CL17sc low flow—Start a flush cycle on AMIAD TAF-750 filter

Multiple hazards. For complete safety information and instrument specifications, refer to the user manual of the primary instrument.

Dangers multiples. Pour plus d'information sur la sécurité et les spécifications de l'instrument, consultez le manuel d'utilisation de l'appareil principal.

Overview

This document describes how to automatically start a flush cycle on an AMIAD TAF-750 filter when a low flow warning occurs on a CL17sc analyzer. This function can be used in combination with scheduled and manual flush cycles, and flush cycles triggered by a differential pressure (DP) signal.

One of the high-voltage, normally-open relays in the SC200 Controller (or SC4500 Controller) is configured to close when a low flow warning occurs on the CL17sc analyzer. The relay is connected to the two DP switch terminals in the TAF-750 controller. When the relay closes, a signal is sent to the DP switch, which starts a flush cycle. The signal is the same as a DP signal sent by the TAF-750 filter.

The AMIAD TAF-750 is not a Hach product. Refer to the user manual supplied with the TAF-750 Self Cleaning Filter to install and operate the filter.

Intended use

These instructions are intended for Hach customers who will make an optional connection between an SC Controller and a TAF-750 Self Cleaning Filter.

Do not install the equipment in a location that receives direct exposure to sunlight or ultraviolet radiation (UV).

N'installez pas l'équipement à un emplacement exposé aux rayons directs du soleil ou aux ultraviolets (UV).

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 unless otherwise required by applicable law or contract between the parties. 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.

If the equipment is used in a manner that is not specified by the manufacturer, the protection provided by the equipment may be impaired. Do not use or install this equipment in any manner other than that specified in this manual.

Use of hazard information

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

DANGER Indique une situation de danger potentiel ou imminent qui, si elle n'est pas évitée, entraîne des blessures graves, voire mortelles.

⚠WARNING

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

AVERTISSEMENT Indique une situation de danger potentiel ou imminent qui, si elle n'est pas évitée, peut entraîner des blessures graves, voire mortelles.

⚠CAUTION

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

ATTENTION Indique une situation de danger potentiel qui peut entraîner des blessures mineures ou légères.

NOTICE

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

AVIS Indique une situation qui, si elle n'est pas évitée, peut occasionner l'endommagement du matériel. Informations nécessitant une attention particulière.

Connect the SC Controller to the TAF-750 controller—Overview

⚠DANGER

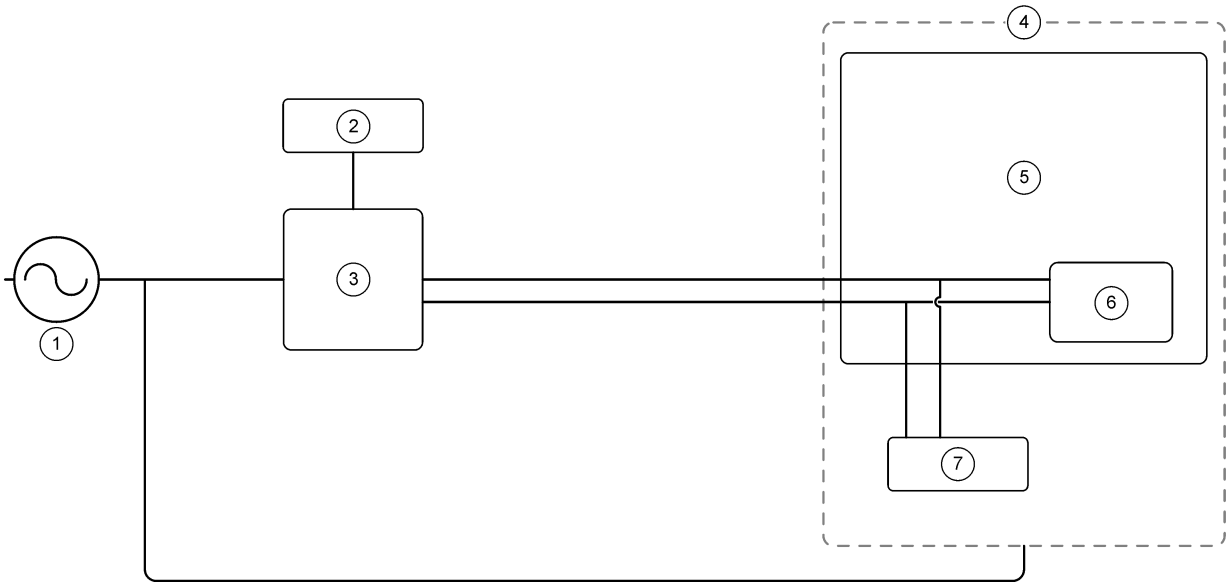
Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.
Dangers multiples. Seul le personnel qualifié doit effectuer les tâches détaillées dans cette section du document.

