HACH SC4200c 4-20 mA Analog Input Module Instruction Manual

Contents

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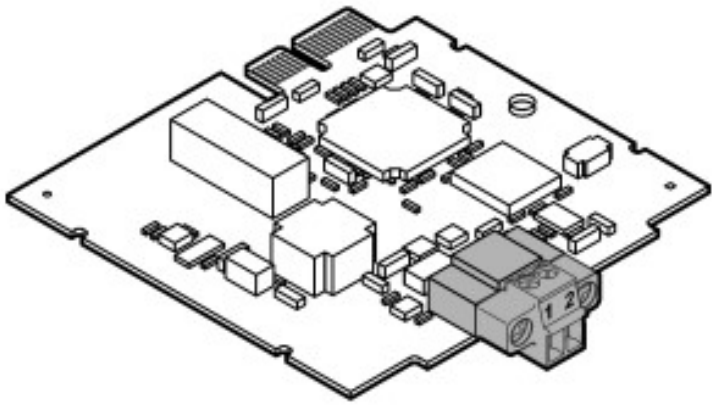


Section 1 Specifications

Specifications are subject to change without notice.

Specification	Details
Input current	0–25 mA
Input resistance	100 Ω
Wiring	Wire gauge: 0.08 to 1.5 mm2 (28 to 16 AWG) with an insulation rating of 300 VAC or higher
Operating temperature	-20 to 60 °C (-4 to 140 °F); 95% relative humidity, non-condensing
Storage temperature	-20 to 70 °C (-4 to 158 °F); 95% relative humidity, non-condensing

Section 2 General information

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions are found on the manufacturer’s website.

2.1 Safety information

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is soley responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.
Please read this entire manual 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.
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 manual.

Use of hazard information

D A N G E R

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

W A R N I N G

Electrocution hazard. Remove power from the instrument before this procedure is started.

C A U T I O N

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

NOT I C E

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

NOT I C E

Indicates a situation which, if not avoided, may cause damage to the instrument. Information that requires special emphasis.

2.1.2 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 on the instrument is referenced in the manual with a precautionary statement.

	This symbol, if noted on the instrument, references the instruction manual for operation and/or safety information.
	This symbol indicates that a risk of electrical shock and/or electrocution exists.
	This symbol indicates the presence of devices sensitive to Electro-static Discharge (ESD) and indicates that care must be taken to prevent damage with the equipment.
	Electrical equipment marked with this symbol may not be disposed of in European domestic or public disposal systems. Return old or end-of-life equipment to the manufacturer for disposal at no charge to the user.

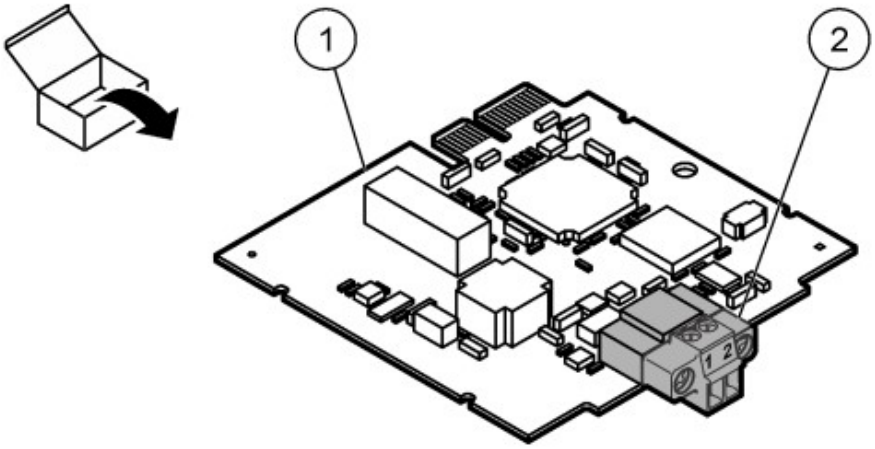
2.2 Product overview

The 4-20 mA input module lets the controller accept one external analog signal (0-20 mA/4-20 mA).
The input module connects to one of the analog sensor connectors inside the controller.

2.3 Product components

Make sure that all components have been received. Refer to Figure 1. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 1 Product components



1 4-20 mA analog input module	**3** Label with wiring information
2 Module connector	

2.4 Icons used in illustrations

Manufacturer supplied parts	User supplied parts	Look	Listen	Do one of these options

Section 3 Installation

D A N G E R

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

D A N G E R

Electrocution hazard. Remove power from the instrument before this procedure is started.

