Model M380 FastTRAC Thermocouple/Temp-RH Switching Assembly

DESCRIPTION:

The M380 is a subassembly that is mounted to the system front panel (up to 1/8 inch thick).
The M380 is secured to the front panel by the mounting shaft and nut of the rotary switch.
It is kept from rotating by the double sided adhesive tape sandwiched between the front of the M380 and the rear of system front panel.

MOUNTING THE M380 ASSEMBLY:

Be sure that there is enough clearance behind the system front panel to seat the M380 against the panel.

Locate and drill a 3/8 inch round hole on the system front panel.

Remove the 3/8 inch hex nut and star washer from the front of the M380.

Remove the sticky tape protection strips from the face of the adhesive tape on the M380.

Make sure the M380 is properly oriented.

Push the switch mounting shaft thru the System front panel and push the M380 against the rear of the System front panel. Be careful to keep the M380 switch in place. There is a locator hole drilled in the M380 plate for the switch tab.

Place the star washer on the shaft of the M380 switch then place the hex nut on the shaft and tighten to snug the M380 to the system front panel.

Place the KNOB for the switch on the shaft.
Align the setscrew with the flat on the switch shaft and tighten its setscrew.

This completes the mounting procedure.

CONNECTING THE INPUTS TO THE M380:

Thermocouples:
Connect the Type “T” Part Thermocouple (Model 620 CH1 input) to the M380, TB1-5 (TC Blue wire) and TB1-6 (TC Red wire).

Connect the Type “T” Air Sensing Thermocouple (Model 620 CH2 input) to the M380, TB1-1 (TC blue wire) and TB1-2 (TC Red wire).

RH SENSOR: (See the M380 wiring dia.)

Connect the 4-20 mA Current loop from the Humidity sensor to the inputs of the M355 board. The + (Pos.) connection to the terminal next to the mounting nut.
The - (Neg.) connection (0v [ground potential]) to the other terminal on the M355.

CONNECTING THE M380 OUTPUTS TO THE MODEL 620 INPUTS:

The M380 TB2 outputs are prewired.

There are two blue teflon jacketed shielded thermocouples wired to TB2.

The CH2 thermocouple has a black wire twisted around it.

Connect the CH1 & CH2 input wires to the Model 620, A2216 PCB, TB1 (6 pin terminal strip).
Model 620A, A2216-E PCB, TB1 (8 pin terminal strip).

Connect CH1 thermocouple to Model 620, TB1- 2 (+, blue), TB1-3 (-, red), & TB1-1 (shield).
Model 620A, TB1- 3 (+, blue), TB1-4 (-, red), & TB1-2 (shield).

Connect CH2 thermocouple to Model 620, TB1- 5 (+, blue), TB1-4 (-, red & black wire), & TB1-6 (shield).
Model 620A, TB1-6 (+, blue), TB1-5 (-, red & black wire), & TB1-7 (shield).

Strain relief the thermocouple wire to the Model 620.

OPERATION:

When the inputs and outputs to the Model 380 have been properly connected the switch functions are:

LEFT (counter clockwise position) - Temperature/ RH operation.
The Model 620 CH1 input is the Air Thermocouple and the CH2 input is the 4-20mA RH input.

RIGHT (clockwise position) - FastTRAC operation.
The Model 620 CH1 input is the Part Thermocouple and the CH2 input is the Air Thermocouple.

The Model 620 controller configurations and PID tuning parameters must be properly selected for the function selected by the M380 Switch Assembly.