⚠DANGER

Electrical shock hazard. Externally connected equipment must have an applicable country safety standard assessment.
Risque d'électrocution. Tout équipement externe relié doit avoir fait l'objet d'un contrôle de sécurité conformément aux normes nationales applicables.

Connect a high-voltage relay in an SC200 Controller (or SC4500 Controller) to the differential pressure (DP) switch in the TAF-750 Controller in a parallel circuit. Figure 1 is a schematic overview.

Figure 1 SC Controller to TAF-750 Controller wiring example



1 100–240 VAC	**4** AMIAD TAF-750 filter	**7** DP switch
2 CL17sc analyzer	**5** TAF-750 controller	
3 SC200 Controller (or SC4500 Controller)	**6** DP input	

Connect to a high-voltage relay in the SC Controller

Connect a 2-conductor, shielded cable to a high-voltage, normally-open relay in the SC200 Controller (or SC4500 Controller).

Items to collect:

- 2-conductor shielded cable, 0.75 to 1.5 mm^2 (18 to 16 AWG) with an insulation rating of 300 VAC or higher
- Strain relief fitting for the 2-conductor cable (if not supplied with the SC Controller)

1. Disconnect the power from the SC Controller.
2. Connect the 2-conductor cable to one of the non-powered, high-voltage relays (100-250 VAC) in the SC Controller.

   Refer to the user manual of the SC Controller for instructions.
3. Make sure to:

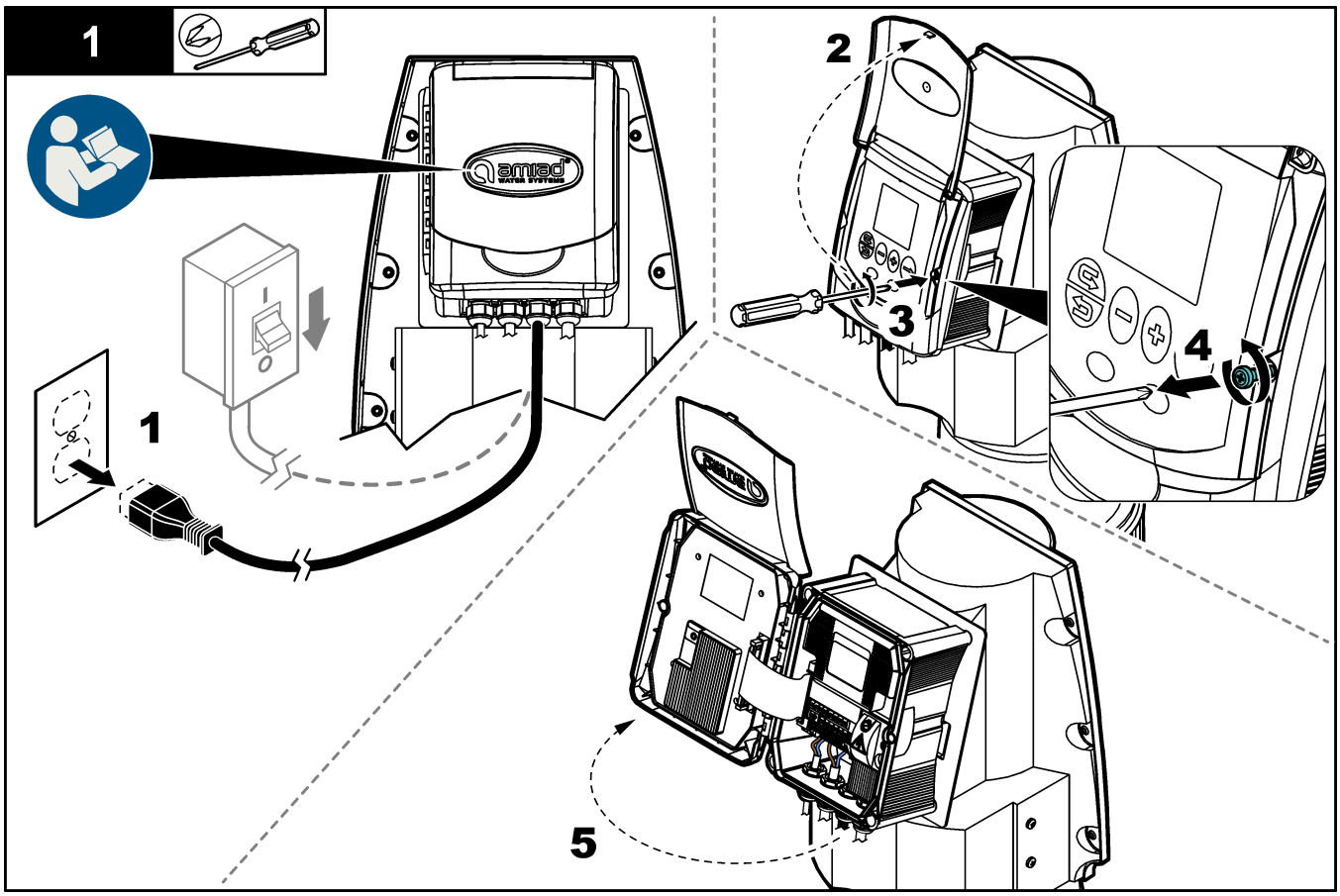
   - Obey all safety precautions.
   - Put the 2-conductor shielded cable through the applicable strain relief fitting (cable gland) on the bottom of the SC Controller.
   - Prepare the wires as specified in the SC Controller user manual.
   - Keep the shield wire the same length as the two conductors.
   - Connect the shield wire to the chassis ground of the SC Controller.
   - Connect the 2-conductor cable to the relay terminals. Connect one wire to the NO (normally-open) terminal and one wire to the common (COM) terminal. The wire color is not important.
   - Record which relay is used (e.g., 1 or 2, or A, B, C, D).
   - After installation, close the SC Controller door and tighten the door screws.

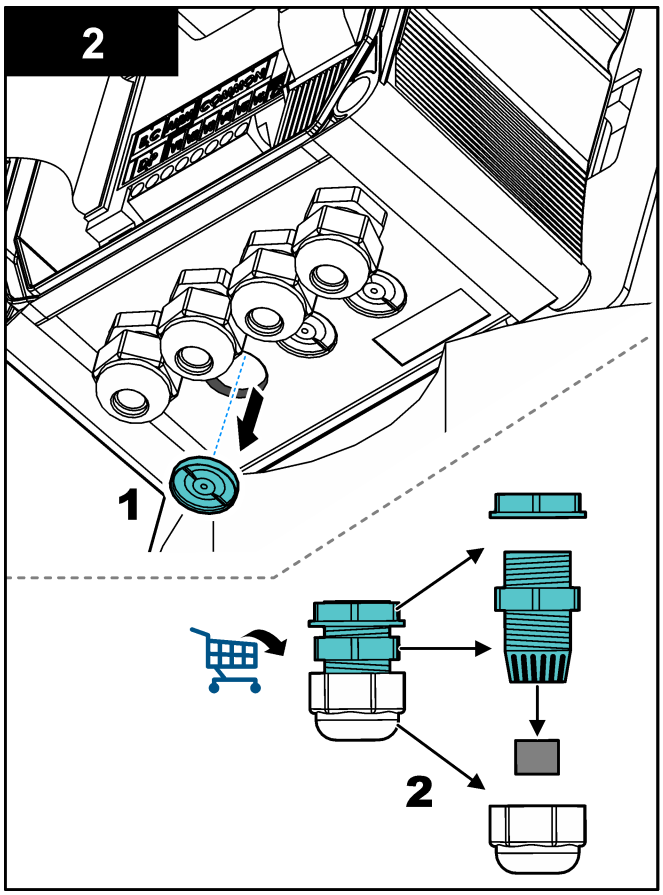
Connect the relay cable to the TAF-750 controller