 Electrocution hazard. High voltage wiring for the controller is conducted behind the high voltage barrier in the controller enclosure. The barrier must remain in place unless a
qualified installation technician is installing wiring for power, alarms, or relays.

 Electrical shock hazard. Externally connected equipment must have an applicable country safety standard assessment

NOT I C E

Make sure that the equipment is connected to the instrument in accordance with local, regional and national requirements.

3.1 Electrostatic discharge (ESD) considerations

 **NOT I C E**

Potential Instrument Damage. Delicate internal electronic components can be damaged by static electricity, resulting in degraded performance or eventual failure.

Refer to the steps in this procedure to prevent ESD damage to the instrument:

- Touch an earth-grounded metal surface such as the chassis of an instrument, a metal conduit or pipe to discharge static electricity from the body.
- Avoid excessive movement. Transport static-sensitive components in anti-static containers or packages.
- Wear a wrist strap connected by a wire to earth ground.
- Work in a static-safe area with anti-static floor pads and work bench pads.

3.2 Install the module

Install the module in the controller. Refer to the illustrated steps that follow.

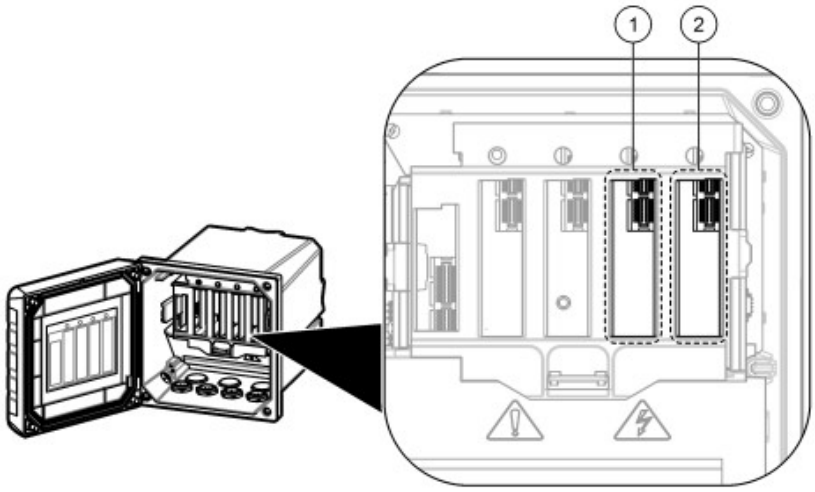
Notes:

- Make sure that the controller is compatible with the 4–20 mA analog input module. Contact technical support.
- To keep the enclosure rating, make sure that all unused electrical access holes are sealed with an access hole cover.
- To maintain the enclosure rating of the instrument, unused cable glands must be plugged.
- Connect the module to one of the two slots on the right side of controller. The controller has two analog module slots. The analog module ports are internally connected to the sensor channel.
  Make sure that the analog module and the digital sensor are not connected to the same channel. Refer to

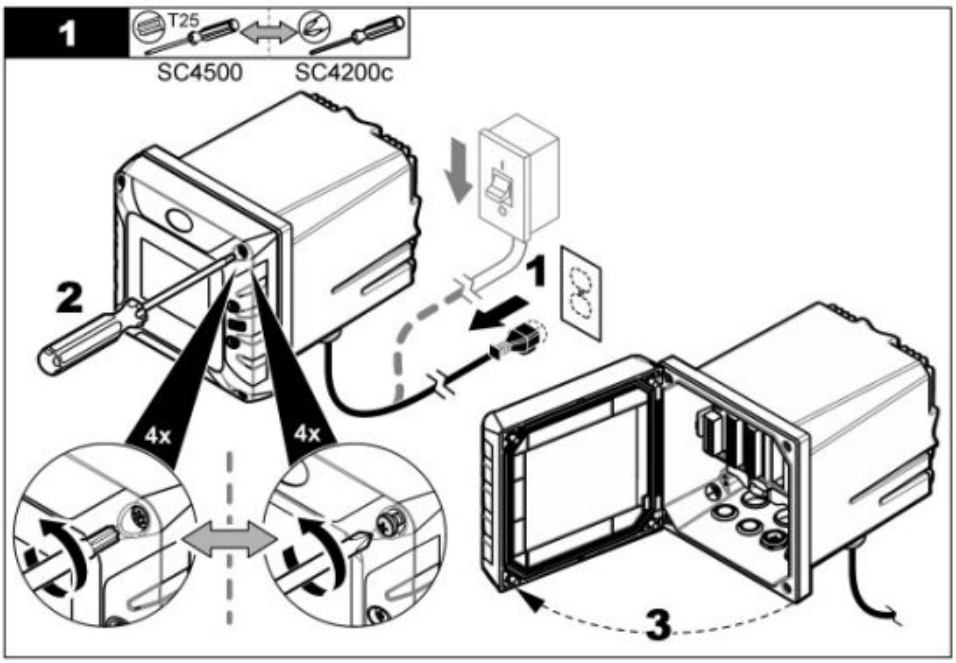
Figure 2.

