# Solidyne

Application

The sLON-WTS Sensors are wall-mounted digital temperature and humidity sensors for use with sLON Controllers. These sensors feature Sensor Link (S-Link) communication protocol that provides a simple two wire interface for power and exchange of sensor and subbase information. Available in twelve models, these sLON-WTS Sensors provide integral analog to digital conversion for elimination of electrical interference between sensor and controller. An optional wiring connection allows access to the LONWORKS® network (LON®) via a LONWORKS network jack on the left side of each sensor. This jack allows direct connection to a PC running the WPT Software Tool or a third party Network Management Tool. Each sensor also provides an S-Link jack on the right side for connecting to a PDA running Pocket sLON software.
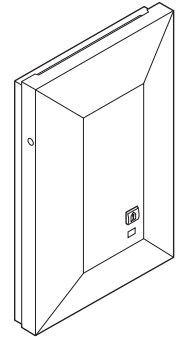
sLON-WTS Sensors are suitable for direct-wall, 2 x 4 electrical box, 1/4 DIN electrical box, or surface box mounting.
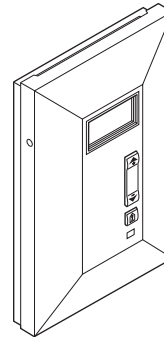
Model Chart

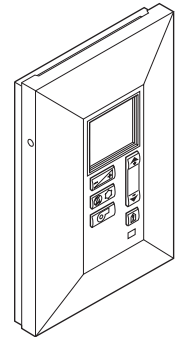See Table-1 on page 2 for a chart of the models.
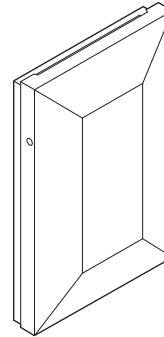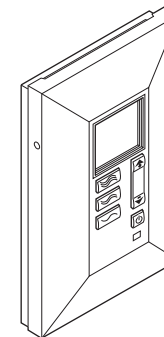
sLON-WTS-1
sLON-WTS-1H
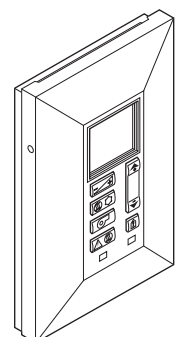
sLON-WTS-2
sLON-WTS-2H

sLON-WTS-3
sLON-WTS-3H

sLON-WTS-4
sLON-WTS-4H

sLON-WTS-4F
sLON-WTS-4H-F

sLON-WTS-5
sLON-WTS-5H

Table-1 sLON-WTSx Model Chart.

Model		Description	Keypad	Display
Temperature Sensor	Temperature and Humidity Sensor			
sLON-WTS-1	sLON-WTS-1H	Sensor only	None	None
sLON-WTS-2	sLON-WTS-2H	Sensor with override	One-button	LED Override Status Indication
sLON-WTS-3[b]	sLON-WTS-3H[b]	Sensor with setpoint adjustment and override	Three-button	Digital LCD[a] and LED Override Status Indication
sLON-WTS-4[b]	sLON-WTS-4H[b]	Sensor with setpoint, override, and controller mode functions	Six-button	Digital LCD[c] and LED Override Status Indication
sLON-WTS-4F[b]	sLON-WTS-4H-F[b]	Sensor with setpoint, On/Off and Fan speed functions	Six-button	Digital LCD[c] and LED Fan Status Indication
sLON-WTS-5[b]	sLON-WTS-5H[b]	Sensor with setpoint, override, controller mode functions, and emergency heat key	Seven-button	Digital LCD[c], LED Override Status, and Emergency Heat Indication

[a]   LCD displays value and setpoint.
[b]   Allows viewing of alarms and diagnostics.
[c]   LCD displays values, setpoints, and controller mode functions.

Installation

The sLON-WTS Sensor is packaged disassembled in one box and consists of three major parts:

- A pre-wirable base plate for wiring to the controller S-Link and LonWorks network (LON) connections
- An electronic assembly containing the sensors and associated circuitry
- A removable cover

Inspection

Inspect carton for damage. If damaged, notify carrier immediately. Inspect sensors for damage upon receipt.

Requirements

(These items not provided)

- Installer must be a qualified technician
- Job wiring diagrams
- Tools:
    – Drill and bits for mounting screws
    – Level
    – Static protection wrist strap
- Two mounting screws (dry-wall anchors for direct-wall mount)

Precautions

General

Caution: Disconnect power before installing or removing the cover.

Failure to observe this warning can damage the sensor.

- Follow Static Precautions when installing this equipment.
- Use copper conductors that are suitable for 167 °F (75 °C).
- Make all connections according to electrical wiring diagram, national and local electrical codes.