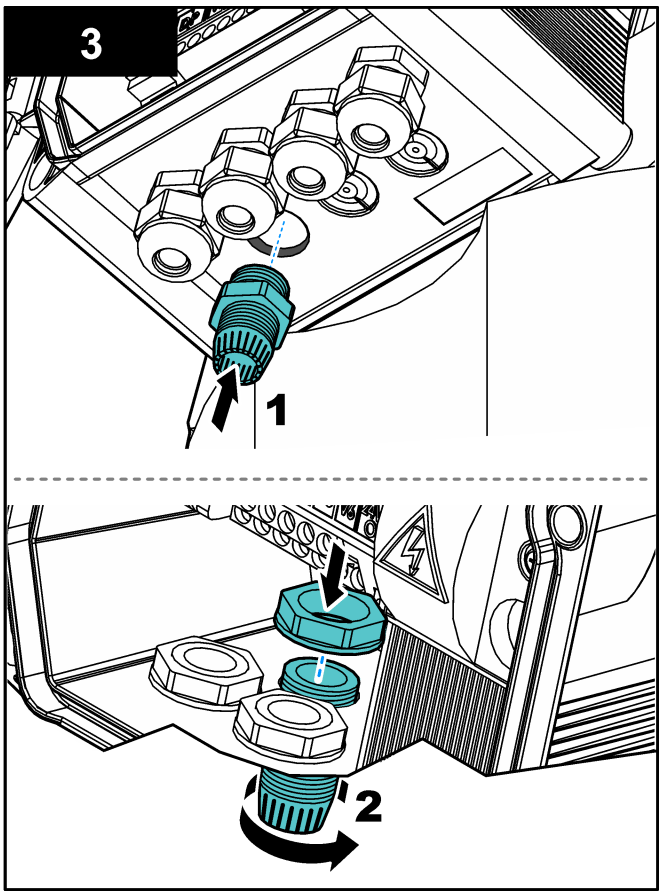
Connect the other end of the 2-conductor cable (relay cable) to the DP switch terminals in the TAF-750 Controller. Refer to the illustrated steps that follow.

Items to collect:

- Strain relief fitting for the relay cable
- Two short pieces of wire (approximately 7.6 cm (3 inches)) with an insulation rating of 300 VAC or higher The wire color is not important.
- Two wire nuts, 3 x 1.5 mm^2 (16 AWG), or Wago clamps




