Partner: Trane & American Standard
Trane Models: XL1050
American Standard Models: Platinum 1050
Device Type: Thermostat

GENERAL INFORMATION

SIMPLWINDOWS NAME:	TraneClimateLIB v2.0 Comm IP
CATEGORY:	HVAC
VERSION:	2.0
SUMMARY:	This module controls IP communication with Trane & American Standard thermostat. Trane Models: XL1050 American Standard Models: Platinum 1050
GENERAL NOTES:	This module acts as the primary communication interface to a single Trane or American Standard Wi-Fi smart thermostat. If the control program needs to control multiple thermostats, a separate module is required for each thermostat. The XL1050 and Platinum 1050 thermostats have zoning capability up to eight (8) zones, so one thermostat module can control up to eight (8) zones. An installation may consist of multiple thermostats, some controlling a single zone and some controlling a series of zones. Please contact customer service regarding support for Trane XL824, XL850 and American Standard Gold 824 and Platinum 850 models. **IMPORTANT NOTE:** Firmware 1.8008.4788.20471 (PUF Version 1.8001.0133) or later is required. The console command "SUPPORTRSAAES128ciph" must be enabled, otherwise the module will not connect. Type "supportrsaaes128 on" in the ToolBox console to enable this option and reboot the processor.
CRESTRON HARDWARE REQUIRED:	Crestron 3-Series or 4-Series processor.
SETUP OF CRESTRON HARDWARE:	N/A
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	N/A

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PARAMETERS:

IP_Address	Setting to indicate the IP address of the thermostat to control.
Port	Setting to indicate the remote IP port for device communication. The default port for the thermostat is 7878.
Degree Units	Setting to indicate the units that temperature in degrees is expressed in. The default degree units are Fahrenheit.

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Certified Module

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CONTROL:

Connect	D	Pulse to establish communication with the thermostat and start the module "heartbeat" which is used to maintain communication with the thermostat by periodically sending ping requests to confirm the thermostat is still communicating with the control system.
Disconnect	D	Pulse to break communication with the thermostat and stop the module "heartbeat".
Reconnect	D	Pulse to re-establish communication with the thermostat. This signal is provided as a convenience should it be desired to reinitialize at any point. Initialization will automatically occur when the program starts.
Enable_Debug	D	Pulse to toggle the internal trace messages printed in SIMPL Debugger. These messages may be useful while debugging to see what processes are occurring within the module. Note it is highly recommended to leave debugging disabled unless actively debugging as it causes much additional signal traffic in Debugger.
Pair	D	Pulse to initiate the pairing process with the device. Pairing is a one-time process; the device must be paired prior to controlling it.
Unpair	D	Pulse to break device pairing. Once broken, the pairing process must be completed again before the device can be controlled.
FanMode_Auto	D	Pulse to set thermostat fan mode to Auto.
FanMode_Always	D	Pulse to set thermostat fan mode to Always On.
FanMode_Circulate	D	Pulse to set thermostat fan mode to Circulate.
EmergencyHeat_Enable	D	Pulse to enable Emergency Heat mode.
EmergencyHeat_Disable	D	Pulse to disable Emergency Heat mode.
Zone**_UpdateSetpoints	D	Pulse to send changed setpoint values to the thermostat for the selected zone (1-8). Changed setpoint values include: heat, cool, and hold type. Changed values are sent on the trailing edge of the pulse.
Zone**_HeatSetpoint	A	Analog value sets the target heat setpoint value for the selected zone (1-8). Valid range is 55 ºF – 90 ºF.
Zone**_CoolSetpoint	A	Analog value sets the target cool setpoint value for the selected zone (1-8). Valid range is 60 ºF – 99 ºF.
Zone**_HoldType	A	Analog value sets the target hold type value for the selected zone (1-8). Valid range is 1-3.
Zone**_ModeOff	D	Pulse to set the thermostat mode to Off for the selected zone (1-8).
Zone**_ModeAuto	D	Pulse to set the thermostat mode to Auto for the selected zone (1-8).

