Network Room Modules

Network Room Modules (NRMs) are electronic, wall mount temperature sensors designed to work directly with Facility Explorer field controllers.

All NRM models monitor room or space temperature. In addition, you can order NRMs with a backlit Liquid Crystal Display (LCD) to display the room temperature and local setpoint. Graphical display symbols can indicate fan speed selection and the need for maintenance. Optional operating controls include a dial to locally adjust the space temperature setpoint, a pushbutton to manually override the fan speed, and a pushbutton to select Fahrenheit (°F) and Celsius (°C) units of measure.

The NRM connects from the Remote Display link of the Facility Explorer field controller. You can locate terminals in the mounting base for ease of wiring. The NRM is enclosed in an attractively styled plastic housing, which easily mounts on a wall.

Figure 1: Network Room Modules

Features and Benefits	
❑ **Attractively Styled Housing**	Blends with the decor of today's commercial buildings
❑ **Built-in Platinum Temperature Sensor**	Provides accurate space temperature information to the display and to the controller
❑ **Optional Backlit LCD**	Provides occupants with easy-to-read, real-time information about room conditions
❑ **Optional Operating Controls Configurable via Software**	Allows installer to determine how much local control is available to the occupant
❑ **°F or °C Toggle Button**	Allows occupant to determine the desired display units of measure

Code No. LIT-12011257

Overview

The NRM is an electronic room temperature sensor that interfaces directly with a Facility Explorer field controller. Facility Explorer field controllers that support the NRM include:

- FX06
- FX07
- FX14

The NRM features a built-in, platinum temperature sensor to accurately measure space temperature. The front face of the NRM includes optional operating controls and an LCD, allowing an occupant to:

- view the space (room) temperature
- view and manually adjust the space temperature setpoint
- manually override the speed of the fan in the controlled equipment
- see when the controller is in the Off mode
- see when a maintenance condition exists
- initiate temporary occupancy
- change the temperature display units between °F and °C

The availability of these functions depends on the options identified by the NRM model number and the configuration of the NRM within the FX field controller application.

The NRM also includes a service tool socket (located on the lower edge of the module), which you use to provide access to the serial bus for the FX Programming Key to download a control application.

Liquid Crystal Display

Some NRM models feature a backlit LCD (Figure 2).

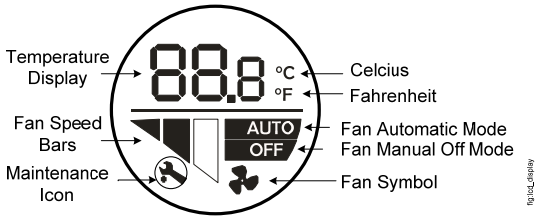

Figure 2: LCD Detail

The LCD features:

- a 3-digit, 7-segment temperature display
- fan speed status bars to indicate low, medium, or high speed fan override
- Auto or Off text to indicate fan mode
- symbols for °F and °C to indicate the temperature units
- a maintenance icon (wrench) to indicate an off normal condition that needs attention

Operating Controls

Located on the front face of the NRM (Figure 3) are optional operating controls, including:

- setpoint adjustment dial
- fan speed override pushbutton
- °F/°C toggle button

Some of these functions may or may not be available, depending on the NRM model number. In addition, the configuration of the NRM may suppress their functions within the application software.