2
1
2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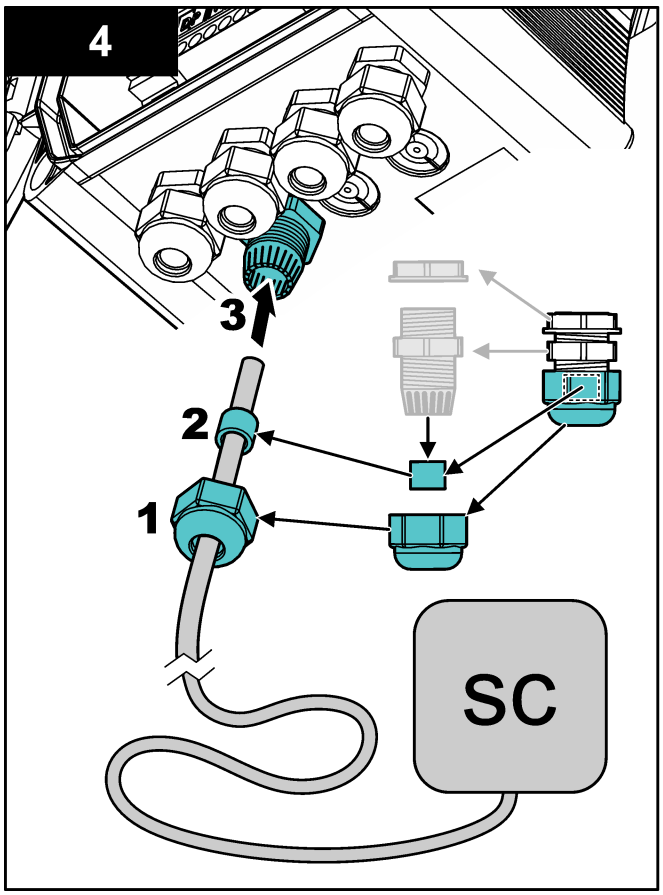
