

Instruction Sheet

Power connection box for sc analyzers

Safety Information

Please read this entire document before unpacking, setting up, or operating this equipment. Pay attention to all danger and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment.

To make sure that the protection provided by this equipment is not impaired, do not use or install this equipment in any manner other than that specified in this document.

Use of Hazard Information

DANGER

Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION




Indicates a potentially hazardous situation that may result in minor or moderate injury.

Important Note: Information that requires special emphasis.

Note: Information that supplements points in the main text.

Precautionary Labels

Read all labels and tags attached to the instrument. Personal injury or damage to the instrument could occur if not observed. A symbol, if noted on the instrument, will be included with a danger or caution statement in the manual.

	<p>This symbol, if noted on the instrument, references the instruction manual for operation and/or safety information.</p>
	<p>This symbol, when noted on a product enclosure or barrier, indicates that a risk of electrical shock and/or electrocution exists.</p>
	<p>Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August of 2005. In conformity with European local and national regulations (EU Directive 2002/96/EC), European electrical equipment users must now return old or end-of life equipment to the Producer for disposal at no charge to the user. Note: For all electrical products (marked or unmarked) which are supplied or produced by Hach-Lange, please contact the local Hach-Lange sales office for instructions for proper disposal.</p>

Introduction

This instruction sheet describes the mechanical mounting and the installation of the power connection box (Cat. No. LQV155.99.0000x).

The power connection box connects sc-analyzers to a power source and supplies one main power connection, fuses and power connectors for two sc-analyzers.

DANGER

Electrocution hazard. Only qualified personnel should conduct the tasks described in this instruction sheet.

Items supplied with the power connection box are shown in [Figure 1 on page 2](#). Not all items in the hardware set may be required. Only the parts used in these instructions are listed.

Power connection box for sc analyzers

Installation dimensions are shown in [Figure 2](#).

Important Note: Make sure there is adequate space below the power connection box (50–100 mm) for cables and connectors.

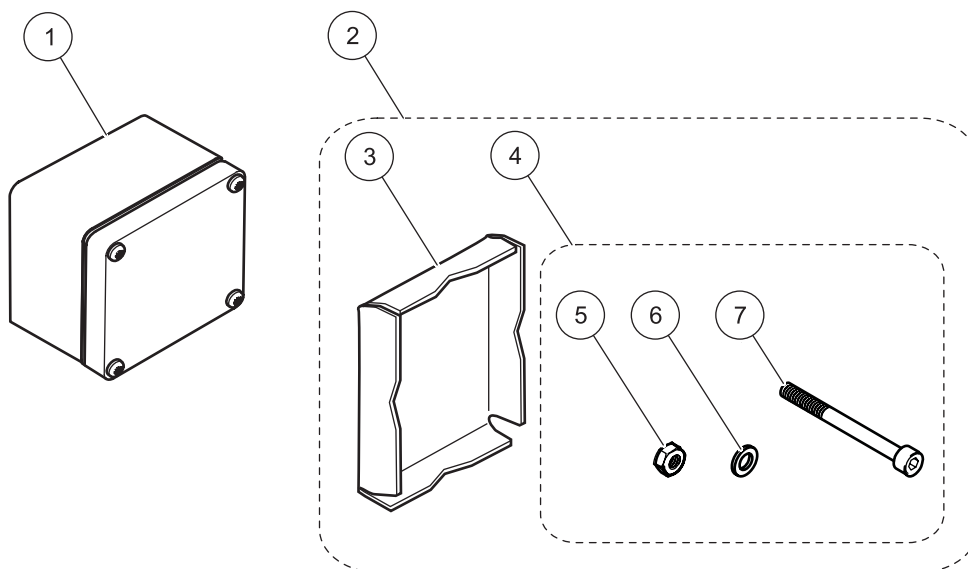


Figure 1 Items supplied with the power connection box (LQV155.99.0000x).