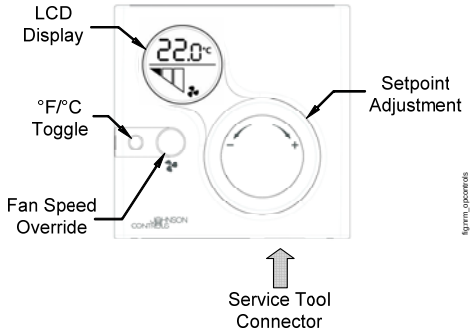

Figure 3: NRM Operating Controls

Network Room Module Dimensions

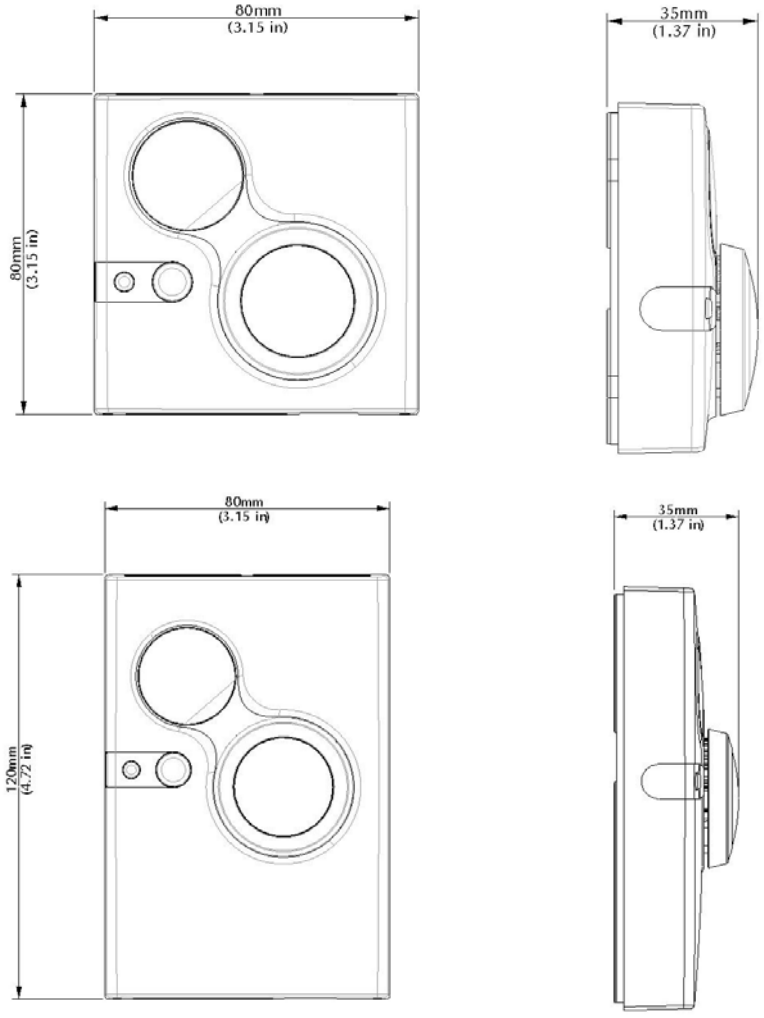

Figure 4: Network Room Module Dimensions

Ordering Codes

Table 1: Network Room Module Ordering Information (Available in Europe)

Product Code Number	Description
LP-NRM001-000C	Network Room Module: Temperature sensor only, no LCD, no setpoint dial, 80 x 80 mm (3.15 x 3.15 in.) enclosure
LP-NRM002-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, 80 x 80 mm (3.15 x 3.15 in.) enclosure
LP-NRM003-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, fan speed override button, 80 x 80 mm (3.15 x 3.15 in.) enclosure
TM-9100-8900	Special tool (used to open module)

Table 2: Network Room Module Ordering Information (Available in North America)

Product Code Numbers	Description
LP-NRM001-000C	Network Room Module: Temperature sensor only, no LCD, no setpoint dial, 80 x 80 mm (3.15 x 3.15 in.) enclosure
LP-NRM052-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, °C/°F button, 80 x 80 mm (3.15 x 3.15 in.) enclosure
LP-NRM053-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, °C/°F button, fan speed override button, 80 x 80 mm (3.15 x 3.15 in.) enclosure
LP-NRM101-000C	Network Room Module: Temperature sensor only, no LCD, no setpoint dial, 120 x 80 mm (4.72 x 3.15 in.) enclosure
LP-NRM152-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, °C/°F button, 120 x 80 mm (4.72 x 3.15 in.) enclosure
LP-NRM153-000C	Network Room Module: Temperature sensor with LCD, setpoint dial, temporary occupancy button, °C/°F button, fan speed override button, 120 x 80 mm (4.72 x 3.15 in.) enclosure
T-4000-119	Allen-head wrench (used to open module)

Table 3: Network Room Module Mounting Kits Ordering Information

Product Code Number	Description
TM-1100-8931	Plastic base for surface mounting (white)
TM-9100-8941-W	Recessed wall box mounting kit (white)

Technical Specifications

Product Codes	LP-NRMxx-xxxC
Power Supply Requirements	14.5 to 26 VDC (15 to 18 VDC from connected FX controller) at 500 mW maximum, or 24 VAC ± 15%, 50/60 Hz, 1 VA maximum Class 2 or Safety Extra Low Voltage (SELV)
Ambient Operating Conditions	0 to 50°C (32° to 122°F), 10 to 95% RH noncondensing (and maximum 30°C [86°F] dew point)
Ambient Storage Conditions	-20 to 70°C (32° to 122°F), 10 to 95% RH noncondensing (and maximum 30°C [86°F] dew point)
Dimensions (H x W x D)	80 x 80 x 35 mm (3.15 x 3.15 x 1.4 in.) or 120 x 80 x 35 mm (4.72 x 3.15 x 1.4 in.)
Weight (with Package)	0.2 kg (7 oz.), 80 x 80 mm (3.15 x 3.15 in.) housing or 0.25 kg (9 oz.), 120 x 80 mm (4.72 x 3.15 in.) housing
Electrical Terminations	Terminal block with screw terminals in base for 1.5 mm^2 /16 AWG (maximum) wires. Recommended tightening torque 0.5 N·m
Temperature Sensor	Pt1000 Class A, DIN EN 60751 Range 0 to 40°C (32 to 104°F) Accuracy better than ±0.5°C (±0.9°F) with a resolution of 0.1°C (0.2°F) Suitable for residential and commercial office environments only
Display LCD	Display with three digits and six symbols (not applicable for temperature sensor only models)
Communications Interface	Connects to FX field controller Remote Display Link. Serial Bus RS-485 N2 Open Protocol at 9600 baud
Mounting	Direct surface mount Plastic base for surface mount with wiring conduits, recessed wall box and panel mounting kits available as orderable accessories
Housing	Material: ABS + polycarbonate, UL94-HB flammability rating Protection: IP30 (CEI/EN60529)

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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