MODELS:
SENW51: Temperature Detector
SENW58F: Fahrenheit model, with display, setpoint adjustment and override
SENW58C: Celsius model with display, setpoint adjustment and override

SENW5x

Wall Mounted Temperature Detector

Overview

The *SENW5x Wall Mounted Temperature Detector* is a wall mounted sensing element used for the monitoring of temperature in a controlled space.

SENW51

Features

- Icon based backlit Liquid Crystal Display (LCD)
- Modern, attractive enclosure design
- Wall mounted
- Displays Temperature and Setpoint at a glance
- Onboard temperature sensor
- Displays Fahrenheit (°F) or Celsius (°C)
- Push button interface for:
  a. Temperature setpoint adjustment
  b. Occupancy override

- Display available on SENW58 model only
- Temperature setpoint adjustment and override available on SENW58 model only.

Applications

The Innotech *SENW5x* is designed to provide simple but accurate sensing of air-conditioned spaces.

The *detector* provides an easy to read visual display of temperature, and allows programming modifications using the intuitive LCD and push button interface (SENW58 model only).

SENW58F

Installation / Wiring

The *SENW5x detector* should be installed in an environment that does not exceed the maximum operating parameters of the device. It should be mounted in a clean and dry environment free of vibration, and properly ventilated.

The *SENW5x* should be mounted with a standard vertical C-Clip, or on a standard wall enclosure. Maximum terminal cable entry is 2.5mm^2 (stranded conductor).

Wiring should be done in accordance with Innotech connection diagrams and local bylaws or refer to your local distributor.

Connect the power supply to the correct terminals on the *detector*, observing the correct polarity of the connections.

Specifications

POWER SUPPLY REQUIREMENTS (SENW58 Only)	
Power Input	24VDC or 24VAC ±10% @ 50/60Hz
Power Consumption	10mA @24VDC (80mA w/ backlight on)

Polarity MUST be observed when connecting power.

If using 24VAC, the data and power cabling should be segregated and data run in screened cable (as shown on page 5).

ENVIRONMENTAL	
Operating Temperature	32°F to 104°F (0 to 40°C) non-condensing
Storage Temperature	32°F to 122°F (0 to 50°C) non-condensing

ENCLOSURE	
Housing is moulded from flame retardant plastics recognised by UL as UL94-V0. The housing is designed to maximise airflow to the onboard sensors. It should be mounted with a standard vertical C-Clip, or on a standard wall enclosure.	
Colour	Grey / White
Dimensions(Maximum)	(W)2.76" x (H)4.76" x (D)1.6" [70mm x 121mm x 41mm]

APPROVALS
EN61326-1:2013 for CE Marking and RCM Labelling
Title 47 CFR, Part 15, Subpart B, Class A for FCC Verification

Onboard Sensor

TEMPERATURE SENSOR	
Resistance	NTC 10,000Ω thermistor (10K-2)
Accuracy	±0.36°F (0.2°C) from 32 to 158°F (0 to 70°C)

Inputs and Outputs

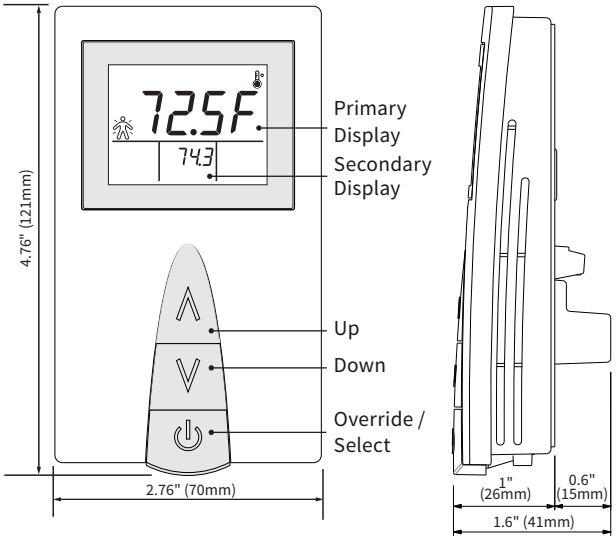
AVAILABLE OUTPUTS	
Temperature	Temperature (Temp) Resistance, 10K-2 thermistor (Isolated)
Setpoint (STPT)	0 to 10VDC = configurable setpoint signal (ref. to power GND)

