

# DeviceNet Communications Unit E5ZN-DRT

CSM\_E5ZN-DRT\_DS\_E\_3\_1

## Streamlined Communications from Temperature Controller to PLC

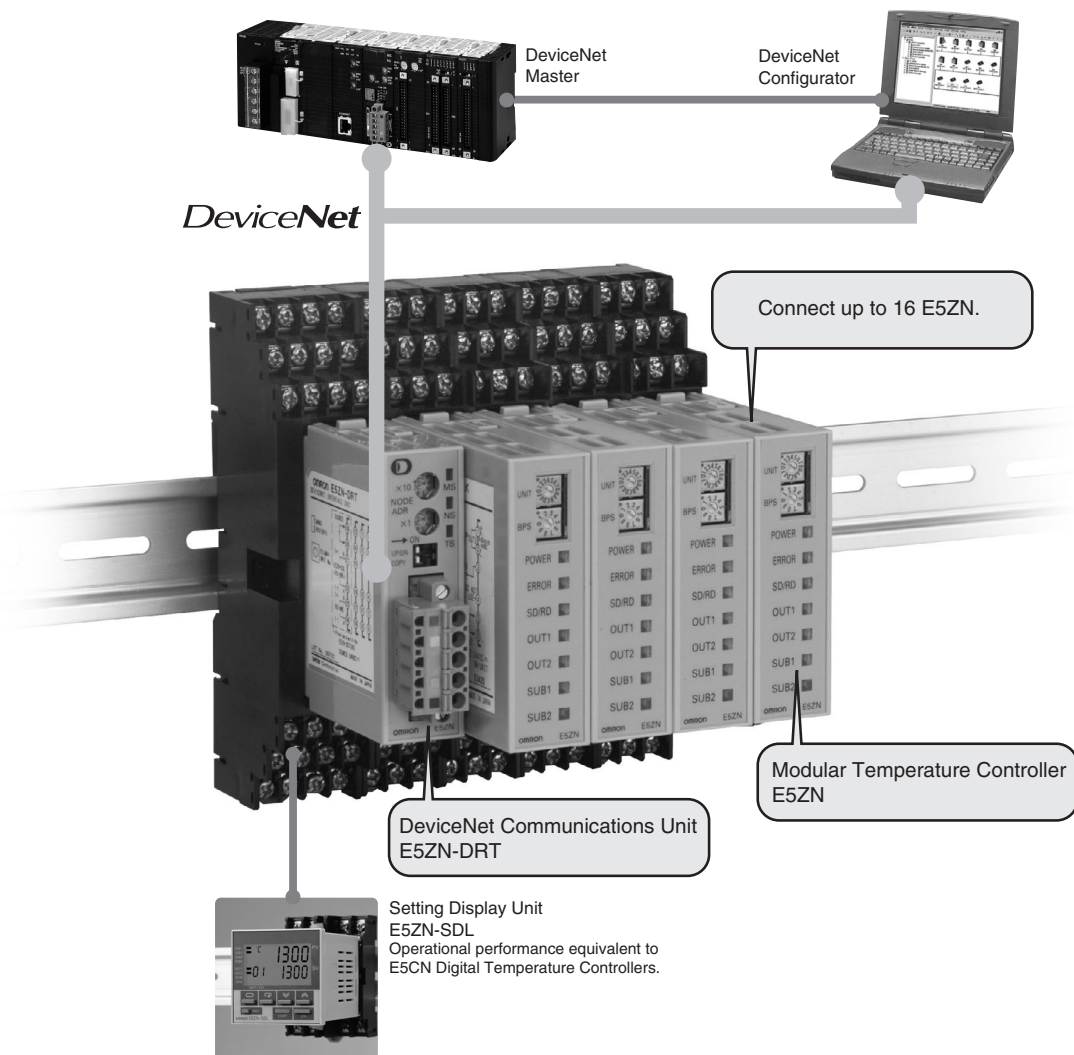
- The E5ZN Modular Temperature Controller is connected to the DeviceNet network.
- The I/O link function allows setting and monitoring (e.g., of present values) for the E5ZN Modular Temperature Controller to be performed without communications programming.
- Up to 16 E5ZN Modular Temperature Controllers can be connected to one Unit.
- All the parameters for the E5ZN can be uploaded or downloaded in one operation using DeviceNet Configurator.



Refer to *Safety Precautions for All Temperature Controllers*.