Note: Make sure that only two sensors are installed in the controller. Although two analog module ports are available, if a digital sensor and two modules are installed, only two of the three devices will be seen by the controller.

Figure 2 mA input module slots



1 Analog module slot—Channel 1	**2** Analog module slot—Channel 2



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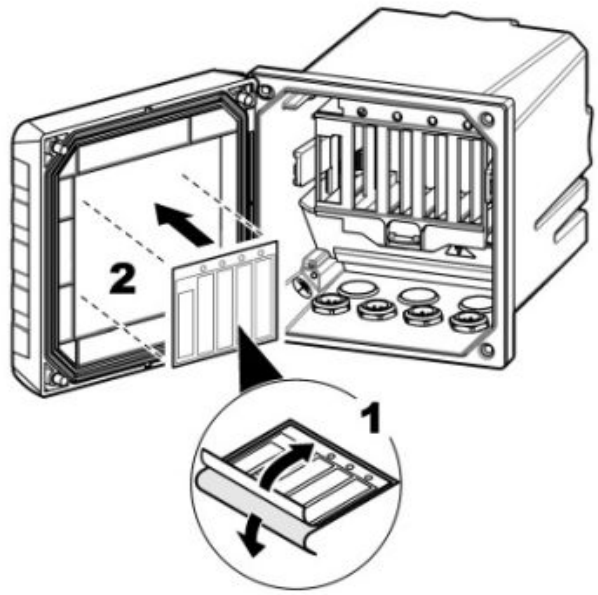

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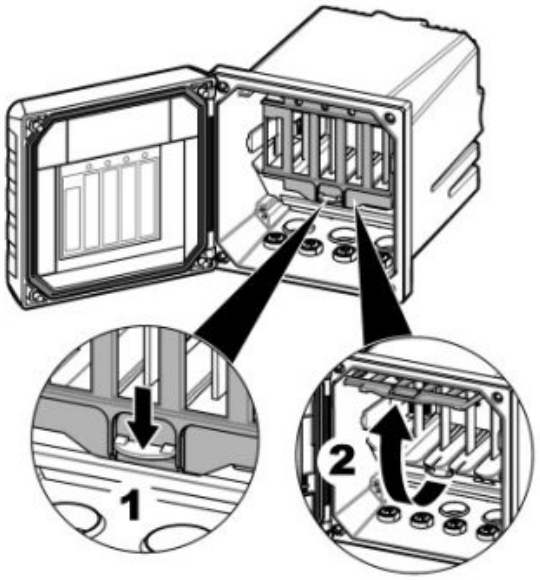

