PowerCom Box
Installation manual

Compliance Model Number: F00002B1

Revision 200 (Valid from December 2023)

SulfiLogger

Installation manual

This manual covers the installation and use of the PowerCom Box - an accessory that powers the SulfiLogger™ sensor and transmits data to the SulfiLogger™ WebData cloud service.

Disclaimer
Please read this manual carefully before unpacking, installing, or operating the equipment. Failure to do so may result in serious injury to operators or other persons, or damage to equipment.

Only qualified technicians who are familiar with the technical terms, warnings, and instructions in this manual and who are able to follow these should connect the equipment.

Do not use the equipment in any other way than specified.

Pay attention to all caution statements in the manual (⚠).

The equipment is not intended to be the sole control mechanism in any setup and the intended use of the equipment is recommended to be in combination with other supplementary control mechanisms and systems.

Warranty
The equipment is covered by a limited warranty as specified in "General Terms and Conditions of Sale and Delivery".

Equipment use and handling considerations
⚠ *Do not use the equipment outside the specified electrical, mechanical, and thermal parameters as specified in the "Technical specifications" in Fig. 3.*

Installation
Follow the step-by-step instructions (Fig. 7).

View short instructional videos in the SulfiLogger Academy (Scan the QR code on the cover of this manual or go to sulfilogger.com/academy).

📦 This icon refers to tools or materials supplied by the manufacturer.

🛒 This icon refers to tools or materials supplied by the user.

Installation in hazardous locations (Ex)
See the Installation drawings (pages 6-7).

Mounting options
Clamps, wall, or DIN rail mounting (separate accessory products). Follow the step-by-step instructions (Fig. 8).

Maintenance
Replace PowerCom Box batteries when needed. See battery status online. Use only PowerCom Box batteries (P/N: S00098) and replace the batteries one at a time while the PowerCom Box is turned on. Use only new batteries.

Troubleshooting
Please visit sulfilogger.com/support.

Disassembly, modifications, and repair
Disassembly, modifications, and repair of the equipment may only be performed by the manufacturer.
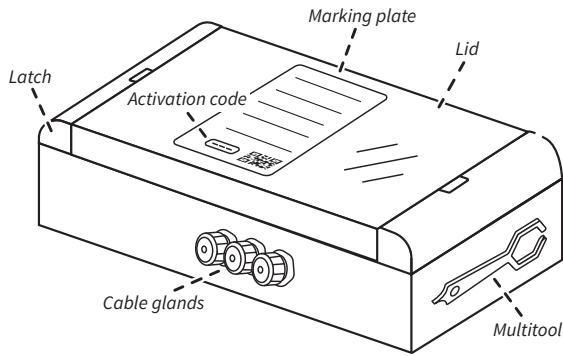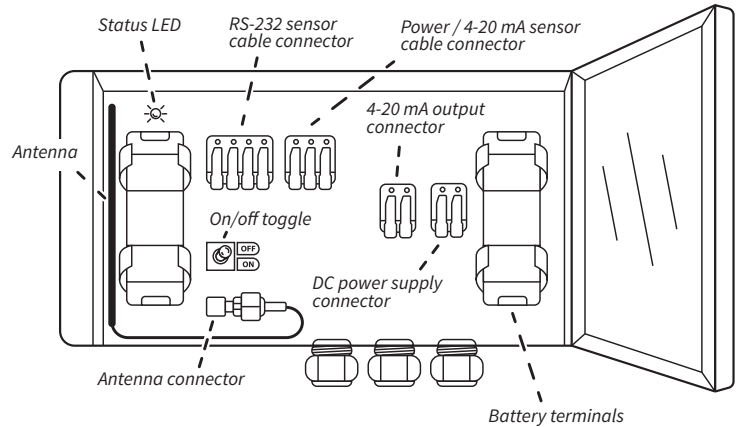
Fig. 1 PowerCom Box overview - exterior

Marking plate
Lid
Latch
Activation code
Cable glands
Multitool

Fig. 2 PowerCom Box overview - interior

Status LED
RS-232 sensor cable connector
Power / 4-20 mA sensor cable connector
Antenna
4-20 mA output connector
On/off toggle
DC power supply connector
Antenna connector
Battery terminals