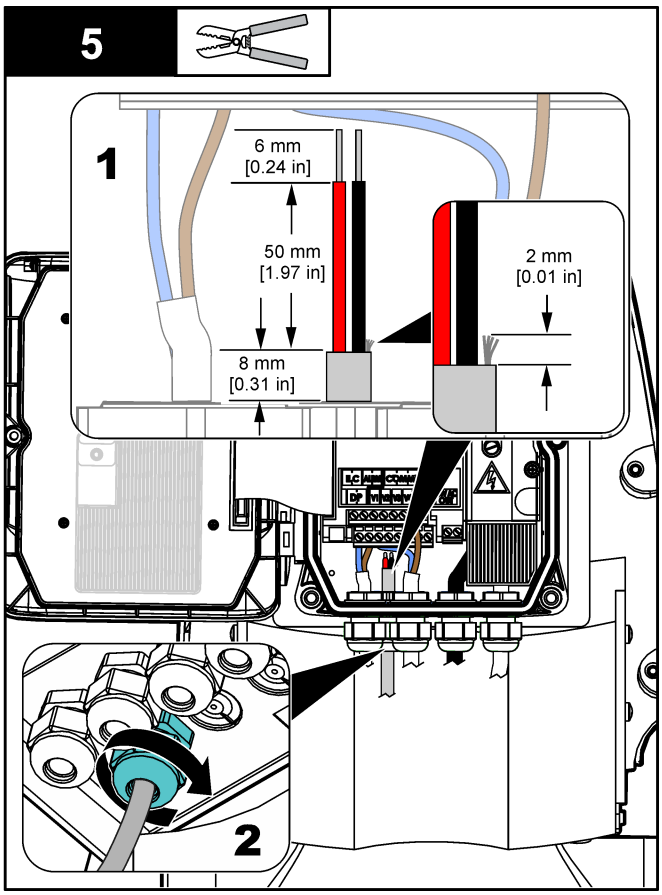
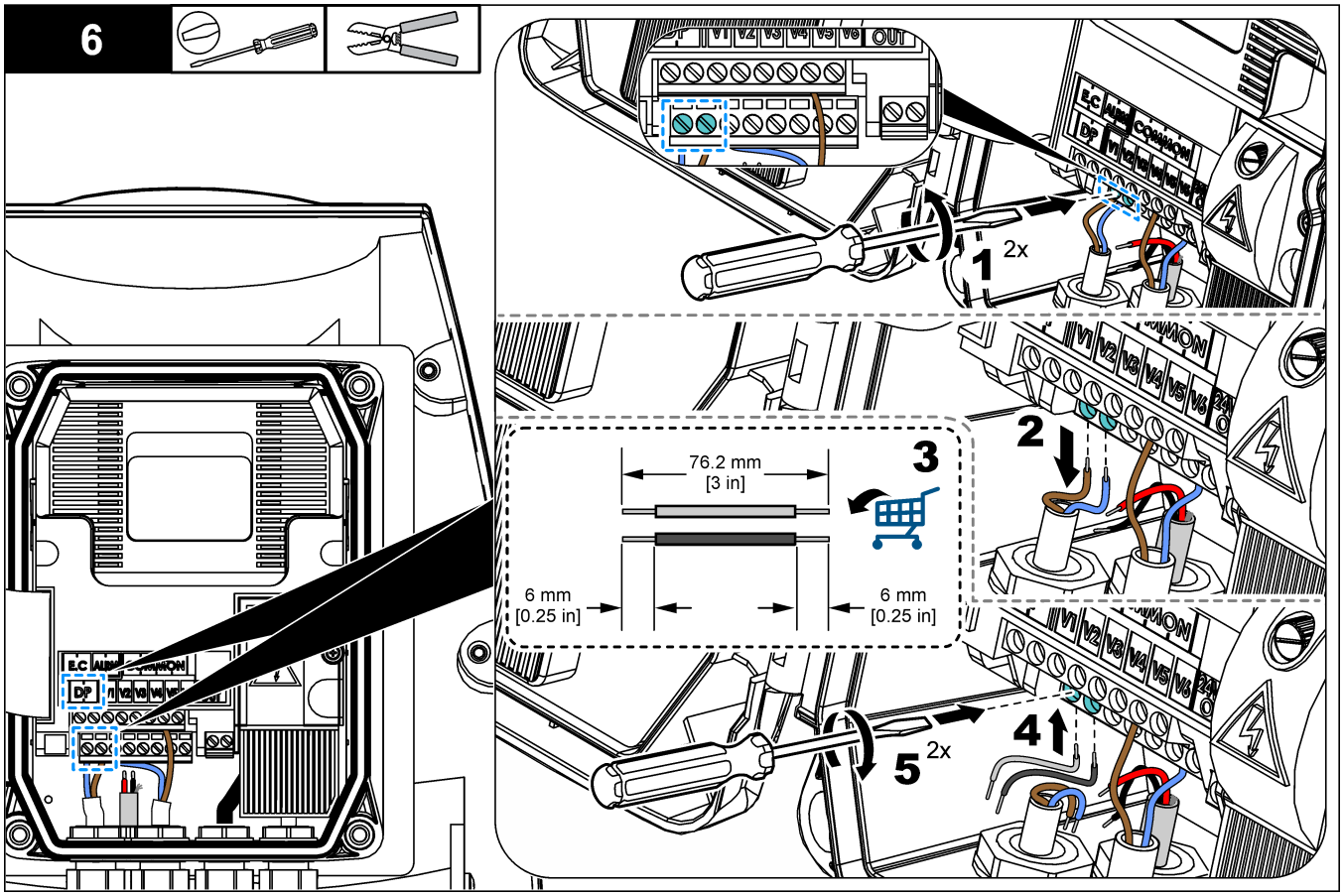
