



Main characteristics:

- Functional I/O module with 32 channels: 20 digital outputs + 12 temperature inputs
- Powered by rack back-plane
- Single-slot module
- Status LED
- Integrated technology functions: temperature output values in tenth of degree centigrade, internal compensation of cold junction.

Code	F071367
Model Number	e431
Description	32 channel digital I/O module 20 digital outputs + 12 temperature inputs
Position rack	Free from slot 1 to slot 8, 1 slot employment

PROFILE

The e431 module manages 20 digital outputs 24 VDC and 12 thermocouple inputs with which you can:

- acquire various data from controlled devices and the environment by means of sensors;
- control and adjust devices by means of different types of signals and commands.

The module installs in the rack and is powered by the back-plane, which connects it to the eCPU400 module.

The front of the module has 2 24-pin connectors for external connections and LEDs for diagnostics of module status and digital outputs.

TECHNICAL DATA

POWER SUPPLY	Internal	via backplane
	Power dissipation	8 W max
CONNECTIONS	Rack	Card-edge
	I/O Ports	2 polarized plug-in connectors, male, 24 pin (2 rows of 12 pins) *
DISPLAY ELEMENTS	Diagnostic	20 Green LEDs: Outputs status 1 Red LED: Alarm 3 Yellow LEDs: Power Supply
DIGITAL OUTPUT	Number	20
	Composition	2 Groups of 8 outputs and 1 group of 4 outputs
	Type	current-emission
	Rated voltage	24 VDC \pm 25%
	Max output current	Single output : 0,5 A Group of 20 outputs: 10 A
	Max switching frequency	100 Hz
	Switching delay	0 \rightarrow 1: 15 μ s 1 \rightarrow 0: 40 μ s
	Protections	Short circuit Overload: $I \geq 0,7$ A (as per IEC 61131), trip time:500 ms min Overtemperature
	Electrical isolation	Channel - channel: no Channel - bus CPU: 2 kV
THERMOCOUPLE INPUT	Number	12
	Type	Thermocouple J, K, S, N, T, E, B, R, L Differential voltage 0...60 mV
	Connection type	2 wires, for isolated and non-isolated probes
	Bandwidth	1 Hz
	Input impedance	> 1 M Ω
	Sampling time (for all channels)	< 100 ms
	Resolution	0,1 $^{\circ}$ C
	Max error @ 25 $^{\circ}$ C	0,5% full scale
	Thermocouple use interval (scale)	J: 0 ... 1000 $^{\circ}$ C K: 0 ... 1300 $^{\circ}$ C R: 0 ... 1750 $^{\circ}$ C S: 0 ... 1750 $^{\circ}$ C T: -200 ... 400 $^{\circ}$ C E: -100 ... 750 $^{\circ}$ C B: 0 ... 1820 $^{\circ}$ C (Err. max 0.5% f.s. for Temp. >300 $^{\circ}$ C) L: 0 ... 800 $^{\circ}$ C N: 0 ... 1300 $^{\circ}$ C
	Temperature compensation	Internal
AMBIENT CONDITIONS	Operating temperature	0 ... +50 $^{\circ}$ C (as per IEC 68-2-14)
	Storage temperature	-20 ... +70 $^{\circ}$ C (as per IEC 68-2-14)
	Relative humidity	max 95% RH non-condensing (as per IEC 68-2-3)
ASSEMBLY		On rack, with snap hooks
PROTECTION LEVEL		IP20
WEIGHT		0,13 kg
CE STANDARDS	EMC (electromagnetic compatibility)	Conforms to Directive 2004/108/CE EMC Emission: EN 61000-6-4 EMC Immunity: EN 61131-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11
	LV (low voltage)	Conforms to Directive 2006/95/CE Safety LVD: EN 61010-1

* Female connectors not supplied. See accessories for order Model Number.

ORDER CODES

The codes below refer to the individual I / O modules.
For the complete system, refer to the system documentation.

Code	Model Number	Description
F071367	e431	Single slot module with 20 digital outputs and 12 temperature inputs. Module diagnostics LED. Digital outputs 24 VDC 0.5 A, complete with status LEDs, maximum current simultaneously 10A. Thermocouple type temperature inputs (J, K, S, N, T, E, B, R, L). Two 24-pin connectors to be ordered separately.

ACCESSORIES

Code	Model Number	Description
F057774	eCON24	24-pin female connector