HEATED INLET SAMPLE CONDITIONER ACCESSORY (854041) FOR ENVIRONMENTAL DUSTTRAK MODELS 8540 AND 8543

Thank you for purchasing a DustTrak™ Aerosol Monitor Heated Inlet Sample Conditioner Accessory (PN 854041). This guide will help you quickly begin using your Heated Inlet Sample Conditioner.
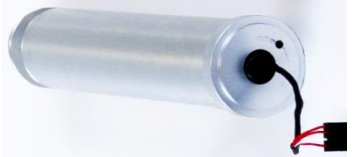
Warning Labels

Warns that the instrument could be hot to the touch or a burn hazard.

Unpacking

1. Carefully unpack the Heated Inlet Sample Conditioner from the shipping container and verify that all the items listed in the following table are present.

2. Contact TSI immediately if items are missing or broken.

3. Additional items may be included if you ordered accessories or spare parts.

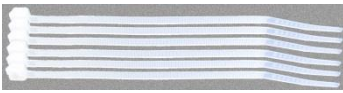| Qty.	Item Description	Reference Picture
1	Heated Inlet Column	
1	RH/Temp Sensor	

Qty.	Item Description	Reference Picture
1	RH/Temp Sensor Gland	
1	Heated inlet control module	
1	Power and Communication Cable	
1	Cover – Sun Shield for RH/Temp Sensor	
1	Ferrite	
4	Cable Tie Mount	
6	Cable Tie	
2	Washer	
2	Screw	
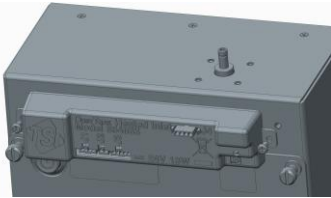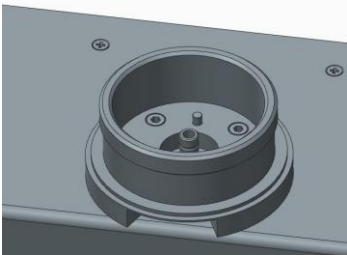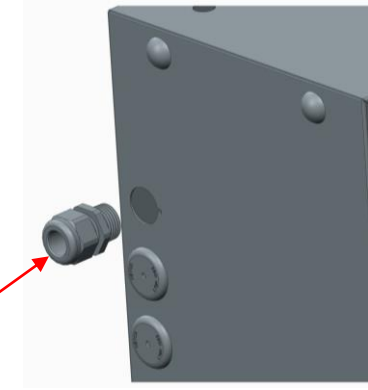
Tools Needed for Installation

Small Flat-head Screw Driver *(not included)*	
7/64" Hex/Allen/ball wrench *(not included)*	

Installing Heated Inlet into Environmental Enclosure

1. Attach heated inlet control module to the front of the Photometer.	
2. Set DIP switch to desired humidity conditioning setting. (See Operating Instructions on page 4.)	
3. If not already installed, attach inlet mounting ring to top of the photometer with the keyhole opening to the front.	
4. Push out elastic plug and install RH/Temp Sensor Gland to side of environmental enclosure. Gland Nut	

⚠	**W A R N I N G**
	Water gasket on gland must form a good seal with the exterior of the enclosure to ensure a waterproof seal.