Static Precautions

Static charges damage electronic components. The microprocessor and associated circuitry are extremely sensitive to static discharge. Use the following precautions when installing, servicing, or operating the system.

- Work in a static-free area.
- Discharge static electricity by touching a known, securely grounded object.

- Use a wrist strap connected to earth ground when handling the controller's printed circuit board.

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy and may cause harmful interference if not installed and used in accordance with the instructions. Even when instructions are followed, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception—which can be determined by turning the equipment off and on—the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Canadian Department of Communications (DOC)

This class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Location

sLON-WTS Sensors are suitable for indoor use only.

Caution:

- Avoid locations where excessive moisture, corrosive fumes, vibration, or explosive vapors are present.
- The humidity sensing element of sLON-WTS-xH and sLON-WTS-4H-F models will recover from short term exposure to liquid water or condensation. Repeated exposure will degrade the performance of the sensor.
- Avoid electrical noise interference. Do not install near large contactors, electrical machinery, or welding equipment.
- Locate where ambient temperatures do not exceed 122 °F (50 °C) or fall below 32 °F (0°C) and relative humidity does not exceed 95% or fall below 5%, non-condensing.

Failure to observe these precautions can damage the sensors.

Locate the sLON-WTS Sensor on an inside wall where the sensor is exposed to at least 30 feet (9 meters) per minute of unrestricted air circulation. The location should represent the average temperature in the room or space. Make certain sensor is located out of direct sunlight, away from sources of heat or cold, and away from concealed ducts or pipes.

Mounting

sLON-WTS Sensors can be direct-wall, 2 x 4 electrical box, 1/4 DIN electrical box, or surface box mounted. See Figure-1 and Figure-2 for appropriate mounting dimensions.
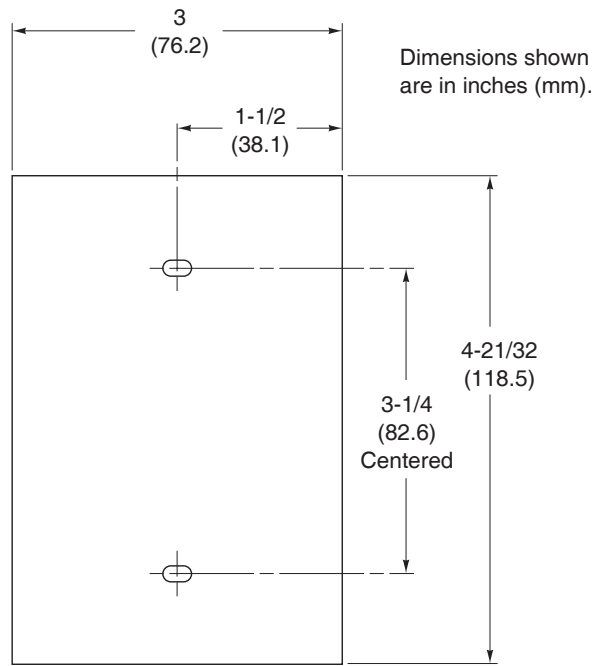
3
(76.2)

Dimensions shown
are in inches (mm).

1-1/2
(38.1)

4-21/32
(118.5)

3-1/4
(82.6)
Centered

Figure-1 Mounting Dimensions for Direct-wall,
2 x 4 Electrical Box, and Surface Box Mounting.

3
(76.2)

Dimensions shown
are in inches (mm).
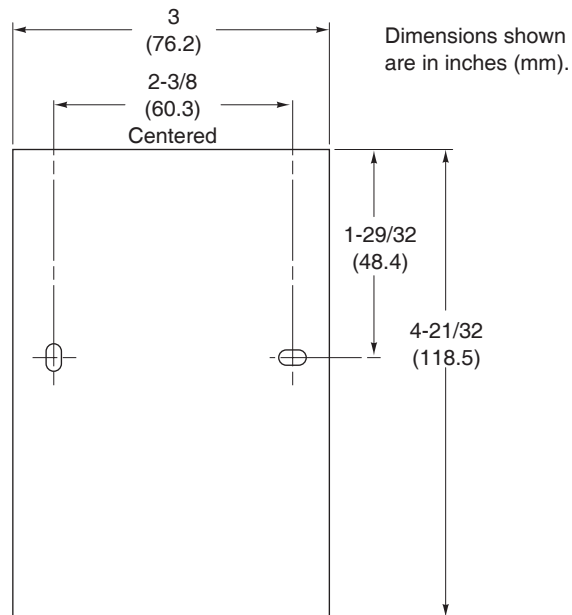
2-3/8
(60.3)
Centered

1-29/32
(48.4)

4-21/32
(118.5)

Figure-2 Mounting Dimensions for 1/4 DIN Electrical Box Mounting.

