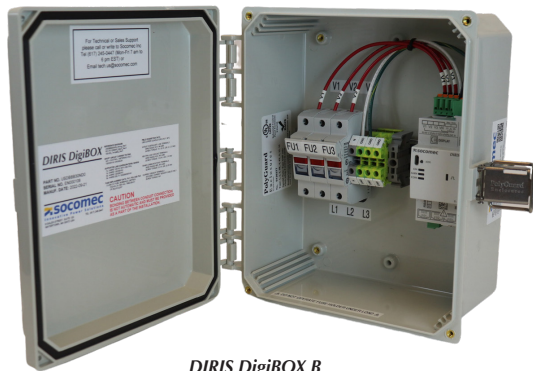


# DIRIS DigiBOX B

Enclosed single-point submetering solution



**DIRIS DigiBOX B**  
Enclosed single-point submeter



## Function

**DIRIS DigiBOX B** is an easy-to-install enclosed single-point submetering solution. It provides users with all they need for a complete submeter installation. Simply select the current sensors (CTs) from our wide plug & play selection to complete your system. With just two part numbers, DIRIS DigiBOX B allows you to address a wide range of metering applications.

**DigiBOX B** is powered by our DIRIS B-30 power monitoring device that communicates Modbus RTU via RS485.

## Advantages

### Safe and reliable

- cULus listed enclosures and components
- Assembled at our cULus 508A facility
- Fused voltage connections
- Detailed installation and commissioning instruction guides

### 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 B meter accuracy

### Plug & Play design

- Color coded RJ12 cables for easy phase identification when wiring current sensors to the DigiBOX B
- Automatic detection of current sensor type and rating
- Using low-voltage mV current sensors, no shorting blocks are needed, they can be disconnected safely under load

## The solution for

- > Renewable
- > Infrastructure
- > Industry
- > Buildings



## Strong points

- > Safe and reliable
- > Plug & Play design
- > Accurate

## Conformity to standards


- > cULus 508A
- > ANSI C12.20
- > IEC 61557-12
- > UL 61010-1  
CSA-C22.2 No.  
61010-1  
Guide PICQ  
File E257746



# DIRIS DigiBOX B

## Enclosed single-point submetering solution

### Selection Guide

	<b>DIRIS B-30</b>	
		
Metering technology	<b>DIRIS B-30</b>	<b>DIRIS B-30</b>
Number of metering points (3P)	1	1
Number of current inputs	4	4
Communication		
RS485 (*)	•	•
Enclosure		
Type	Polycarbonate	Polycarbonate
Rating	NEMA 4X	NEMA 4X
Dimensions (H x W x D)	12 x 10 x 6 in	12 x 10 x 6 in
Electrical characteristics		
Power Supply	110 - 240 VAC	110 - 480 VAC
Energy metering		
kWh (+/-), kvarh (+/-), kVAh	•	•
kW (+/-), kvar (+/-), kVA	•	•
Demand Profiles (History)	•	•
Power Factor	•	•
Multi-measurement		
Amps, Volts, Frequency	•	•
Power quality		
Voltage/current imbalance	•	•
THDV, THDU, THDI	•	•
Individual Harmonics V, U, I (up to 63rd)	•	•
Alarms		
Measurement thresholds	•	•
Events (voltage sags, swells, interruptions and overcurrents)	•	•
Part Nos	<b>USDBBB30NDO</b>	<b>USDBPB30NDO</b>

(\*) Supported RS485 protocol: Modbus RTU

### Commissioning

To get your DIRIS DigiBOX B up and running quickly with peace of mind, Socomec experts are here to assist you with commissioning. Our commissioning services consist of:

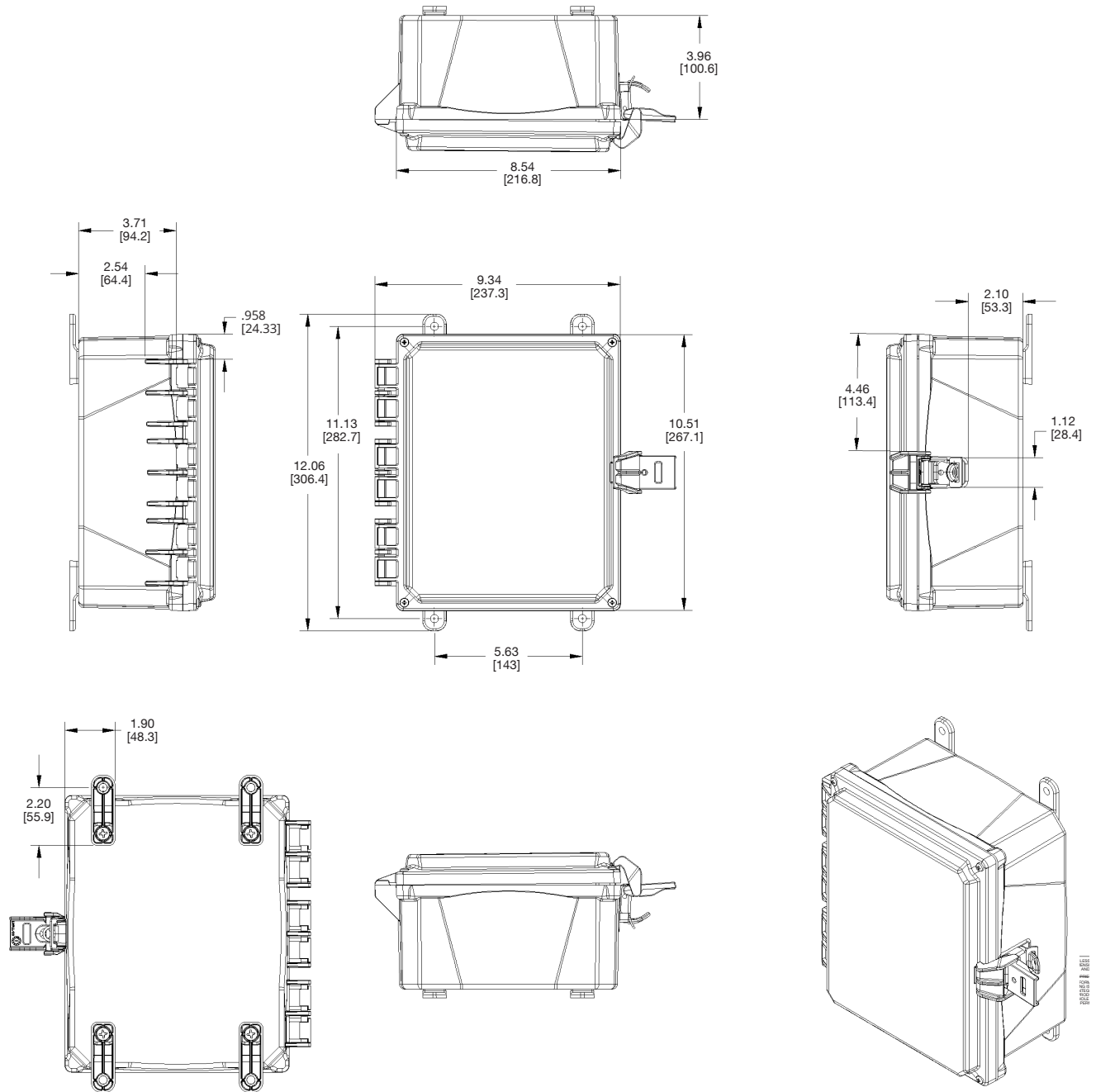
- Verifying the installation and wiring of your power monitoring system (phase association, orientation of CTs etc.)
- Configuring your DIRIS DigiBOX B
- Performing communication tests to ensure measurement data gets communicated to your energy management system.
- Information on how to operate the power monitoring system and associated software
- A detailed commissioning report summarizing the system settings, passwords etc.



