

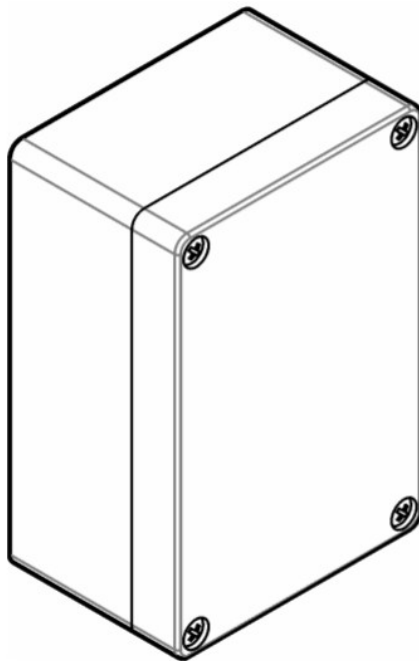


## HACH SC4500 External USB box WiFi Instructions

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SC4500 External USB box WiFi  
Instructions manul



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## Section 1 Specifications

Specifications are subject to change without notice.

Specification	Details
Dimensions (W x H x D)	80 x 120 x 55 mm (4.7 x 7.9 x 2.2 in.)
Enclosure	IP661, Polycarbonate UL94-VO
Weight	169 g (0.37 lb)
Pollution degree	4
Installation category	I
Protection class	III
Operating temperature	—20 to 60 °C (-4 to 140 °F)
Storage temperature	—20 to 70 °C
Relative humidity	0 to 95%, non-condensing
Altitude	2000 m (6562 ft) maximum
Communication options	Wi-Fi adapter with USB connector 2.4 GHz and 5 GHz ISM band
Certifications	CE, FCC, IC, UKCA
Warranty	1 year (EU: 2 years)

## 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.

## 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 solely 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**



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



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







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

**NOTICE**

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

**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 to 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.

**Certification**



## WARNING



Pacemaker precautions. If electromagnetic interference (EMI) occurs, it can either:

- Stop the stimulating pulses from the pacemaker that control the rhythm of the heart.
- Cause the pacemaker to supply the pulses irregularly.
- Cause the pacemaker to ignore the rhythm of the heart and supply pulses at a set interval.

Current research shows that cellular devices are not a significant health problem for most pacemaker wearers. However, persons with pacemakers should use precautions to make sure that their device does not cause a problem. Keep the device a minimum of 20 cm (7.9 in.) from the user.



## CAUTION



Electromagnetic radiation hazard. Make sure that the antenna is kept at a minimum distance of 20 cm (7.9 in.) from all personnel in normal use. The antenna cannot be colocated or operated in conjunction with any other antenna or transmitters.

## NOTICE

This is a Class A product intended for use in an industrial environment. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

## NOTICE

Network and access point security is the responsibility of the customer that uses the wireless instrument. The manufacturer will not be liable for any damages, inclusive however not limited to indirect, special, consequential, or incidental damages, that have been caused by a gap in, or breach of network security.

## Regulatory RF Device Approvals: the US and Canada

Contains Wi-Fi USB adapter: LM808 from LM technologies

FCC ID: VVX808-04XX

IC: 10531A-80804XX

## Table 1 Power for Wi-Fi adapter

<b>Specification, issue and date</b>	<b>Frequency range (MHz)</b>	<b>Emission designation</b>	<b>R.F. power (watts)</b>	<b>Antenna</b>
RSS-247, Issue 2, 02/2017	5180-5240	17M1D1D	0.005	Integral, 4.7 dBi
RSS-247, Issue 2, 02/2017	5210	75M8D1D	0.005	Integral, 4.7 dBi
RSS-247, Issue 2, 02/2017	5745 -5825	17M9D1D	0.005	Integral, 4.7 dBi
RSS-247, Issue 2, 02/2017	5775	75M6D1D	0.004	Integral, 4.7 dBi
RSS-247, Issue 2, 02/2017	2412-2462	15MOD1D	0.027	Integral, 0.1 dBi
RSS-247, Issue 2, 02/2017	2412-2462	16M5D1D	0.016	Integral, 0.1 dBi
RSS-247, Issue 2, 02/2017	2422-2452	35M1D1D	0.011	Integral, 0.1 dBi

**Wi-Fi USB adapter LM808—Important FCC Grant Conditions:**

The power listed is conducted. SAR compliance for USB dongle has been evaluated as described in this filing. The antenna(s) used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures or as described in this filing. The highest reported SAR value is 0.26 W/kg. This device has 20 MHz and 40 MHz bandwidth modes.

