TZT-100

Residential & Commercial Networking Thermostat

Making Life Comfortable

General Description

Selecting the correct thermostat for a project is often a difficult process. As the thermostat is the main focus of any heating or cooling system it must look good on the wall, be very easy to use and meet all the needs of the user and the equipment it is controlling. This may seem an impossible task for a single thermostat especially when you consider all the different control variations required (heat pump or heat cool logic, single or multiple fan speed control etc) as well as cater for the individual needs of all thermostat users.

This thermostat adapts quickly to suit its surroundings – a single thermostat that can control almost any type of heating, cooling or air conditioning system as well as meet all the individual needs of the people using it. The installer is able to configure the TZT-100 to control heat pump systems, (with auxiliary or emergency heating if necessary), gas/oil heating systems with add on cooling, control high and low balance points as well as the number of heating and cooling stages needing precise control. It can even adapt to manage the number of fan speeds it must control.

The user can choose their TZT-100 to be programmable or manual with single or multiple set points or the number programs as required, and then if they change their mind, the TZT-100 will adapt without fuss to suit their new needs.

When larger projects are considered, or central control is necessary then the TZT-100 has integrated Modbus communication. Every function and setting within the TZT-100 can be viewed, locked, changed or edited from a centralised location as desired or automatically from a suitable building management system.

The TZT-100 is simply a thermostat so advanced, so simple and so attractive it will be the last thermostat you should ever need to buy.

An Easy Zone Touch™ 2–6 zone control option is also available and operates as a companion wall plaque.

Features

- **Auto Season Changeover. between Heat & Cool**
- **Selectable programmable or manual mode.**
- **Heat cool or heat pump (O/B) logic.**
- **Add on & Emergency Heat Control.**
- **High & Low balance points.**
- **Single or 3 speed fan control.**
- **Keyboard and/or Temperature Locks.**
- **Occupancy sensor inputs.**
- **Programmable occupancy inputs.**
- **Adaptive Recovery (Optimised Start).**
- **Smart Fan logic for Commercial Control.**
- **PIN protected menus (installer PIN).**
- **Outside air temperature display.**
- **24V powered with memory backup.**
- **Volt Free (clean contact) relays.**
- **Large backlit EL Display.**
- **Remote temperature sensors available.**
- **Integrated Modbus option.**
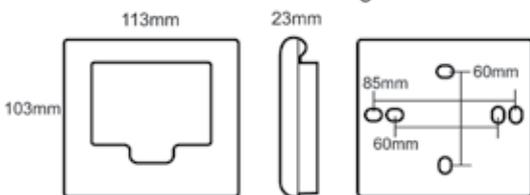- **Replaces almost all 24V thermostats.**

temperzone

QUALITY AIR CONDITIONING

Installer options

PIN number select	00 to 99.
Keyboard Lock	5 levels.
Max. Heat set point	0 to 37°C (32 to 99°F)
Min. Cool set point	1 to 38°C (33 to 100°F)
LCD Display Units	°C / °F
Sensor calibration	+/- 5 deg.
Time display	12 or 24 Hour.
Temperature display	Room & set temp / set temp only.
After Hours O/R time	0 to 12 hours
Stop mode Cool temp.	Off 0–35°C (32–95°F)
Stop mode Heat temp.	Off 0–35°C (32–95°F)
1 Set point Dead band	0.5 to 5
Advanced fan options	Cycle with heat and on with cool.
	Commercial "Smart fan".
	Smart fan with Cool run on.
Fan purge period	0–5 minutes
Mode	Auto season mode
	Cooling only mode
	Heating only mode.
"W2" Output Logic	Auxiliary Heat
	Add On Heat
	Emergency Heat
TT Terminal Function	Outside air temp. display
	Remote room temp. sensor
	Average room temp. sensor
	Remote override to OFF
	Occupancy mode On/Off
Anti freeze	Off or 5°C (40°F).
Occupied Heating SP	Off 0–37°C (32–99°F).
Occupied Cooling SP	Off 1–38°C (100°F).
Span stage 1	1–5 °C or °F.
Span stage 2	1–5 °C or °F.
Upstage Delay time	5 ~ 60 minutes
Adaptive recovery	On or Off
Outside senor calibration	+/- 5 deg.
Outside Temp Cool Inhib.	0–35°C (32 - 95°F)
Outside Temp Heat Inhib.	0–35°C (32 - 95°F)
High Balance point	0–35°C (32 - 95F)
Low Balance point	-9.5 – 35°C (15 – 95°F)
Modbus Address	0–99
Filter monitor	Off to 900 hours.
Commissioning Mode	On/Off

