RS-1100 Series Room Command Module

Product Bulletin

PB_RS-1100
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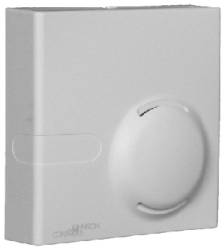
The RS-1100 Room Command Modules are designed for use with Facility Explorer Series or System 91 controllers from Johnson Controls and provides a 0…10 V signal directly proportional to the sensed temperature.

Models are available with and without LCD display, room temperature setpoint adjustment dial, temporary occupied override function, and fan speed selection.

The LCD display and the dial on the front of the module allow the room occupant to view the space temperature and adjust the temperature setpoint. Modules with LCD display will automatically request the temporary occupied (bypass) mode when the dial is moved during unoccupied or standby periods.
On models without LCD display this function is activated by means of the temporary occupied button on the left side of the module.

'05 INDUSTRIAL DESIGN EXCELLENCE AWARDS

GOLD



RS-1140

RS-1150

RS-1160

RS-1180
with fan speed

RS-1190

Features and Benefits

Features	Benefits
Modern and attractive cover which snaps onto a plug-in mounting base	Blends in with room decor. Easy installation.
Compact Display for temperature indication	Easy to read
Display is back lighted with time out	Suitable for dimly lit conditions
Big temperature setpoint adjustment dial	Easy operations for the user
All models available with or without occupancy override	Covers a large number of applications in public buildings and hotels
Integrated Temporary override function on LCD display models	Easy override without the need of an additional push button
Terminals located on mounting base	Easy wiring and commissioning
Models with display available with Fan Speed Button	Covers a large number of applications

Johnson Controls

Environmental and Comfort Data for the Occupant

All RS-1100 Series Room Command Modules provides a 0...10 V signal directly proportional to the sensed temperature.

Models without LCD Display without Temperature Dial

These models are used for space temperature sensing only.

Models without LCD Display with Temperature Dial

The setpoint dial indicates the desired room temperature setpoint.

When the controller is not in occupied mode, the green LED blinks slowly. Operating the pushbutton will set the controller into **temporary occupied** mode and the LED will go steady indicating the comfort mode.

Models with LCD Display

The room command module displays the space temperature. When the occupant is moving the dial the setpoint is displayed with a slow blink cycle.

The maintenance symbol of the display can show:

- **Temperature Sensor Failure**

Controlling Comfort and the Environment

The RS-1100 room command modules with Temperature Dial are configured to allow the occupant to adjust or override operating parameters of the connected controller.

Set point adjust

The set point of the controller can be adjusted for a warmer or cooler temperature within the range of ±3 °C or to a specific temperature within a range of values such as 12 to 28 °C using the dial on the face of the module.

Temporary occupancy override

Outside of the normal occupancy periods, in the evening or on the weekend for example, one touch on the dial (for models with LCD display) or pushbutton (for models without display) will give the occupant comfort conditions for a set period of time. The green LED is configured to slowly blink when the controller is not in occupied or temporary occupied mode.

Fan Speed Override

The user can press the fan pushbutton to change the fan speed. The actual fan status is shown by the speed bars and the **AUTO** symbol disappears to confirm a manual override condition. When the fan is stopped in the manual mode, the **OFF** symbol appears.

Pressing the pushbutton until the **AUTO** symbol appears cancels a manual override and restores automatic fan speed control according to the room temperature and setpoint.

Fan Speed Override Display

Fan Speed	LCD Display
	Three speed
Auto	
Off	
1st speed	
2nd speed	
3rd speed	

Installation

The room command module has a separable base with wiring terminals. The base is installed first and the power and network wiring can be completed and checked before installing the electronic circuits that are located in the room module cover.

This procedure provides the easiest and safest way to install the control system and avoids accidental damage to the electronic circuits when being mounted in the room on the construction site.

A surface mounting kit is available for the Room Command Module.

Mounting

Direct Wall Mounting

The RS-1100 room sensors are suitable for direct wall mounting using two of the four screw holes on the base.

- Choose an appropriate place to achieve good control of the ambient temperature. The room temperature element only senses the temperature at the place where it is mounted.
- When mounting ensure that there is sufficient space for air circulation but do not mount the sensor near windows or doors so as to avoid draughts that will falsify measurements.
- Put insulation material in the wiring conduit to prevent introduction of air from outside the room.