Direct-wall Mount

1. Use mounting dimensions shown in Figure-1.

2. Feed S-Link wires through base plate.

3. If required, feed LON wires through base plate.

4. Using two appropriate screws (use drywall anchors as necessary), mount base plate to wall (Figure-3).
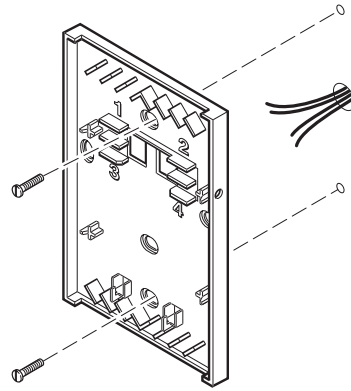
Figure-3 Direct-wall Mounting.

2 x 4 Electrical Box Mount

1. Use mounting dimensions shown in Figure-1.

2. Feed S-Link wires from electrical box through base plate.

3. If required, feed LON wires through base plate.

4. Using two 6-32 x 5/8 in. flat head screws (not provided), mount base plate to electrical box (Figure-4).
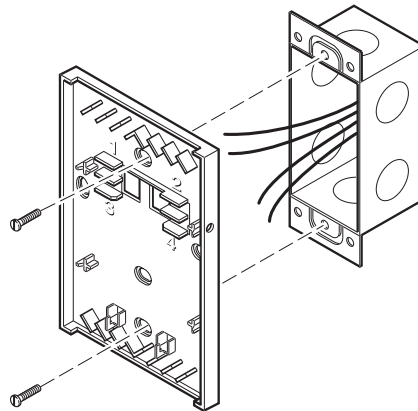

Figure-4 2 x 4 Electrical Box Mounting.

1/4 DIN Electrical Box Mount

1. Use mounting dimensions shown in Figure-2.

2. Feed S-Link wires from electrical box through base plate.

3. If required, feed LON wires through base plate.

Caution: Failure to use vertical mounting holes as shown in Figure-5 may cause a short of the LONWORKS network.

4. Using two appropriate screws (not provided), mount base plate to electrical box using vertical mounting holes indicated in Figure-5.
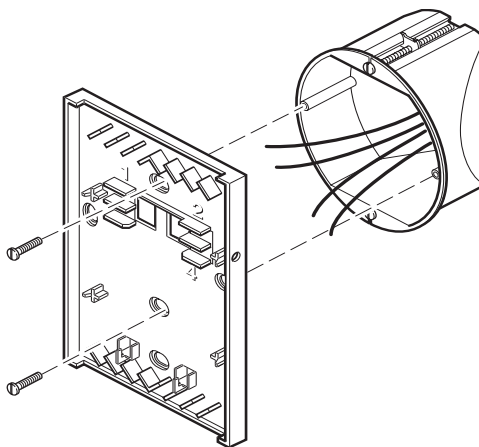
Figure-5 1/4 DIN Electrical Box Mounting.

Surface Box Mount

1. Use mounting dimensions shown in Figure-1.

2. Feed S-Link wires from electrical box through base plate.

3. If required, feed LON wires through base plate.

4. Using two 6-32 x 5/8 in. flat head screws (not provided), mount base plate to surface box (Figure-6)
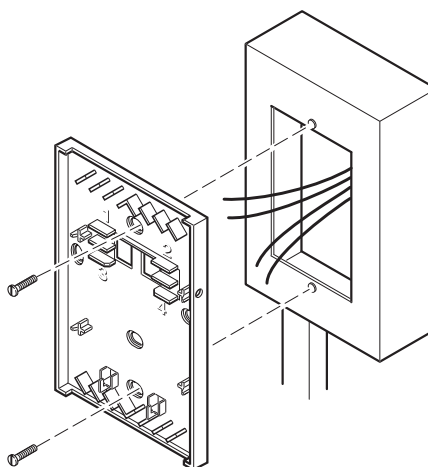

Figure-6 Surface Box Mounting.

Wiring

The following electrical connections can be made to the sLON-WTS Sensors:

- Sensor Link (S-Link) Wiring
- LonWorks network (LON) Wiring

Caution: Do not connect any power wiring to the sLON-WTS Sensor.

Failure to observe this precaution will damage the sensor.

Communications Wiring

Communications wiring includes a connection between the controller and an sLON-WTS Sensor via the S-Link and an optional connection between the sensor and the LonWorks network (LON). Figure-7 shows S-Link and LON wiring terminations.

