	Dedicated Socomec RJ12 cables
Accuracy	Class 0.2 DigiBOX M alone
Mechanical characteristics	
Application	Indoor installations
Enclosure	Steel, finished in ANSI 61 gray powder coating
Enclosure dimensions (in)	12 (H) x 12 (W) x 6 (D)
Protection rating	NEMA 3R / IP24
Operational temperature	+14 ... +131 °F / -10 °C ... +70 °C
Altitude	≤ 9840 ft / 3000 m
Communication characteristics	
RS485	
Link	RS485
Connection Type	2 to 3 half duplex wires
Protocol	Modbus RTU
Baudrate	9600 – 115200 baud
Ethernet	
Link	Ethernet
Connection Type	RJ45 10/100 Mbs
Protocol	Modbus TCP/IP, BACnet IP, SNMP v1, v2, v3
USB	
Link	Micro USB Type b
Protocol	Modbus RTU
Use	Configuration via Easy Config System and firmware upgrade via Product Upgrade Tool

References

DIRIS DigiBOX M enclosed power meters		Reference
DIRIS DigiBOX M4 without display	12 current sensor inputs - RS485 Modbus RTU	**USDBB04ND0**
DIRIS DigiBOX M4 with display	12 current sensor inputs - RS485 Modbus RTU + Ethernet Modbus TCP + BACnet IP + SNMP	**USDBB04D50**
DIRIS DigiBOX M8 without display	24 current sensor inputs - RS485 Modbus RTU	**USDBB08ND0**
DIRIS DigiBOX M8 with display	24 current sensor inputs - RS485 Modbus RTU + Ethernet Modbus TCP + BACnet IP + SNMP	**USDBB08D50**
DIRIS DigiBOX M4 PRO without display	12 current sensor inputs - RS485 Modbus RTU - power quality and alarming	**USDBP04ND0**
DIRIS DigiBOX M4 PRO with display	12 current sensor inputs - RS485 Modbus RTU + Ethernet Modbus TCP + BACnet IP + SNMP - WEBVIEW-M webserver - power quality and alarming	**USDBP04D70**
DIRIS DigiBOX M8 PRO without display	24 current sensor inputs - RS485 Modbus RTU - power quality and alarming	**USDBP08ND0**
DIRIS DigiBOX M8 PRO with display	24 current sensor inputs - RS485 Modbus RTU + Ethernet Modbus TCP + BACnet IP + SNMP - WEBVIEW-M webserver - power quality and alarming	**USDBP08D70**

Accessories	Reference
1A/5A secondary CT adapter with RJ12 output	4829 **0599**
6.5-ft USB Cable for configuration - Type A to Type Micro-B	4829 **0050**

RJ12 Solid-core current sensors [1]

Model	Nominal current range (A)	Real range covered (A)	Window size (in/mm)	Reference
TE-18	5 … 20	0.1 … 24	Ø 0.33 / 8.6	4829 **0500**
TE-18	25 … 63	0.5 … 75	Ø 0.33 / 8.6	4829 **0501**
TE-25	40 … 160	0.8 … 192	0.53 x 0.53 / 13.5 x 13.5	4829 **0502**
TE-35	63 … 250	1.26 … 300	0.82 x 0.82 / 21 x 21	4829 **0503**
TE-45	160 … 630	3.2 … 756	1.22 x 1.22 / 31 x 31	4829 **0504**
TE-55	400 … 1000	8 … 1200	1.61 x 1.61 / 41 x 41	4829 **0505**
TE-90	600 … 2000	12 … 2400	2.52 x 2.52 / 64 x 64	4829 **0506**

(1) Refer to pages 348-351 for more information on TE current sensors

RJ12 Split-core current sensors [2]

Model	Nominal current range (A)	Real range covered (A)	Window size (in/mm)	Reference
TR-10 / iTR-10	25 … 63	0.5 … 75.6	Ø 0.39 / 10	4829 **0555** / 4829 **0655**
TR-14 / iTR-14	40 … 160	0.8 … 192	Ø 0.55 / 14	4829 **0556** / 4829 **0656**
TR-21 / iTR-21	63 … 250	1.26 … 300	Ø 0.83 / 21	4829 **0557** / 4829 **0657**
TR-32 / iTR-32	160 … 600	3.2 … 720	Ø 1.26 / 32	4829 **0558** / 4829 **0658**

(2) Refer to pages 352-353 for more information on TR/iTR current sensors

RJ12 Flexible Rogowski current sensors [3] [4]

Model	Nominal current range (A)	Real range covered (A)	Window size (in/mm)	Reference
TF-40	100 … 400	2 … 480	Ø 1.57 / 40	4829 **0573**
TF-80	150 … 600	3 … 720	Ø 3.15 / 80	4829 **0574**
TF-120	400 … 2000	8 … 2400	Ø 4.72 / 120	4829 **0575**
TF-200	600 … 4000	12 … 4800	Ø 7.87 / 200	4829 **0576**
TF-300	1600 … 6000	32 … 7200	Ø 11.81 / 300	4829 **0577**
TF-600	1600 … 6000	32 … 7200	Ø 23.62 / 600	4829 **0578**
Set of 3 RJ12 female/female connectors for RJ12 lead extension between power meter and TF sensor				4829 **0670**

(3) TF Rogowski sensors come with a 6-ft cable lead with RJ12 male connector

(4) Refer to pages 354-355 for more information on TF current sensors

RJ12 sensor lead cables	Cable length (ft / m)										
	0.32/0.1	**0.64/0.2**	**0.96/0.3**	**1.64/0.5**	**3.3/1**	**6.5/2**	**9.84/3**	**16.4/5**	**22.9/7**	**32.8/10**	**164/50 reel + 100 connectors**
Number of cables	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**	**Reference**
1	-	-	-	-	-	-	-	4829 **0602**	-	4829 **0603**	4829 **0601**
3	4829 **0580**	4829 **0581**	4829 **0582**	4829 **0595**	4829 **0583**	4829 **0584**	4829 **0606**	4829 **0607**	4829 **0608**	4829 **0609**	-
4	-	-	-	4829 **0596**	4829 **0588**	4829 **0589**	-	-	-	-	-
6	4829 **0590**	4829 **0591**	4829 **0592**	4829 **0597**	4829 **0593**	4829 **0594**	-	-	-	-	-

References (continued)

RJ12 sensor lead cables	Cable length (ft / m)										
	0.32/0.1	0.64/0.2	0.96/0.3	1.64/0.5	3.3/1	6.5/2	9.84/3	16.4/5	22.9/7	32.8/10	164/50 reel + 100 connectors
Number of cables	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
1	-	-	-	-	-	-	-	4829 **0602**	-	4829 **0603**	4829 **0601**
3	4829 **0580**	4829 **0581**	4829 **0582**	4829 **0595**	4829 **0583**	4829 **0584**	4829 **0606**	4829 **0607**	4829 **0608**	4829 **0609**	-
4	-	-	-	4829 **0596**	4829 **0588**	4829 **0589**	-	-	-	-	-
6	4829 **0590**	4829 **0591**	4829 **0592**	4829 **0597**	4829 **0593**	4829 **0594**	-	-	-	-	-

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.