**Regulatory RF Device Approvals: EU**

Contains Wifi USB Adapter: LM808

**Table 2 Frequency bands**

Specification	Details
Frequency band	2.4 GHz ISM band
	5 GHz ISM band
RF output power (tolerance $\pm 2$ dBm)	17 dBm, 802.11b at 11 Mbps
	15 dBm, 802.11g at 54 Mbps
	13 dBm, 802.11a at 54 Mbps
	13 dBm, 802.11n at MCS7HT20
	13 dBm, 802.11n at MCS7HT40
	11 dBm, 802.11ac at NSS1 MCS9BW20, BW40, BW80
	—82 dBm, 802.11b at 11 Mbps-71 dBO, 802.11g at 54 MBps
Receiver sensitivity	—67 dBm, 802.11 n at MCS7_BW20
	—64 dBm, 802.11n at MCS7BW40
	—57 dBm, 802.1 lac at NSS1MCS9BW20
	—54 dBm, 802.11ac at MSS1MCS9BW40
	—51 dBm, 802.1 lac at MSS1_MCS9_BW80

#### Canada (IC)

Contains Wifi USB Adapter: LM808 from LM technologies IC: 10531A-80804XX This class (A) digital apparatus complies with Canadian ICES-003. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

#### United States (FCC)

Contains Wifi USB Adapter: LM808 from LM technologies FCC ID: VVX808-04XX Modifications not expressly approved by this company could void the user's authority to operate this equipment (FCC section 15.21).

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense (FCC section 15.105).

#### Multitech RF Module FCC/IC Regulatory notices Modification statement

LM technologies have not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

#### Interference statement

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

**FCC 5G Statement:**

LE-LAN devices are restricted to indoor operation only in the band 5150-5250 MHz  
Europe—Radio Equipment Directive (RED)



The 5.15-5.35 GHz WiFi band is restricted to indoor use in the countries that follow:

**Table 3 European countries**

Andorra (AD)	Denmark (DK)	Ireland (1E)	Montenegro (ME)	Slovakia (SK)
Austria (AT)	Estonia (EE)	Italy (IT)	Netherlands (NL)	Slovenia (SL)
Belgium (BE)	Finland (FI)	Latvia (LV)	Norway (NO)	Spain (ES)
Bosnia and Herzegovina (BA)	France (FR)	Liechtenstein (LI)	Poland (PL)	Sweden (SE)
Bulgaria (BG)	Germany (DE)	Lithuania (LT)	Portugal (PT)	Switzerland (CH)
Croatia (HR)	Greece (GR)	Luxembourg (LU)	Romania (RO)	Macedonia (MK)
Cyprus (CY)	Hungary (HU)	Malta (MT)	San Marino (SM)	United Kingdom (GB)
Czech Republic (CZ)	Iceland (IS)	Monaco (MC)	Serbia (RS)	Vatican city state (VA)

**Product overview**

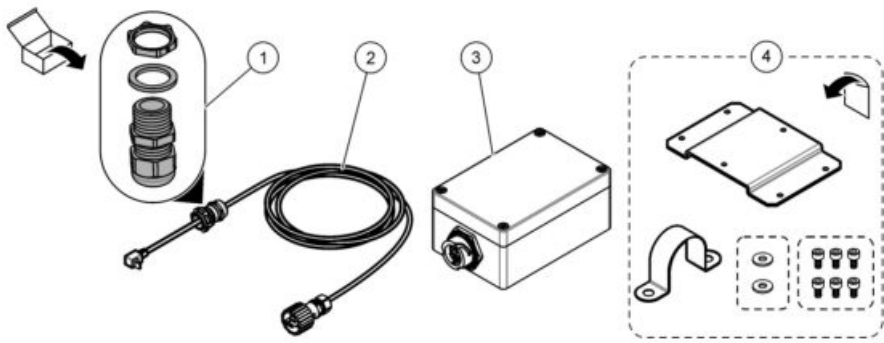
The external USB box is used to connect a USB device to the SC4500 Controller (e.g., a Wi-Fi adapter).