The sensor should not be exposed to direct radiation (lamps, radiators, etc.) or to the sun, as this would lead to incorrect measurement.

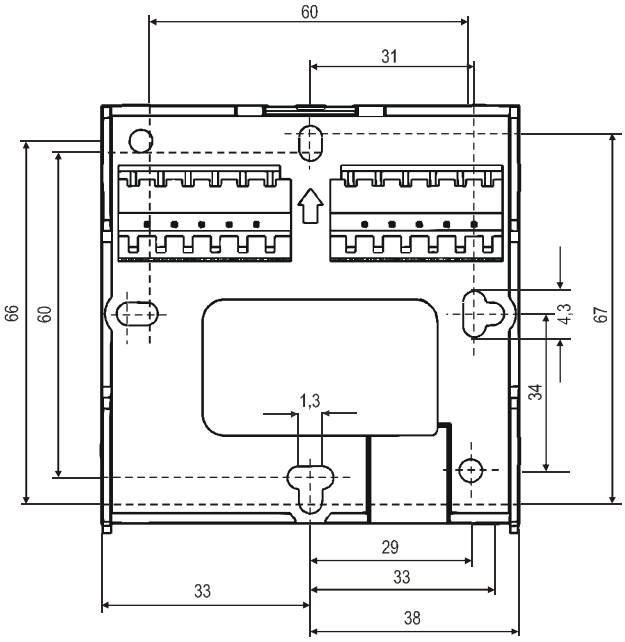


Figure 1: RS-1100 Mounting Base

Mounting Kit

They may also be mounted by using the mounting kit shown. The wiring must be entered from the back.

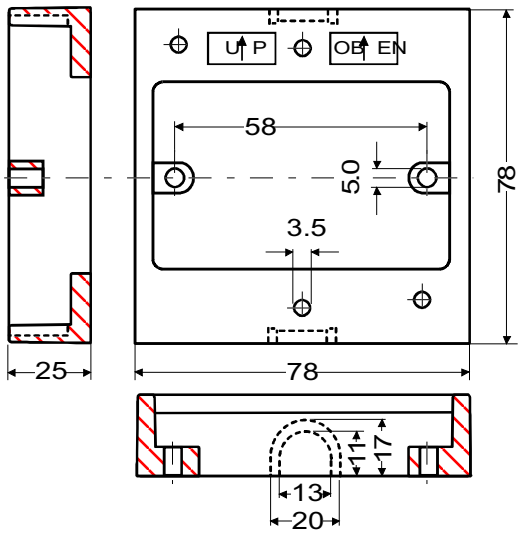
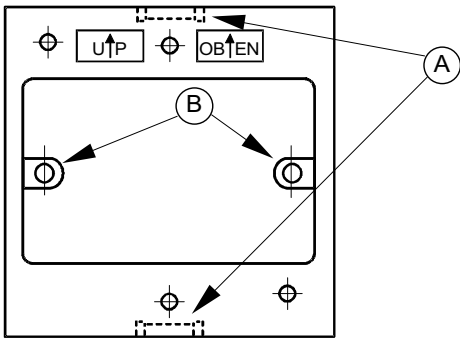
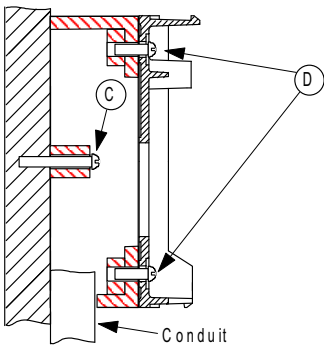


Figure 2: TM-1100-8931 Surface Mounting Kit

- Remove one of the notches (A) with a suitable tool.



- Mark the position of the holes (B) on the wall and drill holes 5 mm in diameter. Insert plastic plugs into holes.



- Position and fix the mounting base to the wall using the two long screws (C) provided in the kit.
- Fix the base of the RS-1100 to the mounting base using the two short screws (D) provided in the kit.

Wiring

- All wiring must be in accordance with local regulations and national rules.
- Do not attempt field repairs. If the transmitter is not operating properly, even though it is wired correctly, it should be replaced.