Switch Functions

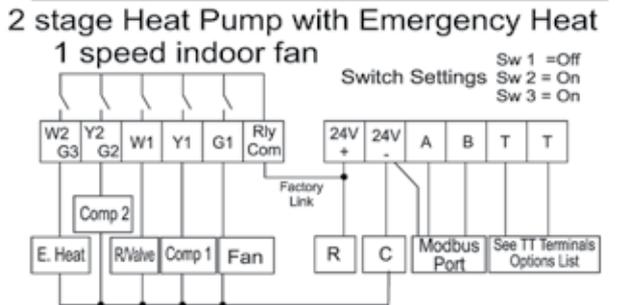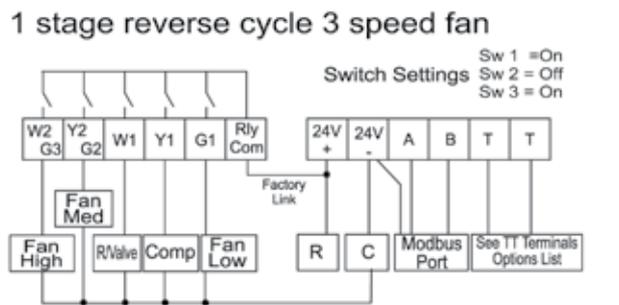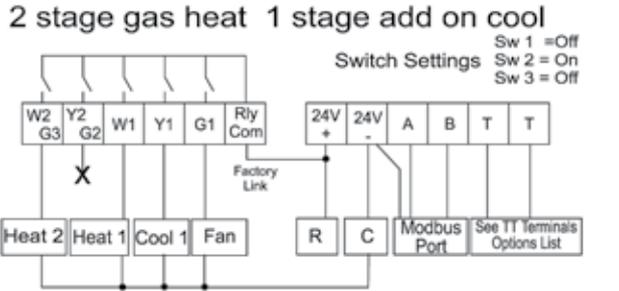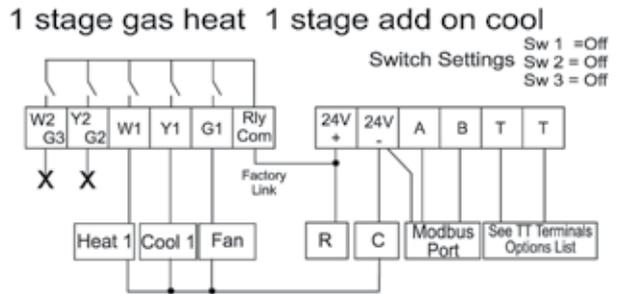|	Off	On
Sw 1 - Fan Speed.	1 Speed (2 Heat / 2 Cool)	3 Speed (1 Heat / 1 Cool)
Sw 2 - A/C Equip.	Heat & Cool	Heat Pump O/B Terminals
Sw 3 - Stages (if Sw1 =OFF)	1 Stage	2 Stages
Sw 4 - Reversing Valve When Sw2 = ON (HP Mode)	Energized Cool (O)	Energized Heat (B)
Sw 4 - Fan Mode When Sw2 = OFF (HC Mode)	Fan by Heater (HG)	Fan by T'stat (HE)
Sw 5 - Anti cycle delay	Off	4 Minutes
Sw 6 - Operation	Manual Thermostat	Programmable Thermostat
Sw 7 - Min Run time	2 minutes	6 Minutes
Sw 8 - Prog Type When Sw6 = ON (programmable)	Commercial Programmable	Residential Programmable
Sw 8 - # Events When Sw6 = OFF (Manual)	Single Set Point	2 Set points

Case size & mounting holes

113mm
23mm
103mm
85mm
60mm
60mm

NOTE
Due to continuous product improvement - specifications subject to change without notice

Wiring Examples

Note: There are in excess of 192 possible control options. The following options are the more popular configurations.

1 stage gas heat 1 stage add on cool

Switch Settings   Sw 1 =Off   Sw 2 = Off   Sw 3 = Off

| W2 G3 | Y2 G2 | W1 | Y1 | G1 | Rly Com | | 24V + | 24V - | A | B | T | T |

X X

Heat 1   Cool 1   Fan   R   C   Modbus Port   See TT Terminals Options List

Factory Link

2 stage gas heat 1 stage add on cool

Switch Settings   Sw 1 =Off   Sw 2 = On   Sw 3 = Off

| W2 G3 | Y2 G2 | W1 | Y1 | G1 | Rly Com | | 24V + | 24V - | A | B | T | T |

X

Heat 2   Heat 1   Cool 1   Fan   R   C   Modbus Port   See TT Terminals Options List

Factory Link

1 stage reverse cycle 3 speed fan

Switch Settings   Sw 1 =On   Sw 2 = Off   Sw 3 = On

| W2 G3 | Y2 G2 | W1 | Y1 | G1 | Rly Com | | 24V + | 24V - | A | B | T | T |

Fan Med

Fan High   R/Valve   Comp   Fan Low   R   C   Modbus Port   See TT Terminals Options List

Factory Link

2 stage Heat Pump with Emergency Heat 1 speed indoor fan

Switch Settings   Sw 1 =Off   Sw 2 = On   Sw 3 = On

| W2 G3 | Y2 G2 | W1 | Y1 | G1 | Rly Com | | 24V + | 24V - | A | B | T | T |

Comp 2

E. Heat   R/Valve   Comp 1   Fan   R   C   Modbus Port   See TT Terminals Options List

Factory Link

Terminal Designations

24-	24V - 0v input.
24+	24V - Active input.
R/com	Relay common.
G1	Fan low.
Y1	Compressor 1 / Cool 1
W1	Reversing Valve / Heat 1
G2/Y2	Fan Med / 2nd Compressor / Cool 2.
G3/W2	Fan High / Aux Heat. / Heat 2
T	Remote Terminal
T	Remote Terminal
A	Modbus Data
B	Modbus Data

Available from:

temperzone
www.temperzone.com