

# DFT-880

## Electronic Defrost Timer



The Smart Temp DFT-880 is a precision manufactured electronic defrost controller with many advanced capabilities. Please take time to read and understand these instructions as if properly installed the DFT-880 will prove to be an accurate and reliable defrost controller.

Please contact Smart Temp or an authorised distributor should you have questions about the DFT-880 not covered in this manual

## Installation

Place the DFT - 880 in a location within the air conditioning system close to the condenser coil that is protected from weather or harsh elements that could damage the electronic components in the DFT-880 defrost controller.

Place the DFT-880 temperature sensor in the condenser coil thermal pocket if provided. In the absence of a thermal pocket place the DFT-880 sensor in a location that will accurately measure the coil temperature. NOTE: do not place the sensor in a location that forms ice as quite often the formed ice insulates the DFT-880 sensor from the true coil temperature preventing the defrost process.

When placing the DFT-880 sensor in the condenser coil ensure that the sensor cable is kept away from moving parts or from areas that may get hot and damage the cable.

Using the wiring diagrams provided by the air conditioning system manufacturer or one of the guide diagrams provided in this manual run all control and power wire to the DFT-880.

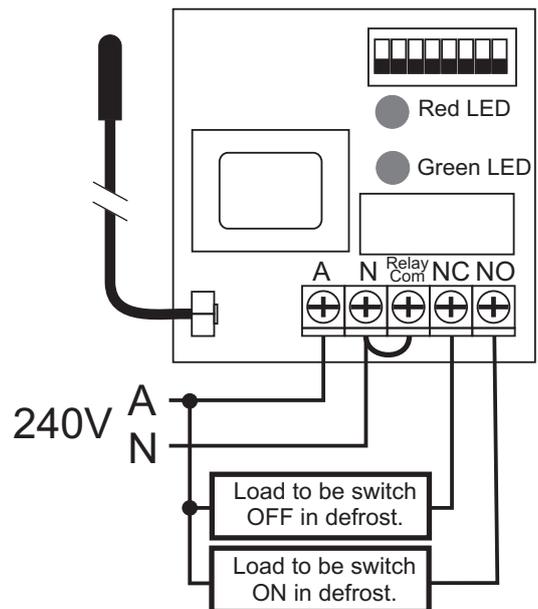
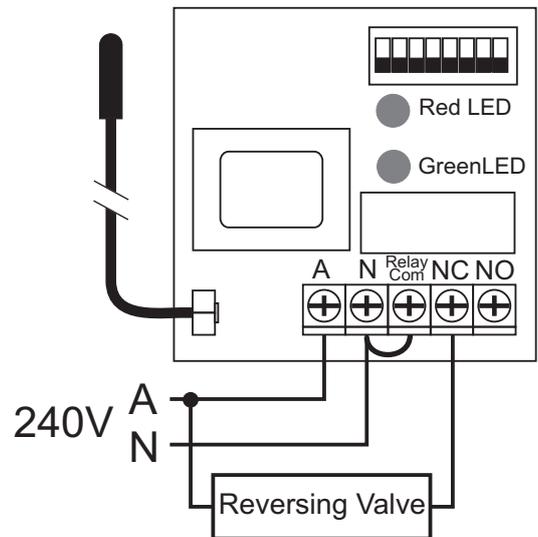
Powering the DFT-880 the green LED should blink indicating the DFT-880 defrost controller is operating and the air conditioning system is not requiring defrosting.

Turn dip switch 8 ON, both the red & green LEDs will flash rapidly to indicate the test function is enabled. Note the correct operation of the reversing valve and other components necessary for the defrost function. Turn switch 8 Off once you are satisfied with the correct operation of the defrost components.

Should you wish, you can perform a cyclic defrost function test by turning switch one ON. This will simulate a complete defrost cycle where the DFT-880 will step through all the defrost stages with the corresponding LED indications. Once you are satisfied with the operation of the DFT-880 please ensure you place switch 1 in the off position.

Installation is complete.