Sensor Link (S-Link) Wiring

S-Link wiring powers and enables the sLON-WTSx sensor. The S-Link needs at least 24 gage (0.205 mm^2), twisted pair, voice grade telephone wire. The capacitance between conductors cannot be more than 32 pF per foot (0.3 m). If shielded cable is used, the capacitance between any one conductor and the others, connected to the shield, cannot be more than 60 pF per foot (0.3m). Maximum wire length is 200 ft. (61 m).

Note:

- S-Link wiring is polarity insensitive.
- Shielded cable is not required for S-Link wiring.
- If conduit is used between an sLON-WTS Sensor and a controller, the LonWorks network and S-Link wiring can be in the same conduit.
- S-Link wiring can be in the same conduit with UI, AO, and DI Wiring.
- S-Link wiring must be dedicated to S-Link communications. It cannot be part of an active, bundled telephone trunk.
- If the cable is installed in areas of high RIF/EMI, the cable must be in conduit.

Connect the S-Link to sLON-WTS Sensor

1. Strip 1/4 in. (6mm) of insulation from S-Link wires.

2. Connect wires to screw terminals 1 and 2 (Figure-7). The S-Link terminals are polarity insensitive.

3. Push excess wire back through the base plate to minimize air flow restriction.
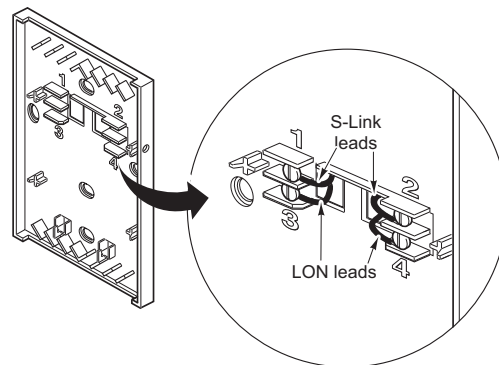

Figure-7 S-Link and LON Connections.

LonWorks Network (LON) Wiring

An approved Category 4 or 5, twisted-pair cable may be used for the optional LONWORKS network connection between the controller and sLON-WTSx sensor. LONWORKS network wiring is polarity insensitive.

Note:

- LONWORKS network wiring is polarity insensitive.
- Shielded cable is not required for LONWORKS network wiring.
- If conduit is used between an sLON-WTSx Sensor and a controller, the LonWorks network and S-Link wiring can be in the same conduit.
- Do not mix LONWORKS network wiring with UI, DI, AO, DO, or power types of wiring.
- LONWORKS network wiring must be dedicated to LonWorks network communications. It cannot be part of an active, bundled telephone trunk.
- If the cable is installed in areas of high RFI/EMI, the cable must be in conduit.
- If shielded wire is used for the LONWORKS network, the shield must be connected to earth ground at only one end by a 470 K ohm 1/4 watt resistor. The shield must be continuous from one end of the trunk to the other.
- To preserve the integrity of the network, the LONWORKS network wiring connecting an

sLON controller to an sLON-WTSx Sensor must be run to the sensor and back, in daisy-chain fashion. A wire "spur" must not be used to connect the sensor to the controller.

- While the sLON-WTSx Sensor is not counted as a "node" in the LonWorks network, all LONWORKS network wiring to the sensor must be counted when determining the length of the LONWORKS network wiring segment.

sLON Controllers use LONWORKS Free Topology Transceivers and support polarity insensitive bus (daisy-chain) and free (all combinations of star, tee, and loop) wiring topologies.

Connecting the LONWORKS network to an sLON-WTS Sensor provides local access to the network via the sensor's LONWORKS network jack. Four wires (a daisy chain connection) must be used to connect an sLON-WTS Sensor to a LONWORKS network. This connection is optional.

Connect LONWORKS Network to sLON-WTS Sensor

1. Strip 1/4 in. (6 mm) of insulation from LON wires.

2. Connect wires to screw terminals 3 and 4 (Figure-7). The LON terminals are polarity insensitive.

3. Push excess wire back through the baseplate to minimize air flow restriction.

Wiring Checkout

Verify wiring between sLON-WTS Sensor base plate and the sLON Controller is installed according to job wiring diagram, national and local wiring codes.

Electronic Assembly and Cover Installation

Caution:

- Observe static precautions when handling electronic assemblies.

- Handle electronic assemblies with care to prevent damage to the temperature and humidly sensing elements.

- Do not touch humidity sensing element on the sLON-WTSxH and sLON-WTS-4H-F models. The element is located beneath a small plastic housing on the back of the electronic assembly.

Failure to observe these precautions can damage the sensor.