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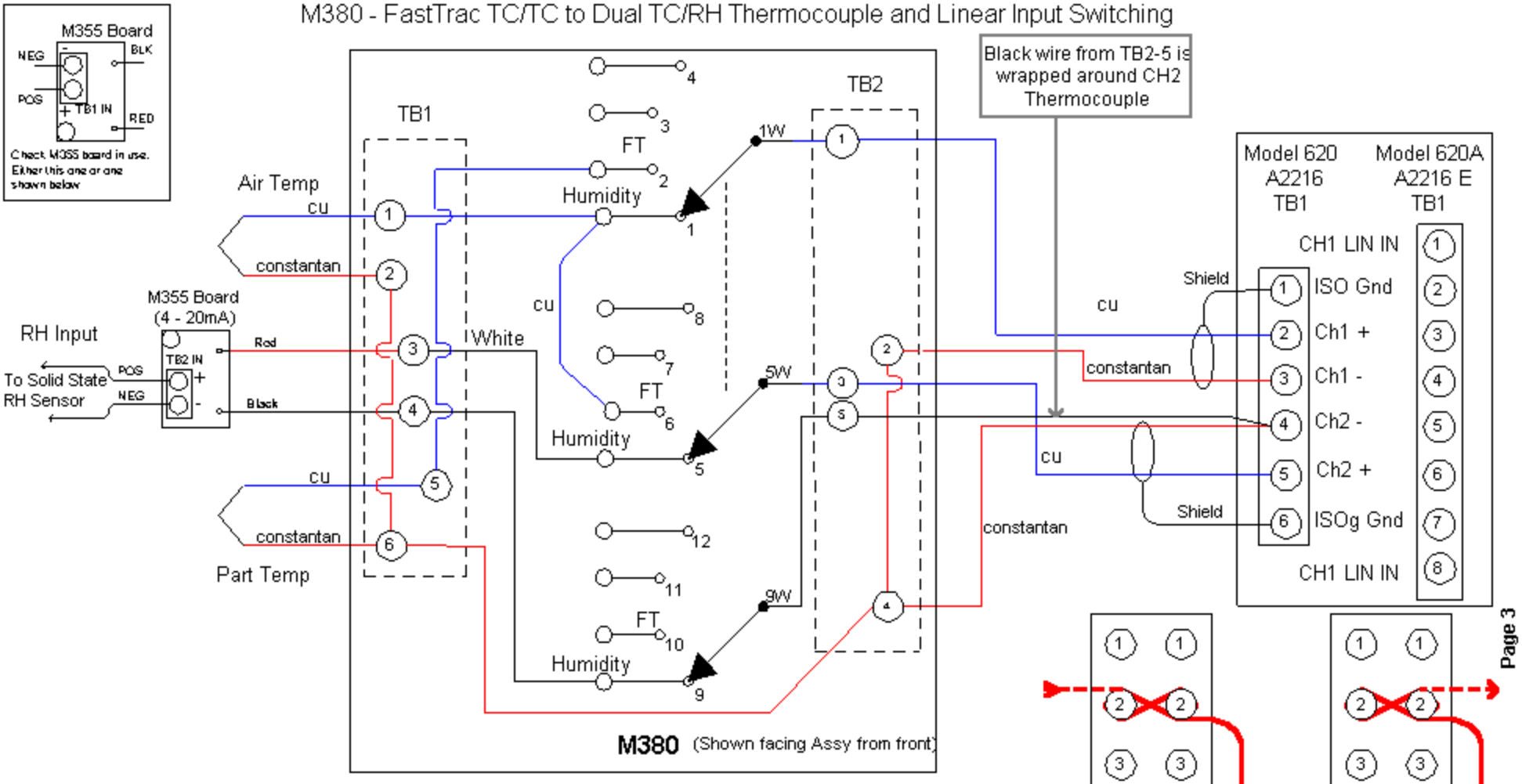
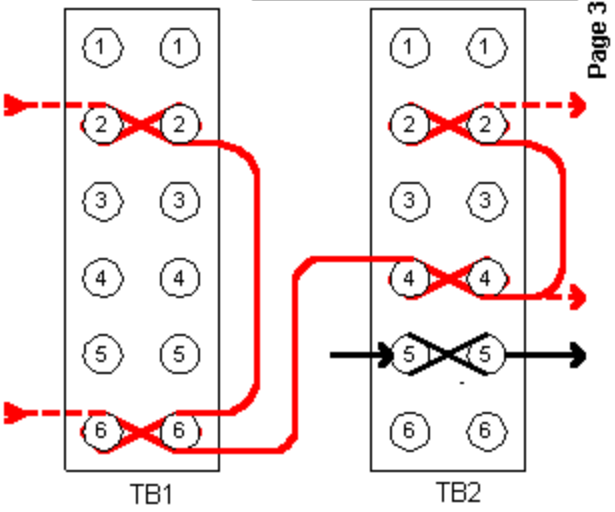
M380 - FastTrac TC/TC to Dual TC/RH Thermocouple and Linear Input Switching



Use stranded #20 T thermocouple extension wire for the switch and controller wiring.



Constantan wire must be securley wrapped around the TB1 & TB2 terminals as shown.

Output connections:
The Channel 1 outputs are always connected to the Chamber Air Temperature Control Functions.
The Channel 2 outputs are always connected to the Humidity Control Functions.

If event switching of the PID sets for FastTRAC operation vs Temp/RH operation are used then:
Channel 1, Pid Set 1 is set up for air temperature control, Channel 2 PID set 1 is set up for humidity control.
Channel 1, Pid Set 2 is set up for FastTrac Part control, Channel 2 PID set 2 is set up for air temperature control.

The Model 620 Programmer & Controller Configurations are sent from the computer for the selected mode of operation.
(optionally, the appropriate PID settings can also be sent from the computer instead of using the event to select the 2nd set)