1	Power connection box	5	Nut M6 (4x) (LZQ058)
2	Mounting kit for rail or pole mounting (LZQ059)	6	Washer for M6 (4x) (LZQ058)
3	Clamping plate for LZQ060 (LZQ059)	7	Hex socket head screw M6 x 100 mm (4x) (LZQ058)
4	Screw set for LZQ058 (LZQ059)		

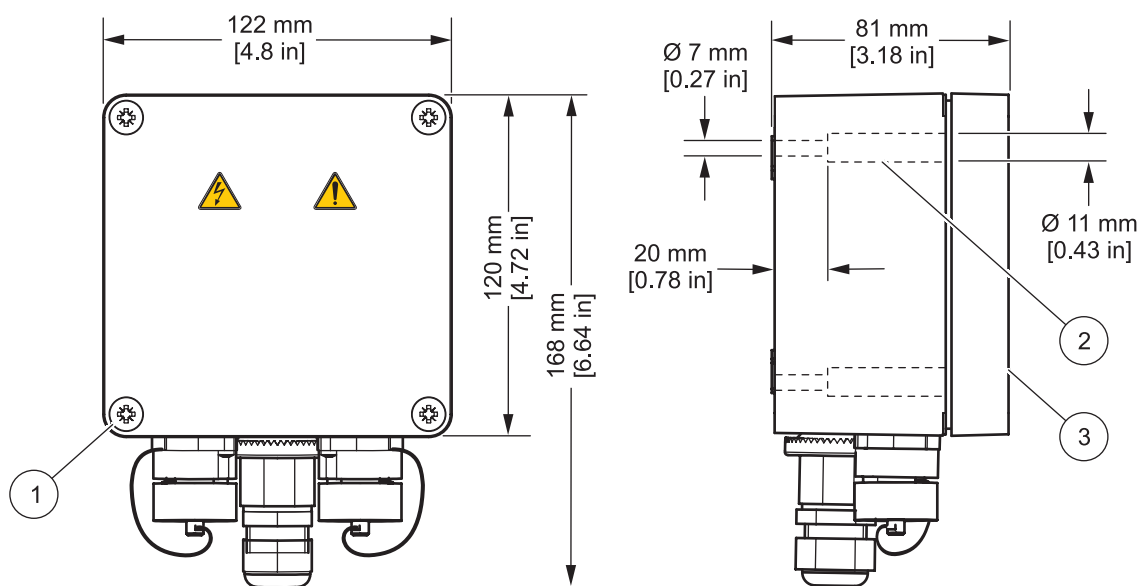


Figure 2 Dimensions

1	Cover screw (4x)	3	Cover
2	Mounting hole (4x)		

Mechanical installation



DANGER

Electrocution Hazard. This instrument must be connected to only single phase 100–240 VAC power supplies, protected by a 15 A fuse or circuit breaker.

DANGER

Electrocution Hazard. Always include a local 2-pole power disconnect switch (isolating device) in the supply wiring. The isolating device must comply with the relevant regulations. This device must be installed near to the instrument and easily accessible, and must be marked as an isolating device. Prior to opening the power supply housing, isolate the system using the isolating device.

Installation location

The power connection box can be mounted to a wall, vertical pole or horizontal rails.

Important Note: Refer to the sensor user manual and the controller user manual when installing the power connection box. Note all safety instructions and hazards.

Important Note: Make sure there is adequate space below the power connection box (50–100 mm) for cables and connectors.

Note: When selecting the installation location, always make sure there is safe access to all parts of the system.

Wall installation

1. Loosen the four cover screws and remove the cover (see [Figure 2](#)).
2. Mount the housing, using the four supplied screws (see [Figure 1](#) on page 2 and [Figure 2](#) on page 2). Refer to [Figure 3](#) for mounting dimensions.