Fig. 3 Technical specifications

Dimensions (W x H x D)	230 x 155 x 63 mm (9.0 x 6.1 x 2.5 in)
Weight	0.80 kg (1.76 lb)
Enclosure	Polycarbonate
Enclosure rating	IP64/IP67
Environment pollution degree	4
Protection class	III
Overvoltage category	I
Environmental conditions	Indoor and outdoor use
Power requirements	One of these options: • Two SulfiLogger A/S batteries model S00098, Lithium metal, non-rechargeable • DC power supply (9-28 VDC, 1 A)
Operating/storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Operating/storage humidity	0 to 100 % humidity
Antenna	Internal (optional: external)
Connectivity	4G (LTE-M1)
Cloud data service	SulfiLogger™ WebData https://webdata.sulfilogger.com
Certifications – radio	FCC, ISED
Certifications - safety	cETLus safety listed (5022889)

Fig. 4 Status LED

The PowerCom Box's status LED loops a 2-part status message that can be used for troubleshooting.

1st LED flash sequence - Cloud connectivity status

State	LED pattern
Idle	None
Connecting to cloud	🟢🟢🟢🟢🟢🟢🟢🟢
Connected to cloud	🟢🟢🟢🟢🟢🟢

+

2nd LED flash sequence - Device connectivity status

Flash #	State	LED pattern	
1	Data upload	🟢 Completed	🔴 Not completed
2	Sensor power (4-20 mA)	🟢 Connected	🔴 Disconnected
3	Sensor RS-232	🟢 Connected	🔴 Disconnected
4	Ext. DC (opt.)	🟢 Used	🟠 Not used
5	Ext. Loop power (opt.)	🟢 Used	🟠 Not used

Examples	1st sequence	2nd sequence
Connected to cloud + Battery powered	🟢🟢🟢🟢🟢🟢	+ 🟢 🟢 🟢 🟠 🟠
Connected to cloud + Ext. DC power	🟢🟢🟢🟢🟢🟢	+ 🟢 🟢 🟢 🟢 🟠

Fig. 5 Wiring for sensor cables

RS-232 sensor cable

Terminal/wire	Connection
Brown	Sensor RXD
White	Not connected
Blue	Sensor TXD
Black	GND
Gray	Not connected

Power / 4-20 mA sensor cable

Terminal/wire	Connection
Brown	Positive (+12 V to 28 V)
White	Not connected
Blue	Negative (-)
Black	Not connected
Gray	Not connected

Fig. 6 Wiring for external connectors (optional)

4-20 mA output (24 V, source)

Terminal/wire	Connection
1 (left)	Loop -
2 (right)	Loop +

DC power supply (9-28 VDC, 1A)

Terminal/wire	Connection
1 (left)	Ground
2 (right)	VDC +

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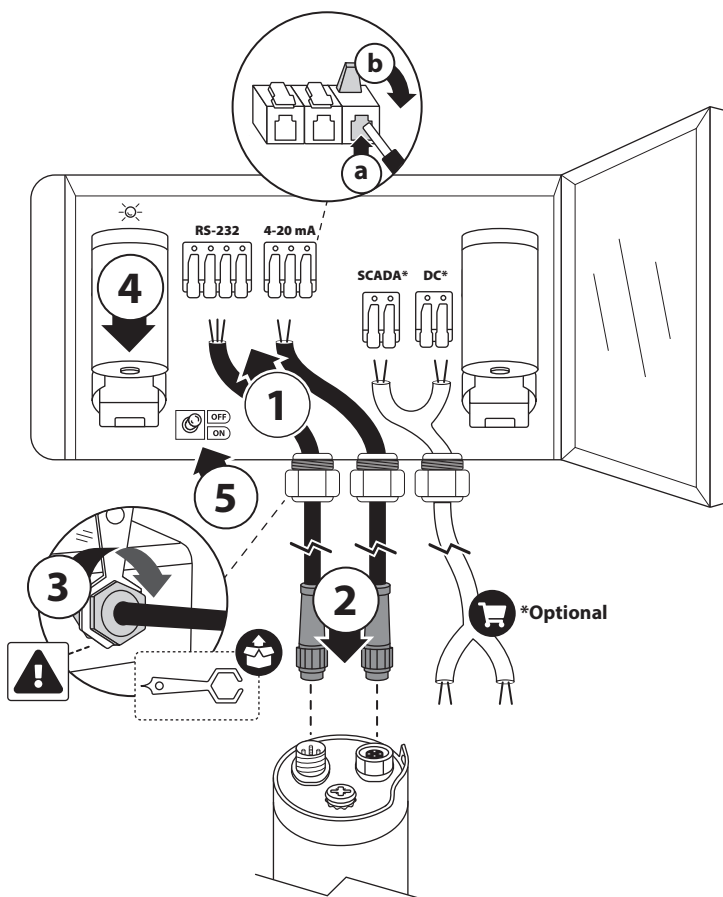
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Fig. 7 Installation (step-by-step)