# DIRIS DigiBOX B

## Enclosed single-point submetering solution

### Dimensions (in/mm)



# DIRIS DigiBOX B

## Enclosed single-point submetering solution

### Technical characteristics

#### Electrical characteristics

<b>Input Power</b>	
Voltage	110 - 240 VAC (Ph-Ph or Ph-N) with USDBBB30NDO 110 - 480 VAC (Ph-Ph or Ph-N) with USDBPB30NDO
Frequency	50/60 Hz

#### Measurement characteristics

<b>Power and energy measurement</b>	
Accuracy active energy and active power	Class 0.2, DigiBOX B (Meter Only) Class 0.5 (Meter with TE, iTR, TF sensors) Class 1 (Meter + TR sensors)
Accuracy reactive energy	Class 2 (Meter with TE, iTR, TF sensors)
<b>Power factor measurement</b>	
Accuracy	Class 0.5 (Meter with TE, iTR, TF sensors) Class 1 (Meter + TR sensors)
<b>Voltage measurement</b>	
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
<b>Current measurement</b>	
Number of current inputs	4
Associated current sensors	Solid-core TE, split-core TR/iTR, flexible Rogowski TF
Connection	Socomec RJ12 cables
Accuracy	Class 0.2 DigiBOX B (Meter Only) Class 0.5 (Meter with TE, iTR, TF sensors) Class 1 (Meter + TR sensors)

#### Mechanical characteristics

Enclosure	Polycarbonate
Enclosure dimensions (in)	12 (H) x 10 (W) x 6 (D)
Protection rating	NEMA 4X / IP66
Operational temperature	+14 ... +158 °F / -10 °C ... +70 °C
Altitude	≤ 9840 ft / 3000 m

#### Communication characteristics

<b>RS485</b>	
Link	RS485
Connection type	Half-Duplex, 2 wires
Protocol	Modbus RTU
Baudrate	1200 – 115200 baud
<b>USB</b>	
Link	Micro USB Type b
Protocol	Modbus RTU
Use	Configuration via Easy Config System and firmware upgrade via Product Upgrade Tool

# DIRIS DigiBOX B

## Enclosed single-point submetering solution

### References

#### DigiBOX B - Single-point submeter

Description	Reference
DigiBOX B-30 enclosed power meter with RS485 - 110-240 VAC power supply	USDBBB30NDO
DigiBOX B-30 enclosed power meter with RS485 - 110-480 VAC power supply	USDBPB30NDO

#### Solid-core current sensors

Model	Nominal current range (A)	Real range covered (A)	Aperture 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..	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

#### Split-core current sensors

Model	Nominal current range (A)	Real range covered (A)	Aperture 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

#### Flexible Rogowski current sensors (\*)

Model	Nominal current range (A)	Real range covered (A)	Aperture 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 DigiBOX B and TF sensors				4829 0670

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

#### RJ12 sensor lead cables

Model	Number of cables	Length (ft/m)	Color coding	Reference
RJ12 3 x 0.5m	3	1.64 / 0.5	Black, Red, Yellow	4829 0595
RJ12 3 x 1m	3	3.3 / 1	Black, Red, Yellow	4829 0583
RJ12 3 x 2m	3	6.5 / 2	Black, Red, Yellow	4829 0584
RJ12 3 x 3m	3	9.84 / 3	Black, Red, Yellow	4829 0606
RJ12 3 x 5m	3	16.4 / 5	Black, Red, Yellow	Please consult us
RJ12 3 x 10m	3	32.8 / 10	Black, Red, Yellow	Please consult us

#### Commissioning

1/2-day remote commissioning	Remote commissioning including installation verification, programming and communication testing	9230100027
1/2-day on-site commissioning	On-site commissioning including installation verification, programming and communication testing	9230100004