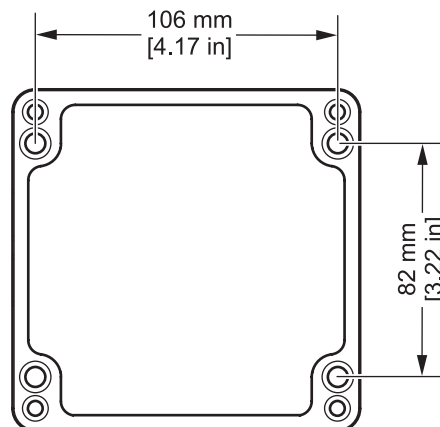


Figure 3 Installation dimensions

Power connection box for sc analyzers

Rail or pole installation

Note: Make sure the diameter of the railing or the pole is between 35 mm (1.38 in.) and 55 mm (2.17 in.).

Refer to [Figure 4](#) or [Figure 5](#) to attach the housing using the clamping plate.

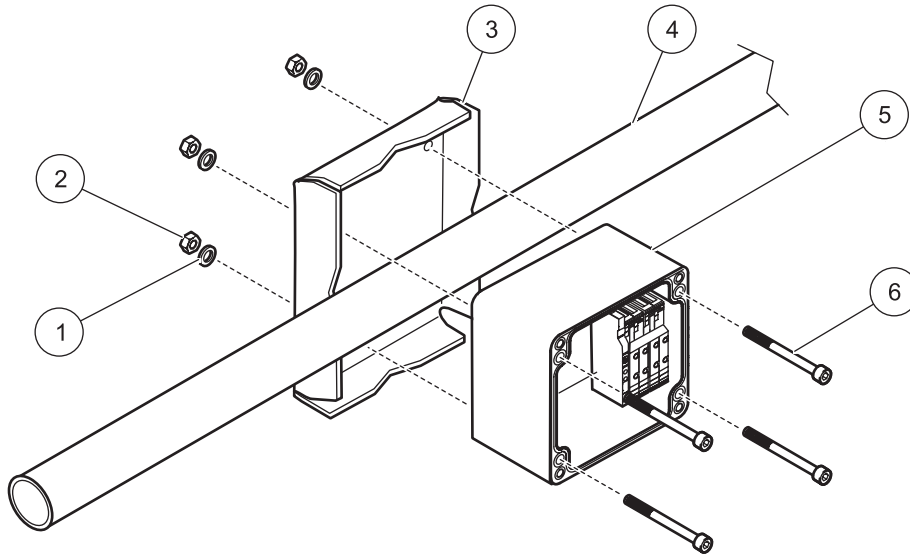


Figure 4 Horizontal rail installation

1 Washer for M6	4 Rail
2 Nut	5 Power connection box
3 Clamping plate	6 Hex socket head screw M6 x 100 mm

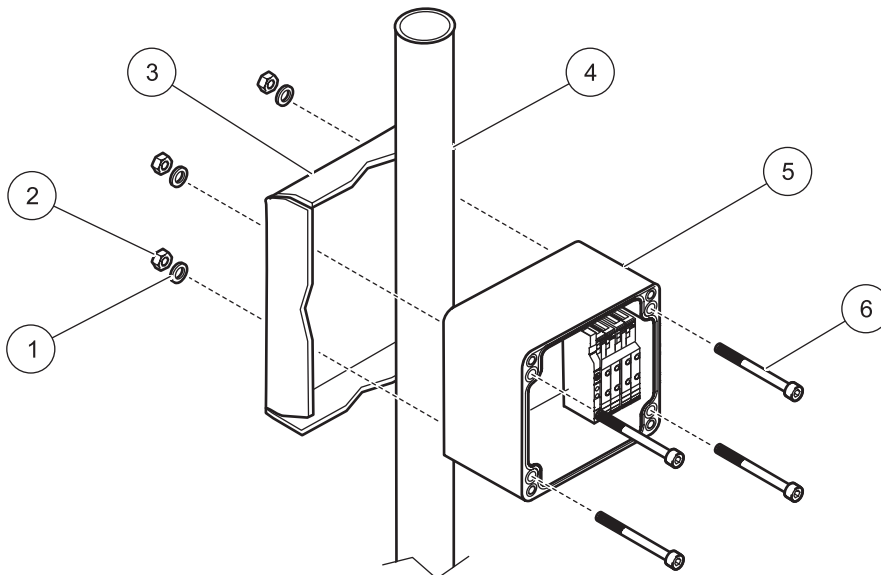


Figure 5 Pole installation

1 Washer for M6	4 Rail
2 Nut	5 Power connection box
3 Clamping plate	6 Hex socket head screw M6 x 100 mm

Electrical connections



DANGER

Electrocution Hazard. *If installed in wet or potentially wet locations, always install a Ground Fault Circuit Interrupter (GFCI) with this box. If the box is installed outdoors, overvoltage protection is required. When installed with hard wiring (conduit), a clearly marked 2-pole local disconnect switch box compliant with local regulations must be installed adjacent to the box. Isolate (disconnect) power to the box at the local disconnect during wiring.*

The power box is available configured with or without an attached power cord. If an attached power cord is not provided, the power connection box can be wired to line power by hard-wiring or with a power cord and strain relief suitable for local power outlet styles. If cord or hard-wiring are necessary, wiring is done at the same terminals.

Refer to [Figure 6 on page 6](#) and the following steps for proper wiring:

1. Make sure that the housing is securely attached.
2. Remove the 4 screws and box cover (item 8).
3. Remove the strain relief nut (item 5).
4. Remove the strain relief cap (item 4).