OCCUPIED INPUT	
Occupancy (OVR)	Occupied = 10VDC ("Man" displayed) Unoccupied = 0VDC ("Man" not displayed) (ref. to power GND)

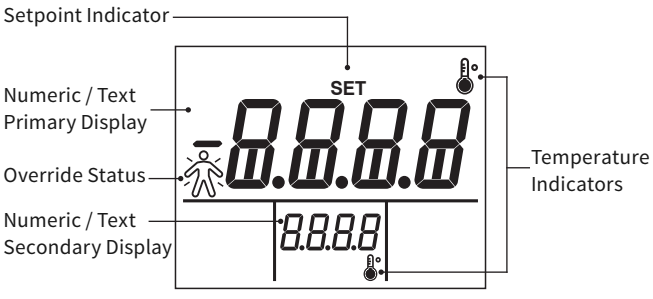
Controls and Display

CONTROLS (SENW58 Only)	
Setpoint	Up and Down Buttons
Override / Select	Single Button

DISPLAY (SENW58 Only)	
Backlit LCD for Temperature, Setpoint and Override	
Primary Display	Four Numeric Digits 0.75" (19mm) high with one selectable decimal
Secondary Display	Four Numeric Digits 0.5" (12.7mm) high with one selectable decimal
Icons	SET / /
Display Size (Width x Height)	1.6" x 1.2" (40mm x 30mm)
Digit Resolution	0.1, 0.5 or 1
Units	°F, °C
Temperature Offset Range	±10



SENW5x Dimensions and Identification
(SENW58F Shown)



SENW58 LCD Display

Operation Sequence and Display (SENW58 Only)

Power

- The *SENW5x* is powered by 24VDC or 24VAC ±10% from terminals (VIN) and (GND).
- Terminal (GND) is common for power and setpoint outputs, and reference for the 0/10VDC input for override.
- A Display segment test is performed by **pushing and holding** the **Override** button during power-up. This action will latch all the segments ON until the override is released.

Sensors

- Temperature is measured by a 10K-2 type thermistor.
- Temperature is viewed on the Primary Display.

Temperature Setpoint

- The setpoint is adjusted by the **Up** and **Down** buttons. A 0 to 10VDC signal is produced from terminal (STPT). The range may be adjusted, unless configured for "Setpoint Lockout".
- The setpoint is viewed on the secondary display.
- The setpoint ranges from 55°F (12°C) to 95°F (35°C) absolute temperature or as a relative temperature from ±5° (F or C). The setpoint range is dependent on the settings for P3 and P4.
- The primary display shows the temperature setpoint during adjustment. It will revert back to the temperature 5 seconds after the last button activity.
- 0.5° increments for SENW58F model.
- 0.1° increments for SENW58C model.

Override

- The override is activated by the **Override** pushbutton on the front of the SENW58. When pressed, the temperature sensor will short circuit for 5 seconds, unless configured for "Occupancy Lockout".
- When the temperature input on the Innotech Maxim/Genesis controller registers the fault from the SENW58 sensor short circuit, the analogue output from the controller changes from 0VDC (off) to 10VDC (on).
- When the SENW58 detector registers 10VDC from the controller, the " " is displayed to represent "Occupied" mode.
- When the SENW58 detector registers 0VDC from the controller, the " " is not displayed to represent "Unoccupied" mode.

Display

- Primary Display - Indicates Temperature in °F or °C depending on the version of detector (F/C). This also displays the setpoint when the **Up**/**Down** buttons are pressed. (This may be adjusted to toggle between Temp and Setpoint - P7)
- Secondary Display - Indicates Temperature Setpoint. - P8
- The display can be adjusted for resolutions of 0.1, 0.5 or 1.
- The backlit display has two modes, “Active” and “Inactive”.
  - Active - When a button press is detected the display will illuminate.
  - Inactive - When no button activity is detected for 5 seconds the display will become dull.
- The " " is displayed on the SENW58 to indicate "Occupied" or "Unoccupied" modes. (Refer to the Typical Configuration)
- "E" will be displayed if there is an error with the SENW58 sensor.

