

Zentro Core L-028

Technical Manual

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Companion documents: ZT-DS-CORE-L028-001-EN · ZT-IG-CORE-L028-001-EN

1 THE PRODUCT AND WHAT IT IS FOR

Zentro Core L-028 is a Linux-based programmable logic controller for control, regulation and monitoring in building, HVAC and automation systems. It provides 70 I/O points: 36 digital inputs with pulse counters, 28 relay outputs, 4 transistor outputs with PWM, one analogue input and one analogue output. It includes an RS-485 serial interface and a 1-Wire bus, mounts on a 35 mm DIN rail and is powered from 24 V DC.

Category	Programmable logic controller (PLC) on a Linux operating system
Processor	Quad-core 1.5 GHz
Memory	8 GB
Storage	microSD
Total I/O points	70

2 INDICATORS AND CONFIGURATION

User LEDs	4
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3 COMMUNICATION AND ADDRESSING

RS-485 channels	1
RS-485 bit rate	2 400 – 115 200 bps
Protocols	Modbus TCP · Modbus RTU · open programming interface · SysFS
Ethernet	1 × 1 Gbit
USB	2 × USB 2.0 + 2 × USB 3.0
Wireless	Wi-Fi IEEE 802.11 b/g/n · Bluetooth 5.0 BLE · internal antenna
1-Wire	One bus · RJ45 connector · Vcc 5 V, up to 50 mA · up to 15 sensors per channel

4 OPERATION, SERVICE AND FAULTS

WARNING

Disconnect the supply before any wiring work. Working on a live circuit risks personal injury and irreversible damage to the unit.

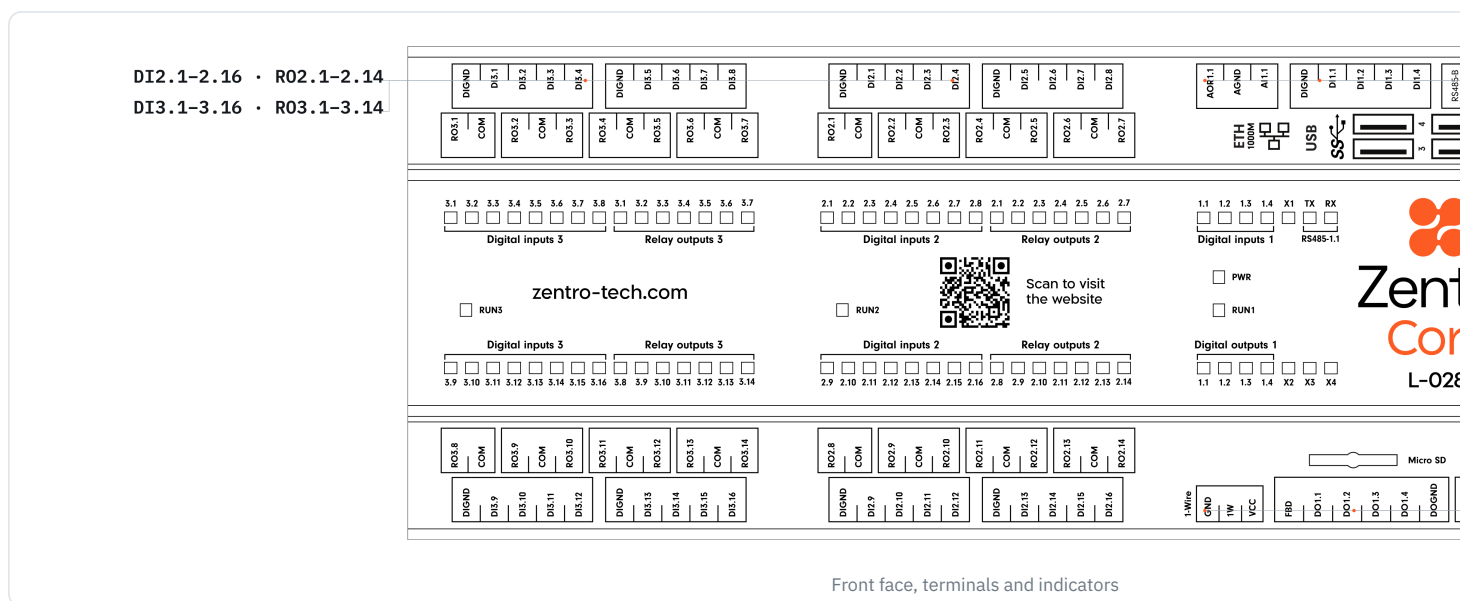
Removal from the DIN rail

Disconnect the supply and every field cable, release the DIN rail clip with a flat screwdriver, pull the bottom of the unit outwards and lift it off the rail.

Frequently asked

How many I/O points does the controller have?	70 physical I/O points: 36 digital inputs, 28 relay outputs, 4 transistor outputs, one analogue input and one analogue output — the highest point count in the range.
How does it differ from Core M-014?	In point count and dimensions only. All electrical parameters, communication interfaces, environmental conditions and approvals are identical. Core L-028 has three sections instead of two and draws 8 W typical.
Are the relay outputs protected?	No. The relays have no short-circuit protection. An inductive load requires external protection — an RC circuit, a varistor or a diode.
Does the controller require earthing?	Yes. It is Class I equipment. Connect an earth conductor to the marked point on the enclosure using a cable lug and an M4 screw; the DIN rail must also be earthed.

5 DIMENSIONS AND MECHANICAL INSTALLATION



DI1.1–1.4 · DO1.1–1.4 · AI1.1 · AO1.1 · RS485 · 1-Wire	Inputs, outputs and communication — commons DIGND / DOGND / AGND
DI2.1–2.16 · R02.1–2.14	Digital inputs and relays, section 2 — commons DIGND / COM
DI3.1–3.16 · R03.1–3.14	Digital inputs and relays, section 3 — commons DIGND / COM
Dimensions (W × H × D)	209 × 90 × 55.5 mm
Dimensions note	Excluding the DIN rail holder
Weight	572 g
Enclosure	Aluminium

6 STANDARDS AND COMPLIANCE

Compliance	The product carries the CE marking.
Compliance	Complies with EU directives LVD 2014/35/EU, EMC 2014/30/EU and RoHS 2015/863/EU.
Standard	Conforms to EN 60730-1:2016 · EN IEC 61000-6-2:2019 · EN IEC 61000-6-3:2021.
Compliance	Conformity assessed and certified by an accredited test institute, valid to 2029-11-28.
Performance	Ingress protection IP 20 per IEC 529.
Performance	Safety extra-low voltage (SELV) supply, 24 V DC.
Performance	4 000 V isolation between relay contacts and control circuitry.



Compliance evidence is supplied on request.

7 REVISION HISTORY

Revision	Date	What changed	Approved by
A	2026-08-04	First issue — generated from the canonical record.	Not yet approved