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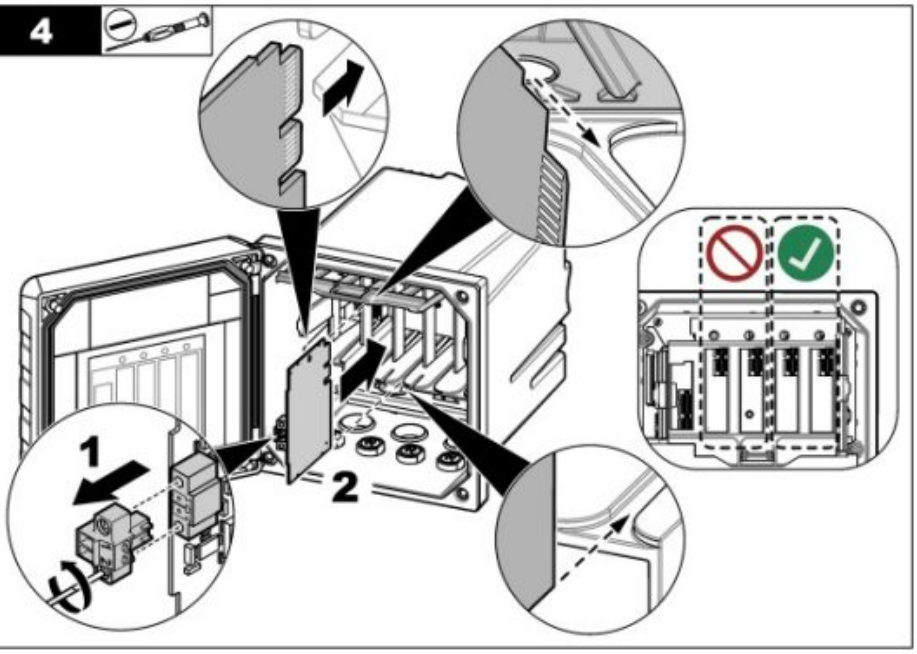
