

EMS-TL-G50

Telemetry gateway, 50 points across three devices

The documented point-count ceiling of the gateway family, built across up to three devices on one point list

EMS-TL-G50 is the documented ceiling of the gateway family: 50 points across up to 3 devices, on 24 VAC/DC with one RS-485 trunk and two 10/100 Ethernet ports per device. Each device carries the documented IO set of five universal inputs, two 0–10 V DC analog outputs and three triac digital outputs, and the family speaks BACnet/IP, Modbus and SNMP over IP, or BACnet and Modbus over RS-485. The failure it exists to catch is a room-scale loop whose point list is split across controllers that the head end can never resolve into one picture.

ORDERING INFORMATION

Part number	EMS-TL-G50
Onboard points	50
Composition	Up to 3 devices on one point list
Universal inputs	5 per device, per the documented input types
Analog outputs	2 × 0–10 V DC at 4 mA maximum per device
Digital outputs	3 × triac, 24 V AC at 0.5 A per device
Communications	1 × RS-485 and 2 × 10/100 Ethernet per device
Supply	24 VAC/DC

POINTS AND IO

Parameter	Value	Notes
Onboard points	50	The documented ceiling of the controller family
Composition	Up to 3 devices	The ceiling is reached across devices, not on one board
Universal inputs	5 per device, accepting thermistor Type 3 / 10K, 0–100 kΩ, 0–10 V DC, 0–20 mA with an external resistor, and dry contact	Input type is set per channel at commissioning
Analog outputs	2 × 0–10 V DC at 4 mA maximum per device	For modulating outputs such as a valve or a signal to another controller
Digital outputs	3 × triac, 24 V AC at 0.5 A per device	For on/off duty such as an alarm contact or a pump enable
Point list across devices	One point list spanning the devices in the group	A room-scale loop reaches the head end as one set of points
Point dictionary it has to absorb	2 112 pages of register and object definitions in one published CDU protocol reference	Context for the point list the gateway is expected to carry
Point names in that dictionary	Fluid Flow Rate, Inlet Fluid Pressure, Outlet Fluid Pressure, Differential Pressure, and the alarm Fluid Loop High/Low Differential Pressure	Named points carried in the published reference
Engineering units in that dictionary	°C, m³/h, kPa, Pa, bar, % RH, VAC and Hz	Unit handling is part of the point-list setup

COMMUNICATIONS AND PROTOCOLS

Parameter	Value	Notes
Serial	1 × RS-485 per device	Daisy-chain capable across the group
Ethernet	2 × 10/100 Ethernet per device	Daisy-chain capable, so the group can be cabled in a line
Protocols over IP	BACnet/IP, Modbus and SNMP	Head-end integration options on the IP side
Protocols over RS-485	BACnet and Modbus	Field-side integration options on the serial trunk
Wiring topology	Daisy-chain on both RS-485 and Ethernet	Cable route and termination follow the site's trunk design

SUPPLY AND ENVIRONMENT

Parameter	Value	Notes
Supply	24 VAC/DC	Applied per device on the shared rail
Operating temperature	–20 to 60 °C	Gateway enclosure envelope
Storage temperature	–40 to 85 °C	Gateway enclosure envelope
Humidity	5–95 % RH non-condensing	Condensing conditions are outside the envelope
MTBF	10 years	Published reliability figure for the controller family
Enclosure mounting	DIN-rail, inside a control panel or enclosure	The panel provides the environmental protection for the devices

STANDARDS AND COMPLIANCE

Parameter	Value	Notes
Built to	UL 916, C-UL, CE, FCC Part 15 Class B, RoHS2, REACH, WEEE and CAN/CSA-C22.2 No. 205-12	Ratings the product is built to, stated as standard designations
Approval documents	Shown on request	Certification names are published on the badge cards
RoHS and REACH	Declared for the controller family	Substance declarations travel with the delivery documentation

APPLICATIONS

- Room-scale loops where every instrumentation point has to land in one head-end picture
- Loops carrying two flow runs, several leak zones and more than one differential-pressure channel
- Sites that expect to add points later inside the documented ceiling

COMPATIBLE WITH

- EMS-TL-ST and EMS-TL-STC temperature pairs on universal inputs
- EMS-TL-SF and EMS-TL-SFU flow instruments
- EMS-TL-SDP differential-pressure transmitter, 4–20 mA with an external resistor
- EMS-TL-SL level instrument and EMS-TL-SK leak channel input module
- EMS-TL-K2300 kits, which carry two flow runs and four leak channels

SCOPE

- Edge gateway only: coolant distribution units and cold plates are outside this scope

GATEWAY LADDER BY POINT COUNT

Parameter	Value	Notes
EMS-TL-G10	10 points	Documented configuration: 5 universal inputs, 2 analog outputs, 3 triac outputs
EMS-TL-G25	25 points	Our own configuration: documented 10-point controller plus one expansion module
EMS-TL-G50	50 points	Documented ceiling, across up to 3 devices

NOTES

- The 50-point ceiling is reached across up to 3 devices; the IO set on each device is the documented 5 universal inputs, 2 analog outputs and 3 triac outputs.
- An enclosure IP rating is not stated in the retrieved documentation for this gateway, so no rating row appears on this datasheet.
- CAN/CSA-C22.2 No. 205-12, UL 916, C-UL, CE, FCC Part 15 Class B, RoHS2, REACH and WEEE are standard designations the product is built to; they are not approvals held by the company.
- Certification names are published on the badge cards; approval documents are shown on request.
- Scope: no coolant distribution units and no cold plates.

Full specification sheet and current pricing EMS-Trade Cooling · ems-cool.com Typical lead time confirmed on order acknowledgement.	EMS-TL-G50 Rev. A 2026-09-19
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