

# INNCOM DIRECT D1-528 THERMOSTAT

Honeywell's INNCOM Direct is an energy management system tailored to provide an all-in-one control and management for a hotel's guestroom and common area HVAC systems.

Out of the box, INNCOM Direct D1-528 thermostat is an essential part of Honeywell's online HVAC solution designed to reduce energy usage in guestroom and common area enabling hoteliers to reach sustainability goals faster. Additionally, INNCOM Direct provides the capability for portfolio management to optimize room and equipment performance to increase guest satisfaction and decrease operational costs.

The INNCOM Direct D1-528 thermostat functions as a programmable digital thermostat, automatically adjusting the fan speeds and valves to achieve a set temperature. The D1-528 thermostat delivers superior convenience, comfort, and energy management for both guests and hoteliers and uses INNCOM's low cost, self-forming RF mesh network for wireless communications, fast setup, and easy maintenance.

The INNCOM Direct D1-528 thermostat is equipped with an array of on-board sensing capability including temperature, humidity, motion, and photo sensors. When used in combination with the 5 on board relays and a collection of digital and analog I/O, the D1-528 becomes a central component for an online HVAC energy management system.

## APPLICATIONS

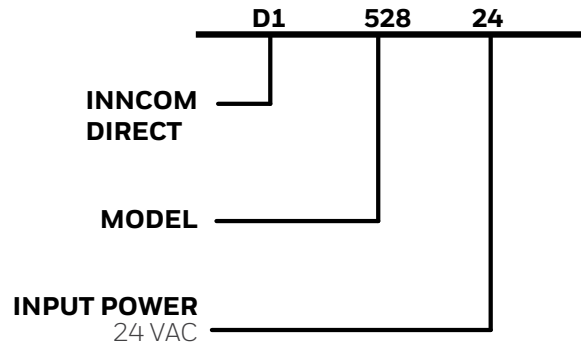
The INNCOM Direct D1-528 thermostat when connected to the INNCOM Direct dashboard, provides key insights such as equipment status and room occupancy. It enables a hotel or portfolio owner to remotely manage and control the HVAC system using a broader setback band when the room is unoccupied or unrented for a set length of time. A wider setback band can also be used when the room is in hibernation for off-season or extended away periods. It can also receive inputs from other smart devices and points in the room, such as a remote motion sensors, door, window, and a balcony sensor, transmitting their status to the INNCOM Direct Dashboard.

## FEATURES AND HIGHLIGHTS

- All-in-one system – both hardware and software
- Property wide – both guestrooms and common areas
- Occupancy and Scheduled Energy Savings
- No system engineering or commissioning experience needed.