**Note:** All of the items (i.e, adapter and internal connections) are assembled at the factory.

**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 Strain relief, washer and nut	3 USB box
2 USB box connection cable	4 Pole mounting hardware <sup>2</sup>

**Section 3 Installation**

**Mounting**

**NOTICE**

Use the mounting holes to install the USB box. Do not make holes in the rear of the USB box or damage to the internal components can occur.



## NOTICE

Close the USB box cover and make sure that the cover screws are tight to keep the environmental rating of the enclosure.

Install the USB box in a location where the power disconnect device for the controller is easily operated. Install the USB box in the location with the highest Wi-Fi signal strength. Use a mobile device to find the location with the highest Wi-Fi signal strength.

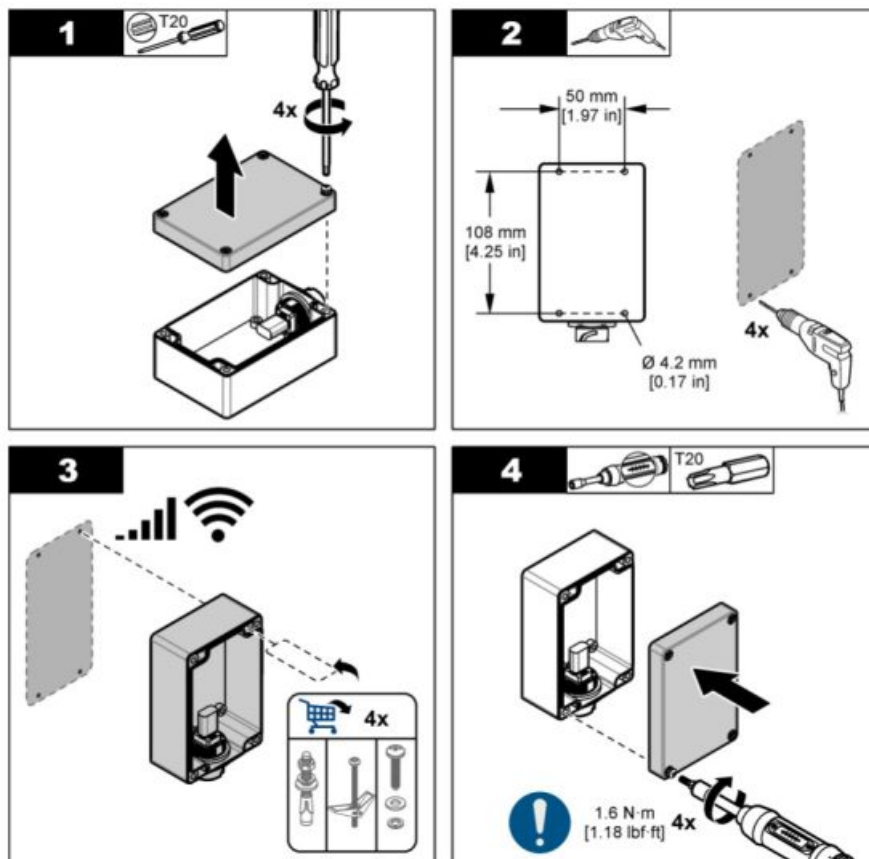
Attach the USB box to a wall, vertical pole or horizontal pole.

**Note:** Wall mounting hardware is supplied by the user. Screws/fittings must be suitable for the wall/ceiling properties and possess sufficient bearing capacity.