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Zone_ModeCool**	D	Pulse to set the thermostat mode to Cool for the selected zone (1-8).
Zone_ModeHeat**	D	Pulse to set the thermostat mode to Heat for the selected zone (1-8).
Clear_Error	D	Pulse to clear the last error reported by the thermostat.

FEEDBACK:

Is_Communicating	D	High indicates communication is established with the thermostat.
Is_Initialized	D	High indicates state variables of the thermostat have been updated within the module.
Is_Paired	D	High indicates the thermostat is successfully paired with the module.
Indoor_Relative_Humidity	A	Value indicates the current indoor relative humidity measured by the thermostat.
Indoor_Relative_Humidity_Text	S	Text value indicates the current indoor relative humidity measured by the thermostat.
FanMode_Is_Auto	D	High indicates the thermostat fan mode is set to Auto.
FanMode_Is_Always	D	High indicates the thermostat fan mode is set to Always On.
FanMode_Is_Circulate	D	High indicates the thermostat fan mode is set to Circulate.
EmergencyHeat_Is_Enabled	D	High indicates Emergency Heat mode is enabled.
EmergencyHeat_Is_Disabled	D	High indicates Emergency Heat mode is disabled.
EmergencyHeat_Is_NotSupported	D	High indicates Emergency Heat mode is not supported.
ZoneModeOff_Is_Supported	D	High indicates that available zones support Off mode.
ZoneModeAuto_Is_Supported	D	High indicates that available zones support Auto mode.
ZoneModeHeat_Is_Supported	D	High indicates that available zones support Heat mode.
ZoneModeCool_Is_Supported	D	High indicates that available zones support Cool mode.
Zone_Is_Available**	D	High indicates the zone (1-8) is available for control through the module.
Zone_Name**	S	Text value indicates the name of the zone (1-8) as defined in the settings of the thermostat.
Zone_Indoor_Temperature**	A	Value indicates the current indoor temperature for the zone (1-8).
Zone_Indoor_Temperature_Text**	S	Text value indicates the indoor temperature for the zone (1-8).
Zone_HeatSetpoint_Current**	A	Value indicates the current heat setpoint for the zone (1-8).
Zone_HeatSetpoint_Current_Text**	S	Text value indicates the current heat setpoint for the zone (1-8).
Zone_CoolSetpoint_Current**	A	Value indicates the current cool setpoint for the zone (1-8).

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Zone**_CoolSetpoint_Current_Text	S	Text value indicates the current cool setpoint for the zone (1-8).
Zone**_HoldType_Current	A	Value indicates the current hold type for the zone (1-8). Valid range of values is 1-3, see text descriptions below.
Zone**_HoldType_Current_Text	S	Text value indicates the current hold type for the zone (1-8). String values for each HoldType_Current analog values are as follows: analog value 1 = "Manual by user", analog value 2 = "Defined in schedule", and analog value 3 = "Hold until next schedule".
Zone**_Is_ModeOff	D	High indicates the zone (1-8) is set to Off mode.
Zone**_Is_ModeAuto	D	High indicates the zone (1-8) is set to Auto mode.
Zone**_Is_ModeCool	D	High indicates the zone (1-8) is set to Cool mode.
Zone**_Is_ModeHeat	D	High indicates the zone (1-8) is set to Heat mode.
Error_Type	A	Value indicates the last error code reported by the thermostat.
Error_Description	S	Text indicates the error description for the error type last reported by the thermostat.

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TESTING:

OPS USED FOR TESTING:	CP3 v1.8001.4925.26115 MC4 v2.8001.00086
SIMPL WINDOWS USED FOR TESTING:	4.2500.04
CRES DB USED FOR TESTING:	219.0500.001.00
DEVICE DATABASE:	200.28000.002.00
SYMBOL LIBRARY USED FOR TESTING:	1191
SAMPLE PROGRAM:	TraneClimate v2.0 Demo IP CP3.smw
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Resolved reconnect issue due to network disconnect. No changes to module wrapper or demo program (CLZ change only). v2.0 – Resolved issue when attempting to adjust a setpoint inside the deadband range. Setpoints will now automatically adjust to maintain the deadband range.

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