## Features

### DeviceNet Communications Unit Enables Program-free Communications with Temperature Controllers

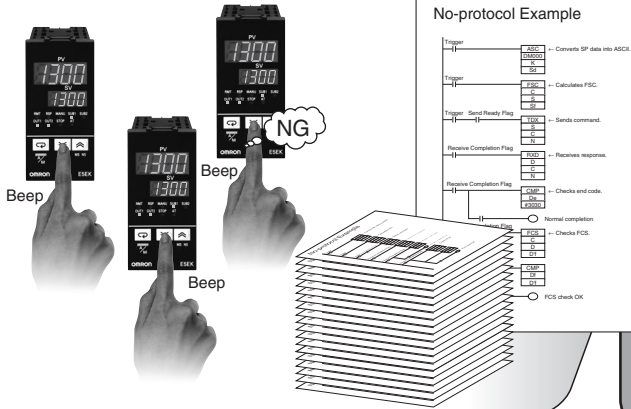


# Features

## Startup Time Is Six Times Faster and No Communications Programs Are Needed

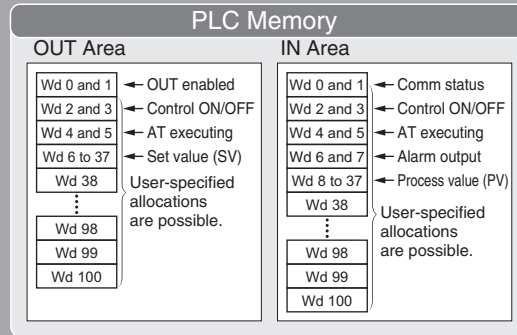
Previously, a time-consuming process of creating communications programs, debugging, and checking operations was required for the Temperature Controller to communicate with the PLC.

- For example, setting 10 Units required 60 minutes.
- Incorrect inputs were a concern.
- Separate debugging for each Unit was needed.



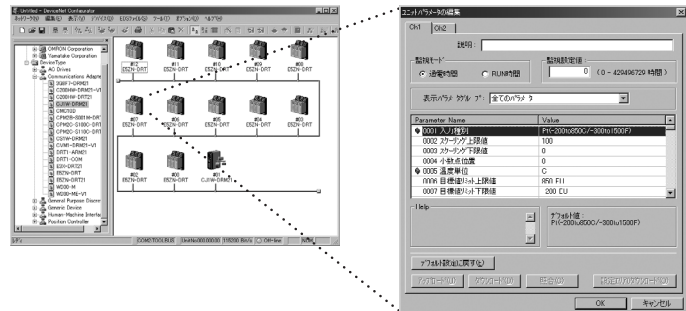
DeviceNet Communications Units enable high-speed data communications by allocating settings and monitoring parameters in the PLCs I/O Memory Area, contributing to greater reductions in the time required for communications program development.

- For example, set 10 Units in 10 minutes.
- Batch download using the personal computer.
- Debugging is easy using the personal computer.



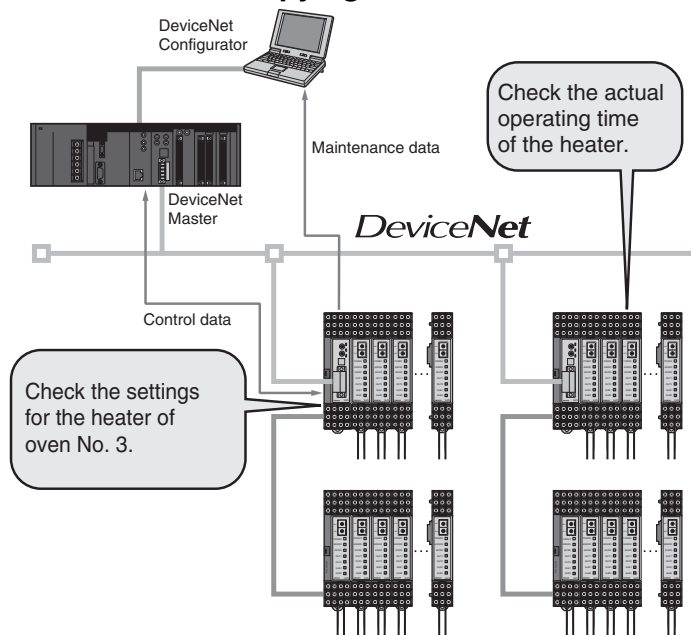
## Manage All E5ZN Together from the DeviceNet Configurator

Use the DeviceNet Configurator for E5ZN initial settings and temperature control wiring to enable immediate execution.



## Improved Maintenance with Monitoring, Comment, and Copying Functions

- Measure the heater control time (RUN time monitor) to manage heater life expectancy.
- Monitor supply voltages, such as those for Temperature Controller and Communications Unit power supplies, and network power supplies.
- User-specified names can be set for each heater and Communications Unit, enabling the location of errors to be checked quickly.
- Upload/download Temperature Controller parameters to the Communications Unit. This shortens the time required to replace Temperature Controllers.