WARNING

When wiring or servicing make sure that:

- **The electric voltage to the sensor is switched off to avoid possible damage to the equipment, personal injury or shock.**
- **You do not touch or attempt to connect or disconnect wires when electric power is on.**

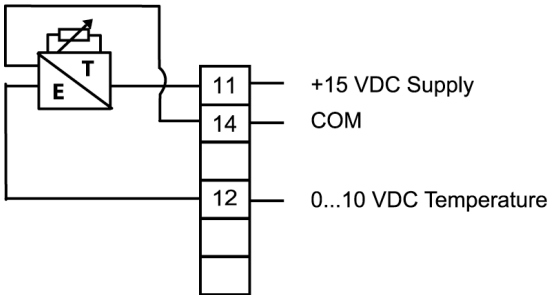


Figure 3: RS-1140-0000

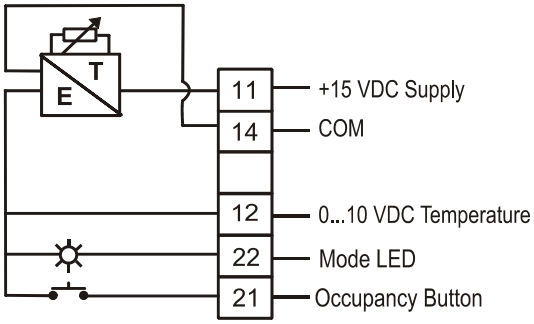


Figure 4: RS-1150 - 0000

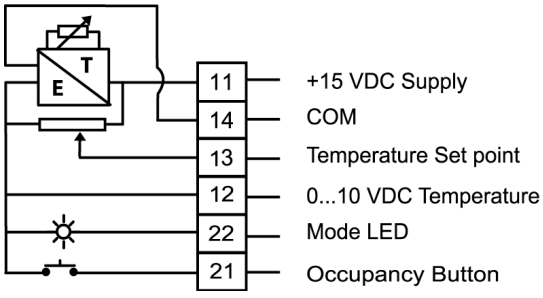


Figure 5: RS-1160-0000 and RS-1160-0005

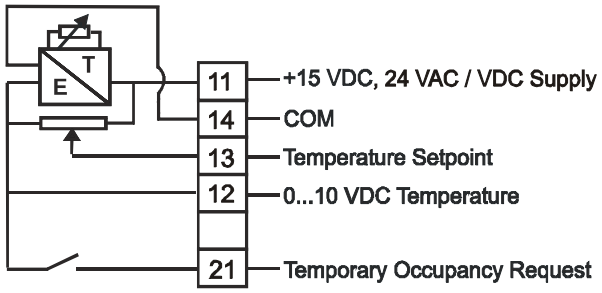


Figure 6: RS-1180-0000 and RS-1180-0005

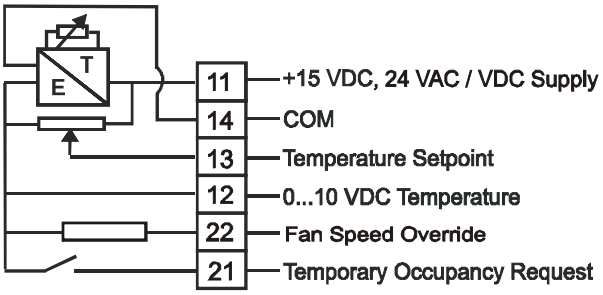


Figure 7: RS-1180-0002 and RS-1180-0007

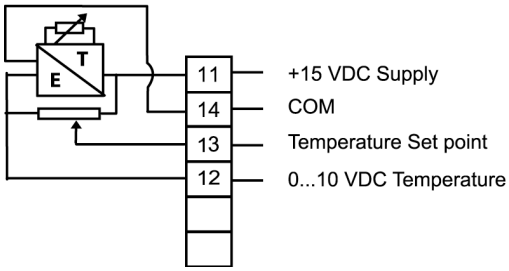


Figure 8: RS-1190-0000 and RS-1190-0005

Dimensions in mm and Printings

