



FAN COIL THERMOSTATS


Specifications, Data, and Wiring




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Hazard Identification

 DANGER
Danger indicates a hazardous situation, which will result in death or serious injury if not avoided.

 WARNING
Warning indicates a potentially hazardous situations, which can result in property damage, personal injury, or death if not avoided.

 CAUTION
Caution indicates a potentially hazardous situations, which can result in minor injury or equipment damage if not avoided.

NOTICE
Notice indicates practices not related to physical injury.

NOTE: Indicates important details or clarifying statements for information presented.

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Introduction

Table 1: Thermostat Description

Part Number	Model Number	Description	Manual Number
106335301	MTE 155-001	Mechanical system ON/OFF switch with 3-speed fan switch with Hi/Med/Lo settings and switched auxiliary connection	N/A
107345304	MTB 155-005	Two-pole dead band auto changeover heating/cooling thermostat with manual ON-OFF system switch and manual 3-speed fan switch	IM 1014
107345303	MTA 155-006	SPDT heating/cooling thermostat only	IM 1014
107345305	MTB 155-006	Two-pole dead band auto changeover heating/cooling thermostat	IM 1014
250803500	MIT-FA-005	Programmable, digital htg/clg thermostat, BACnet, 3-speed or modulating fan, ON/OFF or modulating valve	IM-1234-2
910383181	T8168	Digital heating/cooling thermostat with 3-speed or modulating fan, continuous fan or fan cycled, ON/OFF or modulating valve	N/A
910383844	TW180	Programmable, digital heating/cooling thermostat with 3-speed fan control, continuous fan or fan cycled, line or low voltage	N/A

Table 2: Fan Switch Selection

Part Number	T-Stat Model	System Configuration	T-Stat Location	Fan Control	System Switch	Change Over Type	Where Used
106335301	MTE 155-001	3-Speed fan Switch, ON/OFF System Switch	Unit ² , Wall	Hi-Med-Lo	ON-OFF	N/A	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSS, HCDB ¹ , HHDB ¹

NOTE 1: Thermostat will not work with S16 and S20 Direct-Drive Large Cap units and all Large Cap Belt-Drive units (all voltages).

NOTE 2: Unit mounted thermostat applies to Vertical and HiLine units only.

Table 3: 2-Pipe Thermostat Selection

Part Number	T-Stat Model	System Configuration	T-Stat Location	Fan Control	System Switch	Change Over Type	Where Used
107345303	MTA 155-006	Heating or Cooling, Auto Changeover	Wall	N/A	N/A	Auto	Used with all Daikin Applied fan coil units
		Cooling only	Wall	N/A	N/A	N/A	
		Heating only	Wall	N/A	N/A	N/A	
107345305	MTB 155-006	Heating or Cooling, Auto Changeover	Wall	N/A	N/A	Auto	Used with all Daikin Applied fan coil units
107345304	MTB 155-046	Heating or Cooling, Constant Fan, Auto Changeover	Unit ² , Wall	Hi-Med-Lo	ON-OFF	Auto	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSS, HCDB ¹ , HHDB ¹
		Cooling only w/ Constant Fan	Unit ² , Wall	Hi-Med-Lo	ON-OFF	N/A	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSS, HCDB ¹ , HHDB ¹
		Heating only w/ Constant Fan	Unit ² , Wall	Hi-Med-Lo	ON-OFF	N/A	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSS, HCDB ¹ , HHDB ¹
250803500	MIT-FA-005	Heating or cooling, BACnet, 3 speed or modulating fan, ON/OFF or modulating valve	Wall	Hi-Med-Lo or 0-10VDC	OFF-Auto	Auto	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSS, HCDB ¹ , HHDB ¹
910383181	T8168	Heating or Cooling, 24VAC On/Off, 24VAC 3-wire floating, or 0-10VDC / 4-20mA valves, Low Voltage	Unit ³ , Wall	Hi-Med-Lo or 0-10V	OFF-Auto-Cool-Heat	Auto	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS
910383844	TW180	Heating or Cooling, Constant or Cycled Fan, Auto Changeover, Low or Line Voltage Valve	Unit ³ , Wall	Hi-Med-Lo	OFF-Auto-Cool-Heat	Auto	

NOTE 1: Thermostat will not work with S16 and S20 Direct-Drive Large Cap units and all Large Cap Belt-Drive units (all voltages).

NOTE 2: Unit mounted thermostat applies to Vertical and HiLine units only.

NOTE 3: Unit mounted thermostat applies to Vertical units only.

Table 4: 4-Pipe Thermostat Selection

Part Number	T-Stat Model	System Configuration	T-Stat Location	Fan Control	System Switch	Change Over Type	Where Used
107345305	MTB 155-006	Heating or Cooling, Dead Band Change Over	Wall	N/A	N/A	Dead Band	Used with all Daikin Applied fan coil units
107345304	MTB 155-046	Heating or Cooling, Constant Fan, Dead Band Changeover	Unit ² , Wall	Hi-Med-Lo	N/A	Dead Band	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSK, HCDB ¹ , HHDB ¹
250803500	MIT-FA-005	Heating or cooling, BACnet, 3-speed or modulating fan, ON/OFF or modulating valve	Wall	Hi-Med-Lo or 0-10VDC	OFF-Auto-Cool-Heat	Dead Band	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS, FHSS, FHSK, HCDB ¹ , HHDB ¹
910383181	T8168	Heating or Cooling, 24VAC On/Off, 24VAC 3-wire floating, or 0-10VDC / 4-20mA valves, Low Voltage	Unit ³ , Wall	Hi-Med-Lo or 0-10V	OFF-Auto-Cool-Heat	Auto	FCVH, FCVC, FCVS, FCHC, FCHH, FHVH, FHVC, FHVS
910383844	TW180	Heating or Cooling, Constant or Cycled Fan, Auto Changeover, Low or Line Voltage Valve	Unit ³ , Wall	Hi-Med-Lo	OFF-Auto-Cool-Heat	Auto	

NOTE 1: Thermostat will not work with S16 and S20 Direct-Drive Large Cap units and all Large Cap Belt-Drive units (all voltages).

NOTE 2: Unit mounted thermostat applies to Vertical and HiLine units only.

NOTE 3: Unit mounted thermostat applies to Vertical units only.

Table 5: Fan Motor Wiring for Models FCVH, FCVC, FCVS, FHVH, FHVC, FHVS, FHSS, FHSK

	Voltage	115/60/1			277/60/1		
	Speed	Hi	Med	Lo	Hi	Med	Lo
Unit Size	S02	Blk	Blu	Red	Blk	Blu	Red
	S03	Blk	Blu	Red	Blk	Blu	Red
	S04	Blk	Blu	Red	Blk	Blu	Red
	S06	Blk	Blu	Red	Blk	Blu	Red
	S08	Blk	Blu	Red	Blk	Blu	Red
	S10	Blk	Blu	Red	Blk	Blu	Red
	S12	Blk	Blu	Red	Blk	Blu	Red

Table 6: Fan Motor Wiring for Models HCDB, HHDB

	Voltage	115/60/1				277/60/1			
	Speed	Hi	Med Hi	Med	Lo	Hi	Med Hi	Med	Lo
Unit Size	S06	Blk	Org	Blu	Red	Blk	Org	Blu	Red
	S08	Blk	Org	Blu	Red	Blk	Org	Blu	Red
	S12	Blk	Org	Blu	Red	Blk	Org	Blu	Red
	S16	Blk	Org	Blu	Red	Blk	Org	Blu	Red
	S20	Blk	Org	Blu	Red	Blk	Org	Blu	Red

Table 7: Thermostats Features

	MTE155-001* (106335301)	MTA155-006 (107345303)	MTB155-005 (107345304)	MTB155-006 (107345305)	T8168-1 (910383181)	TW180-1 (910383844)
	Speed Switch	Electronic T-stats			Digital T-stats	
3-Speed Fan Switch	●		●		●	●
Continuous Fan			●		●	●
Fan Cycling					●	●
Staged Fan Control					●	●
24V, ON/OFF, N.C. Valve Control		●	●	●	●	●
Line Voltage, ON/OFF, N.C. Valve Control		●	●	●	●	●
24V, ON/OFF, N.O. Valve Control					●	●
24V, Modulating, 3 Wire Floating Point Valve Control					●	
24V, Modulating, Proportional Valve Control					●	
24V Damper Output					●	●
Line Voltage Damper Output						●
10k Pipe Sensor Compatible					●	●
10k Remote Air Sensor Compatible		●	●	●	●	●
Overflow Sensor Compatible					●	●
Internal Circuitry for Intermediate electric heat					●	●
Can Operate NC Clg Valve with NO Htg Valve					●	●
Seven Day Programmable					●	●
Set Back Feature					●	●
Occupancy Sensor Compatible					●	●
Back Lit Display					●	●

* Fan speed switches only, no thermostatic switching.