Parameters (SENW58 Only)

The SENW5x is factory set, as per the Parameters on page 4. These may be adjusted using the **Up**/**Down** and **Select** buttons.

- Where [**°F Default**] or [**°C Default**] is indicated, this is the default for the respective Fahrenheit or Celsius models.
- Where [**Factory Default**] is specified, it is the default setting regardless of the model.

Enter the Parameter Menu

The parameter menu is accessed by a two step procedure.

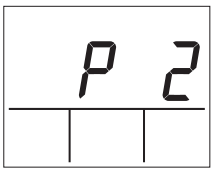
1. Simultaneously press and hold the **Up** and **Down** buttons for 3 seconds. Prog will be displayed.
2. Continue to hold the **Up** and **Down** buttons and also hold the **Select** button for 3 seconds.

After successfully entering the Parameter Menu, the initial parameter displayed will be P1.

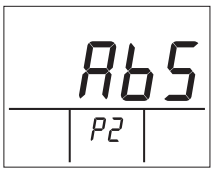
You may modify multiple parameters before returning to the normal mode of operation.

Setting Parameters

1. Press the **Up**/**Down** Buttons to select a setting from P1 to P13. The parameter number will be displayed in the Primary display (The Parameters are detailed on the next page).
2. Press the **Select** Button to modify the specific parameter to change. The parameter number will drop to the secondary display and the primary display will be used for parameter changes.
3. Change the parameter value using the **Up**/**Down** buttons.
4. Press the **Select** Button to save the changes.
5. If required, press the **Up**/**Down** Buttons to select the next parameter.



Parameter Menu



Parameter 2 Options

Selecting and Modifying a Parameter

Exiting the Parameter Menu

To exit the Parameter menu, press the **Up**, **Down** & **Select** buttons together.

Alternatively the display will automatically revert after button inactivity for 30 seconds.

- Refer to the typical configuration for programming of your Innotech Controller.
- Where used, P# refers to a Parameter number. ie: P1 = Parameter 1.

Parameter 1: Set Temperature Display Units

This parameter determines whether the temperature is displayed in °C or °F.

- F Sets output in °F
- C Sets output in °C **[°C Default]**
- F dS Sets the display and outputs to read in °F **[°F Default]**
- C dS Sets the display and outputs to read in °C

- Selecting dS will display the F or C beside the temperature.
- The setting used in P1 determines the units used globally (°F or °C).

Parameter 2: Temperature Setpoint Type

This parameter sets the setpoint display to either absolute (xx to yy°) or Relative (±x°) on the display.

- Abs Absolute value (xx° - yy°) **[Factory Default]**
- rEL Relative value (±xx)
- eg. ABS = 72.5°F
  REL = -2.2°F

The setting used in P2 determines the SP Type used in P3 & P4.

Parameter 3: Temperature Setpoint Minimum Value

This parameter sets the minimum value for the setpoint.

Eng Units	SP Type	Function
F	Abs	Adjust value from 55.0 to 69.0°F, (increments of 0.5°F), Default = 65°F **[°F Default]**
C	Abs	Adjust value from 12.0 to 20.0°C, (increments of 0.1°C), Default = 18°C **[°C Default]**
F or C	rEL	Adjust value from -5° to 0°, (increments of 0.5°F/0.1°C), Default = -3°

- This setting is dependent on the values selected in P1 and P2.
- If altering P3, you must alter the setpoint range minimum in your software programming.

Parameter 4: Temperature Setpoint Maximum Value

This parameter sets the maximum value for the setpoint.

Eng Units	SP Type	Function
F	Abs	Adjust value from 69.0 to 95.0°F (increments of 0.5°F), Default = 85°F **[°F Default]**
C	Abs	Adjust value from 20.0 to 35.0°C (increments of 0.1°C), Default = 29°C **[°C Default]**
F or C	rEL	Adjust value from 0° to +5°, (increments of 0.5°F/0.1°C), Default = +3°

- The setting is dependent on the values selected in P1 and P2.
- If altering P4, you must alter the setpoint range maximum in your software programming.

