

Zentro Sense

Reader module for eight temperature sensors

Zentro Sense is an expansion module that reads temperature data from up to eight 1-Wire sensors. Unlike an ordinary 1-Wire bus where every sensor shares a single channel, this module gives each sensor its own channel — so a fault or damaged wiring on one sensor does not disable the rest. The module connects to the controller over Modbus RTU on RS-485 and mounts on a DIN rail.



Part number ZN-SENSE-001 · Document number
ZT-DS-SENSE-001-EN

FULL TECHNICAL SPECIFICATION

PRODUCT IDENTITY

Zentro part number	ZN-SENSE-001
Category	Expansion module for reading 1-Wire temperature sensors over Modbus RTU

INPUTS AND OUTPUTS

Digital inputs	0
Digital outputs	0
Relay outputs	0
Analogue inputs	0
Analogue outputs	0
Total I/O points	8 sensor channels
Sections	1
User LEDs	0

COMMUNICATION INTERFACES

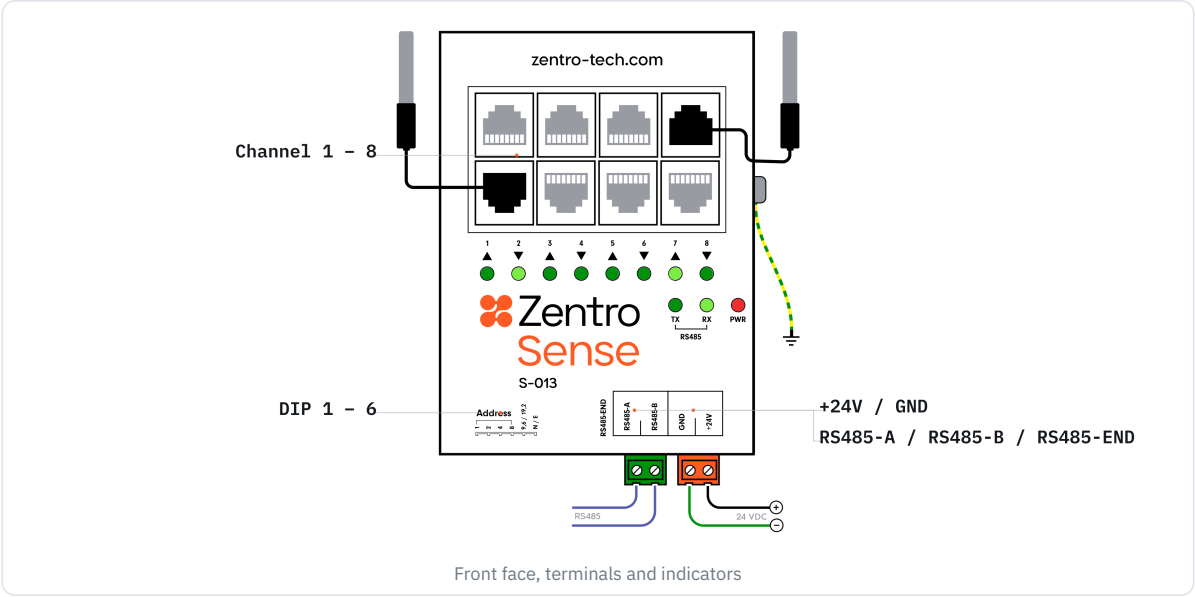
RS-485 channels	1
RS-485 galvanic isolation	None
Line terminator	Built-in, attachable, 120 Ω, via the RS485-END switch
RS-485 bit rate	2 400 – 115 200 bps
RS-485 ESD protection	Overvoltage protection up to 24 V
1-Wire	8 independent channels · one sensor per channel · parasitic mode · shielded RJ45 connector · up to 50 m per channel
Protocols	Modbus RTU
Modbus defaults	Address 15 · 19 200 bps · 8 bits · no parity · 2 s sampling interval
Hardware configuration	6 DIP switches — address 1–15, 9 600 or 19 200 bps, parity

POWER SUPPLY

Supply voltage	5 – 24 V DC (SELV)
Maximum power consumption	0.2 W
Maximum input current	10 mA @ 24 V DC

Reverse polarity protection	Yes
ENVIRONMENTAL CONDITIONS	
Operating temperature	–25 ... +75 °C
Storage temperature	–25 ... +75 °C
Humidity	10 – 95 %, non-condensing
Ingress protection	IP 20
MECHANICAL AND INSTALLATION	
Dimensions (W × H × D)	72 × 91 × 22 mm
Dimensions note	Width × height × depth — stated explicitly in the specification
Weight	110 g
Enclosure	Aluminium
Mounting orientation	Vertical
Mounting	35 mm DIN rail (EN 50022)
Conductor cross-section	Up to 2.5 mm ² for supply and RS-485
Earthing	Screw earthing terminal — connect using a tooth washer and screw
STANDARDS AND APPROVALS	
EU directives	LVD 2014/35/EU · EMC 2014/30/EU · RoHS 2015/863/EU · WEEE 2012/19/EU
Standards	EN 60730-1:2016 · EN IEC 61000-6-2:2019 · EN IEC 61000-6-3:2021
Declaration date	30.11.2024 · Rev 1
COMPATIBILITY	
1-Wire temperature sensors	Digital 1-Wire temperature sensors only — all seven models in the Zentro catalogue
Temperature and humidity sensors	Not supported
Pt1000 sensors	Not supported
1-Wire hub	Not supported
Modules per bus	Up to 32 modules — up to 256 sensors · bus length up to 1 200 m

TERMINALS AND CONNECTORS



Channel 1 - 8	RJ45 connectors for temperature sensors, one sensor per channel
RS485-A / RS485-B / RS485-END	Modbus RTU serial line
+24V / GND	Supply, 5 – 24 V DC
Earth terminal	Earthing via tooth washer and screw
DIP 1 - 6	Modbus address, bit rate and parity

STANDARDS AND COMPLIANCE

Compliance	The product carries the CE marking.
Compliance	Complies with EU directives LVD 2014/35/EU, EMC 2014/30/EU, RoHS 2015/863/EU and WEEE 2012/19/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.



Compliance evidence is supplied on request.