Thermostats

Figure 1: Wiring Diagrams on Following Pages Legend

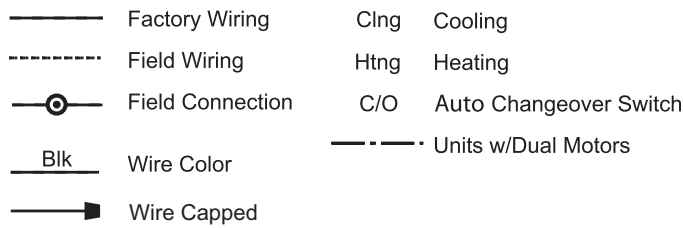


Figure 2: Low Voltage Interface Board (LVIB) Example and Legend

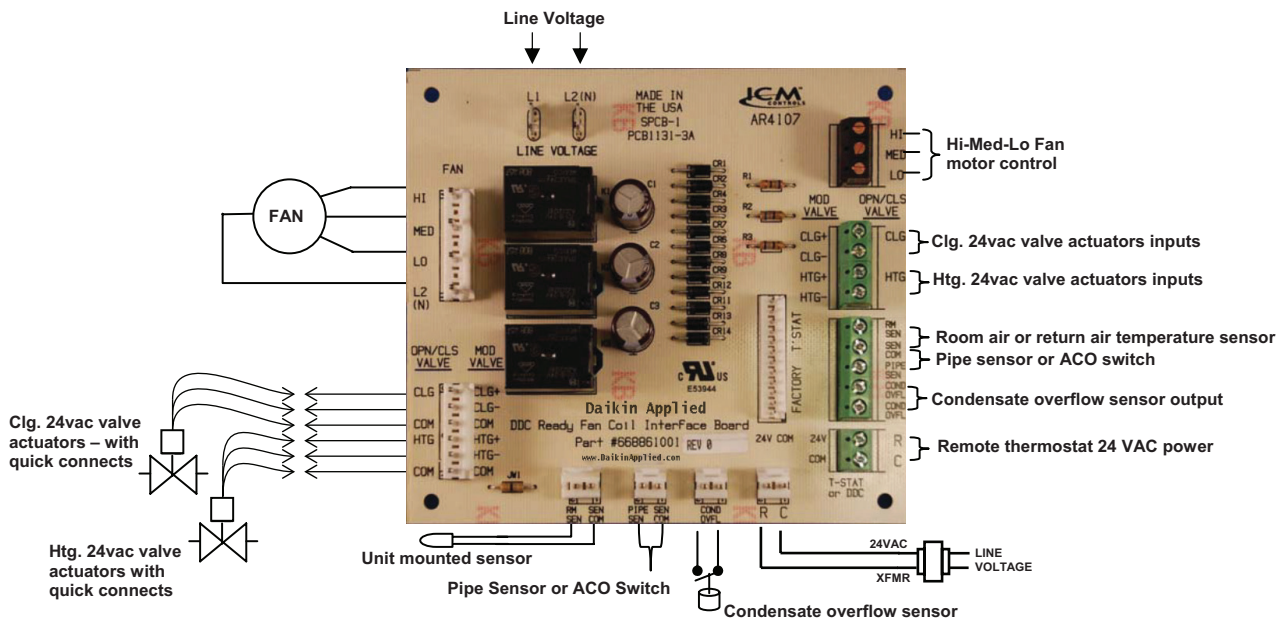
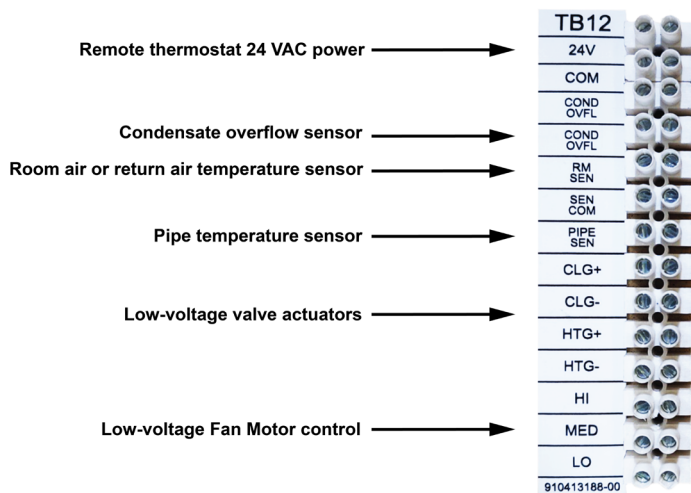


Figure 3: Low Voltage Terminal Strip (LVTS) Example and Legend



MTE 155-001

Three-Speed Fan Switch with Manual ON/OFF Switch

Part Number: 106335301

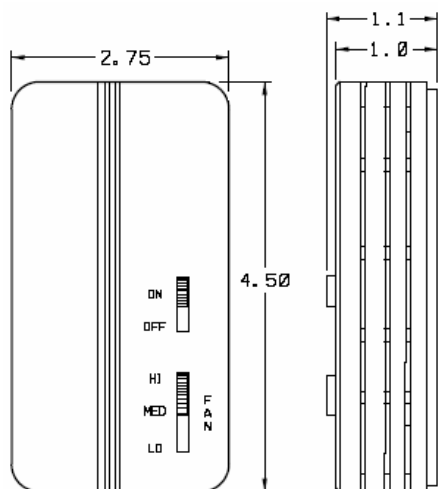


Table 8: MTE155-001 Ratings

Voltage Rating	Fan and System Switches				Thermostatic Switching (Pilot Duty)
	Inductive		Resistive	Pilot Duty	
	FLA	LRA	Amps		
24 VAC	N/A	N/A	N/A	24VA	N/A
120 VAC	5.8	34.8	6.0	125VA	N/A
240 VAC	2.9	17.4	5.0	125VA	N/A
277 VAC	2.4	14.4	4.2	125VA	N/A

Operation Notes:

1. Configuration: Vertically mounted, with manual ON/OFF system switch and manual three-speed fan switch.
2. Operation: With system switch in ON position, fan operation is continuous and can be set at one of three speeds, auxiliary output is on. With system switch in OFF position all outputs are OFF.
3. The 3-speed switch is used for all units except Horizontal Large Cap units sizes S16 and S20 (all voltages).