Parameter 5: Temperature Setpoint Lockout

This parameter enables or disables the adjustment of the setpoint.

- LOcK This setting locks the setpoint at the current value and disables the Up/Down buttons
- ULOc This setting enables the setpoint to be changed by the user using the Up/Down buttons **[Factory Default]**

Parameter 6: Occupancy Lockout

This parameter enables or disables the override button function.

- LOcK This setting disables the Override button
- ULOc This setting enables the Override button so the user can request occupancy override **[Factory Default]**

Parameter 7: Set Primary Display Mode

This parameter determines what is shown on the primary display.

- nonE The primary display is not used
- t Temperature value only **[Factory Default]**
- t SP Temperature and setpoint values alternate every 5 seconds
- SP Room temperature setpoint value only

Parameter 8: Set Secondary Display Mode

This parameter determines what is shown on the secondary display.

- nonE The secondary display is not used
- SP Room temperature setpoint value only **[Factory Default]**

Parameter 9: Display Resolution

This parameter sets the resolution for the digital display.

- 0.1 Sets a 0.1 resolution (xx.1) **[Factory Default]**
- 0.5 Sets a 0.5 resolution (xx.5)
- 1. Sets whole number resolution (1)

Parameter 10: Backlight Duration

This parameter selects the backlight duration.

- 1-10 Adjust the setting using the Up or Down buttons **[Factory Default = 5 seconds]**

Parameter 11: Temperature Sensor Calibration

This parameter adjusts the temperature display value ±10°.

- -10 to +10 Adjust value ±10° in 0.1° increments **[Factory Default is 0°]**

Calibration of the display and the sensor input (at the controller) is required.

Parameter 12: Sensor Firmware Version

This parameter displays the current firmware in the SENW58.

- 1.0 Example of firmware version

Parameter 13: Reset to Factory Defaults

The SENW58 may be reset to factory defaults.

1. Select P13, no will be displayed.
2. Press the **Up** button, YES will be displayed.
3. Press the **Select** button, RESt will be displayed and the sensor program will revert to the factory default values. Normal operation will begin after the reset is complete.

The SENW58 sensor is factory calibrated.

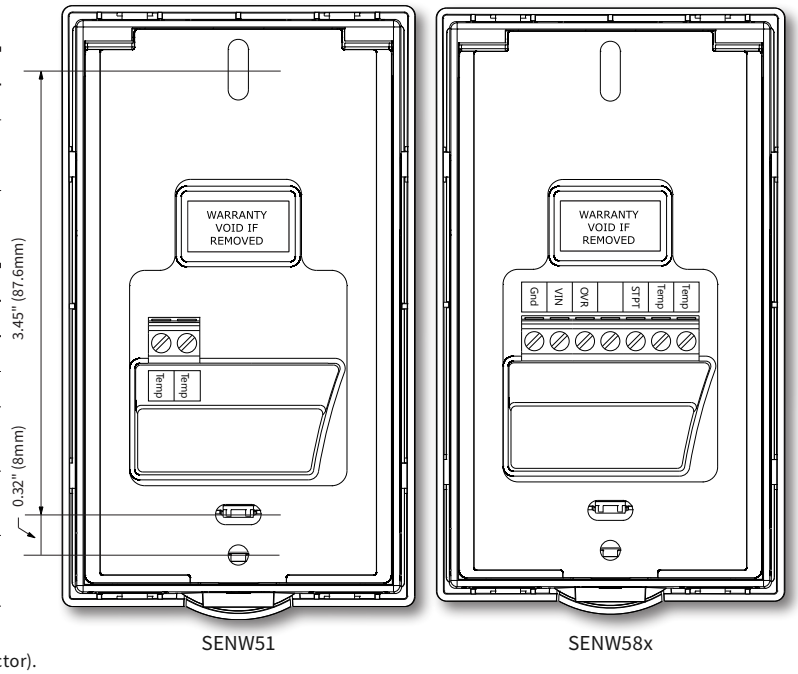
SENW5x Detector Connection Identification