1. Configure SulfiLogger™ WebData and open the lid
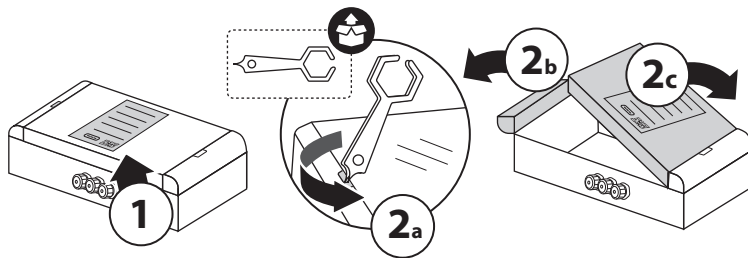
① Scan the QR activation code with a smartphone or go to webdata.sulfilogger.com, login/register a new user, and add a site.

② Open the lid:
2a) Twist the flat end of the multitool in the small gap between the lid and the latch.
2b) Open the latch.
2c) Open the lid.

2. Configure the PowerCom Box

*Optional

① Insert and connect the two sensor cables (Fig. 5). For optional SCADA/PLC integration, connect 4-20 mA loop power (24 V, source) (Fig. 6).

② Prepare the SulfiLogger™ sensor for installation and connect the sensor cables as specified in the sensor's installation manual.

③ Tighten all cable glands using the multitool (also for unused connectors).

⚠ *Be careful not to over- or undertighten the cable glands. The cables should be tightened at the cable sections that have shrink tubing. Pull the cables to test. Ensure all unused connectors are sealed with a plug.*

④ Insert two batteries and/or connect a DC power supply 9-28 VDC, 1 A (Fig. 6).

⑤ Turn on the PowerCom Box.

### 3. Close the lid and verify connectivity
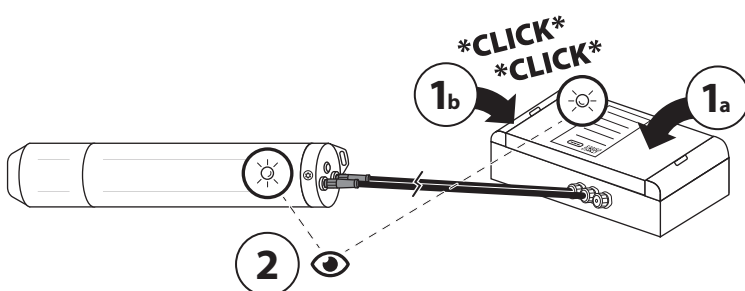
CLICK *CLICK*

① Close the lid:
1a) Close the lid.
1b) Close the latch ("Click", "Click").

② Visually inspect the status LED on the SulfiLogger™ sensor (see the sensor's installation manual) and on the PowerCom Box (Fig. 4). Ensure that the [PowerCom] Box is connected to the cloud and [uploads] data. It may take a few minutes for the [data] upload to complete.

