

OMRON®

*Giving you every advantage.*

# E5EK-DRT

THE WORLD'S FIRST AND ONLY PROCESS CONTROLLER

WITH BUILT-IN DEVICENET CAPABILITIES



By being the world's first **DeviceNet** compatible process controller, the E5EK-DRT allows you to expand the convenience of DeviceNet into other aspects of your process. It connects to a PLC without any programming and has a high performance range of 0.1% full scale (FS). You can download recipe settings from a PLC directly to the E5EK-DRT process controller, simplifying production changeover and improving manufacturing flexibility. By being DeviceNet compatible, the E5EK-DRT fits seamlessly into your existing DeviceNet network, communicating with the scanner of the system and/or the computer running Omron's Configurator software for setup.

In addition to the DeviceNet capability, the E5EK-DRT has full, single-loop process controller

capabilities including 22 temperature, voltage and current input types, and auto-tuning, PID or ON/OFF control. Like the majority of Omron products, it also meets international safety standards, including UL, CSA and CE, EMC and low voltage.

Automotive subcontractors, food & beverage packagers, and semiconductor manufacturing equipment builders and manufacturers have frequently requested a DeviceNet compatible process controller. Omron is the first company to deliver one. The E5EK-DRT is a cost-effective communications solution that will work well with Omron's other DeviceNet products, including input and output blocks, and scanner modules for Omron Programmable Controllers.

E5EK-DRT DEVICENET PROCESS CONTROLLER

# Ordering Information

## Process Controller

Item	Communications	Size	Part number
Controller	DeviceNet	48 x 96 mm	E5EK-AA2-DRT-500 AC100-240 E5EK-AA2-DRT-500 AC/DC-24

Note: 1. The heater burnout alarm function can be used only when an ON/OFF output board is used for the control outputs (heat).  
2. Be sure to specify the current transformer and output board when ordering.

## Output Board (Order Separately)

Item	Specification	Part number
Controller	Relay	E53-R
	SSR	E53-S
	Pulse (NPN) 12 VDC	E53-Q
	Pulse (NPN) 24 VDC	E53-Q3
	Pulse (PNP) 24 VDC	E53-Q4
	Linear (4 to 20 mA)	E53-C3
	Linear (0 to 20 mA)	E53-C3D
	Linear (0 to 10 V)	E53-V34
	Linear (0 to 5 V)	E53-V35

Note: The Process Controller uses a dedicated, high-resolution output board. The E53-C current output board for the E5<sub>0</sub> X cannot be used with the Process Controller.

## Cables/Connections

Item	Description	Part number
One-branch T-branch tap	With three connections	DCN1-1C
Two-branch T-branch tap	With five connections	DCN1-3C
Terminal block terminating resistor	Resistance: 121 Ω	DRS1-T

Note: Refer to CompoBus/D Operation Manual (W267) and CompoBus/D Catalog (Q102) for details such as ratings and characteristics.

## Communication Characteristics

Connection forms		Combination of multi-drop and T-branch connections (See Note 1.)
Communications baud rate		500 kbps, 250 kbps, or 125 kbps (set using the front panel keys)
Communications media		Special 5-wire cables (2 signal lines, 2 power lines, 1 shield line)
Communications distance	500 kbps	Network length (See Note 2.): 100 m max (See Note 3.) Drop line length: 6 m max. Total drop line length: 39 m max.
	250 kbps	Network length (See Note 2.): 250 m max (See Note 3.) Drop line length: 6 m max. Total drop line length: 78 m max.
	125 kbps	Network length (See Note 2.): 500 m max (See Note 3.) Drop line length: 6 m max. Total drop line length: 156 m max.
Max. number of nodes		64 nodes (including master)
Max. number of slaves		63 slaves
Error control checks		CRC error check, duplicate node address check

Notes: 1. External terminating resistor is required.  
2. Indicates the maximum distance between nodes.  
3. The distance is less than 100 m when thin cables are used for the trunk lines.

This product has been tested by ODVA's authorized Independent Test Lab and found to comply with ODVA Conformance Test Software Version 2.0-1.00.

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