SENW51 Detector

CONNECTOR INFORMATION	
Connector	**Description**
Temp	Temperature Sensor (Isolated)
Temp	

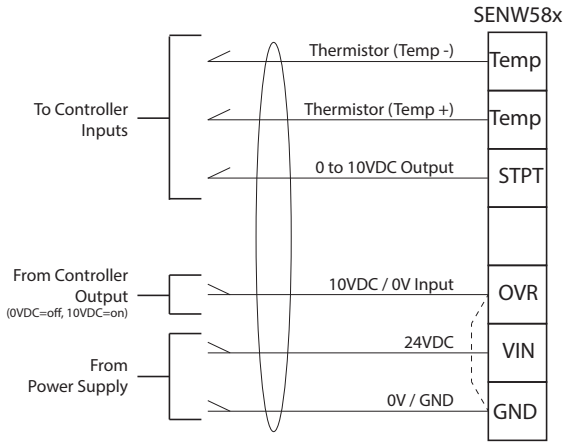
SENW58x Detector

CONNECTOR INFORMATION	
Connector	**Description**
Gnd	Power Common / Neutral
VIN	+ Power 24VDC or 24VAC ±10%
OVR	Override Input (10VDC = Occupied, 0VDC = Unoccupied)
STPT	Setpoint Output 0 to 10VDC (Ref. to GND Common)
Temp	Temperature Sensor (Isolated)
Temp	



Maximum terminal cable entry is 2.5mm² (stranded conductor).

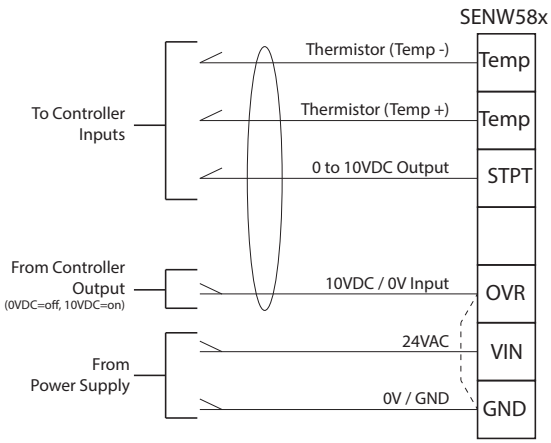
SENW58x Connection Diagram - 24VDC



Polarity MUST be observed when connecting power.
Earth screens at controller only.

- When using 24VDC to power the device, a single shielded cable may be used for power and control signals.
- Link is required if override is not used.
- Maximum terminal cable entry is 2.5mm² (stranded conductor).

SENW58x Connection Diagram - 24VAC



Polarity MUST be observed when connecting power.
Earth screens at controller only.

