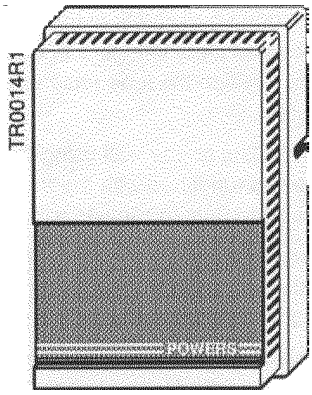
SIEMENS

Installation Instructions
Document No. 129-177
September 25, 2009

RETROLINE®
Replacement Transmitter for Robertshaw/Siebe



Room Temperature Transmitter

Product Description

This Powers™ Controls Room Temperature Transmitter is a direct acting, one-pipe instrument that senses temperature and transmits a proportional pneumatic signal to a remotely located receiver gauge and/or receiver-controller. This kit includes the:

- Room temperature transmitter
- Cover
- Wall plate
- Plastic bag containing installation parts

Product Number

Table 1. Product Number.

Description	Range	Replaces Robertshaw/ Siebe	Number Product
Room Temperature Transmitter	50 to 90°F (10 to 32°C)	2220-053	184-0128

Features

Internal feedback for excellent linearity and accuracy.

Required Tools

- Small flat-blade screwdriver
- Needle nose pliers
- 1/16-inch hex Allen wrench

Specifications

Operating

Action	Direct acting
Output air pressure	3 to 15 psi (21 to 103 kPa)
Input (supply) air pressure:	
Recommended pressure	22 ±0 psig (152 ±6.9 kPa)
Maximum	30 psig (207 kPa)
Restrictor size	40 scim (11 ml/s)
Thermal system	Bimetal
Air consumption	35 scim (10 ml/s)

Physical

Mounting	Wall terminal
Air connection	Plastic tubing and tubing retainer
Cover finish	(plastic) Desert beige
Dimensions	*Figure 2*

Operation

The transmitter must be provided with a restricted (40 scim) supply of air. Assume a rise in temperature at the transmitter-sensing element. The free end of the bimetal moves downward. See *Figure 1*. This increases the load on the throttling pin and moves it closer to the nozzle. Pressure builds up in the chamber below the nozzle until the force of the increased air pressure against the bottom of the throttling pin exactly balances the downward force of the free end of the sensing element.

Operations, Continued

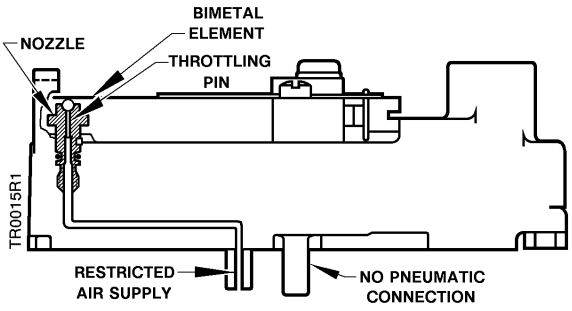


Figure 1. Operation of the Room Transmitter.

Application

The temperature transmitters are ideal for applications requiring remote temperature set point adjustment and temperature indication of a space using a receiver-controller and gauge.

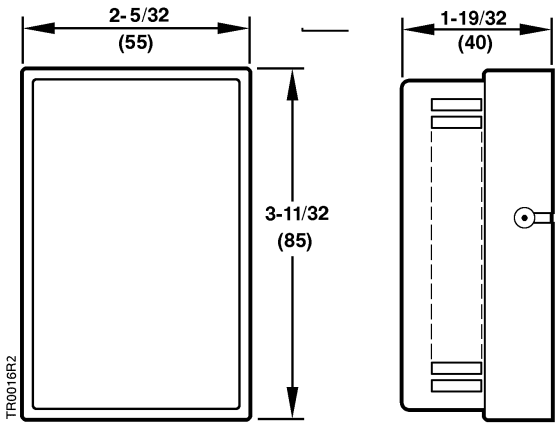


Figure 2. Dimensions of the Room Transmitter. Dimensions in Inches (Millimeters).

Calibration

This transmitter is factory calibrated. The transmitter should not be recalibrated in the field.

For minor improvements in accuracy, adjust the pointer on the receiver gauge to agree with the temperature at the sensing element.

Preventative Maintenance

The temperature transmitter does not require lubrication.

Periodically clean dust from the transmitter body using a soft-hair brush.

Check yearly to see that temperature at sensing element agrees with temperature shown at gauge.

Troubleshooting

Table 2. Troubleshooting Chart.

Complaint	Check	Probable Cause	Corrective Action
Low temperature indication	Restrictor	Plugged restrictors	Clean and replace if clogged
		Wrong size restrictor	Replace restrictor
	Receiver gauge temperature indication vs. temperature at sensing element	Receiver gauge out of calibration	Adjust receiver gauge
	Fittings and tubing	Leak in transmitter line	As necessary
	Supply pressure	Low supply pressure	As necessary
High temperature indication	Receiver gauge temperature indication vs. temperature at sensing element	Receiver gauge out of calibration	Adjust receiver gauge
	Restrictor used	More than one restrictor used. Both internal (in receiver-controller) restrictor and external restrictor installed	Remove all but one restricted air supply
		Wrong size restrictor	Replace restrictor

Installation

NOTE: Temperature transmitters may be mounted in any position on a vertical surface; however, the preferred position is shown in *Figure 4*.