5. Strip the insulation back 8 mm (⁵/₁₆-inch) from each of the 3 power cord conductors (hot, neutral and ground). The power terminal clamps will accept solid or stranded 18–16 AWG wires.
6. Insert the wires through the strain relief fitting or conduit. When using the strain relief, thread the power cord through the strain relief nut (item 5), cap (item 4) and cable feed-through (item 3).
7. If using the strain relief, insert the cap (item 4) in the cable feed-through (item 3) and thread the nut (item 5) onto the cable feed-through. Do not tighten the nut.

Important Note: *Leave the power jumper bridges between the clamps (1 and 2) and (3 and 4). Both the power cord conductor wires and the power jumper bridges need to be connected in the respective terminals.*

8. Open the fuse holder of clamp 1 by pulling down ([Figure 7 on page 7](#)).
9. Connect the AC hot wire to clamp 1 ([Figure 8 on page 7](#)) and tighten the screw.
10. Replace the fuse holder.
11. Open the fuse holder of clamp 4.
12. Connect the neutral wire to clamp 4 and tighten the screw.
13. Replace the fuse holder.

DANGER

Electrocution Hazard. *A good protective earth ground connection to this product is required to make sure that this and all connecting equipment meet safety standard and code requirements.*

Power connection box for sc analyzers

Important Note: The protective earth (earth ground) terminal block has several clamps. The outer screws (top screw and bottom screw) are designed to operate the front clamps.

14. Connect the protective earth cable to the front of clamp 5 and tighten the top screw.
15. If wiring with a power cord, tighten the nut to the cable feed-through (item 3, Figure 6) to secure the cord in the strain relief. Do not pull the interior power cord wires tight (leave a small service loop).
16. Replace the power box cover and tighten the 4 screws.