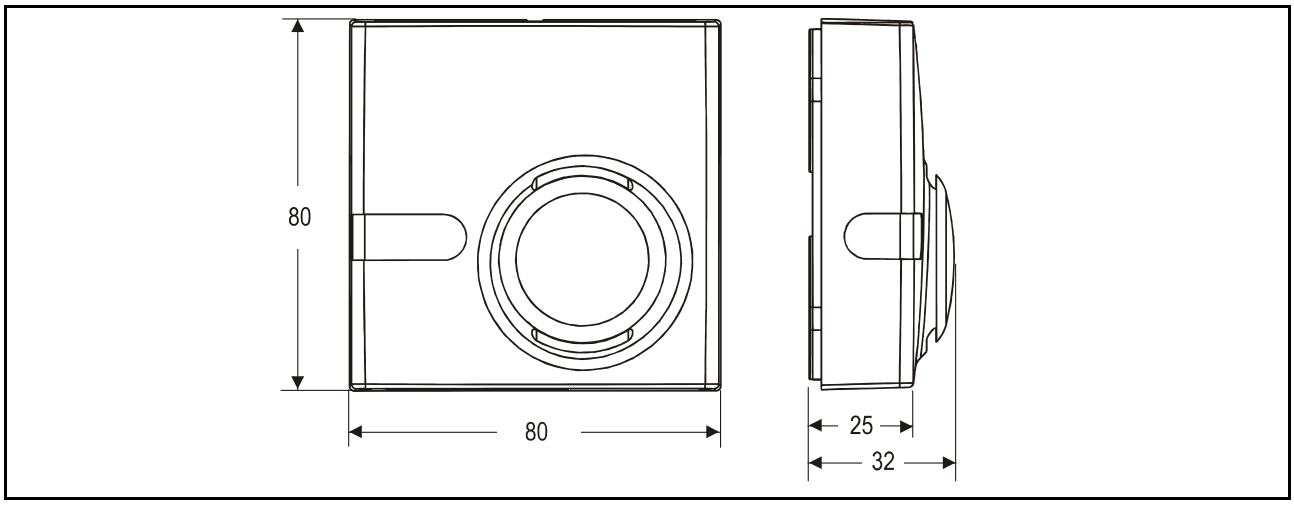


Figure 9: RS-1140-0000

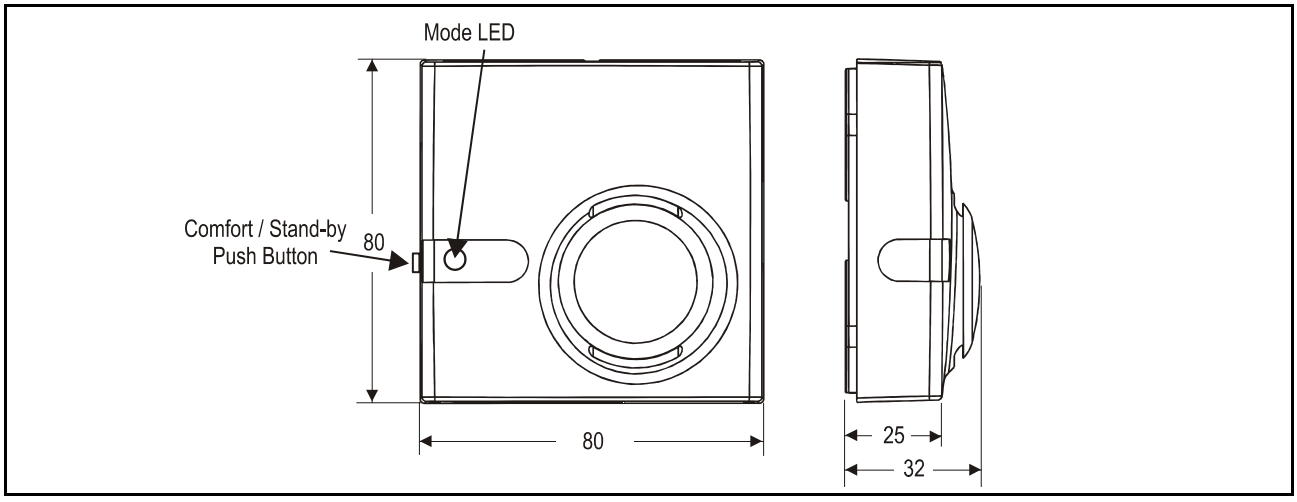


Figure 10: RS-1150-0000

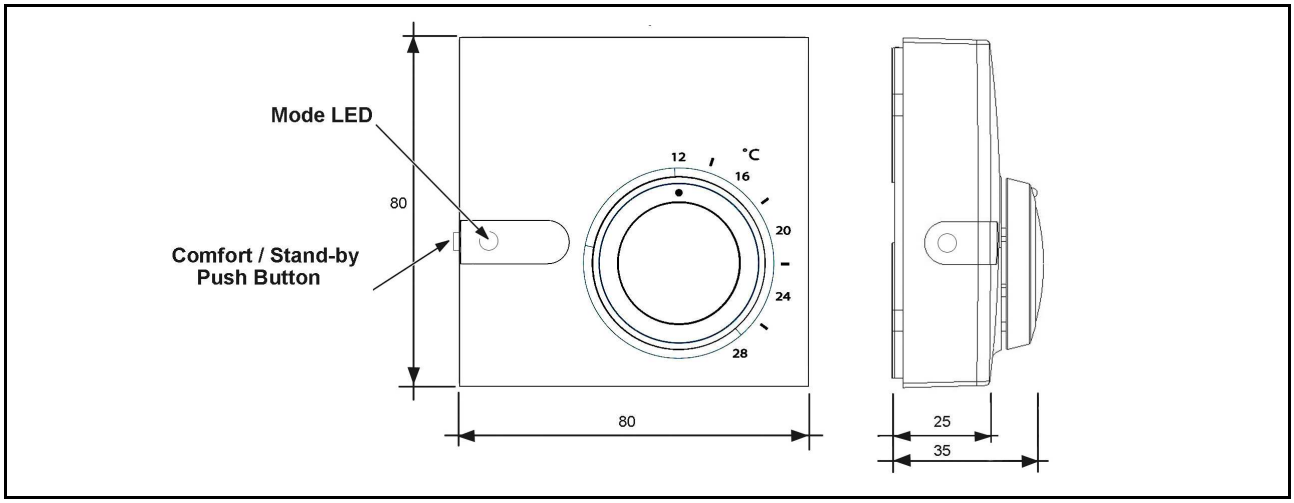


Figure 11: RS-1160-0000

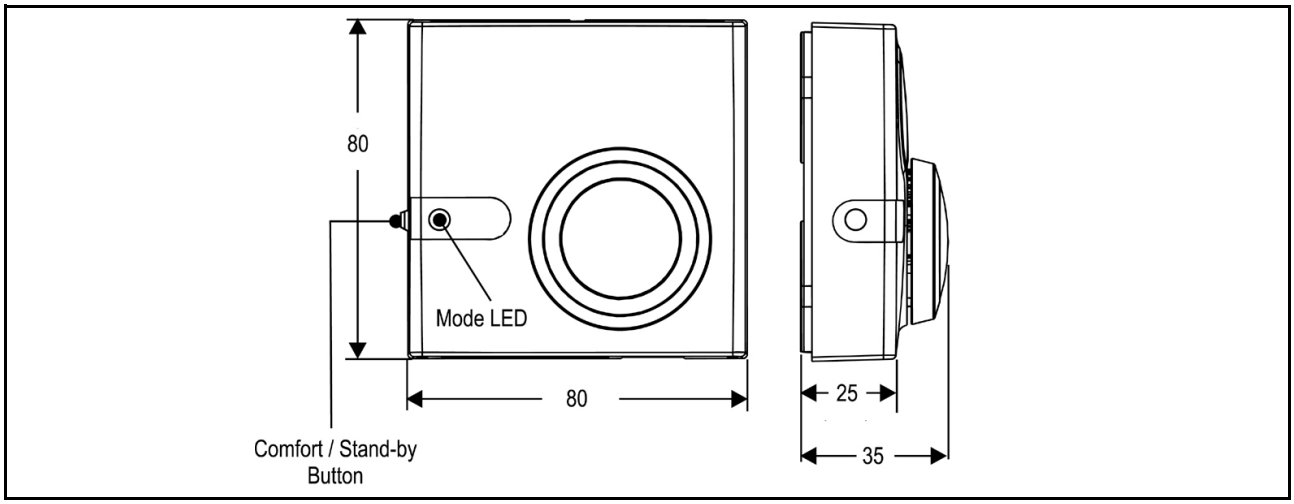


Figure 12: RS-1160-0005

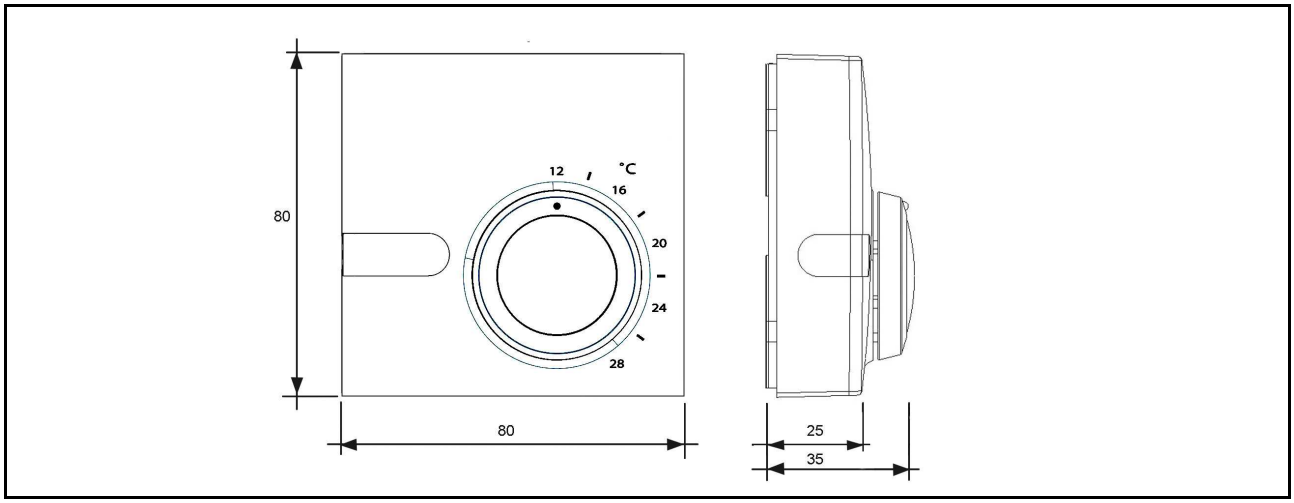


Figure 13: RS-1190-0000

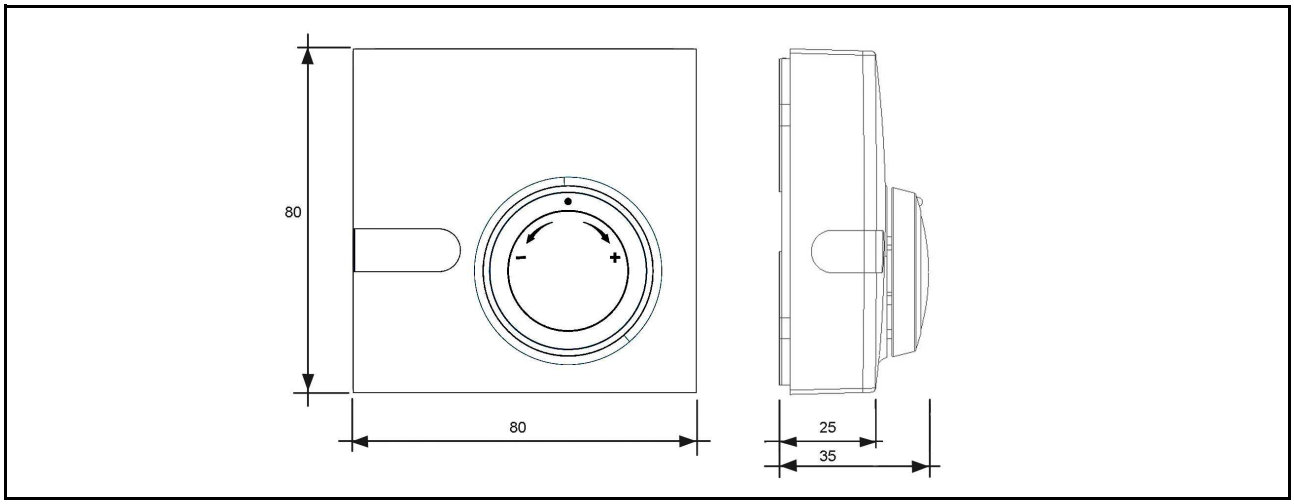


Figure 14: RS-1190-0005

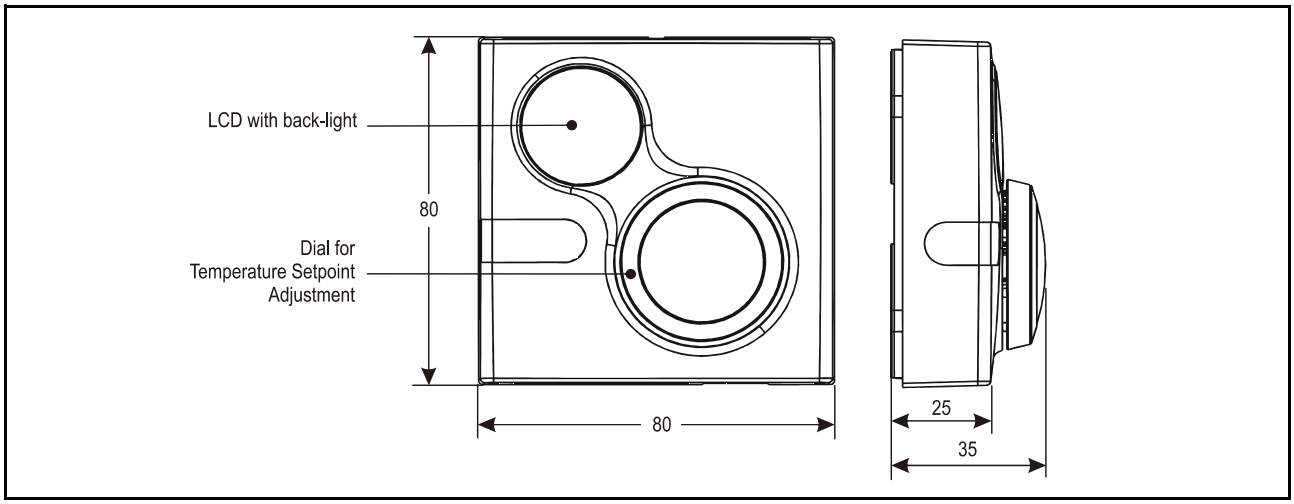


Figure 15: RS-1180-0000 and RS-1180-0005

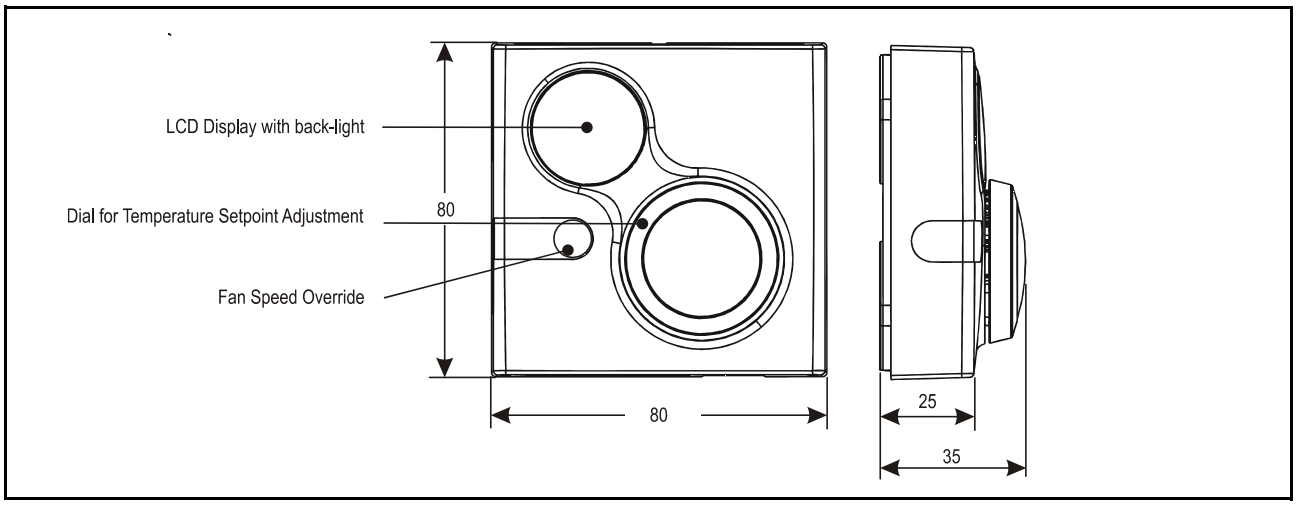


Figure 16: RS-1180-0002 and RS-1180-0007

Ordering Codes

Room Command Module

Ordering Codes	Interface to Occupant				Suitable Controllers				
	LCD Display	Setpoint Adjustment Dial Range	Temporary Occupancy Ovveride Function	Fan speed Selection	TC-9100 Series	SC-9100 Series	DC-9100 Series	DX-9100 Series	FX Series (Except FX05)