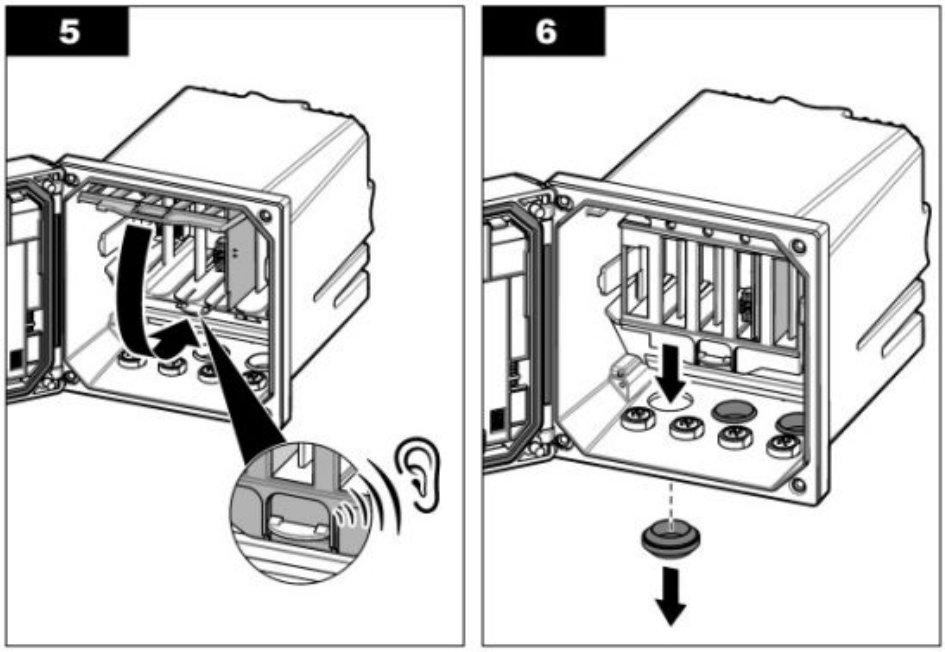
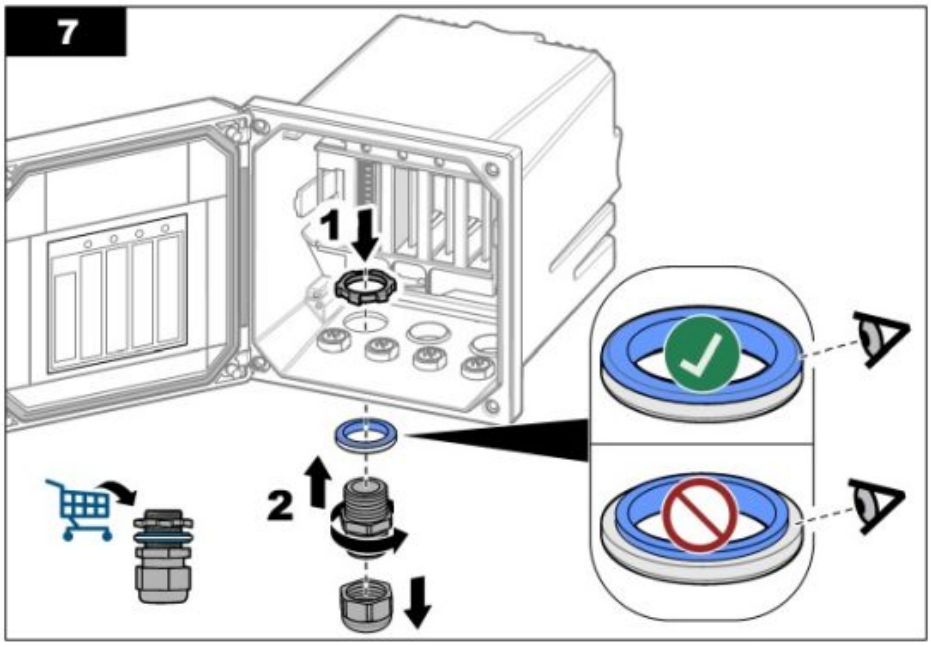
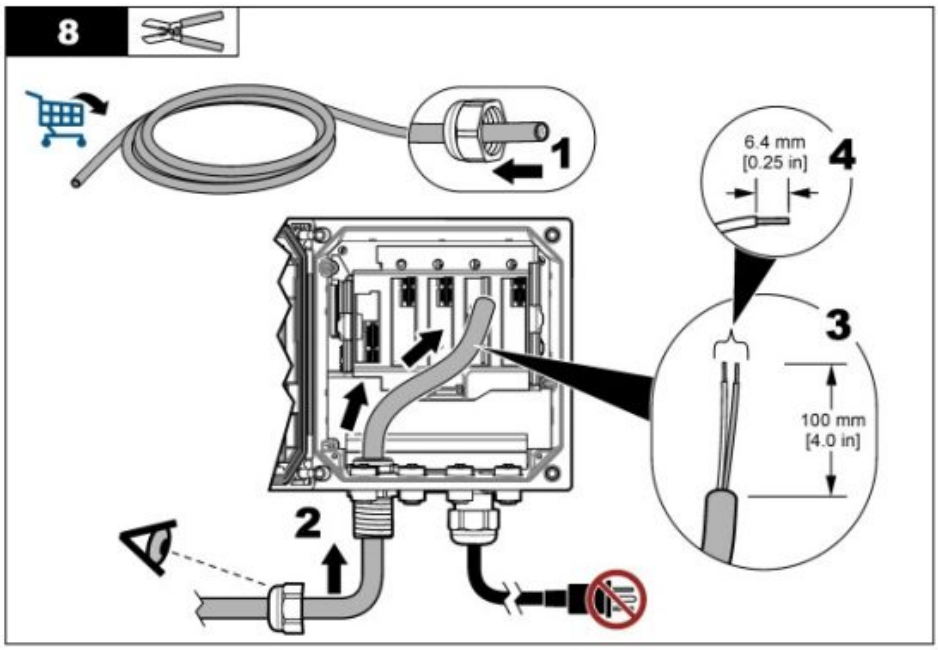