1. Set electronic assembly onto bottom hooks of base plate.

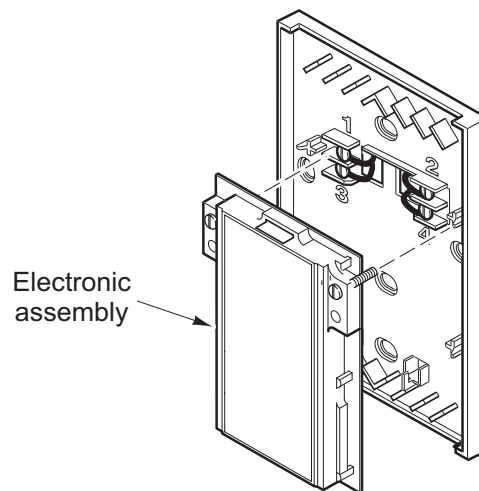2. Secure electronic assembly to base plate by tightening two screws at top of assembly (Figure-8).

Figure-8 Electronic Assembly Installation.

3. Insert bottom tabs of cover and then snap top into place.

Note: To remove sensor cover, place thumb in middle of sensor, grasp top edge of cover with fingers and pull firmly.

Features

sLON-WTS Sensor Model	Description	Zone Temp Sensing	Zone Humidity Sensing	Override Key and LED	Setpoint Adjustment	Fan Operation and Speed	Mode (Heat/Cool Auto/Off)	Emergency Heat Key and LED	LonWorks Network Jack	Display Screen
sLON-WTS-1	sLON-WTS-1 has no display or keypad. Its primary function is to provide zone temperature to the controller via the S-Link. Provides a LONWORKS Network Jack for commissioning, testing, and monitoring.	X							X	
sLON-WTS-1H	sLON-WTS-1H adds humidity sensing functionality to the sLON-WTS-1.	X	X						X	
sLON-WTS-2	The sLON-WTS-2 provides zone temperature to the controller via the S-Link and features an Override Key, with LED indicator, which forces the controller into timed occupied mode. Provides a LONWORKS Network Jack for commissioning, testing, and monitoring.	X		X					X	
sLON-WTS-2H	sLON-WTS-2H adds humidity sensing functionality to the sLON-WTS-2.	X	X	X					X	
sLON-WTS-3	The sLON-WTS-3 provides the same functionality and features as the sLON-WTS-2. In addition, the sLON-WTS-3 has a digital liquid crystal display and allows controller setpoint adjustment. The sLON-WTS-3 offers one setpoint and one default display screen.	X		X	X				X	X
sLON-WTS-3H	sLON-WTS-3H adds humidity sensing functionality to the sLON-WTS-3.	X	X	X	X				X	X
sLON-WTS-4	The sLON-WTS-4 provides the same functionality and features as the sLON-WTS-3. In addition, the sLON-WTS-4 includes a Fan Key, a Mode Key, and a Setpoint Key. The keypad allows you to select controller modes, fan modes, and fan speeds. The sLON-WTS-4 offers four setpoints and four display screens.	X		X	X	X	X		X	X
sLON-WTS-4H	sLON-WTS-4H adds humidity sensing functionality to the sLON-WTS-4.	X	X	X	X	X	X		X	X
sLON-WTS-4F	The sLON-WTS-4F has a digital liquid crystal display and allows adjustment of one controller setpoint and display of one controller value. In addition, the keypad includes a Fan Key for On/Off/Auto settings and three Fan Speed keys for Low, Medium, High adjustment.	X			X	X			X	X
sLON-WTS-4H-F	sLON-WTS-4H-F adds humidity sensing functionality to the sLON-WTS-4F.	X	X		X	X			X	X
sLON-WTS-5	The sLON-WTS-5 provides the same functionality and features as the sLON-WTS-4. In addition, the sLON-WTS-5 features an Emergency Heat Key and LED for heat pump applications. The sLON-WTS-5 offers four setpoints and four display screens.	X		X	X	X	X	X	X	X
sLON-WTS-5H	sLON-WTS-5H adds humidity sensing functionality to the sLON-WTS-5.	X	X	X	X	X	X	X	X	X

LonWorks Network (LON) Jack

A LONWORKS Network Jack is located on the left side of each sensor model. The mating plug for this Jack is a 1.3 mm DC power plug. Figure-9 shows its location.
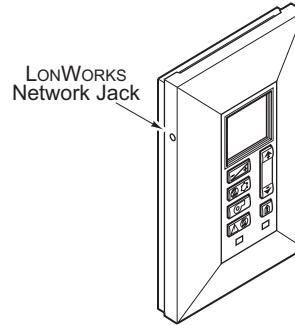

Figure-9 Location of the LONWORKS Network Jack.