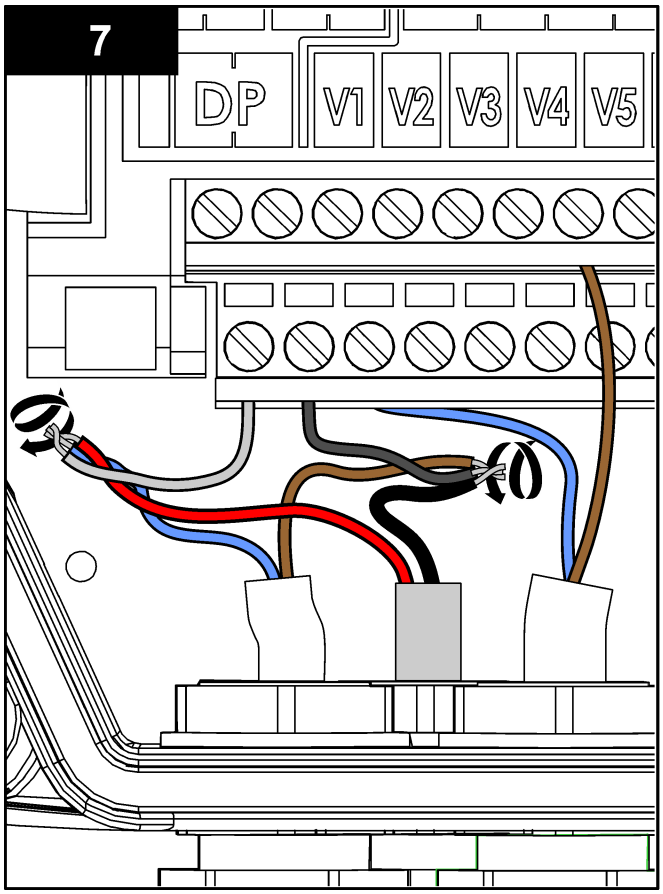
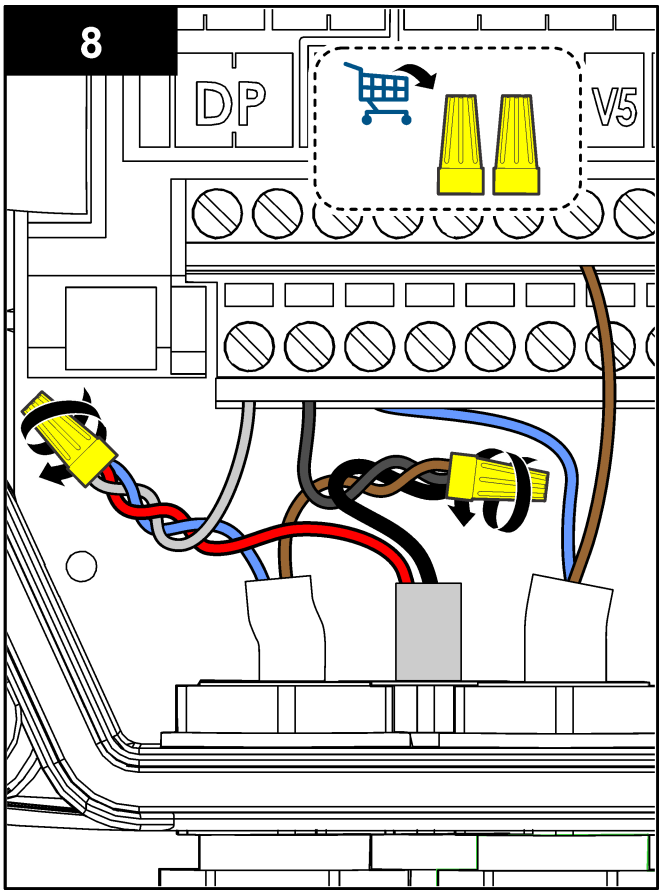
1
2