NOT I C E

Use cabling with a wire gauge of 0.08 to 1.5 mm2 (28 to 16 AWG) and an insulation rating of 300 VAC or higher.



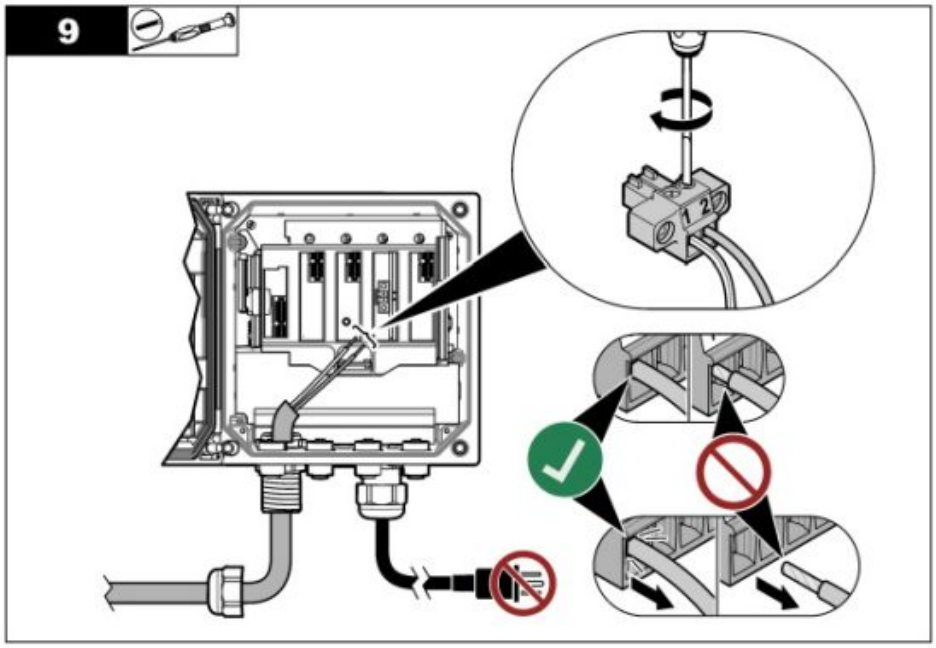
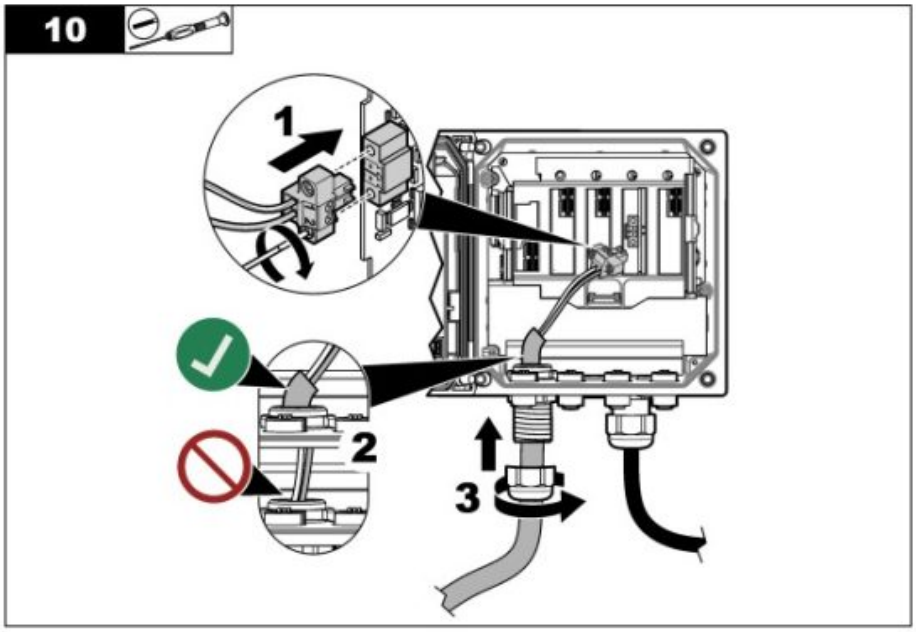
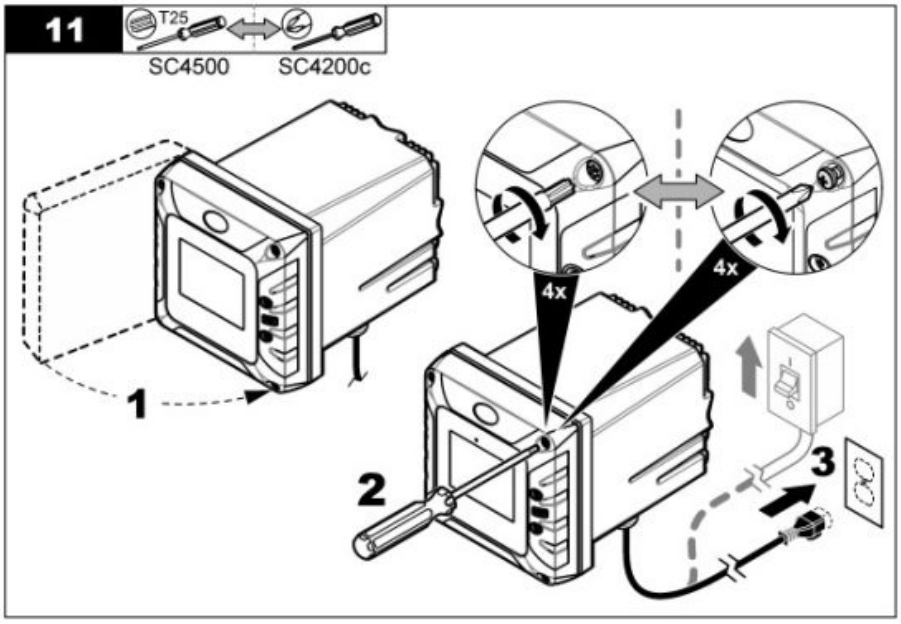


Table 1 Wiring information

Terminal	**Signal**
1	Input +
2	Input –





Section 4 Configuration

Refer to the controller documentation for instructions. Refer to the expanded user manual on the manufacturer's website for more information

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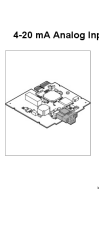	HACH SC4200c 4-20 mA Analog Input Module [pdf] Instruction Manual SC4200c, 4-20 mA Analog Input Module