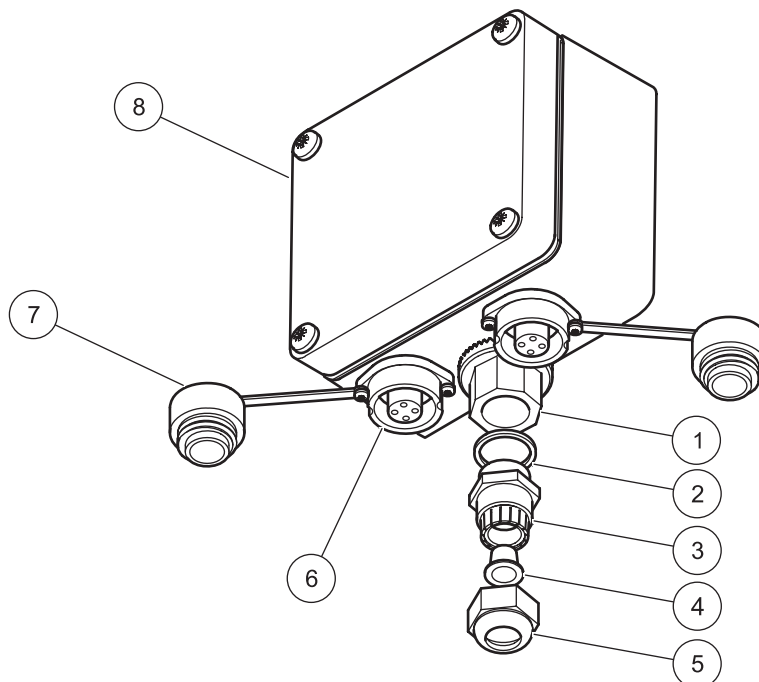


Figure 6 Cable connections

1	Conduit	5	Nut
2	Sealing ring	6	Power socket
3	Cable feed-through	7	Cover
4	Cap	8	Power connection box

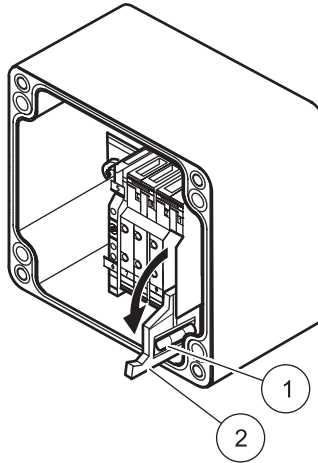


Figure 7 Fuse holder

1 Fuse	2 Fuse holder
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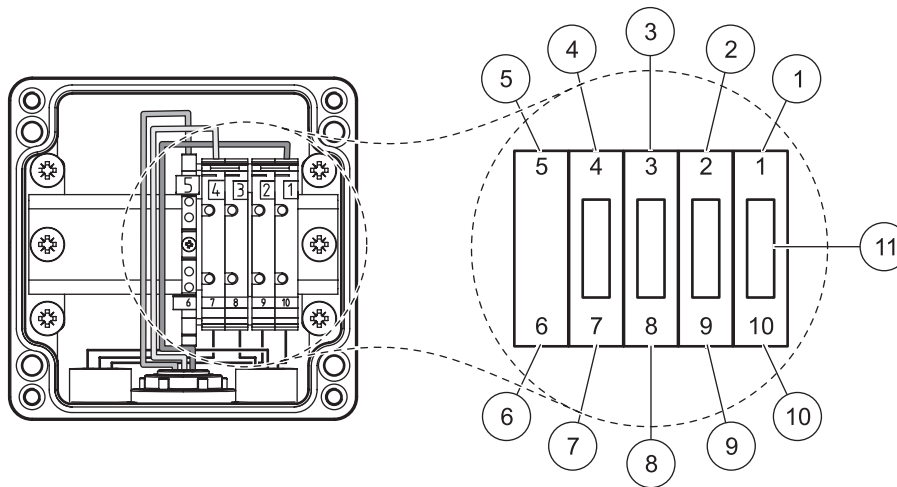


Figure 8 Wiring plan (see inside of the cover)

1 Phase power, line (hot)	7 Black for left power socket
2 Connected to clamp 1 by power bridge	8 Black for right power socket
3 Connected to clamp 4 by power bridge	9 White for left power socket
4 Neutral wire	10 White for right power socket
5 Protective earth (2 clamps)	11 Fuse, T 5 A H, 250 V (4x)
6 Protective earth for left and right power socket	

Cleaning the power connection box

DANGER

Electrocution Hazard. Disconnect the power connection box before cleaning to avoid electrical shock.

With the connector cover securely closed, wipe the power box exterior with a damp cloth. Use mild detergent, if necessary. Do not use solvents.

Fuse replacement

DANGER

Electrocution Hazard. Only qualified individuals should conduct the tasks described in this section of the instruction sheet.