RS-1140-0000	---	---	---	---	Yes	Yes	Yes	Yes	Yes
RS-1150-0000	---	---	Pushbutton	---	Yes	Yes	Yes	Yes	Yes
RS-1160-0000	---	12...28 °C	Pushbutton	---	Yes	Yes	Yes	Yes	Yes
RS-1160-0005	---	-...+	Pushbutton	---	Yes	Yes	Yes	Yes	Yes
RS-1180-0000	Yes	12...28 °C	Integrated	---	Yes	Yes	Yes	Yes	Yes
RS-1180-0005	Yes	-...+	Integrated	---	Yes	Yes	Yes	Yes	Yes
RS-1190-0000	---	12...28 °C	---	---	Yes	Yes	Yes	Yes	Yes
RS-1190-0005	---	-...+	---	---	Yes	Yes	Yes	Yes	Yes
RS-1180-0002	Yes	12...28 °C	Integrated	Yes	Yes	Yes	Yes	Yes	Yes
RS-1180-0007	Yes	-...+	Integrated	Yes	Yes	Yes	Yes	Yes	Yes

Accessories (order separately)

Ordering Codes	Description
TM-1100-8931	Plastic Surface Mounting Kit
TM-9100-8900	Pointed tool for enclosure opening

Technical Specifications

Products	**Models without Display** **RS-1140-0000** **RS-1150-0000** **RS-1160-000x** **RS-1190-000x**	**Models with Display** **RS-1180-000x**
Power Requirement	15 VDC ± 5%	15 VDC ± 5% 24 VDC ± 15% 24 VAC ±15%, 50/60 Hz
Power Consumption	0.1 VA, no load 0.15 VA, max load	1 VA, no load 1.5 VA, max load
Ambient Operating Conditions	0 to 50 °C 10 to 90% RH non condensing (and max. 30 °C dew point)	
Ambient Storage Conditions	-40 to 70 °C 5 to 95% RH non condensing (and max. 30 °C dew point)	
Sensing Element	Pt1000 class A, EN 60751	
Output Signals	**Ambient Temperature:** 0 to 10 VDC (linear in the range of 0 to 40 °C) **Temperature Setpoint:** 0 to 10 VDC, linear in the range of 0 to 40 °C (actual range 3 to 7 V) **Temporary