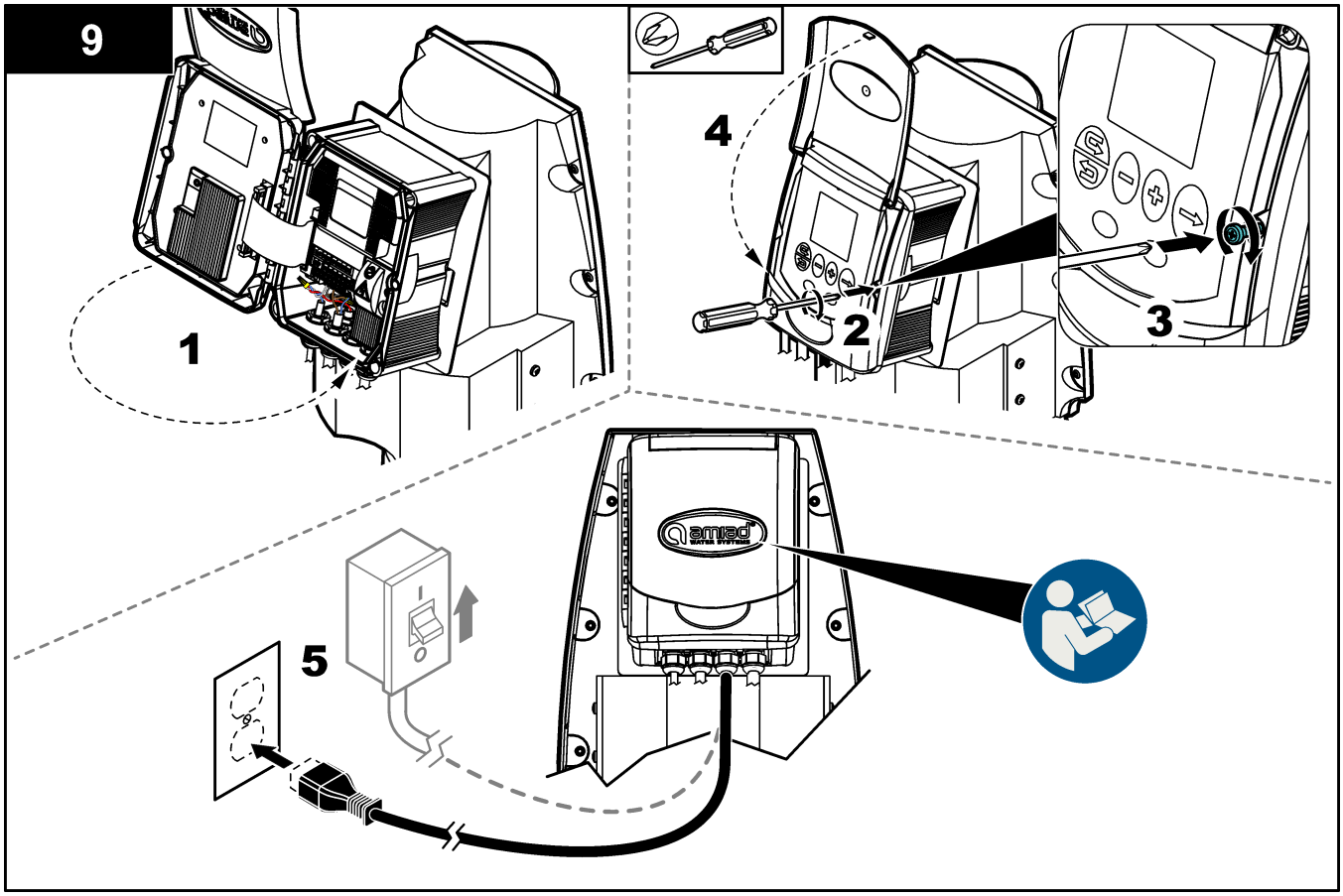

4
3
2
1
SC


5
1
6 mm
[0.24 in]
50 mm
[1.97 in]
8 mm
[0.31 in]
2 mm
[0.01 in]
2


6
1
2x
2
3
76.2 mm
[3 in]
6 mm
[0.25 in]
6 mm
[0.25 in]
4
5
2x


7
DP
V1
V2
V3
V4
V5


8
DP
V5



Configure the relay

Configure the relay of the SC Controller to close when there is a low flow warning on the CL17sc analyzer.

Configure the SC200 Controller relay

1. On the SC200 Controller, push **menu** and select **SYSTEM SETUP** > **RELAY SETUP**.
2. Select **RELAY A (B, C or D)**.
   Select the relay that is connected to the DP switch in the TAF-750 controller.
3. Select **SELECT SOURCE** > **CL17SC**.
4. Select **SET FUNCTION** > **WARNING**.
5. Select **ACTIVATION** > **WARNING LEVEL**.
6. Remove the checkmarks on all of the warnings shown on the display, except **LOW SAMPLE FLOW**.
7. Push **enter**.
8. Select **TRANSFER** > **INACTIVE**.
9. Select **FAIL SAFE** > **NO**.

Configure the SC4500 Controller relay

1. On the SC4500 Controller, go to the main menu and select **Outputs** > **High voltage relay** > **System setup** > **Relay 1 (or Relay 2)** > **Source** > **CL17sc**.
   Select the relay that is connected to the DP switch in the TAF-750 controller.
2. Select **Function** > **Warning**.
3. Select **OK**.
4. Select **Warning list** > **Enabled**.
5. Select **OK**.

The **Warning level** option now shows on the display.

6. Select **Warning level**.
7. Remove the checkmarks on all of the warnings, except for **Sample flow is low.**
8. Select **OK**.
9. Select **Transfer** > **Relays are de-energized.**
10. Select **OK**.

Configure the TAF-750 controller

1. Set the flush time to 16 seconds. Refer to the *AMIAD AMC Flushing Controllers User Guide* for instructions.

   If the total suspended solids (TSS) of your sample is above 50 mg/L, a longer flush time may be necessary.
2. Set the DP delay time to 2 seconds minimum (default: 3 seconds). Refer to the *AMIAD AMC Flushing Controllers User Guide* for instructions and Figure 2.

   A longer DP delay time may be necessary if the low flow warning at the CL17sc analyzer continues for a short time after the flush cycle.
3. Set the number of filter units so that only one 1 icon shows on the display next to "NO. OF FILTERS" on the DP delay screen.
4. Make sure that a F icon shows on the display next to "TAF" on the DP delay screen.

Figure 2 DP delay screen

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