DANGER

Risk of electric shock. An incorrect fuse can cause injury and damage. Always replace the fuse with a fuse of the same type and rating.

1. Make sure that the power connection box is disconnected from power.
2. Loosen the screws and open the cover.
3. Open the fuse holders (there are 2 fuses for each analyzer connection, one for hot and one for neutral, [Figure 7 on page 7](#)) and replace the damaged fuse(s) with a fuse of the same type and rating (T 5 Amp (slow blow) H, 250 V). Close the fuse holder (item [11](#), [Figure 8 on page 7](#)).
4. Close the cover and fasten the screws.

sc analyzer connections

DANGER

Electrocution hazard. If a power socket (item [4](#), [Figure 9](#)) is not used, make sure the cap (item [2](#), [Figure 9](#)) is installed and secured.

1. Remove the connector cover.
2. Connect the analyzer to the power socket.
3. Tighten the analyzer power connector to the power socket.
4. Connect and secure the power connector cover (item [1](#)) and power socket cover (item [2](#)) together.

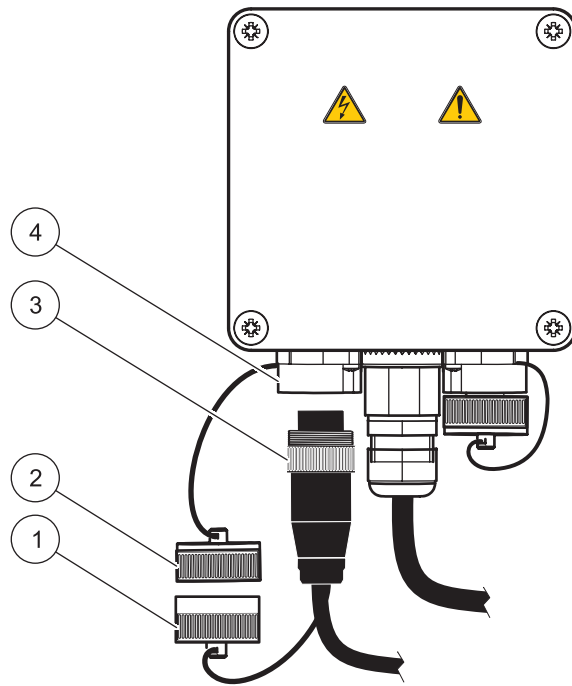


Figure 9 Analyzer connections

1 Analyzer power connector cover	3 Analyzer power connector
2 Analyzer power socket cover	4 Analyzer power socket

Specifications

Specifications are subject to change without notice.

General	
Power supply	100–240 VAC, + 10%–15%; 50/60 Hz; max. 2000 VA
Installation category	II
Pollution degree	II
Fuses	T 5 Amp (slow blow) H, 250 V (4x)
Dimensions (H x W x D)	Housing body: 168 mm x 122 mm x 80 mm (6.61 in. x 4.8 in. x 3.15 in.) Mounted: (space for the cables) x width x (space for the mounting fitting)
Mass	1250 g (44 oz)
Enclosure rating	IP56 (with mounted covers or connectors)
Certifications	CE, GS, cTUVus
Mounting	Wall, pole or rail (with included mounting kit LZQ059): Ø 35 mm (1.38 in.)–55 mm (2.17 in.)
Cable feed-through	Strain relief: water resistant: 8–13 mm (0.3–0.5 in.) Conduit: ½ inch Wire: max. 1,5 mm ² (0.06 in. ²) (AWG 16)
Environmental ratings	
Ambient temperature	–20 °C to +45 °C (–4 °F to +113 °F); 95% relative humidity, non-condensing
Materials	
Housing body	Aluminum with powder coating

Replacement parts and accessories

Description	Quantity	Catalog number
Clamping Plate	1	LZQ060
Conduit	1	LZX981
Fuse Set (4x, T 5 H /250V)	1	LZY460
Mounting Kit, for rail or pole installation	1	LZQ059
Screw Set	1	LZY058

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