Sensor Operation

Diagnostics

Note: The following applies to an sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4, sLON-WTS-4H, sLON-WTS-4F, sLON-WTS-4H-F, sLON-WTS-5, or sLON-WTS-5H sensor connected to an sLON controller.

In the Diagnostics Mode, the sensor times out and returns to the default screen if left idle for forty seconds. Subnet Address, Node Address, Alarms, and Errors are view only frames. Values displayed in the Temperature Offset and Relative Humidity Offset frames are adjustable.

The sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4, sLON-WTS-4H, sLON-WTS-4F, sLON-WTS-4H-F, sLON-WTS-5, or sLON-WTS-5H Sensors provide the following types of diagnostic data.

- Subnet Address
- Node Address
- Errors
- Alarms
- Temperature Offset
- Relative Humidity Offset

To access view only diagnostics:

View the Subnet Address, Node Address, Errors, and Alarms in this mode.

1. Press and hold both ends of Up/Down Key for four seconds. The Subnet Address frame appears.

2. Press Up/Down Key to scroll through Node Address frame, Errors frame, and Alarms frame.

To access adjustable diagnostic data:

Access Temperature Offset frame and Relative Humidity Offset frame in this mode. Skip step 1 if you are already in the Diagnostics Mode.

1. Press and hold Up/Down Key for four seconds. The Subnet Address frame appears.

2. Press Override Key. (Press On/Off/Auto key on sLON-WTS-4F or sLON-WTS-4H-F.) The Temperature Offset frame appears.

3. Use Up/Down Key to adjust value.

4. To access Relative Humidity Offset frame, press Override Key (On/Off/Auto key on sLON-WTS-4F or sLON-WTS-4H-F) again and use Up/Down Key to adjust value.

5. To return to the Subnet Address frame, Node Address frame, Errors frame, and Alarms frame, press Override Key (On/Off/Auto key on sLON-WTS-4F or sLON-WTS-4H-F).

Subnet Address and Node Address: Subnet Address frames and Node Address frames display subnet and node addresses of the connected sLON Controller. The LCD alternates between Subnet Address frame, numerical value of subnet address, Node Address frame, and numerical value of node address.

Errors: The Error frames display a value of 1, 2, 4, 8, 16, 32, or a combination of any of these values. The value may indicate one or more errors as described in Table-2. For example, an Error frame display value of 17 indicates two errors (1 = EEPROM write or read error and 16 = Analog output writing error) since 1 + 16 = 17. The LCD alternates between the Error frame and the numerical error value. An error screen displaying dashes (---) indicates no errors.

Table-2 Error Code Descriptions.

Error Code	Controller		
	sLON-xRx	**sLON-Vx**	**sLON-7**
1	EEPROM write or read error		
2	Out of range universal input (UI1)		Out of range universal input (any)
4	Out of range universal input (UI2)	High velocity pressure	N/A
8	Out of range universal input (UI3)	Low velocity pressure	N/A
16	Analog output writing error		N/A
32	Calibration data checksum error or unit is uncalibrated		
64	N/A		Invalid RTC

Alarms: The Alarm frames display the last four alarms of the connected sLON Controller. The LCD alternates between Alarm frame and numerical alarm value. If the controller is sending more than one alarm, the numerical alarm value will update every four to five seconds. Alarms are defined by controller application. For information regarding specific alarm definitions, consult the controller application documentation.

Temperature Offset. The Temperature Offset frame displays the connected sLON Controller's temperature offset value. Adjust the value using the Up/Down Key.

Humidity Offset. The Humidity Offset frame displays the connected sLON Controller's humidity offset value. Adjust the value using the Up/Down Key.

Display Screen Functions

The sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4F, and sLON-WTS-4H-F models have one display screen slot. The sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H models have four display screen slots. The connected controller's application defines what is visible in each slot. The first display screen slot always shows the sensor's default display.

To scroll through display screens (sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H):

1. Press either end of the Up/Down Key to change from the first display screen slot to the second display screen slot. Before the second display screen slot appears, "-2-" will appear to indicate you are about to view the second slot.

2. Press either end of the Up/Down Key to scroll through the four display screen slots. Before the third display screen slot appears, "-3-" will appear to indicate you are about to view the third slot. Before the fourth display screen slot appears, "-4-" will appear to indicate you are about to view the fourth slot.

Emergency Heat Functions

The Emergency Heat Key activates emergency heat in heat pump applications equipped with this feature. To activate, press the Emergency Heat Key. The LED indicator is lit when Emergency Heat is activated. (Applies only to sLON-WTS-5 and sLON-WTS-5H.)