**Refer to the illustrated steps that follow for the USB box wall mounting.**

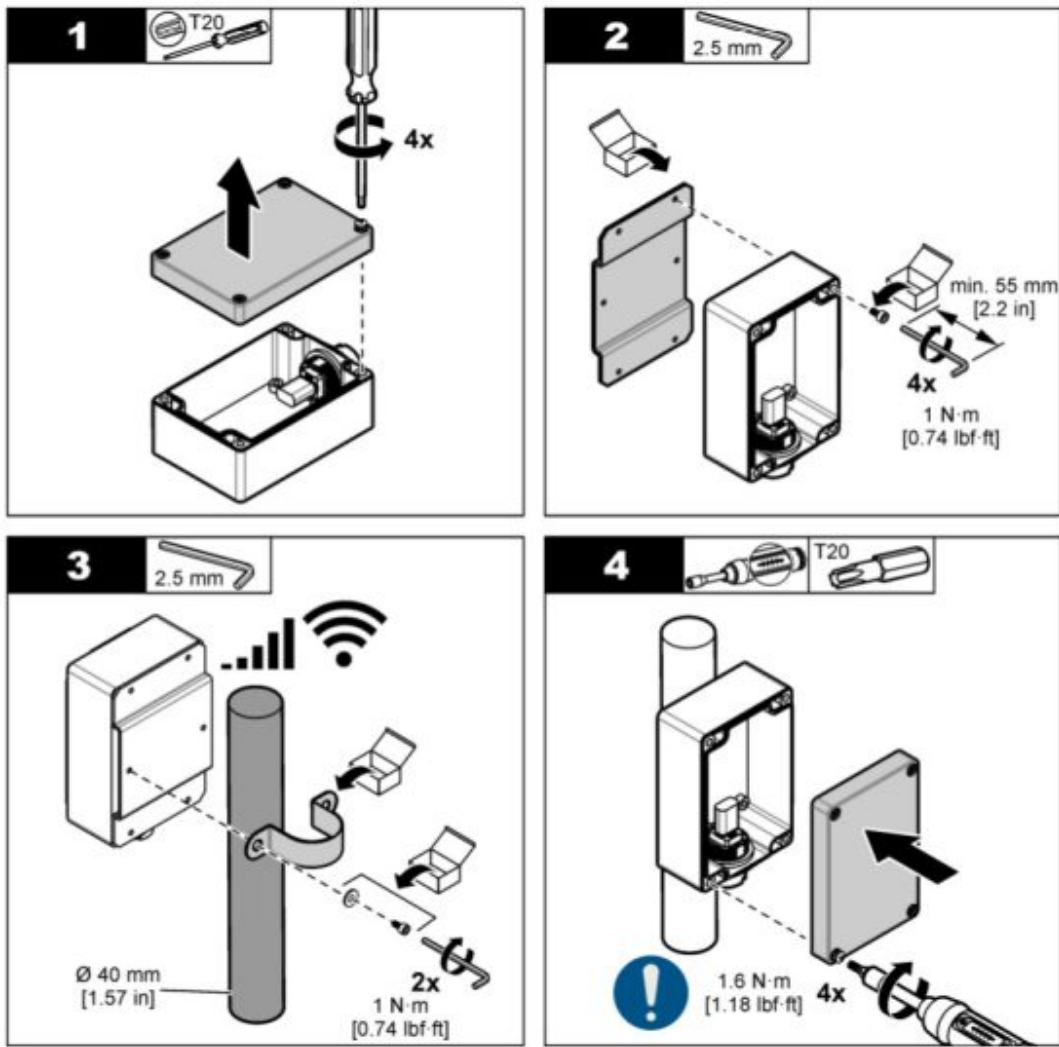
The pole mounting hardware is for a 40-mm (1.57-inch) diameter pole.

Refer to the illustrated steps that follow for the USB box wall mounting.



Refer to the illustrated steps that follow for the USB box pole mounting.