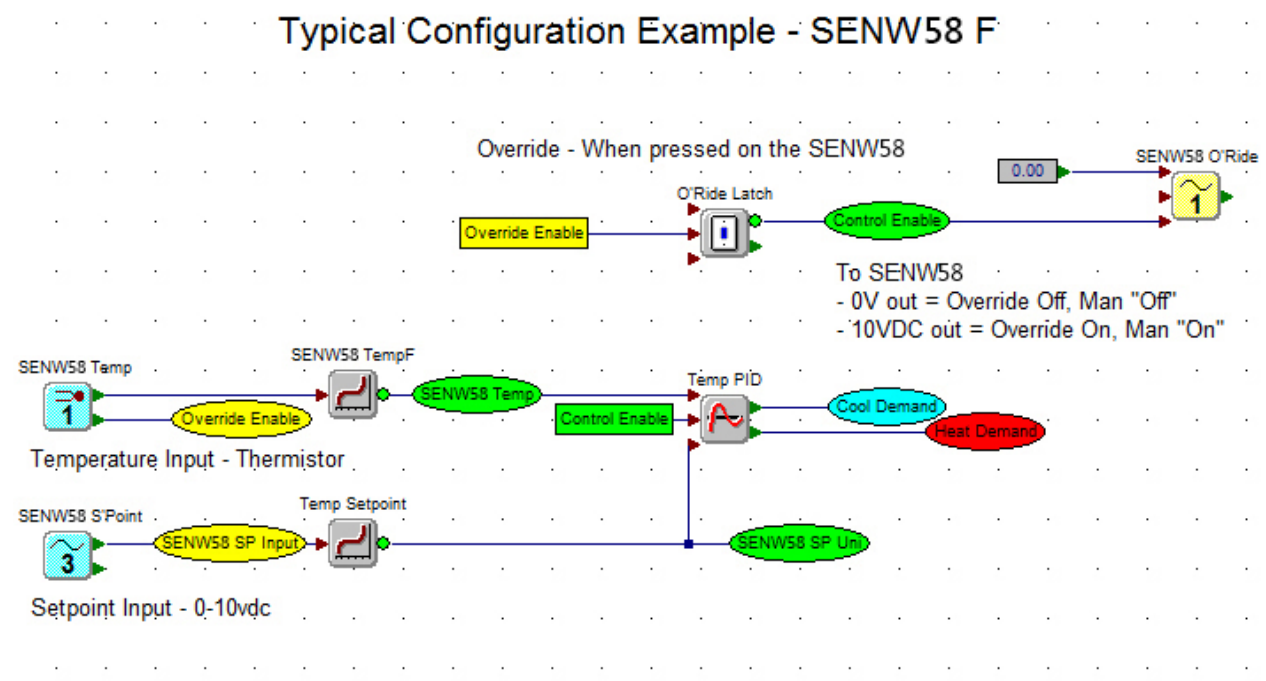
- When using 24VAC to power the device, separate cables must be used for power and control signals.
- Link is required if override is not used.
- Maximum terminal cable entry is 2.5mm² (stranded conductor).

FCC Class A Notice

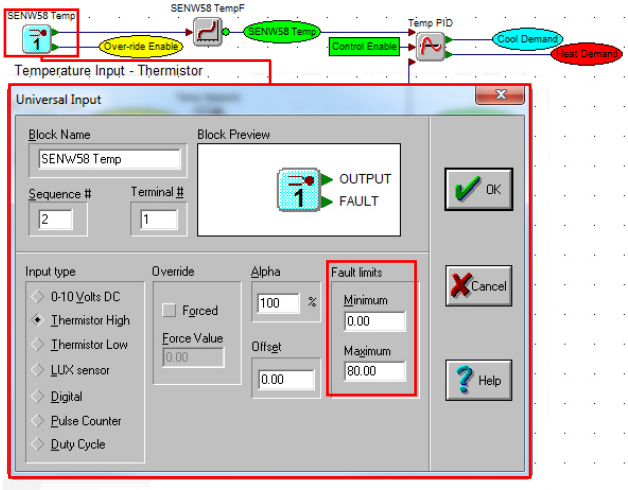
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

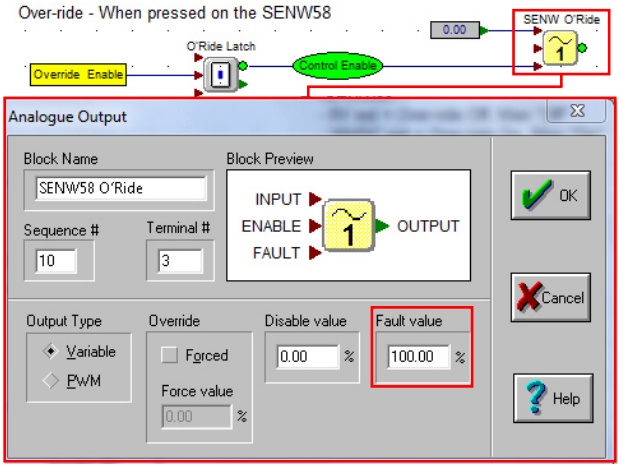
Note – *This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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. Modifications to this device, may void the authority granted to the user by the FCC to operate this equipment.



Configurations are available from the Innotech Website by clicking here.



Please note that the Fault Limits should be set as shown.



Please note that the Fault Value should be set as shown.

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