Fig. 8   Mounting options

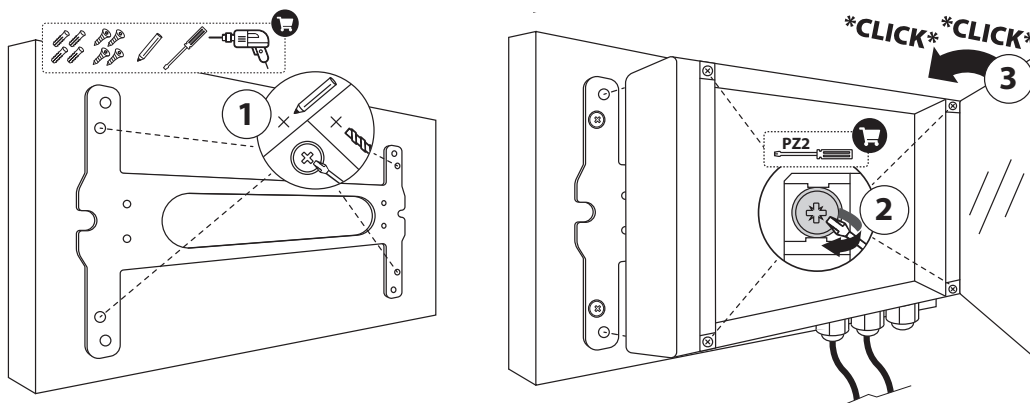### A. Clamp mounting (P/N: S00261, included with P/N: S00083)
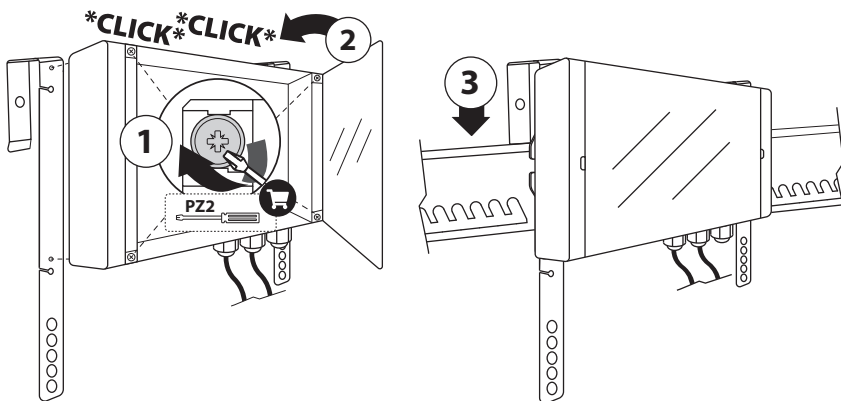
① Place the PowerCom Box on the clamps, open the lid using the multitool, and screw the 4 pre-installed screws in the corners of the PowerCom Box into the clamps.

② Close the lid (*Click*, *Click*).

③ Hook the clamps over the SulfiLogger Crossbeam and push down to secure.

To detach the PowerCom Box, grab the device and lift up.

B. Wall mounting (P/N: S00259)


① Drill 4 holes in the wall and mount the wall bracket using 4 screws (not included).

② Place the PowerCom Box on the wall bracket, open the lid using the multitool, and screw the 4 pre-installed screws in the corners of the PowerCom Box into the wall bracket.

③ Close the lid (*Click*, *Click*).

To detach the PowerCom Box from the wall bracket, open the lid and unscrew the 4 pre-installed screws in the corners of the PowerCom Box.