### Connect the cable

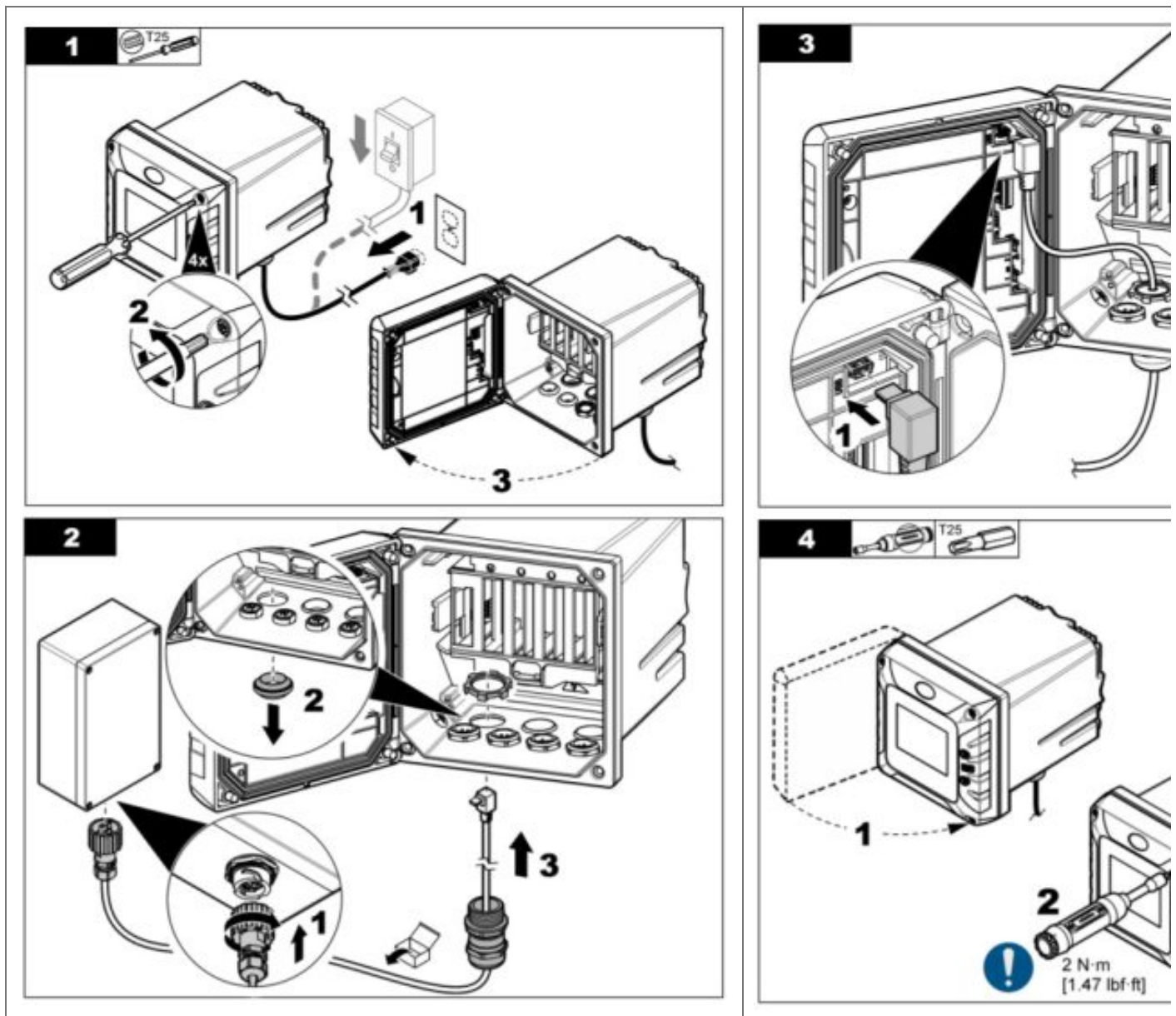
#### NOTICE

The manufacturer recommends the use of manufacturer-supplied electrical components, such as power cords, connectors, and strain relief fittings.

NOTICE	
	Make sure that the cable sheath goes through the inner side of the enclosure to keep the environmental rating of the enclosure.

NOTICE	
	Close the controller cover and make sure that the cover screws are tight to keep the environmental rating of the enclosure.