## Model Number Structure

### ■ Model Number Legend

E5ZN-DRT  
1

1. DRT: DeviceNet communications

## Ordering Information

### ■ List of Models

Name	External input power supply voltage	Applicable Temperature Controller	Model
DeviceNet Communications Unit	24 VDC	E5ZN	E5ZN-DRT
Terminal Unit			E5ZN-SCT24S

**Note:** A DeviceNet Communications Unit and Terminal Unit are required to connect to DeviceNet. Two End Plates are provided with E5ZN-SCT24S Terminal Units. When mounting to a DIN track, be sure to mount End Plates on both sides.

## Specifications

### ■ Ratings

Power supply voltage	DeviceNet	24 VDC (for internal circuits)
	External input power supply	24 VDC (for RS-485 communications circuits and Temperature Controllers)
Allowable voltage range	DeviceNet	11 to 25 VDC
	External input power supply	20.4 to 26.4 VDC
Power consumption (See note 2.)	DeviceNet	Approx. 1.1 W (for a current of 45 mA at 24 VDC)
	External input power supply	Approx. 0.5 W (for a current of 20 mA at 24 VDC)
Connectable Temperature Controllers	E5ZN Series	
Maximum number of connectable Temperature Controllers	16	
Ambient operating temperature	-10 to 55°C (with no icing or condensation)	
Ambient operating humidity	25% to 85%	
Ambient storage temperature	-25 to 65°C (with no icing or condensation)	

**Note:** 1. Do not use an inverter output as the power supply. (Refer to *Safety Precautions for All Temperature Controllers*.)

2. The power consumption for the Temperature Controllers is not included.

## ■ Characteristics

<b>Insulation resistance</b>	20 MΩ min. (at 100 VDC)	
<b>Dielectric strength</b>	500 VAC, 50/60 Hz for 1 min between the DIN track and all DeviceNet connector terminals and between the DIN track and all terminal socket terminals	
<b>Vibration resistance</b>	10 to 55 Hz, 10 m/s <sup>2</sup> for 2 hrs each in ±X, ±Y, and ±Z directions	
<b>Shock resistance</b>	150 m/s <sup>2</sup> , 3 times each in ±X, ±Y, and ±Z directions	
<b>Weight</b>	100 g max.	
<b>Safety standards</b>	cULus508	
	EMS:	Electrostatic Discharge (ESD) EN61006-2, EN61000-4-2 (4 kV/contact, 8 kV/air) Radiated Electromagnetic Fields EN61006-2, EN61000-4-3 (10 V/m) Electrical Fast transients/BURST EN61006-2, EN61000-4-4 (2 kV/DC power-line, 1 kV/Signal-line) Surge Transients EN61006-2, EN61000-4-5 (line to ground : 1 kV/DC power-line : 2 kV/Signal-line line to line : 0.5 kV/DC power-line)
	EMI:	Conducted Disturbances EN61006-2, EN61000-4-6 (10 V) Radiated Emissions (electric field) EN50081-2 Class A

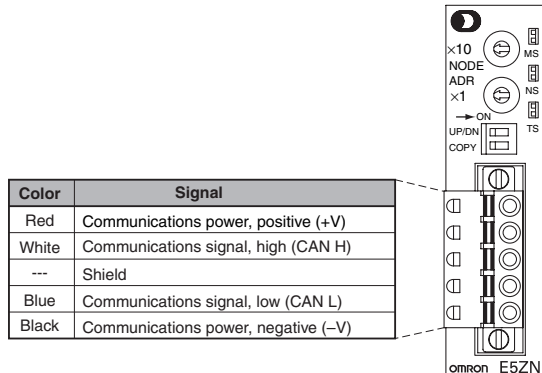
## ■ Communications (for Temperature Controller Expansion)

<b>Transmission line connection method</b>	RS-485 multipoint
<b>Communications method</b>	RS-485 (2-wire, half-duplex)
<b>Synchronization method</b>	Start-stop synchronization
<b>Baud rate</b>	38,400 bps
<b>Transmission code</b>	ASCII
<b>Data bit length</b>	7 bits
<b>Stop bit length</b>	2 bits
<b>Error detection</b>	Vertical parity (even) BCC (block check character)
<b>Flow control</b>	None
<b>Number of Units that can be connected in parallel</b>	16 Units max. (32 channels)