Figure 4: MTE155-001 Wiring Diagram

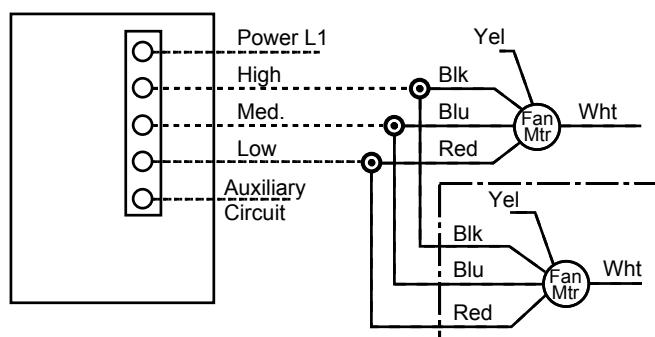
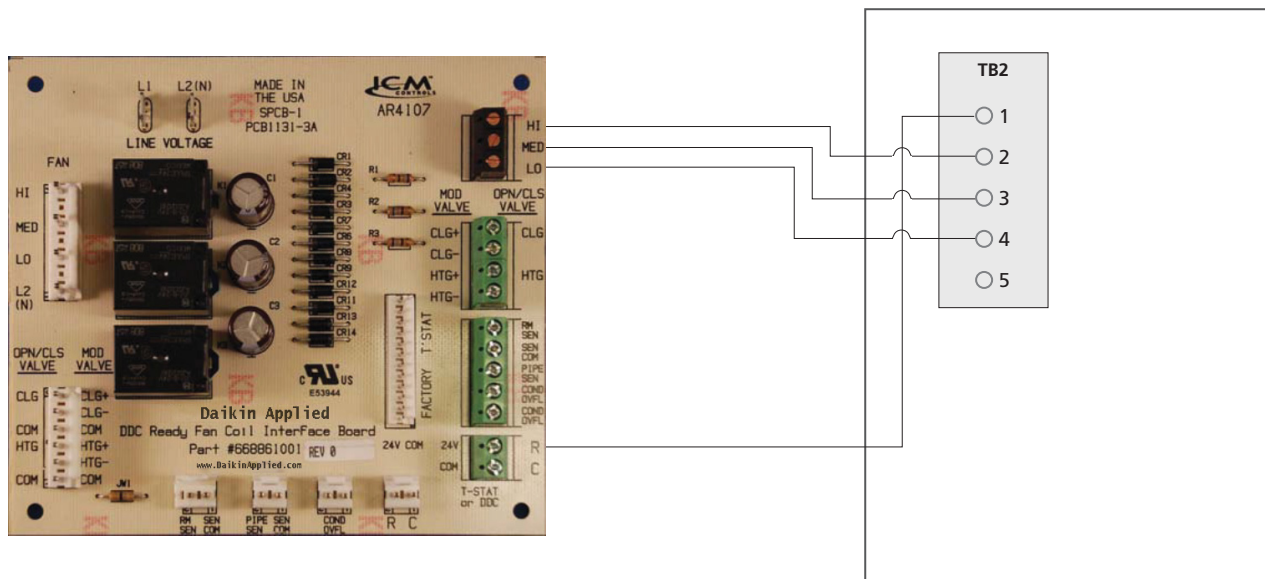


Figure 5: MTE 155 to LVIB Wring Diagram



MTA 155–006

Thermostat with SPDT Heating and Cooling and Outputs for ON/OFF Valve Control

Part Number: 107345303

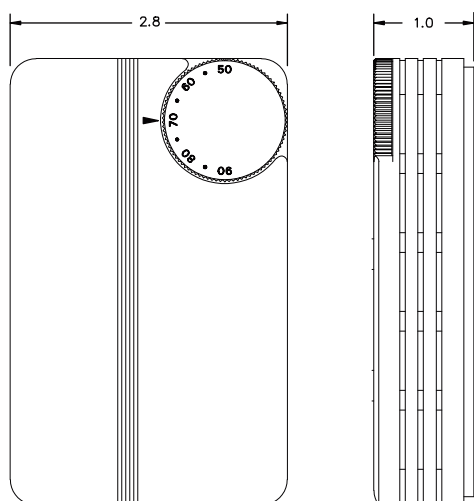


Table 9: MTA 155–006 Ratings

Voltage Rating	Fan and System Switches				Thermostatic Switching (Pilot Duty)
	Inductive		Resistive	Pilot Duty	
	FLA	LRA	Amps		
24 VAC	N/A	N/A	N/A	N/A	10 VA
120 VAC	N/A	N/A	N/A	N/A	20 VA
240 VAC	N/A	N/A	N/A	N/A	20 VA
277 VAC	N/A	N/A	N/A	N/A	20 VA

NOTE: Load terminals accept one wire, up to #14 AWG stranded or solid wire. Wire ends to be stripped 0.20" to 0.25".

Operation Notes:

1. Configuration: Vertically mounted SPDT Heating/Cooling Thermostat.
2. Temperature Sensing: Integral Temperature Sensor Only.
3. Operation: with temperature below the set point, thermostat turns ON the Heating Output. With temperature above the set point thermostat turns ON the Cooling Output.
4. Temperature adjustment range: 50 to 90°F.
5. Remote Mounted thermostats can be used with all units with 2-pipe.
6. Relays and Valves can be factory or field provided.
7. For Large Cap units, valve must be field provided.

Figure 6: 2-Pipe Heating or Cooling, Auto Changeover

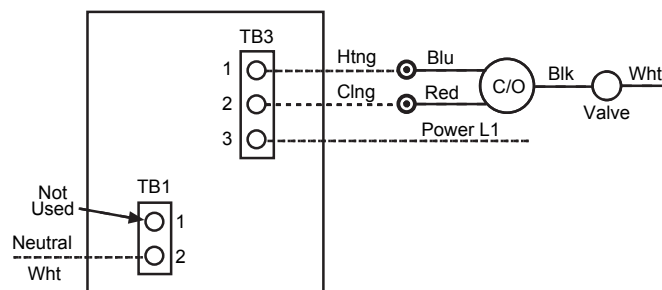


Figure 7: 2-Pipe Cooling Only

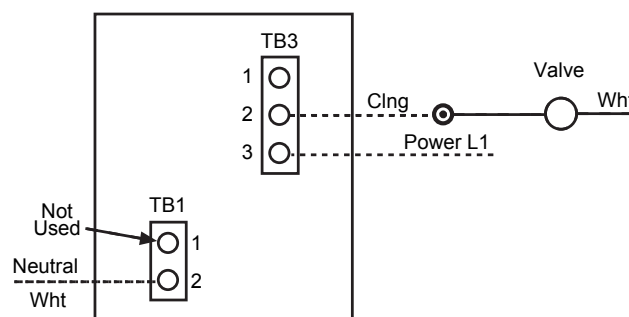
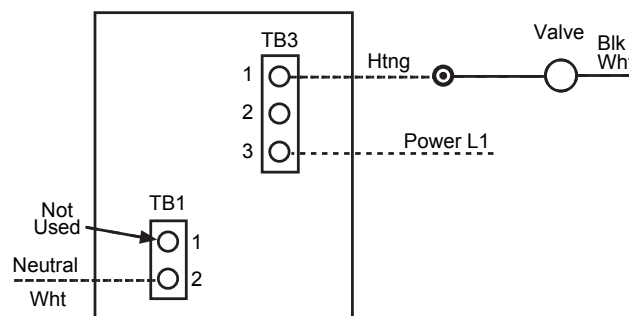


Figure 8: 2-Pipe Heating Only



MTB 155–006

Thermostat with Dead Band, Auto Changeover and Outputs for ON/OFF Valve Controls

Part Number: 107345305

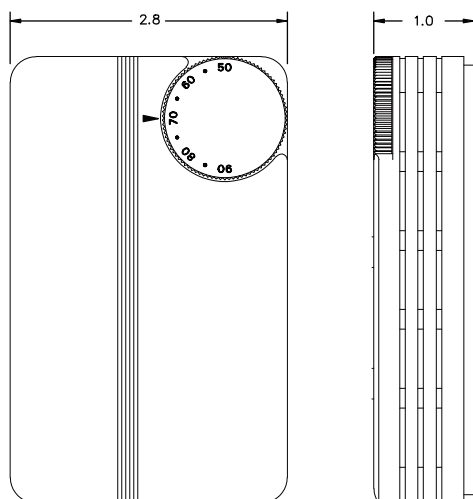


Table 10: MTB 155–006 Ratings

Voltage Rating	Fan and System Switches				Thermostatic Switching (Pilot Duty)
	Inductive		Resistive	Pilot Duty	
	FLA	LRA	Amps		
24 VAC	N/A	N/A	N/A	N/A	10 VA
120 VAC	N/A	N/A	N/A	N/A	20 VA
240 VAC	N/A	N/A	N/A	N/A	20 VA
277 VAC	N/A	N/A	N/A	N/A	20 VA

NOTE: Load terminals accept one wire, up to #14 AWG stranded or solid wire. Wire ends to be stripped 0.20" to 0.25".

Operation Notes:

1. Configuration: Vertically mounted, Two-pole Dead Band Auto Changeover Heating/Cooling thermostat.
2. Temperature Sensing: Integral Temperature Sensor only.
3. Operation: Set point is the point at which the thermostat turns OFF the Heating output. Thermostat differential is 1°F, Heat ON to Cool on Dead Band is 4°F nominal.
4. Temperature adjustment range; 50 to 90°F.
5. A Remote Mounted Thermostat is used with all Fan Coil units.
6. Relays and Valves can be factory or field provided.
7. For Large Cap units, valve must be field provided.