Fan Functions

To display and adjust the fan (sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H):

1. Press the Fan Key to change from the current display to the first fan display screen slot. The sensor displays the first fan, corresponding speed icon (Table-3). and "-1-".

Note:

- There are two fan display screen slots. The fan assigned to each slot depends on the controller application and sensor configuration.
- If the sensor displays three dashes when pressing the Fan Key, all fan slots are unassigned or not active.

2. Continue to press Fan Key to scroll through the fan slots. Before the second fan appears, "-2-" will appear to indicate you are about to view the second fan.

3. Press Up/Down Key as necessary to change fan setting.

4. To enter new selection, press any key besides the Up/Down Key or wait for 5 seconds.

To activate fan speed (sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H):

If the controller is equipped for multiple fan speeds, the Up/Down Key activates one of three selected fan speeds. Multiple speed fans are indicated by wavy lines next to fan icon in LCD (To see fan speed icons, refer to Table-3).

To display and adjust the fan (sLON-WTS-4F and sLON-WTS-4H-F):

1. Press the On/Off/Auto Key to select On, Off, or Automatic fan control. (Auto is optional and must be activated using WP Tech.)

2. Press the low, medium, or high key to adjust fan speed. (Speed indicated by 1, 2, or 3 wavy lines on key.)

General Functions

Sensor time-out

The sLON-WTS Sensor times out and returns to the default display if left idle for 30 seconds. If sensor is in diagnostics mode, then time out is 40 seconds.

To enter a selection or setpoint:

Press any key besides the Up/Down Key or wait five seconds for the change to be accepted automatically.

To fast scroll toggle for increasing or decreasing values:

Press and hold either end of the Up/Down Key and tap and release Override Key. To terminate fast scroll, release Up/Down Key.

Mode Functions

To display and adjust modes (sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H):

1. Press Mode Key to change from current display to first mode slot. The sensor displays the first mode, corresponding icon (Table-3). and "-1-".

Note:

- There are two mode slots. The mode assigned to each slot depends on the controller application and sensor configuration.
- If the sensor displays three dashes when you press the Mode Key, all mode slots are unassigned or not active.

2. Continue to press Mode Key to scroll through mode slots. Before the second mode appears, "-2-" will appear to indicate you are about to view the second mode.

3. Press Up/Down Key as necessary to change mode.

4. To enter new mode selection, press any key besides the Up/Down Key or wait for five seconds.

Override Functions

The Override Key allows override of unoccupied mode setting within the controller in applications equipped with this feature.

- The override LED indicator is lit if the MicroNet controller is overridden to the occupied mode from the unoccupied mode.
- The override LED indicator flashes when timed override has less than 5 minutes remaining.
- If the override time is left to expire, the controller returns to the unoccupied mode.

To override the unoccupied mode:

Press (for not more than four seconds) and release Override Key. The controller goes into the occupied mode for override time specified by controller.

To Re-initialize override time:

If override time has not expired, press (for not more than four seconds) and release Override key. Override time resets to override time specified by controller.

To cancel override:

Press and hold Override Key for four seconds. Override is cancelled and controller returns to unoccupied mode.

Service Pin

To command controller to send controller service pin to the LONWORKS Network:

Press and hold Override key (On/Off/Auto Key on sLON-WTS-4F or sLON-WTS-4H-F) for eight seconds. The service pin of the connected controller is sent out on the LONWORKS Network.

Setpoint Functions

To display and adjust setpoints (sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4, sLON-WTS-4H, sLON-WTS-4F, sLON-WTS-4H-F, sLON-WTS-5, and sLON-WTS-5H):

1. Press Setpoint Key to change from current display value to first setpoint slot. (Press Up/Down key on sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4F, and sLON-WTS-4H-F. Key must be released and pressed again to change setpoint.) The sensor displays first setpoint and corresponding icon (heat, cool, unoccupied heat, or unoccupied cool). sLON-WTS-3 or sLON-WTS-3H will not display icon.

Note:
- The sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4F, and sLON-WTS-4H-F models have one setpoint slot, and the sLON-WTS-4, sLON-WTS-4H, sLON-WTS-5, and sLON-WTS-5H models have four setpoint slots. The setpoint assigned to each slot depends on controller application and sensor's configuration.
- If sensor does not respond when you press the Setpoint Key, all setpoints slots are unassigned or not active.

2. Continue to press Setpoint Key to scroll through the setpoint slots. Before the next setpoint appears, "-2-" will appear to indicate you are about to view the second setpoint ("-3-" indicates the third setpoint, "-4-" indicates the fourth setpoint).