5. Insert RH/Temp Sensor through gland and tighten gland ring. Extend probe ~2.75" (7 cm) beyond gland nut	
6. Attach the sun shield to the top of the RH/Temp Sensor as shown. Sun Shield should not touch sintered cap of RH/Temp Probe	
7. Use adhesive backed mounting pads and zip ties to secure gray cable of RH/Temp Probe to top of enclosure to facilitate Photometer installation.	1.5" 3.75" 2.625" 2"
8. Attach the cable to back of photometer with the adhesive-backed mounting brackets.	
9. Install Photometer into environmental enclosure. See enclosure manual for steps.	
10. Attach RH/Temp Sensor cable to heated inlet control module.	
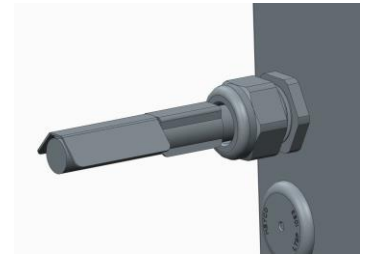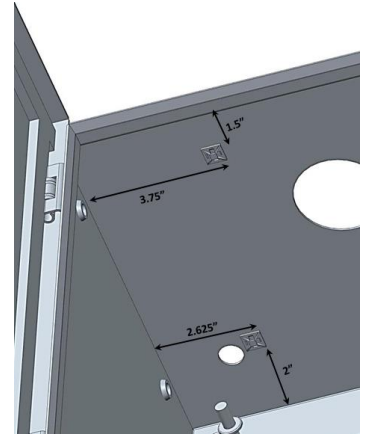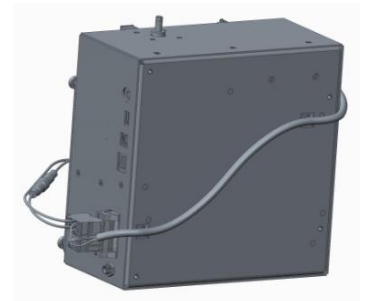
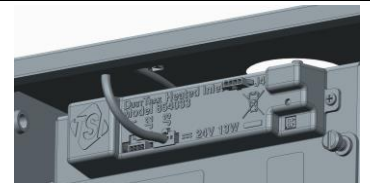|	
11. Remove inlet base on column and replace with the longer heated inlet. 12. Attach heated inlet segment to top of the photometer. Route cable through bottom cutout and pull excess cable out of flange area to prevent pinching of cable when inlet column is installed (*enclosure not shown for clarity*).	
13. Match pin on inlet column with hole on top of retainer ring to properly align the inlet column (*enclosure not shown for clarity*).	
14. Attach ferrite to cable with one wrap of the cable and snap the ferrite together (*enclosure not shown for clarity*).	
15. Attach heated inlet cable to heated inlet control module.	

16. Run power/ Communication cable from the side connector on the Environmental DustTrak monitor to the Power/ Communication input (J1 and J2) of the heated inlet control module (*RH/Temp Sensor Cable is not shown*).	
17. If using a Thiamis 1000 Node, route the other side of the cable to the power input on the Thiamis node.	

Heated Inlet Removal

Use care when removing the Heated Inlet Column to prevent damaging the heated inlet cables. Using a small flat-head screwdriver, carefully remove the ferrite. Slowly and gently guide the heated inlet cable connector through the opening in the mounting ring.

Operating Instructions

1. When powered and attached to the DustTrak monitor, the Heated Inlet will automatically function.

2. Select RH set point that will be controlled at the entrance to DustTrak monitor to be 30, 40 or 50% RH via the DIP switches. Heated inlet will then power heaters to heat incoming air and thereby decrease RH to the targeted level.

| Off | 30% RH | 40% RH | 50% RH |
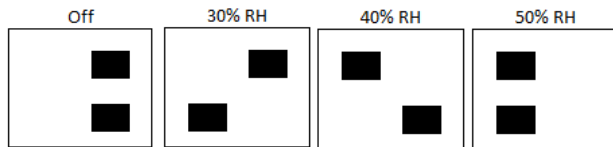
The **LED** describes the status of the heated inlet:

Solid Green	Inlet temp. is < 1°C below set point and controlling to maintain set point.
Blinking Green	Inlet temp. is between 1 to 5°C below set point and controlling to improve.
Blinking Red	Inlet temp. is more than 5°C below set point and controlling to improve. This will occur when unit is first turned on and coming to temperature.
Solid Red	Sensor unplugged or has issue.

Specifications

Power	12-24 Volts DC; 13 Watts
Dimensions.....	Heated inlet 13 in. x 2 in. dia (33 cm x 5 cm) dia Control module 7 in. x 1.5 in. x 0.75 in. (17.8 cm) x (3.8 cm) x (1.9 cm)
Temp Range ...	0 to 50°C (32° to 122° F)
RH Range........	0 to 95%
RH Set Points .	30% RH, 40%RH, 50% RH
Warm-up Time	17 minutes
CE	IEC 61326 & IEC 61010-1

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measuring up

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