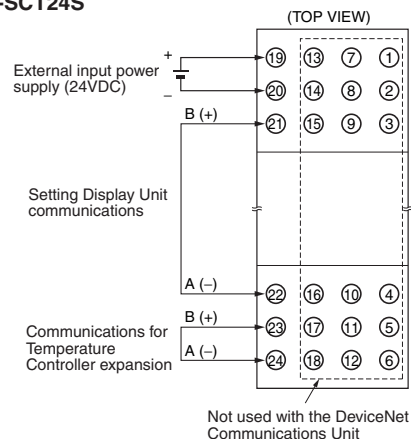
## Connections

### ■ Terminal Arrangement

E5ZN-DRT

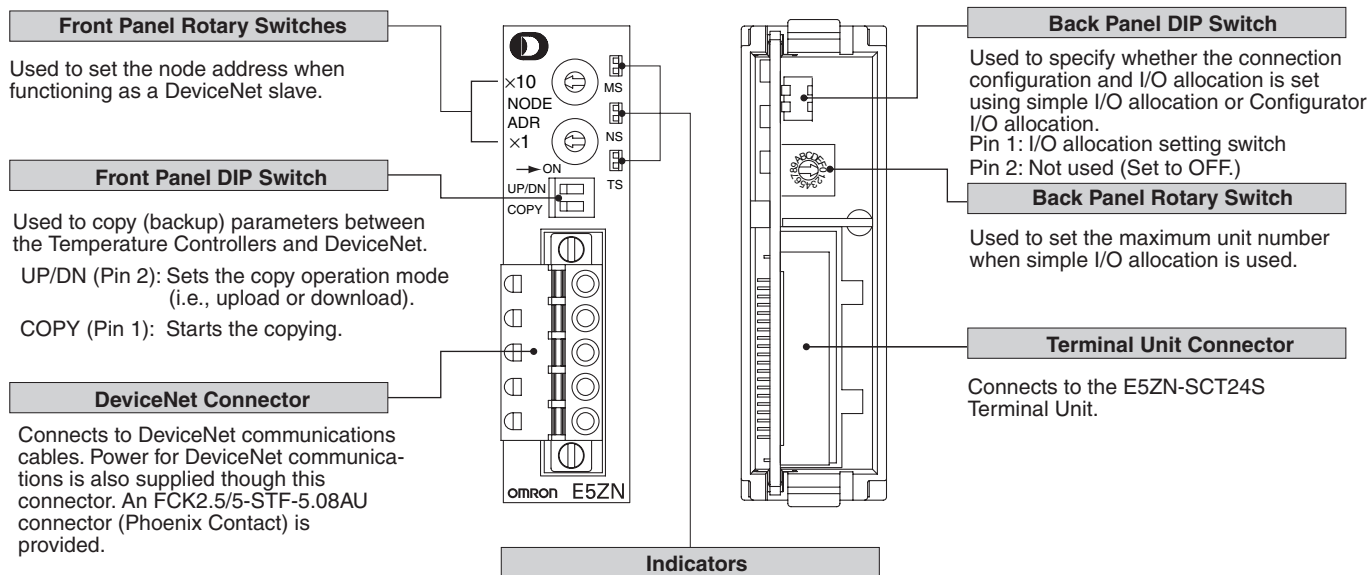


E5ZN-SCT24S



# Nomenclature

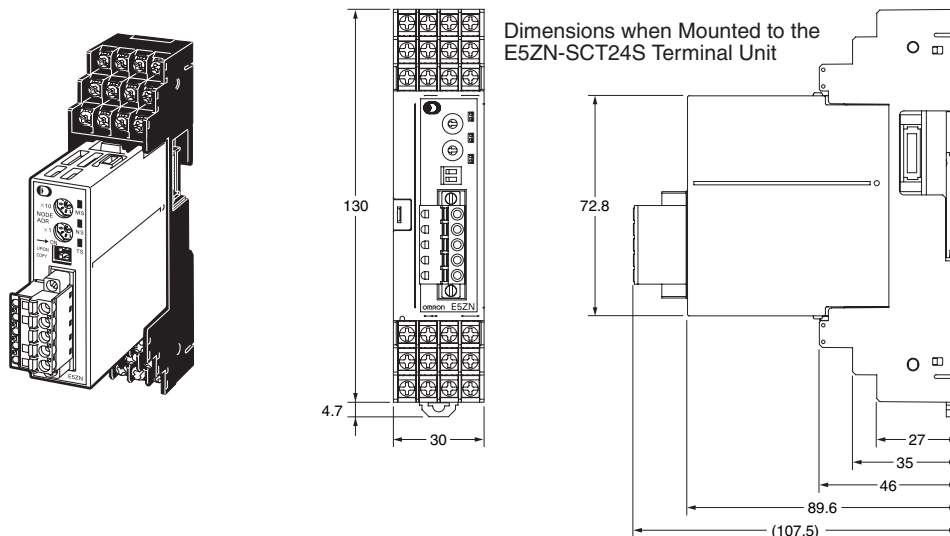
## E5ZN-DRT



# Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

## E5ZN-DRT



**Note:** Be sure to read the precautions for correct use and other precautions in the following user's manuals before using the Communications Unit.  
 E5ZN-DRT DeviceNet Communications Unit Operation Manual (Cat. No. H119)  
 DeviceNet Operation Manual (Cat. No. W267)

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
 To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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2008.12

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