3. Press Up/Down Key as necessary to adjust any setpoint. (On sLON-WTS-3, sLON-WTS-3H, sLON-WTS-4F, and sLON-WTS-4H-F, Key must be released and pressed again to change setpoint.)

4. To enter new setpoint, press any key besides Up/Down Key or wait five seconds. (On sLON-WTS-4F and sLON-WTS-4H-F do not press any keys. Simply wait five seconds and the setpoint will be entered.)

Wink

The sLON-WTSx sensors will flash the red Override Status LED (½ second ON, ½ second OFF) while the connected controller is in the wink mode (approximately 12 seconds).

Note:
- This feature is available with the sLON-WTS-1 through sLON-WTS-5 and sLON-WTS-1H through sLON-WTS-5H sensors, but not the sLON-WTS-4F or sLON-WTS-4H-F sensors.
- This feature is supported by sLON-WTS Controllers beginning with the following versions: sLON-5F, sLON-6F, sLON-1Rx, sLON-Vx, sLON-2Rx, sLON-3Rx, sLON-4Rx.

LCD Icon Descriptions

Table-3 sLON-WTS Sensor LCD Icon Descriptions[a]

Icon	Name	Description	Icon	Name	Description
°F	Degrees Fahrenheit	Units are displayed in °F.	⨌	Heat	The Heat Icon indicates that the controller is in heat mode, or the heating setpoint is being displayed.
°C	Degrees Celsius	Units are displayed in °C.	⬡	Cool	The Cool Icon indicates that the controller is in cool mode, or the cooling setpoint is being displayed.
%	Relative Humidity	Units are displayed in % of relative humidity.	⌾	Fan	The Fan Icon, along with the appropriate Fan Speed Icon, indicates that the fan is on.
♠	Outdoor Air	The Outdoor Air Icon indicates that outdoor air temperature is displayed.	≋	Fan Speed (1-Speed Fan)	The Fan Speed Icons indicate the speed of the fan. If the fan has one speed, the appearance of three wavy lines indicates that the fan is on.
⌂	Unoccupied	The Unoccupied Icon indicates that the unoccupied mode is active, or unoccupied setpoints are displayed. This icon is not displayed in the occupied mode.	≋ ~	Fan Speed (2-Speed Fan)	The Fan Speed Icons indicate the speed of the fan. If the fan has a two speed selection, the appearance of three wavy lines indicates high speed. The bottom wavy line indicates low speed.
AUTO	Auto	The Auto Icon indicates that the controller is in the auto mode.			
◯	Off	The Off Icon indicates OFF for a mode or fan selection.	≋ ≋ ~	Fan Speed (3-Speed Fan)	The Fan Speed Icons indicate the speed of the fan. If the fan has a three speed selection, the appearance of three wavy lines indicates high speed. The middle and lower wavy lines indicates medium speed, and the bottom wavy line indicates low speed.
|	On	The On Icon indicates ON. For example, the On Icon may indicate that a connected device is operating manually or that room lights are on. The On Icon may represent auxiliary heat during normal heat pump operation or a possible selection in the fan selection list.			

[a] LCD icons and icon definition vary depending on connected sLON Controller and its application. Refer to application documentation for more information.

Service

Table-4 Troubleshooting.

Sensor Condition	Corrective Action
LCD remains blank.	• Check sensor and controller wiring and correct, if necessary. • If wiring is okay, check to see if power is being applied to the sensor by pushing the Override Key for less than four seconds. If the Override LED lights up, the sensor is powered. If the Override LED does not light up, the sensor may not be receiving power. Check controller power to verify presence. • If the above measures do not address the problem, download a new application to the controller.
Sensor displays "Abn" indefinitely.	• Check the documentation to make sure the sensor model is compatible with the controller application and then choose one of the following options. • If the sensor and application are compatible, download a new application to the controller. • If the sensor and application are incompatible, download an application that is compatible with the sensor. Or, install a sensor that is compatible with the controller application.
All LCD icons light up and remain lit.	• Check to see if the controller is constantly resetting and correct, if necessary. • Check sensor and controller wiring and correct, if necessary. • If reset and wiring are okay, download a new application to the controller. • If the above measures do not address the problem, the controller may need to be configured. For configuration instructions, consult documentation associated with the network management tool.

Components within sLON-WTS Sensors can not be field repaired. If there is a problem with a sensor, follow the steps below before contacting Solidyne Technical Support.

1. Make sure sensors are connected and communicating to desired devices.

2. Record precise hardware setup indicating the following:
   • Version numbers of applications software.
   • Controller firmware version number.
   • Information regarding the WorkPlace Tech Tool application program.
   • A complete description of difficulties encountered