5106AT Digital Wall Module

Specification Data

GENERAL

The 5106AT Digital Wall Module(DWM) display and provide space temperature, setpoint and fan mode/speed selection for the Honeywell W7752D FCU controller. Using the Touch-Screen interface, the user can change room temperature setpoint, fan model/speed.

This wall module is compatible with Honeywell W7752D FCU controller.

FEATURES

- Full compatible to all current Honeywell W7752D FCU controller.
- Low power consumption
- LCD display continuously show current space temperature, fan status/mode as configured.
- Touch-screen interface for full navigation and change control of wall module functions.
- Touch screen interface for Setpoint adjustment.
- Integral 20k ohm NTC sensor.
- Fan Speed/Mode commendable for touch screen.
- Selectable °F /°C temperature display.
- Separate mounting base for easy installation.

SPECIFICATIONS

Temperature Sensor Accuracy

The DWM is furnished with a 20k ohm NTC temperature that follows a specific temperature-resistance curve.

See Fig. 1. Honeywell controllers used with the DWM employ an algorithm that provides readings close to the actual temperature. Table 1 summarizes the DWM sensor accuracy for normal operating temperatures. Across the range of 43 to 104°F (6 to 40°C) the accuracy is better than 0.75°F (0.42°C)

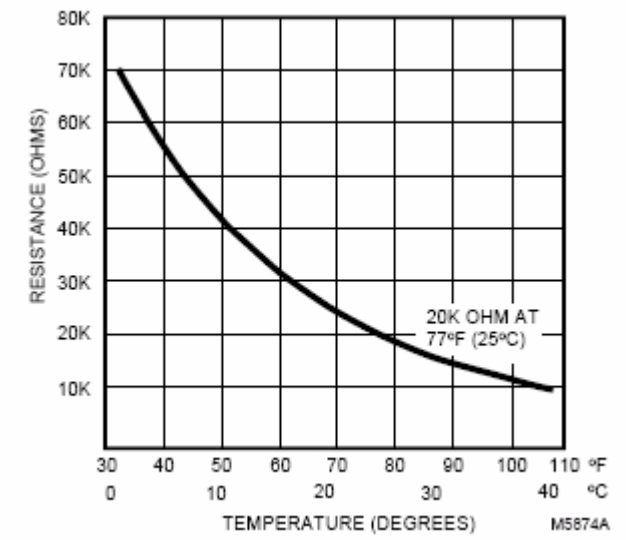

Table 1. Temperature sensor accuracy.

Ambient Temperature °F (°C)	Maximum Error °F (°C)	Minimum Error °F (°C)	Nominal Resistance (ohms)
60(15.5)	±0.52(±0.29)	0(0)	31543
65(18.3)	±0.49(±0.27)	0(0)	27511
70(21.1)	±0.48(±0.27)	0(0)	24047
80(26.7)	±0.49(±0.27)	0(0)	18490
85(29.5)	±0.52(±0.29)	0(0)	16264

Table 2. Fan speed resistances.

Fan speed	Resistance (ohms)
Auto	1861.4 ± 100
1	2686.4 ± 100
2	3866.4 ± 100
3	4601.4 ± 100

DWM Setpoint Adjustment

The relation between setpoint and resistance is giving in Table 3 and Table 3.

Accuracy of resistance is:

1. ±5% in middle position, e.g., 5225 ohms to 5775 ohms
2. ±10% in end position, e.g., 9450 ohms to 11550 ohms.

Table 3. Setpoint values versus resistances.

Setpoint Absol./ (°C)	R Nominal (ohms)
12	9958.0
13	9468.7
14	8979.3
15	8490.0
16	8000.7
17	7511.3
18	7022.0
19	6532.7
20	6043.3
21	5554.0
22	5064.7
23	4575.3
24	4086.0
25	3596.7
26	3107.3
27	2618.0
28	2128.7
29	1639.3
30	1150.0

Table 4. Setpoint values versus resistances (Fahrenheit).

Setpoint Absol./ °F	R Nominal (ohms)
55	9577.4
57	9033.7
59	8490.0
61	7946.0
63	7402.6
65	6858.9
67	6315.2
69	5771.5
70	5499.6
71	5227.8
73	4684.1
75	4140.4
77	3596.7
79	3053.0
81	2509.3
83	1965.6
85	1421.9

Power Supply

24VDC with a valid range of 12 to 24V

Power Consumption

30mA(DC) @ 24V(DC) (recommend)

52mA(DC) @ 12V(DC)

Field Wiring

16 to 22 AWG(1.5 to 0.34) depending on application 18AWG(1.0) minimum for 24Vac power wiring

Maximum length of wire form a device to wall module is 164ft (30.5 m)

Twisted pair wire recommended for wire runs longer than 100ft (30.5 m)

Setpint Adjustment Range

Setpoint can be configured for

Fahrenheit absolute (55 to 85°F)

Centigrade absolute (12 to 30°C)

Temperature Value Display Resolution

Degree Centigrade ➔ 0.1 °C

Degree Fahrenheit ➔ 0.1 °F

Setpoint Value Display Resolution

Degree Centigrade ➔0.5 °C

Degree Fahrenheit ➔0.1 °F

Mounting Options

Wall mounting

Dimensions

W154.6mm X H102mm X D32mm

Environment Ratings

Shipping Temperature: -40 to 140 °F (-40 to 60 °C)

Operating Temperature: 32 to 104 °F (0 to 40 °C)

Relative Humidity: 5% to 90% non-condensing