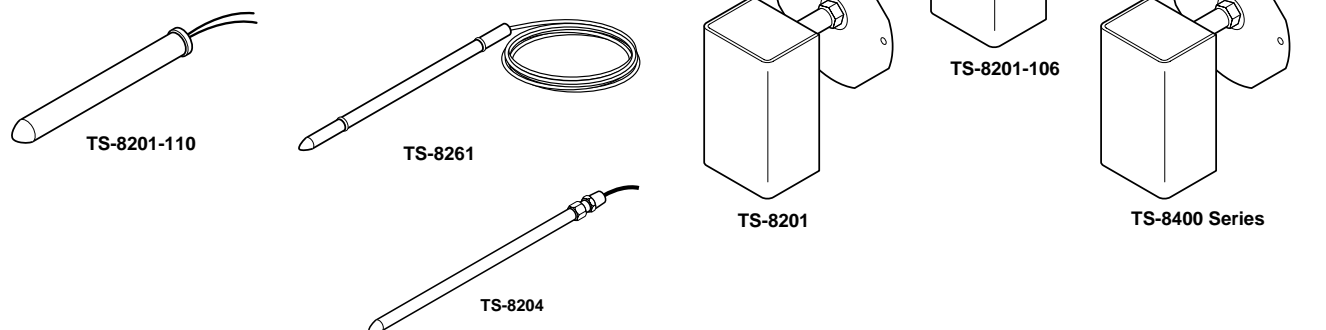# Remote Balco Temperature Sensors

These temperature sensors provide electronic sensing of temperature at remote room locations, ducts, plenum chambers, liquid lines, tanks, outdoor air, etc.

Features:

• Accuracy of ±0.1% on all but averaging elements and high temperature.

• System 8000 compatibility.

• Usable over wide temperature range.

• Meets all system applications requirements.

TS-8131

TS-8501

TS-8281

TS-8201-106

TS-8201-110

TS-8261

TS-8201

TS-8400 Series

TS-8204

Model No.	Description	Mounting Connection	Dimensions in. (mm)		Wiring connections
			Element	**Enclosure**	
TS-8131	Unitary[a]	7/32 in. (13.5 mm) dia. mtg. hole	3/4 dia. x 1-1/4 L (19 x 32)	None	1/4 in. spade connections
TS-8201	Duct/immersion[b]	Plate, 1/4 in. NPT [b]	1/4 dia. x 6 L (6 x 152)	3-1/2 H x 2-1/4 W x 2-1/4 D (89 x 57 x 57) with 2-1/2 (64) extension to element; 1/2 in. knockouts (top & bottom)	12 in. (305 mm) black pigtail leads
TS-8201-106	Immersion[c]	1/4 in. NPT nut [c]	1/4 dia. x 4 L (6 x 102)	3-1/2 H x 2-1/4 W x 2-1/4 D (89 x 57 x 57) with 2-1/2 (64) extension to element; 1/2 in. knockouts (top & bottom)	12 in. (305 mm) black pigtail leads
TS-8405	Averaging (duct)	Plate	5 ft. (1.5 m) L		
TS-8422			22 ft. (6.7 m) L		
TS-8201-110	Strap-on	Nylon wire tie[d]	1/4 dia. x 2-1/4 L (6 x 57)	None	
TS-8204	Duct/immersion [b]	1/4 in. NPT nut [b]; AT-208 included	1/4 dia. x 8 L (6 x 203)		16 in. (401 mm) yellow pigtail leads
TS-8261	Comb. light fixtures & ceiling diffuser	None	1/4 dia. x 8-1/8 L (6 x 206)		6 ft. (1.8 m) black pigtail leads
TS-8281	Duct	Plate	5/16 dia x 3-5/8 L (7.9 x 92)		6 ft. (1.8 m) (1) red, (1) black shielded & jacketed
TS-8281-101					6 ft. (1.8 m) (1) red, (1) black shielded & jacketed plenum rated cable
TS-8501	Outdoor	1/2 in. conduit	1-1/8 dia. x 5 L (29 x 127)		3 ft. (0.9 m) black pigtail leads

[a] For mounting through fan coil of unit ventilator cabinet or similar application.

[b] Immersion requires AT-226 bulb well.

[c] Immersion requires AT-225 bulb well.

[d] Factory supplied. 2-1/2 x 2 in. (64 x 51 mm) foam insulation tape and 30 in. (762 mm) nylon tie for 1-1/2 through 8 in. (33 through 203 mm) dia. pipes.

TS-8000 Series

Specifications

Sensing element

Balco resistance	1000 Ω ±1% at 70°F (20°C).
TS-8405, TS-8422	±1% at 70°F (20°C). Changes 2.2 Ω per 1°F (0.5°C) at 70°F (21°C).
TS-8204 only	1657 Ω ±0.1% at 300°F (149°C); changes 2.5 Ω per 1°F (0.5°C) at 300°F (149°C).

Ambient Temperature Limits °F (°C).

Part Number	Shipping and Storage	Operating
TS-8131[a]		
TS-8261 [a]	-40 to 160 (-40 to 71)	40 to 140 (4 to 60)
TS-8281 Series [a]		
TS-8201		
TS-8201-106	-40 to 250 (-40 to 121)	-40 to 250 (-40 to 121)
TS-8201-110		
TS-8405		
TS-8422	-40 to 220 (-40 to 104)	-40 to 220 (-40 to 104)
TS-8501		
TS-8204	-40 to 400 (-40 to 204)	200 to 400 (93 to 204)

[a] Humidity, 5 to 95% RH, non-condensing.

Accessories

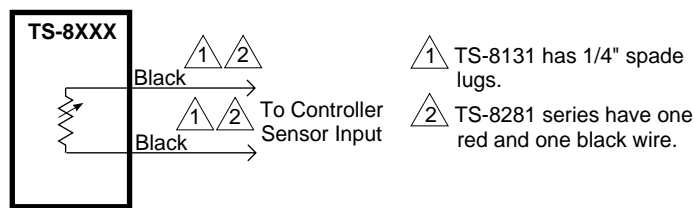| Model No.	Description
AT-208	Duct mounting kit for TS-8201-105 (included with TS-8204).
AT-226	Brass bulb well for TS-8201 or TS-8204.
AT-225	Stainless steel bulb well for TS-8201-106.
AT-8435	Remote setpoint adjuster, dual scale 200 to 400°F (93 to 204°C); required for all TS-8204 applications except differential control.

Typical Applications

Figure 1 TS-8XXX Series Sensor Connections.