Figure 9: 2-Pipe Heating or Cooling, Auto Changeover

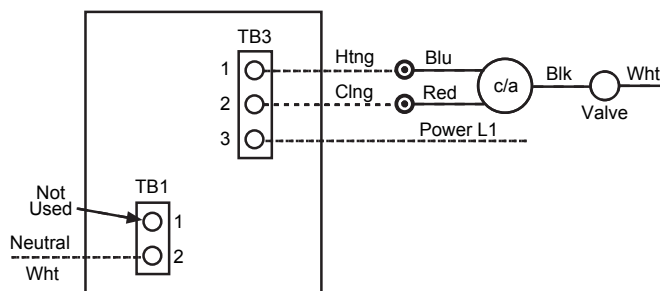
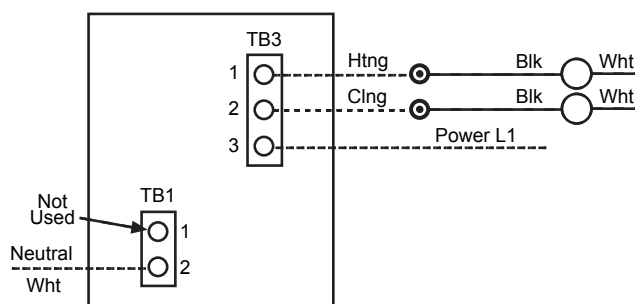


Figure 10: 4-Pipe Heating or Cooling, Dead Band Changeover



MTB 155–046

Thermostat with Three-Speed Fan Switch, Dead Band, Auto Changeover, Manual ON/OFF Switch and Outputs for ON/OFF Valve Control

Part Number: 107345304

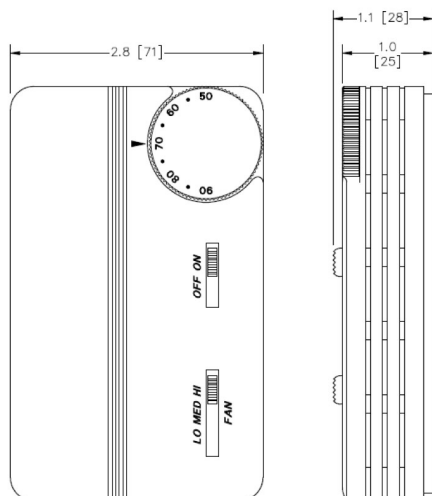


Table 11: MTB 155–046 Ratings

Voltage Rating	Fan and System Switches				Thermostatic Switching (Pilot Duty)
	Inductive		Resistive	Pilot Duty	
	FLA	LRA	Amps		
24 VAC	N/A	N/A	N/A	24 VA	10 VA
120 VAC	5.8	34.8	6.0	125 VA	20 VA
240 VAC	2.9	17.4	5.0	125 VA	20 VA
277 VAC	2.4	14.4	4.2	125 VA	20 VA

NOTE: Load terminals accept one wire, up to #14 AWG stranded or solid wire. Wire ends to be stripped 0.20" to 0.25".

Operation Notes:

1. Configuration: Vertically mounted, Two-pole Dead Band Auto Changeover Heating/Cooling thermostat with Manual ON-OFF System Switch, and Manual 3-speed Fan Switch. Thermostat and system switch are electrically separate from the fan switch and may be connected in various configurations to suit applications.
2. Operation: With system switch in ON position, thermostat cycles Heating or Cooling without manual selection. Heat ON to COOL on Dead Band is 4°F nominal Fan operation. (Cycling VS. continuous) is determined by application connections. Fan speed can be set at one of three speeds. With system switch in OFF position, all outputs are OFF.
3. Temperature adjustment range; 50 to 90°F.
4. The Remote Mounted Thermostat is used with all units except Horizontal Large Cap units with Belt Drives (all voltages), and Horizontal Large Cap units with Direct Drives, (sizes S16 and S20).
5. Thermostat can be used with optional molex quickconnect for HiLine units only.
6. Relays and Valves can be factory or field provided.
7. For Large Cap units, valve must be field provided.

Figure 11: 2-Pipe Heating or Cooling, Constant Fan, Auto Changeover

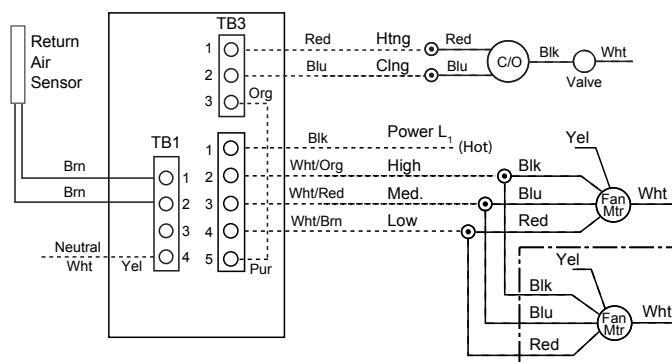


Figure 12: 2-Pipe Heating Only, Constant Fan

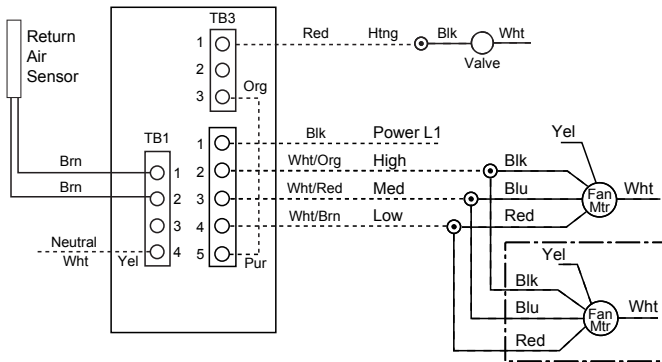


Figure 13: 2-Pipe Cooling Only, Constant Fan

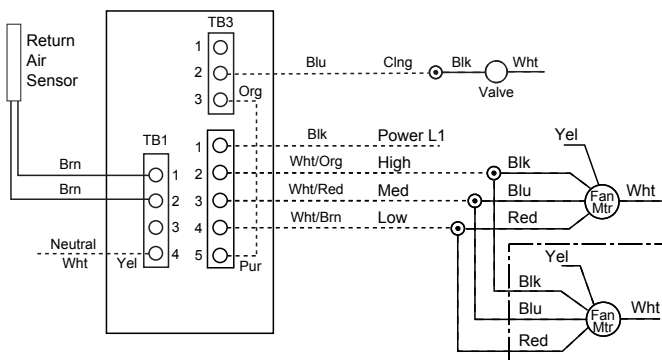
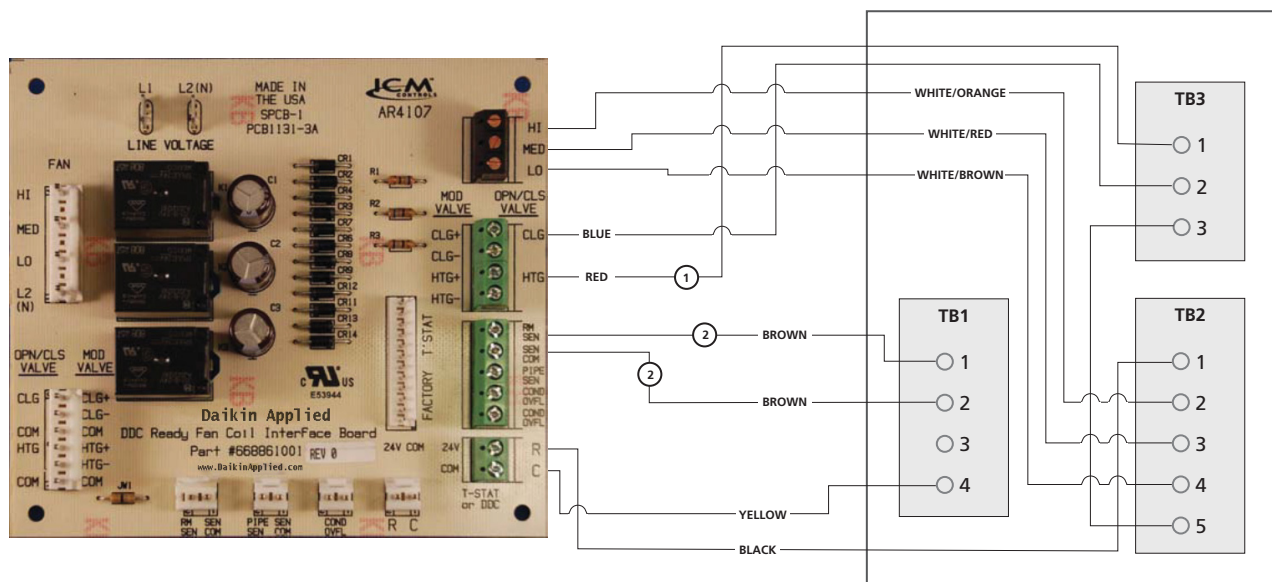