C. DIN rail mounting (P/N: S00259)
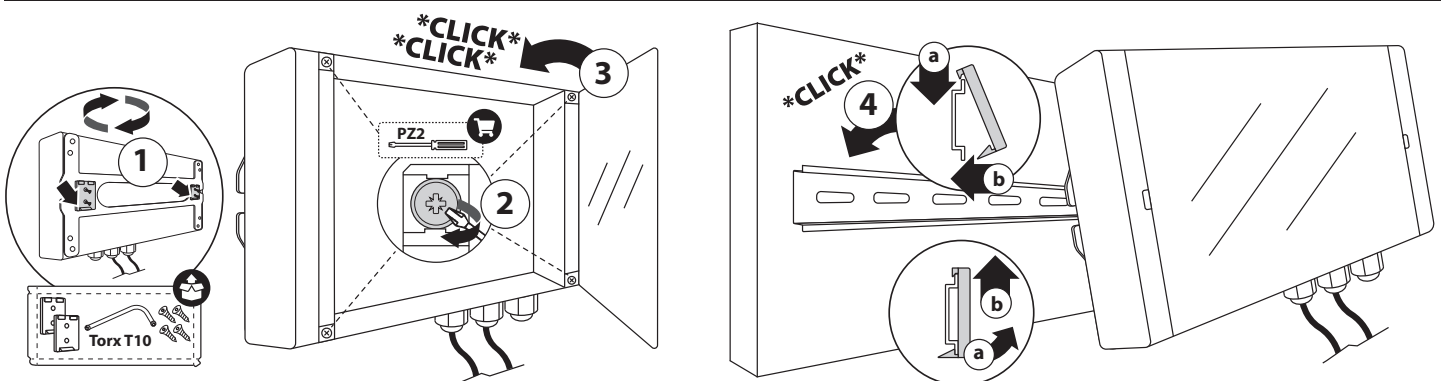
① Connect the 2 DIN rail mounting parts using the 4 included screws. Ensure the sloped part of the DIN rail mounting parts are pointing downwards (in the same direction as the cables).

② Open the lid and screw the 4 pre-installed screws in the corners of the PowerCom Box into the wall bracket.

③ Close the lid (*Click*, *Click*).

④ Mount the PowerCom Box on the DIN rail:
   a) Angle the PowerCom Box and hook the top of the DIN rail mounting parts on the top of the DIN rail.
   b) Push the bottom part of the PowerCom Box in (*Click*) to mount it.

To detach the PowerCom Box from the DIN rail, pull the bottom of the PowerCom Box away and lift up.

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ETL Installation Drawing

Manufacturer:

SulfiLogger A/S
Stokagervej 8G
DK-8240 Risskov
Denmark

Model:

PowerCom Box

Standards	UL 121201
	UL 913
	UL 60079-0
	UL 60079-11
	UL 61010-1
	CSA C22.2#213
	CSA C22.2#60079-0
	CSA C22.2#60079-11
	CSA C22.2#61010-1-12
Safety markings	Class I, Division 2, Groups A-D, T4
	Class I, Zone 2, Group IIC, T4
	Equipment providing intrinsically safe outputs
	[Ex ia] Class I, Division 1, Groups A-D
	[AEx ia Ga] IIC
	[Ex ia Ga] IIC
	Tamb: -20 °C to +60 °C
ETL certificate	ETL23CA104847186X
Intrinsically safe parameters	Power/4-20 mA:
	Uo: 29.2 V, Io: 85 mA, Po: 0.67 W, Lo: 4.9 mH, Co: 0.06 µF
	RS-232:
	Uo: 6.3 V, Io: 18.72 mA, Po: 0.30 W, Lo: 100 mH, Co: 10 µF
Electrical ratings	Battery: 3.6 V, 19 Ah, 2 A max
	DC: 9-28 Vdc, 1 A max
Ingress protection	IP64/IP67

⚠ This is the safety alert symbol. Obey all safety messages that follow this symbol to avoid potential injury. If on the instrument, refer to the instruction manual for operation or safety information.

I.S. outputs:

Intrinsic safety
Sécurité intrinsèque

Warning:

- EXPLOSION HAZARD – Batteries must only be changed in an area free of ignitible concentrations.
- EXPLOSION HAZARD. Do not connect or disconnect when energized.

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- EXPLOSION HAZARD. Do not disconnect while the circuit is live or unless the area is free of ignitible concentrations.
- Only use batteries from SulfiLogger A/S, model S00098.
- To reduce the risk of explosion only install new batteries.