Occupancy Request:** Momentary contact switch (5 V at 1 mA) **Fan Speed Override:** ---	**Ambient Temperature:** 0 to 10 VDC (linear in the range of 0 to 40 °C) **Temperature Setpoint:** 0 to 10 VDC, linear in the range of 0 to 40 °C (actual range 3 to 7 V) **Temporary Occupancy Request:** Open Collector - 1 V @ 2 mA max. **Fan Speed Override (Auto-OFF-1-2-3):** 0...10 VDC
Output load	min. 5 kΩ — max. 2 mA	
Sensing Element	Pt1000 class B, EN 60751	
Accuracy	3.5% from 0 to 10°C 1.2% from 10 to 30°C 3.5% from 30 to 40°C	±0.5°C
Operation Status Indication	Green LED for occupation mode indication	3-digit LCD display for temperature indication (resolution: 0.5 °C) and 6 symbols for Fan Speed and symbol for sensor failure.
Terminations	Terminal block with screw terminals in base for 1,5 mm² / 14 AWG (max.) wires	
Mounting	Direct surface mounting. Plastic base for surface mount with wiring conduits available on request *(see "Ordering Codes")*	
Enclosure Material	ABS+PC; self estinguishing HB UL 94	
Colours	**Enclosure - Base - Occupancy Override Button:** RAL9016 (GE86280)	
	Setpoint Dial: RAL7047 (GE GY81118)	
		Backlight: White
Protection Class	***Enclosure:*** IP30 (EN 60529)	
Dimension (H x W x D)	**RS-1140-0000 / RS-1150-0000** 80 mm x 80 mm x 32 mm **RS-1160-000x / RS-1190-000x** 80 mm x 80 mm x 35 mm	**RS-1180-000x** 80 mm x 80 mm x 35 mm
Shipping Weight	0,2 kg	
CE Compliance	CE Directive: 2004 / 108 / EC EN 61000-6-3, EN 61000-6-2	

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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