Figure 15: MTA/B 155–046 to LVIB Wiring Diagram

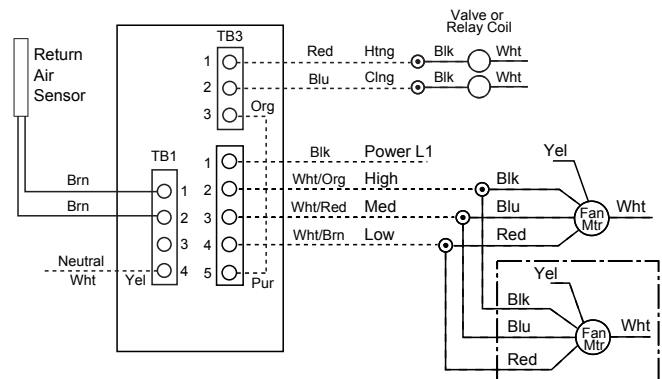


MTA/B 155/046

LVIB

1. Add for all 4-pipe systems
2. Unit-mounted with remote sensor

Figure 14: 4-Pipe Heating or Cooling, Constant Fan, Dead Band/Auto Changeover



MIT-FA-005

Digital Thermostat with BACnet® Compatibility, Dead Band, Auto Changeover, Three Speed Constant Fan Control, and Outputs for On/Off and Proportional Modulating Valves

Part Number: 250803500

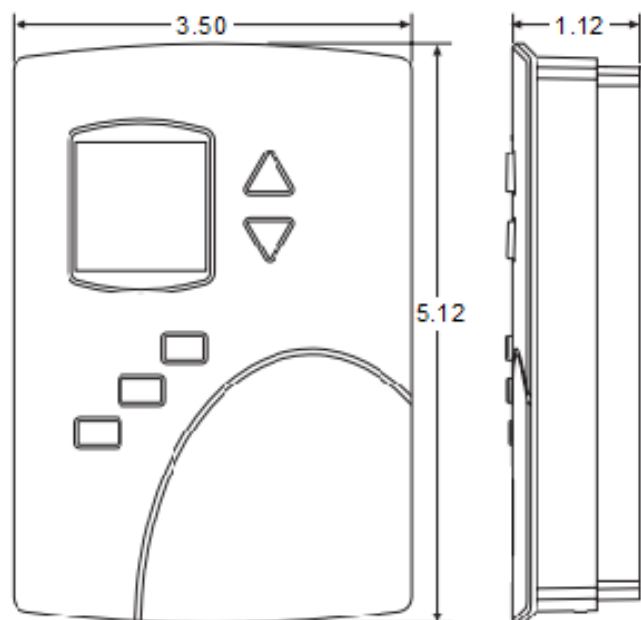


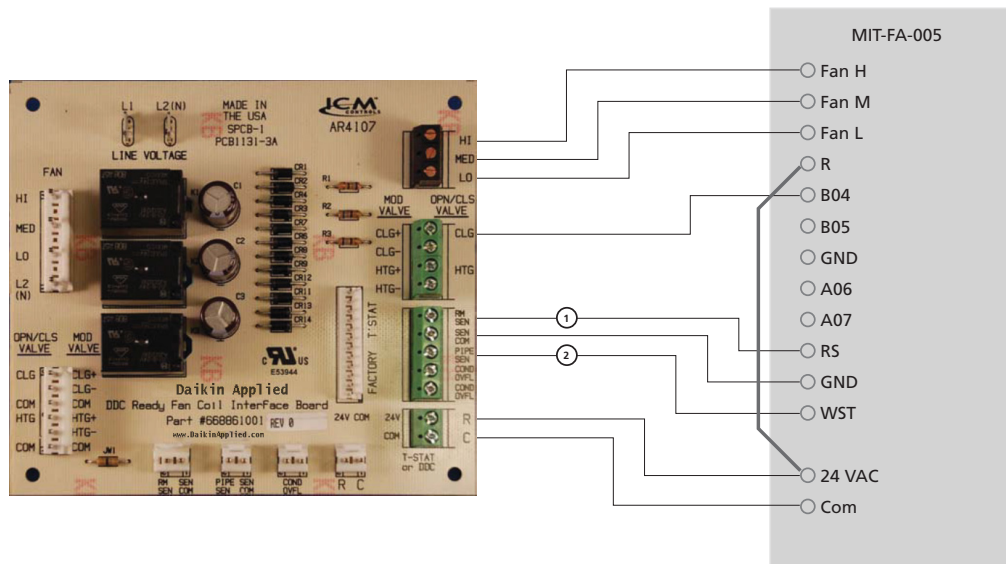
Table 12: MIT-FA-005 Ratings

Voltage Rating	Fan and System Switches				Thermostatic Switching (Pilot Duty)
	Inductive		Resistive	Pilot Duty	
	FLA	LRA	Amps		
24VAC	N/A	N/A	N/A	N/A	10 mA

Operation Notes:

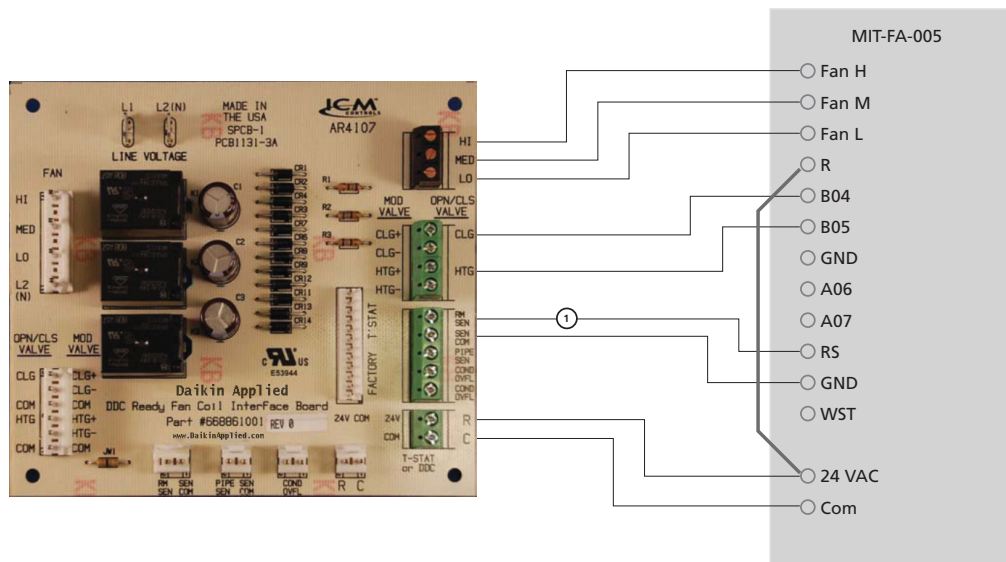
1. Configuration: Vertical mounted digital thermostat with 5 normally open relay and 3 analog outputs.
2. Temperature Sensing: Integral temperature sensor and terminal connections for external thermistor probe.
3. A five button user interface with a menu driven display allows users to add or change passwords, change set points, set BACnet addressing, setup and commission installation and configure any available options
4. Relay outputs are configured to represent BACnet binary objects. The outputs control on/off valves, speeds for three-speed fans, fan start circuits, or electric heat contactors
5. Analog inputs represent BACnet analog input objects and are configured for discharge air temperature, remote temperature sensor, water temperature sensor, and fan status. Not all input sensors are applicable or required for all models.
6. UL 916 Energy Management Equipment; FCC Class A, Part 15, Subpart B and complies with Canadian ICES-003 Class B; SASO PCP Registration KSA R-103263
7. Communications: BACnet MS/TP; Integral peer-to-peer BACnet MS/TP network communications; Network speeds from 9600 to 76,800 baud; Front panel configurable device instance, MAC address, and baud; Automatic baud detection
8. Screw terminal block mounted to back plate; wire size 14-22 AWG