Avertissement:

- RISQUE D'EXPLOSION – Les batteries ne doivent être remplacées que dans un emplacement exempt de concentrations inflammables.
- RISQUE D'EXPLOSION. Ne pas brancher ni débrancher soustension.
- RISQUE D'EXPLOSION. Ne pas débrancher pendant que le circuit est sous tension ou à moins quel'emplacement ne soit exempt de concentrations inflammables.
- Les piles ne diovent étre changes que dans une zone exempte de concentrations inflammables.
- Utilisez uniquement des batteries de SulfiLogger A/S, modèle S00098.
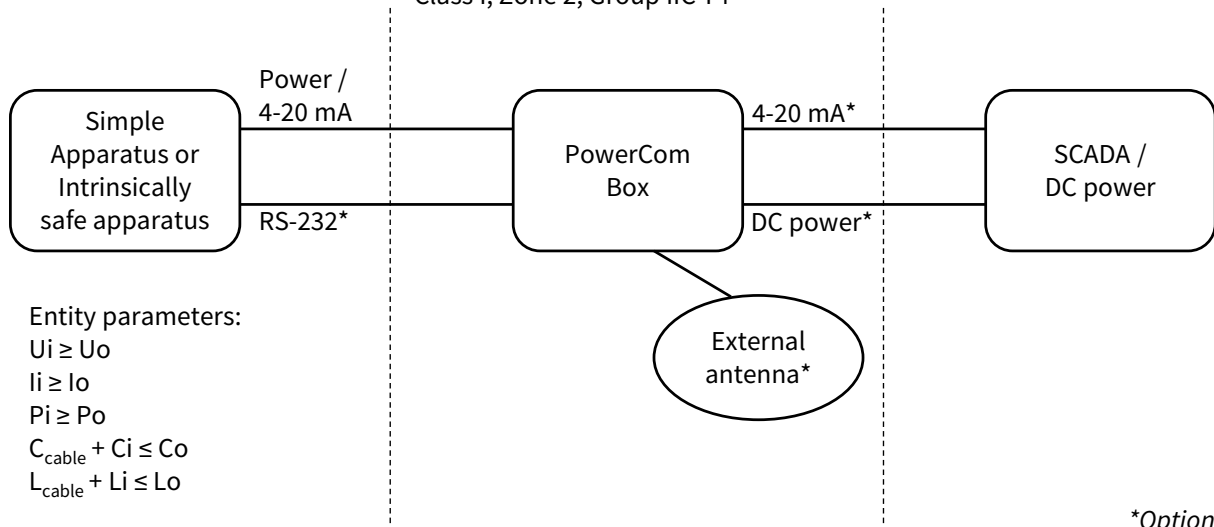- Pour réduire le risque d'explosion, n'installez que des piles neuves.

Specific Conditions of Use:

- It is end user's responsibility to select proper external antenna with an ingress protection rating of at minimum IP54 according to IEC60529.
- Inductance and capacitance values specified for connection Power/4-20 mA and RS232 have not been assessed for simultaneous combination. Care shall be taken to ensure that the combination of resistive, inductive and capacitive energies cannot result in an incendive spark. Refer to IEC 60079-25 for de-rating instructions.

Hazardous Classified Location
Class I, Division 1 or 2, Groups A-D
Hazardous area
Class I, Zone 0, 1, or 2, Group IIC

Unclassified Location/Non-hazardous area
or
Hazardous (Classified) Location/area
Class I, Division 2, Groups A-D T4
Class I, Zone 2, Group IIC T4

Unclassified Location/Non-hazardous area

```
 ┌──────────────┐   Power /        ┌──────────┐  4-20 mA*      ┌──────────┐
 │   Simple     │   4-20 mA        │          │                │          │
 │ Apparatus or │──────────────────│ PowerCom │────────────────│  SCADA / │
 │ Intrinsically│                  │   Box    │                │ DC power │
 │ safe apparatus│  RS-232*        │          │  DC power*     │          │
 └──────────────┘                  └──────────┘                └──────────┘
                                        │
                                   ┌─────────┐
                                   │ External│
                                   │ antenna*│
                                   └─────────┘
```

Entity parameters:
$U_i \geq U_o$
$I_i \geq I_o$
$P_i \geq P_o$
$C_{cable} + C_i \leq C_o$
$L_{cable} + L_i \leq L_o$

Optional

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SulfiLogger

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