# PART NUMBERS



# ORDERING PART NUMBERS

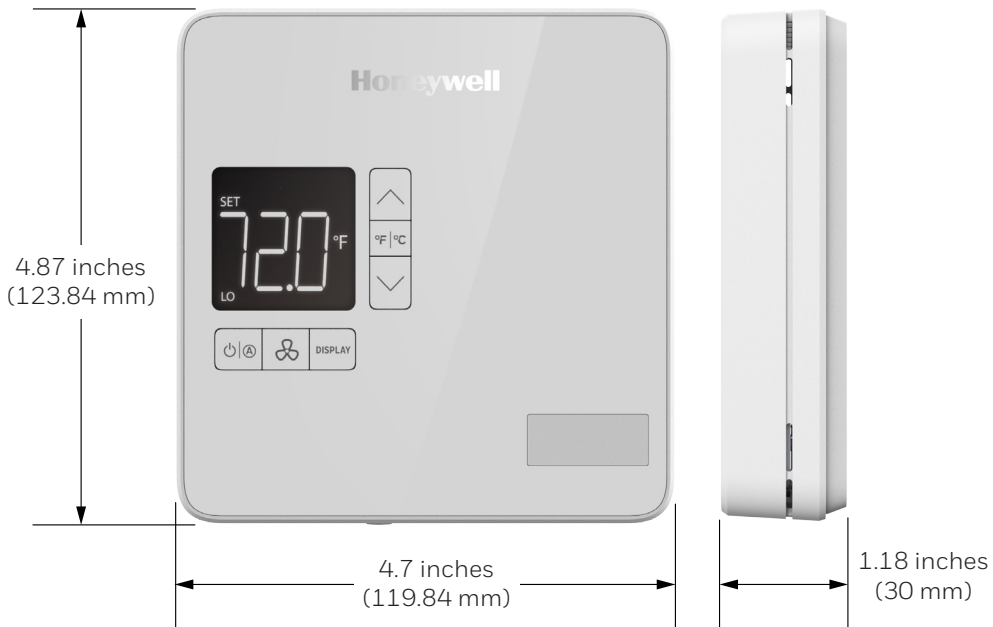
## INNCOM DIRECT THERMOSTAT PART NUMBER

PART NUMBER	DESCRIPTION
D1-528-24	INNCOM Direct thermostat 24 VAC input power supply.

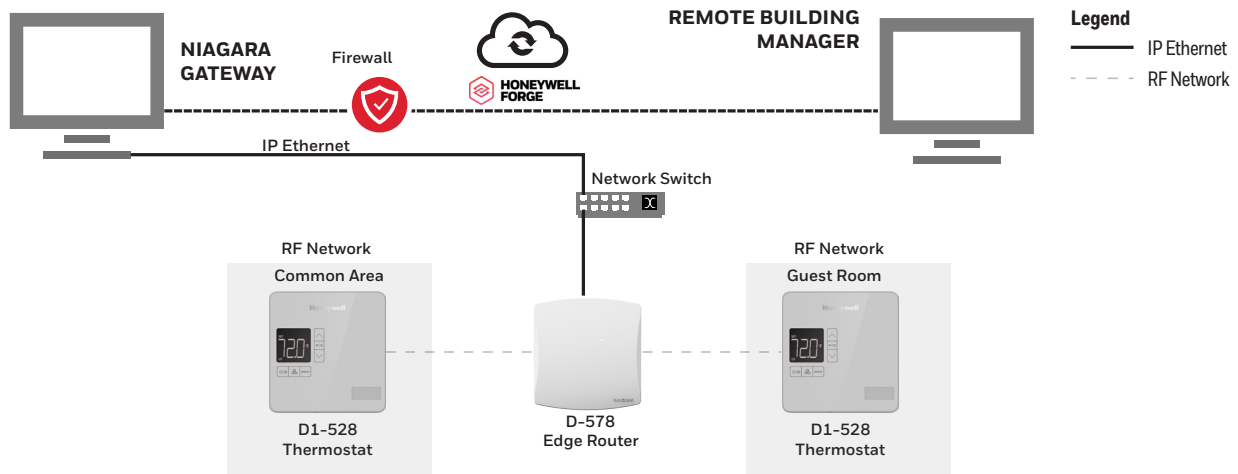
## ANCILLARY PARTS

PART NUMBER	DESCRIPTION
62-1464.R	24 VAC Power Supply Harness
62-1467	Low voltage IWAN cable
241-023	4 piece #6-32 3/4 Philips Pan Head

# DIMENSIONS



# SYSTEM OVERVIEW



## PRODUCT SPECIFICATIONS

GENERAL	
PARAMETER	SPECIFICATION
Standard Color Options	White
Thermostat Measurement Range	33 °F to 99 °F (1 °C to 37 °C)
Outdoor Air Temperature Display	0 °F to 99 °F (-18 °C to 37 °C)
Standard Deadband	2 °F (1 °C) between heating and cooling
RF Data Rate	250 kbps
Indoor Range	70 ft - 100 ft+ (21.3 m - 30.48 m)
RF Transmit Power	+17 dBm
RF Receive Sensitivity	-94.6 dBm
Frequency Band	2.4 Ghz
Frequency Channels	11-26
Protocol	802.15.4
Recommended Wire Size	18 gauge