Figure 16: MIT-FA-005 to LVIB 2-Pipe ON/OFF Valve Wiring Diagram

**MIT-FA-005 BACnet Thermostat**

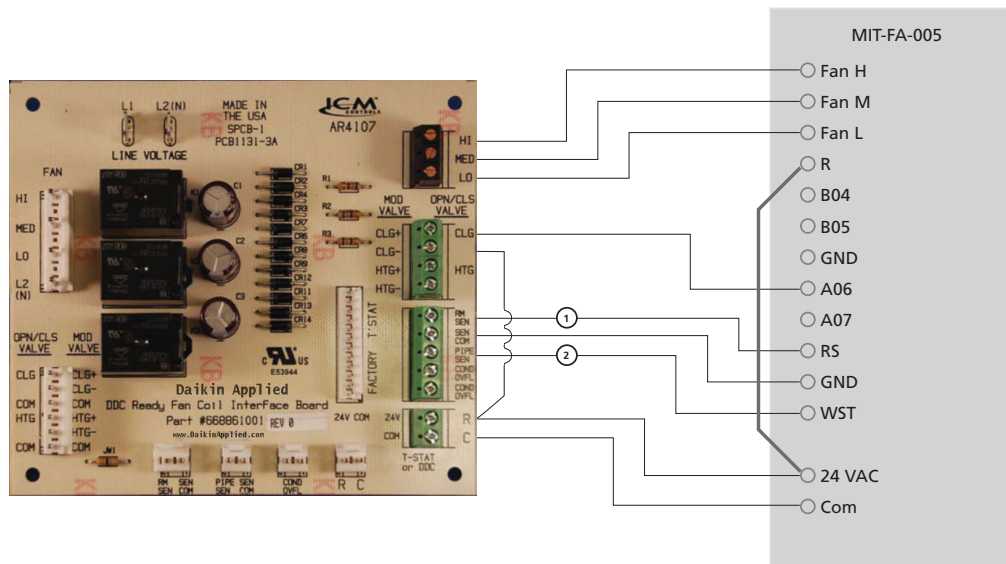
1. Required for unit-mounted thermostats only
2. Required for 2-pipe cooling/heating changeover only

Figure 17: MIT-FA-005 to LVIB 4-Pipe ON/OFF Valve Wiring Diagram

**MIT-FA-005 BACnet Thermostat**

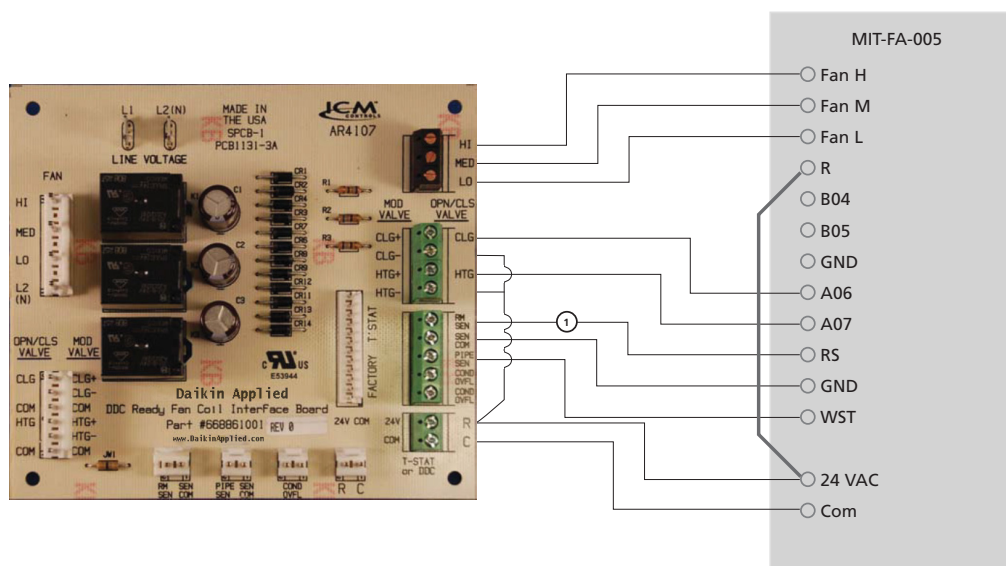
1. Required for unit-mounted thermostats only

Figure 18: MIT-FA-005 to LVIB 2-Pipe Proportional Modulating Valve Wiring Diagram

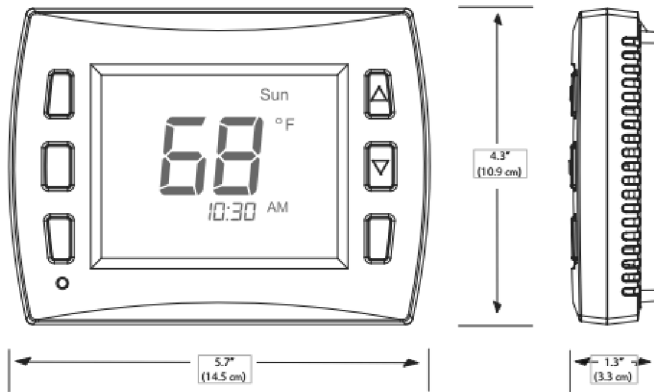
**MIT-FA-005 BACnet Thermostat**

1. Required for unit-mounted thermostats only
2. Required for 2-pipe cooling/heating changeover only

Figure 19: MIT-FA-005 to LVIB 4-Pipe Proportional Modulating Valve Wiring Diagram

**MIT-FA-005 BACnet Thermostat**

1. Required for unit-mounted thermostats only

T8168**0-10 VDC / Three-wire Floating / ON-OFF****Part Number: 910383181****Operation Notes:**

- Configuration: Horizontally mounted, Auto Changeover, Heating/Cooling thermostat with Dead Band, Outputs for three-wire floating, 0-10 VDC or ON/OFF valves.
 - 2 Heat/2 Cool ON/OFF
 - 1 Heat/ 1 Cool TWF
 - 1 Heat/ 1 Cool 0-10 VDC
- Operation: With the thermostat operating in the mode "OFF", all outputs are OFF. In the mode "Cool", control functions as a Cooling thermostat. In the mode "Heat", control functions as Heating thermostat. In the mode "Auto", the thermostat selects the proper function depending on the zone temperature.
- It supports both programmable and non-programmable operation.
- Temperature adjustment range: 50 to 90°F.
- Thermostat is used with all Fan Coil units.
- BACnet® compatible.

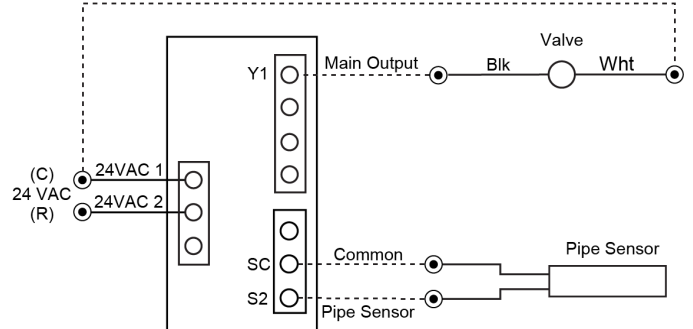
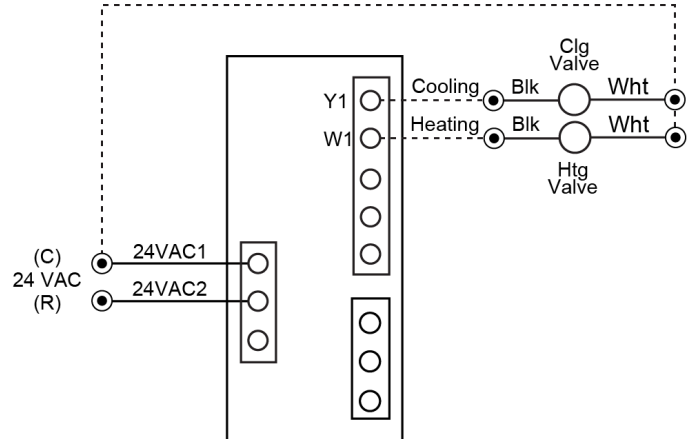
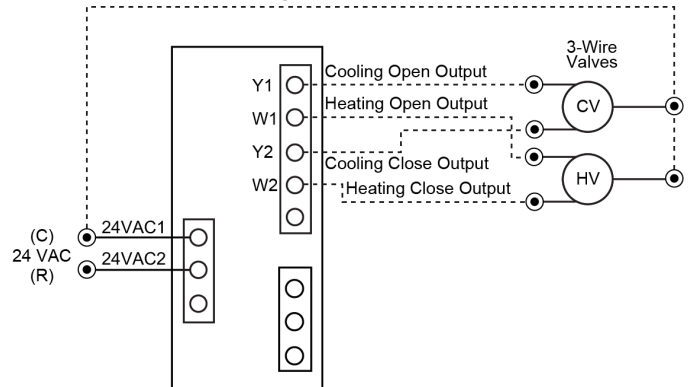
Figure 20: 2-pipe Heating or Cooling, On/Off Valve, Auto Changeover**Figure 21: 4-pipe Heating or Cooling, On/Off Valve, Dead Band Changeover****Figure 22: 4-pipe Heating or Cooling, 3-wire Floating Point Valve, Dead Band Changeover**