## Typical Wiring



## Sensor Resistance Table

Temperature C	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5
Resistance K	74.1	70.1	66.2	62.6	59.2	56.0	54.1	50.0	47.6	45.1	42.8	40.6	38.5	36.5	34.7	33.0	31.3	29.8	28.3	26.9	25.6

## DIP switch settings

Switch Functions (all OFF is default)

Sw1	Off	Normal Mode
	ON	Cyclic Defrost Test
Sw2	Off	Defrost initiate at -2c
	On	Defrost initiate at -5c
Sw3	Off	Defrost terminates at 10c
	On	Defrost terminates at 15c
Sw4&5	4 Off /5 Off	Defrost termination in 10 min max
	4 Off/5 On	Defrost termination in 5 min max
	4 On/5 Off	Defrost termination in 15 min max
	4 On/5 On	Defrost termination in 20 min max
Sw 6&7	6 Off/7 Off	Inhibit for 30 minutes
	6 Off/7 On	Inhibit for 15 minutes
	6 On/7 Off	Inhibit for 60 minutes
	6 On/7 On	Inhibit for 90 minutes
Sw 8	Off	Normal
	On	Hold in Defrost Mode (test mode)

## Testing & commissioning

To make the testing and commissioning of the DFT-880 as simple as possible Smart Temp has provided two test methods.

Enabling the cycle test function by turning Sw 1 ON will force the DFT-880 into a defrost function test that will automatically step the DFT-880 through all stages of the defrost process in rapid successions. This test proves that the DFT-880 is functioning correctly. The indicator LEDs will show the DFT-880 functions as it progresses through the defrost test procedure.

Enabling the force de-ice function with Sw 8 locks the DFT-880 into permanent defrost mode for as long as Sw8 is On.

This a quick and convenient way to test your installation wiring to ensure the correct operation during Defrost. To warn you that this mode is active the diagnostics LEDs flash alternatively to inform you this mode is active and to remind you to reset Sw8 to the OFF position when testing is complete.

## LED Codes

### Green

Off	System Faulty - No power
Flash Slowly	System OK - Normal
On steady	System OK - In Defrost
Flash Rapidly	System OK - Inhibit timer running

### Red

Off	System OK
On	DFT-880 Probe fault
Flash twice	Sensor -2C
Flash four	Sensor -10c

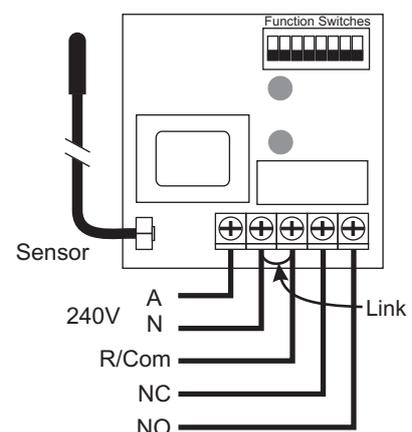
**RED & Green alternating** - Test mode active  
(Sw8 is on)

## Specifications

Power Supply	240VAC +/- 5% @ 50Hz
Relay Rating	10A @240VAC (max)
Size	75 x 75 x 50mm
LEDS	Green - (De-Ice indication) Red - (Errors & Coil Temp)
Defrost Initiation	- 2c or - 5c selectable
Defrost Confirmation	Automatic on coil temp
Defrost Termination	+10c or +15c 5min, 10min, 15min or 20min
Sensor Type	10K NTC Type II
Sensor Length	1.8 Meters typically
Range	-30c ~ 50c
Storage conditions	-20 + 70c <95% non condensing
Operational Cond.	-15 + 60 < 95% non condensing
Warranty	12 Months

In this example the DTF-880 is shown switching the 240 Neutral through the relay. Should you wish you can swap the 240V A&N terminals on the input so that you switch 240V Active if necessary.

For projects where you may need switch a separate phase or voltages other than 240, simply remove the factory link and place your switched voltage into the relay common.



*Smart Temp*