SENSORS	
PARAMETER	SPECIFICATION
Temperature	33 °F to 99 °F ± 1.8 °F (1 °C to 37 °C ±1 °C)
Humidity	3% RH, in range from 30-95% RH
PIR (motion)	120° View Angle, 10M line of sight
Lux (ambient light)	Gamma Value 0.7. Spectral response 550-650 nm

STANDARDS AND APPROVALS	
UL 873, CAN/CSA C22.2 N°24 , file #202540	
FCC ID: GTC202150TXR	
IC ID: 1609A-202150TXR	
Prop65	
2011/65/EU	Hazardous substances (RoHS I + II), amended by (EU) 2015/863 (RoHS III)

ELECTRICAL	
PARAMETER	SPECIFICATION
Power Requirements	24 VAC at 50/60 Hz, 24 VDC nominal, 2.4 VA

ENVIRONMENTAL SPECIFICATIONS	
PARAMETER	SPECIFICATION
Ambient Operating Temperature	32 °F to 104 °F (0 °C to 40 °C), 0-95% RH noncondensing
Ambient Storage Temperature	33 °F to 149 °F (1 °C to 65 °C)
Humidity	0-95% RH noncondensing

WEIGHT AND DIMENSIONS	
PARAMETER	SPECIFICATION
Dimensions (W x H x D)	4.7 inches x 4.87 inches x 1.18 inches (119.84 mm x 123.84 mm x 30 mm)
Mounting	Standard US Double Gang (4 inches x 4 inches)
Shipping Weight	0.6 lbs (0.27 kg)

DISPLAY	
PARAMETER	SPECIFICATION
Display Resolution	Whole degree °F, 0.5 °C (0.1 °F in test mode)
C/F Degrees Display	Flat button on front lens

COMMUNICATION	
PARAMETER	SPECIFICATION
Wireless Communications	ZigBee RF, Deep Mesh
Wired Communications	RS45, S5 bus

## TYPICAL HVAC APPLICATIONS

	4 pipe, 3 fan, heat/cool FCU	2 pipe, 3 fan, Cool only FCU	Heat Pump, 2 fan 2 <sup>nd</sup> stage heat	Heat pump, 3 fan speeds	PTAC, 2 Fan with heat strip
K1	High Fan	High Fan	High Fan	High Fan	High Fan
K2	Medium Fan	Medium Fan	Medium Fan	Medium Fan	Medium Fan
K3	Low Fan	Low Fan	Low Fan	Low Fan	Low Fan
K4	Cool Signal	Cool Signal	Y-Compressor	Y-Compressor	Y-Compressor
K5	Heat Signal	Not Connected	B/O Reversing Valve	B/O Reversing Valve	W-Heat

## RELAY OUTPUT RATINGS

PARAMETER	SPECIFICATION
Heat Relay K4	24VA PD
Cool Relay K5	24VA PD
High Fan Relay K1	2.2LLA 13.2 LRA
Medium Fan Relay K2	2.2LLA 13.2 LRA
Low Fan Relay K3	2.2LLA 13.2 LRA

## D1-528 VAC POWER AND HVAC SIGNAL

PIN	COLOR	TYPICAL FUNCTION
1	Green	Ground
2	Red	24VAC
3	Black	Common
4	Blue	High Fan
5	Brown	Medium fan or second stage heat
6	Yellow	Cold water valve (FCU), or compressor signal (heat pump)
7	White	Hot Water Valve (FCU) or reversing valve (Heat Pump)
8	Grey	Valve Power
9	Violet	Fan Power
10	Orange	Low Fan

## WIRED COMMUNICATIONS & DIGITAL/ANALOG IO

PIN	COLOR	TYPICAL FUNCTION
1	Brown	Common
2	Red	12 VDC Output/Input
3	Orange	S5bus Data
4	Yellow	Digital Input
5	Green	Not Connected
6	Blue	Not Connected

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