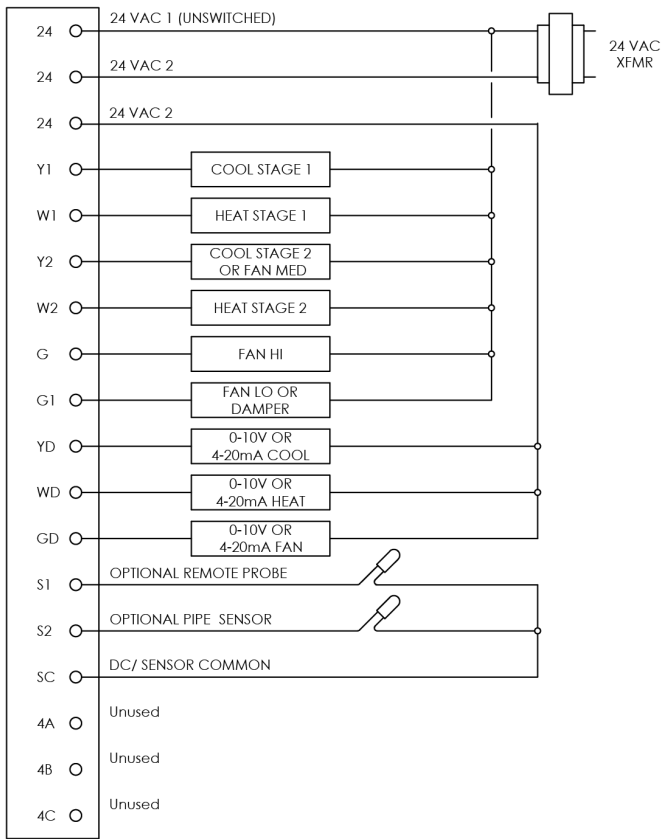
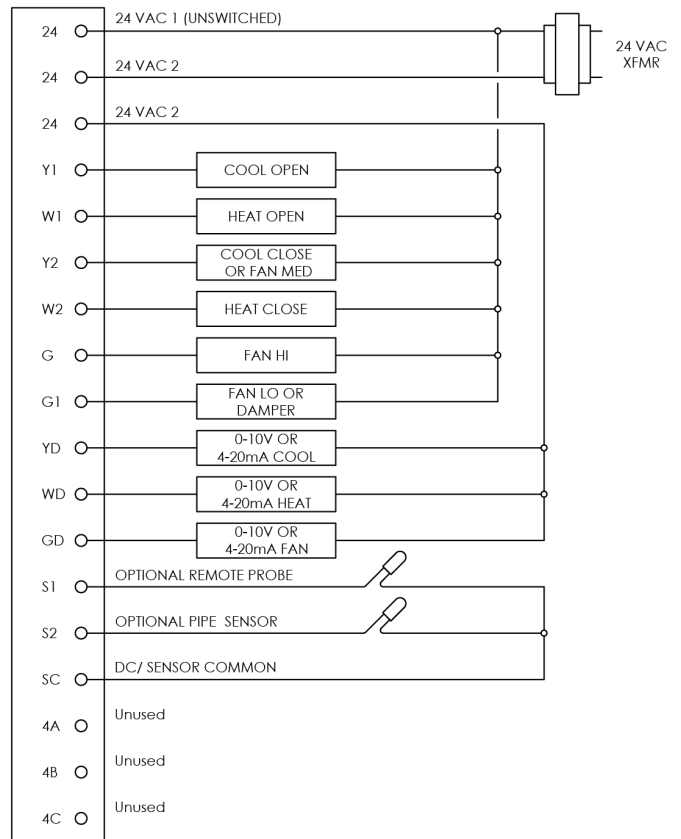
Figure 23: Wiring Diagram - ON/OFF Operation**Figure 24: Wiring Diagram - Three-Wire Floating Operation**

Figure 25: LVIB 2-Pipe Wiring Diagram

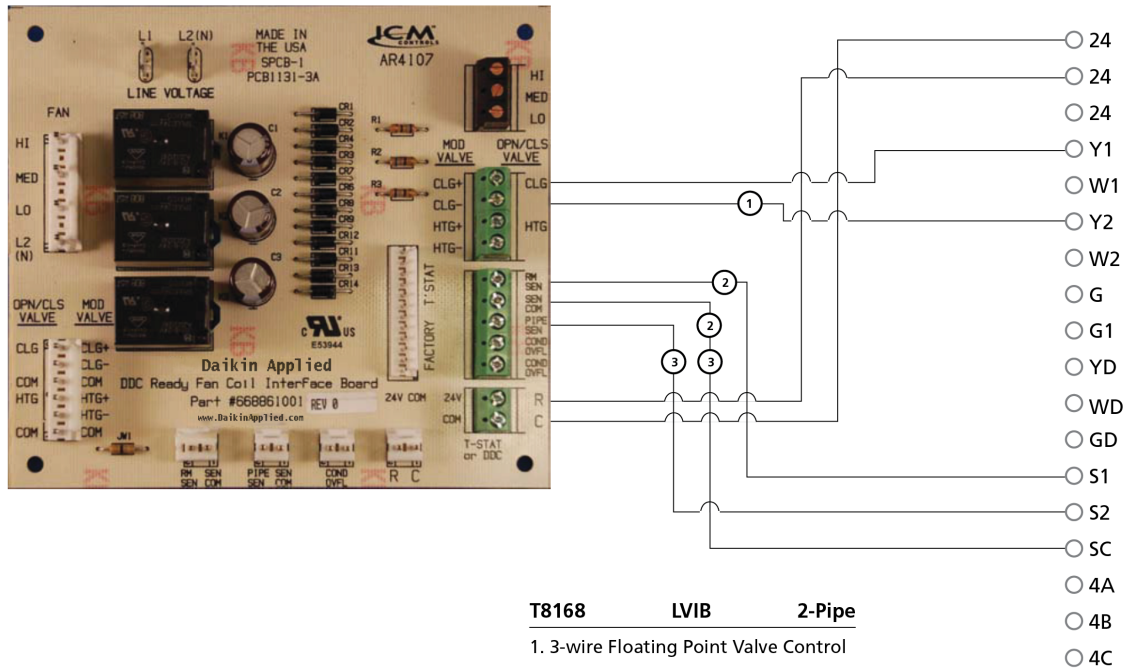
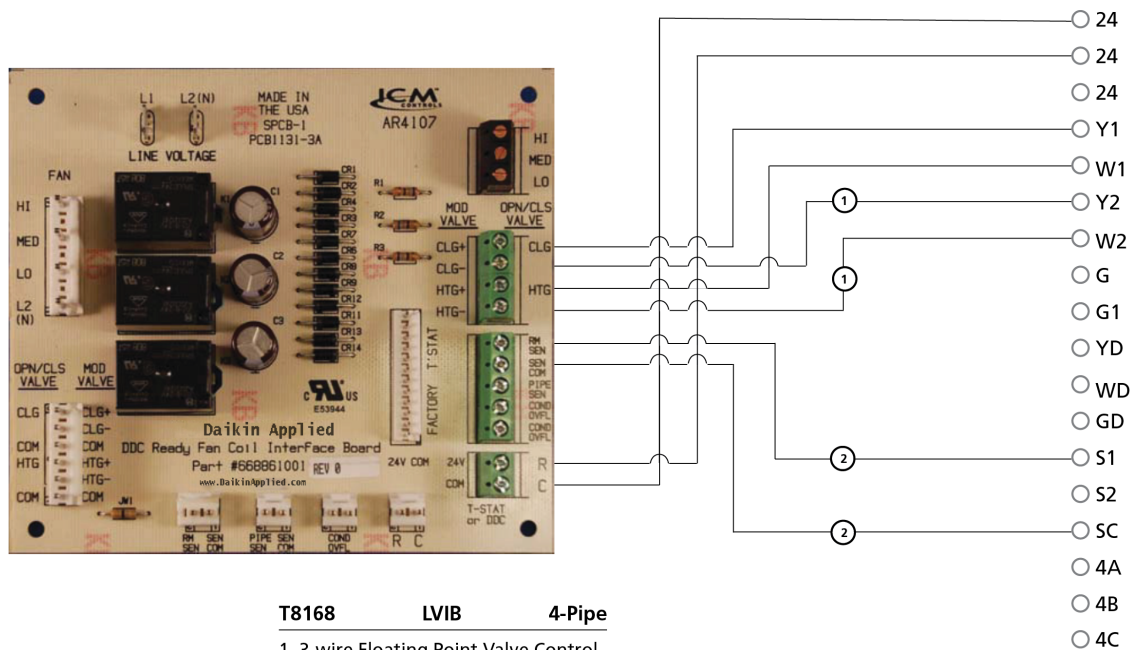
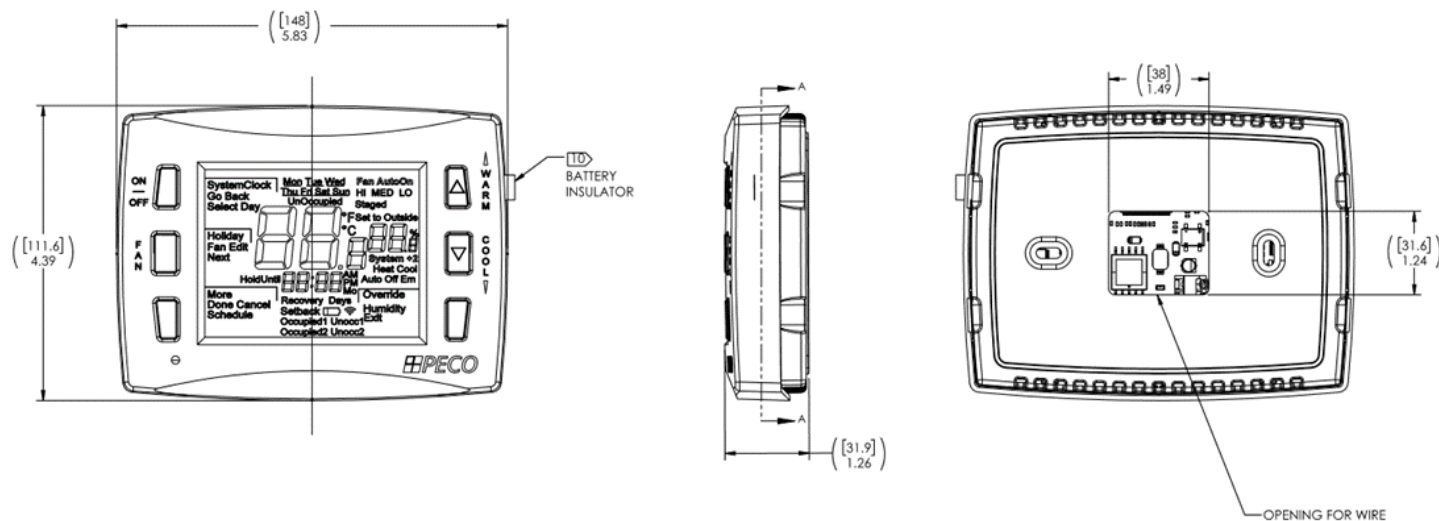


