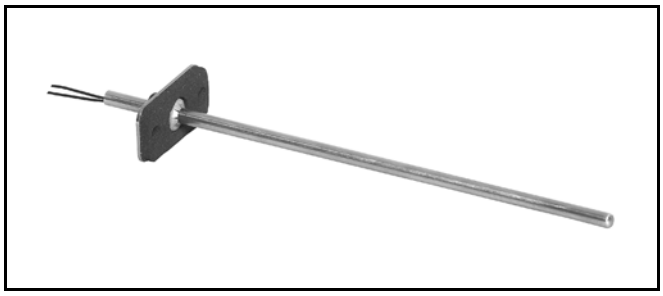
Honeywell

C7770, C7776, C7778
Air Temperature Sensors

SPECIFICATION DATA



GENERAL

The C7770A, C7776A, C7778A Air Temperature Sensors are direct wired temperature sensors that are used to sense discharge or return air in a duct. The C7770A Sensors contains a temperature sensitive 20K ohm NTC nonlinearized thermistor and are compatible with the Excel 10 controller. The C7776As are 10 ohm NTC Type II sensors that are compatible with TB7600, TB7300, and TB7200 communicating thermostats. The C7778As are 10 ohm NTC Type III sensors that are compatible with WEBs-AX I/O modules.

FEATURES

- Primary and/or secondary sensor for use with electronic control systems.
- Integral 20K ohm NTC, 10K ohm NTC Type II, or 10K ohm NTC Type III nonlinear sensors
- Operating range of 45 to 99°F (7 to 37°C).
- Mounts on a flat duct or plenum surface or, for a plenum-rated application, in a standard utility conduit box.
- Probe length of 6 in. (152 mm)
- Rugged 1/4 in. diameter aluminum insertion probe.

SENSOR SELECTION

Table 1. C7770/C7776/C7778 Models

Model	Description	Termination
C7770A1006	6 in. duct probe, 20K ohm NTC Non-linear Temperature Sensor	8.5 in. stranded wire
C7770A1040	6 in. duct probe, 20K ohm NTC Non-linear Temperature Sensor	6 ft. plenum rated cable
C7776A1006	6 in. duct probe, 10K ohm NTC Type II Temperature Sensor	8.5 in. stranded wire
C7776A1040	6 in. duct probe, 10K ohm NTC Type II Temperature Sensor	6 ft. plenum rated cable
C7778A1006	6 in. duct probe, 10K ohm NTC Type III Temperature Sensor	8.5 in. stranded wire
C7778A1040	6 in. duct probe, 10K ohm NTC Type III Temperature Sensor	6 ft. plenum rated cable

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TYPICAL SENSOR RESISTANCE

Table 2. Typical Resistance of Sensor Models.

	Typical Resistance (in ohms)		
	C7770 (20K Ohm NTC)	C7776 (10K Ohm NTC Type II)	C7778 (10K Ohm NTC Type III)
At 41°F (5°C)	54,200	25,392	23,467
At 50°F (10°C)	41,758	19,901	18,789
At 59°F (15°C)	32,427	15,712	15,137
At 68°F (20°C)	25,370	12,493	12,268
At 77°F (25°C)	20,000	10,000	10,000
At 86°F (30°C)	15,856	8,057	8,196
At 95°F (35°C)	12,654	6,531	6,754

SPECIFICATIONS

Dimensions:
Probe Length (incl. mechanical strain relief): 6 in. (152 mm).
Probe Diameter: 1/4 in. (6 mm).
Flange Height: 7/8 in. (22 mm).
Flange Width: 2 in. (51 mm).

Environmental Ratings:
Operating Temperature: 45° to 99°F (7° to 37°C).
Shipping Temperature: -40° to 150°F (-40° to 65°C).
Relative Humidity: 5% to 95% noncondensing.
Vibration: V2 level.
Corrosion: Office environment.

Temperature Sensor Accuracy:
Honeywell controllers used with the C7770A, C7776A, or C7778A employ an algorithm that provides readings close to the actual temperature. Across the range of 41 to 99°F (5 to 37°C) the accuracy is better than ±0.36°F (±0.2°C).

Long-term temperature sensor drift:
(for 20K ohm sensors only)
Maximum sensor drift is nominally +/-0.13°F after 5 years of operation, no appreciable drift thereafter. No calibration of the device is possible. Long term drift calibration/maintenance through controller software is typically not necessary.

Input Rating: 0.5 mA pulsed constant current.

Mounting Options:
Mounts on flat duct or plenum surface or, for a plenum-rated applications, in a standard utility conduit box.

Approvals:
NEC Class II.
CE.

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