Connect the supplied cable to the USB box and to the internal USB connector in the controller. Refer to the illustrated steps that follow.



## Section 4 Startup

**Note:** The WiFi adapter is factory assembled and connected. If necessary, refer to Replace the WiFi adapter on page 13 to replace the WiFi adapter.

After installation is complete, do the steps that follow:

1. Remove the cover from the USB box.
2. Supply power to the controller.
3. Make sure that the WiFi adapter is energized.
4. Wait a minimum of 5 minutes.
5. Examine the signal strength and network connection condition. Refer to the controller documentation.
6. Install the cover on the USB box.

## Section 5 Configuration

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

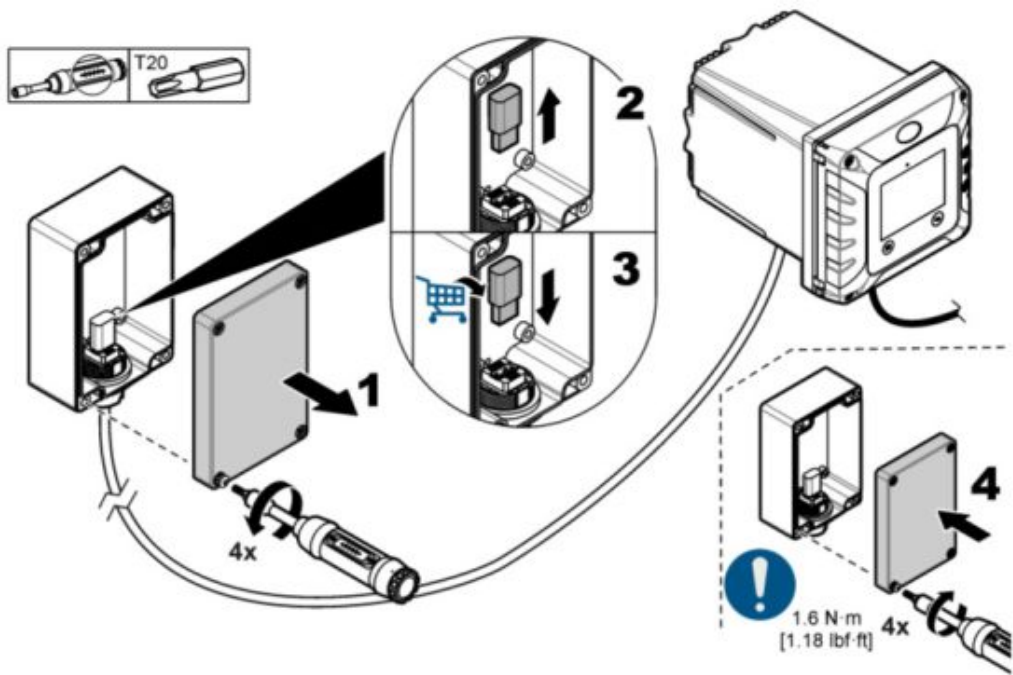
Section 6 Maintenance

Replace the WiFi adapter

If necessary, replace the WiFi adapter. Refer to the illustrated steps is Figure 2. Items to collect: WiFi adapter

If necessary, replace the WiFi adapter. Refer to the illustrated steps is Figure 2.

Figure 2 Replace the WiFi adapter



Section 7 Accessories

WARNING	
	Personal injury hazard. Use of non-approved parts may cause personal injury, damage to the instrument, or equipment malfunction. The replacement parts in this section are approved by the manufacturer.

**Note:** Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.


Description	Item no.
USB-Box connection cable, WiFi, 4.5 m	LXZ525.99.00019
Mounting hardware kit	8806200
WiFi USB adapter for US, 2.4/5 GHz	LZY996
WiFi USB adapter for EU, 2.4/5 GHz	LZY997



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## Documents / Resources

 <p>SC4500 External USB box WiFi</p>	<p><a href="#">HACH SC4500 External USB box WiFi</a> [pdf] Instructions SC4500, External USB box WiFi</p>
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[Manuals+](#)