Check *Figure 4* for the orientation of the transmitter and the wall plate.

Use the wall plate kit, provided with the room transmitter, for any surface.

1. Use the 5/32-inch diameter tubing to connect the air line to the bottom port on the back of the wall plate. Note the position of the wall plate in *Figure 3*. Use the needle nose pliers to position the tube retainer which secures the connection.

Installation, Continued

2. Install the wall plate on the wall using the flat head mounting screws furnished with the transmitter. The wall plate has a slotted hole to allow leveling of the wall plate.
3. Carefully plug the transmitter into the wall plate. Moistening the O-rings in the wall plate will allow the unit to slip through the O-rings easily.
4. Secure the transmitter to the wall plate using the two captive screws attached to the transmitter body.
5. Place the cover over the transmitter. Use the hex Allen wrench to fasten the cover with the cover screws.

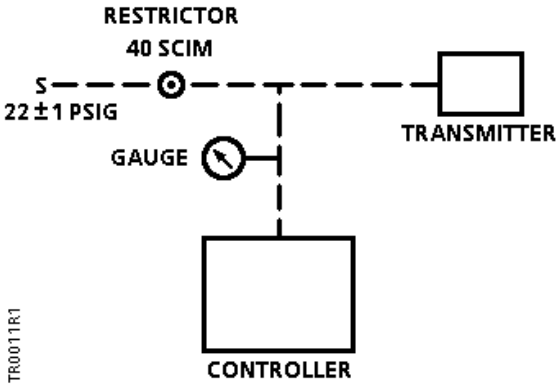


Figure 3. Typical Connections.

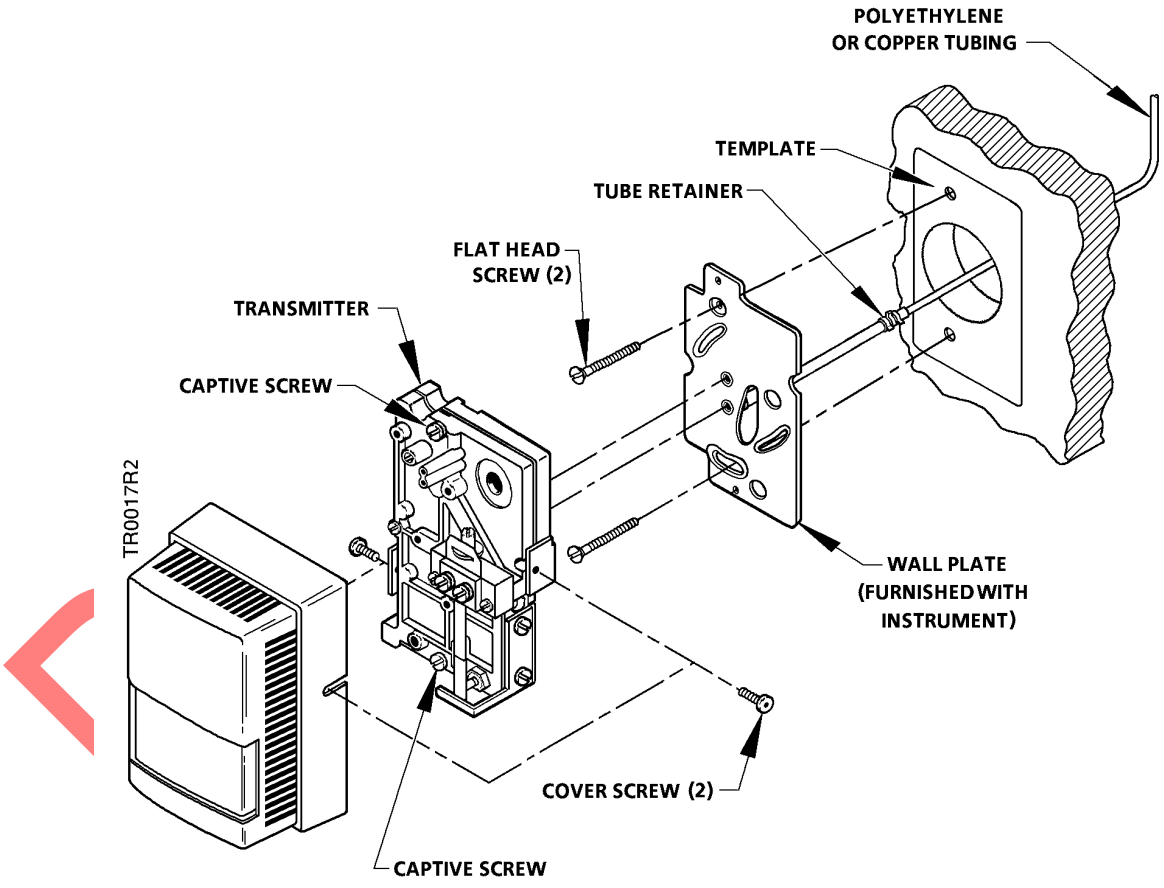


Figure 4. Typical Mounting in Existing Construction.

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