Figure 26: LVIB 4-Pipe Wiring Diagram



TW180

Part Number: 910383844



Operation Notes:

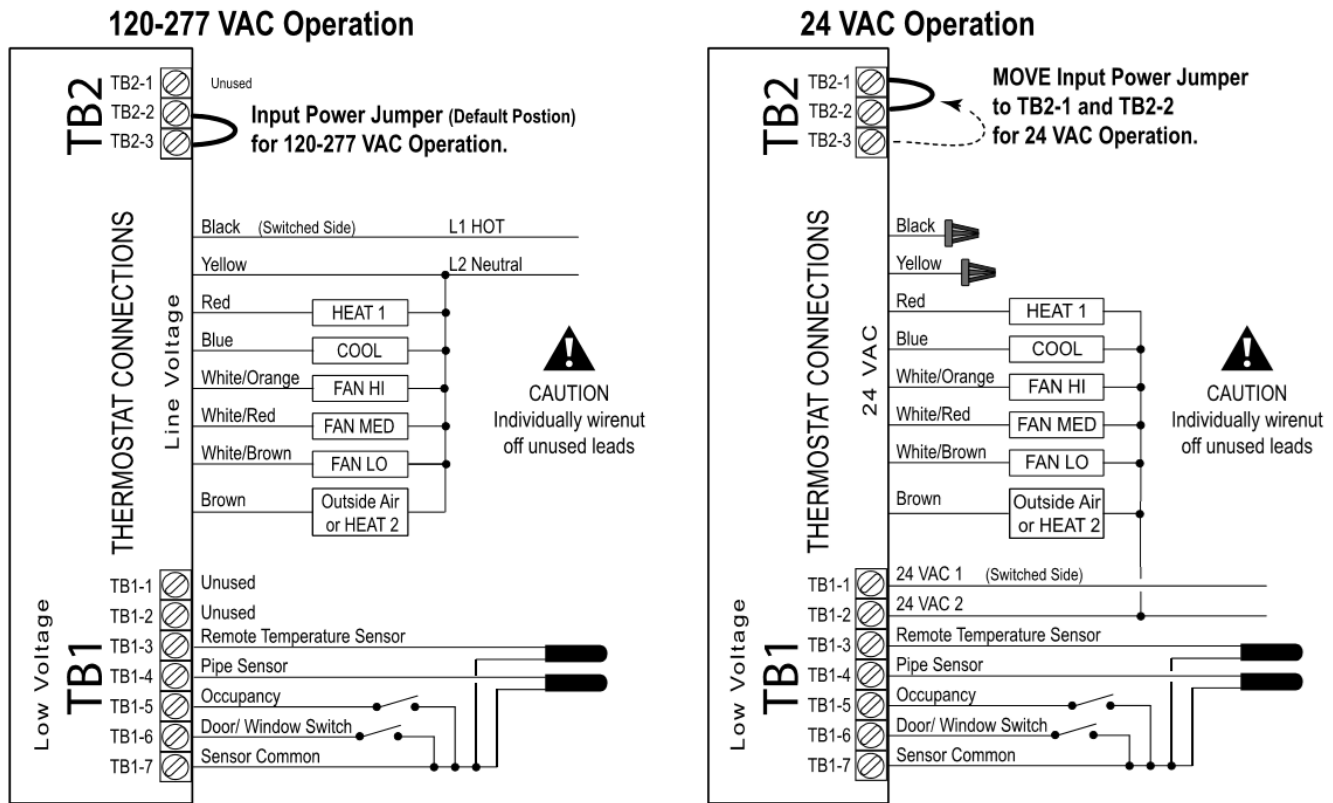
1. Configuration: Horizontally mounted, Auto Changeover, Heating/Cooling thermostat with Dead Band, Outputs for ON/OFF valves.
2. Operation: With the thermostat operating in the mode "OFF", all outputs are OFF. In the mode "Cool", control functions as a Cooling thermostat. In the mode "Heat", control functions as Heating thermostat. In the mode "Auto", the thermostat selects the proper function depending on the zone temperature
3. It supports both programmable and non-programmable operation.
4. Control for up to 2 Heat/1 Cool.
5. Fan Auto/On with 1 to 3 Speeds.
6. NO / NC Heat 1 and Cool Operation.
7. Temperature adjustment range; 50 to 90°F.

Table 13: Output Ratings

Ratings				
Voltage	Inductive		Resistive	Pilot Duty
	FLA	LRA		
24 VAC	NA	NA	NA	24 VA
120 VAC	5.8	34.8	6.0	125 VA
240 VAC	2.9	17.4	5.0	125 VA
277 VAC	2.4	14.4	4.2	125 VA
COMBINED LOAD CURRENT NOT TO EXCEED 20 AMPS				

COMBINED LOAD CURRENT NOT TO EXCEED 20 AMPS

Figure 27: Thermostat Connections



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