

EMS-TL-SK

Leak channel input module

Rope and probe input channels for the loop telemetry point list, with two-of-two alarm logic

EMS-TL-SK is the leak channel of the telemetry set: a 2-wire rope detects, a 4-wire rope detects and locates, and the 4-wire build allows continuous monitoring for damaged or disconnected cable. Two preconditions decide whether the channel can work at all, because the conductive liquid must reach the sensor in sufficient volume, and one rope is rated only to 35 % propylene glycol by weight against a competing CDU vendor's sensors tested across 10–55 %. The failure it exists to catch is a leak that reaches the floor but not the sensor, or a concentrated premix that the rope cannot bridge.

ORDERING INFORMATION

Part number	EMS-TL-SK
Channel count	1, 2 or 4 channels on the kit ladder
Construction logic	2-wire detects; 4-wire detects and locates
Alarm logic	Two-of-two for automatic intervention
Compatible fluid	Conductive liquid reaching the sensor in sufficient volume
Concentration limit	One rope rated only to 35 % propylene glycol by weight
Cable health monitoring	Continuous, on 4-wire construction
Compatible ropes and probes	EMS-LD- line codes

CHANNELS AND DETECTION LOGIC

Parameter	Value	Notes
Channel count	1, 2 or 4 channels on the kit ladder	Follows the kit code: EMS-TL-K100 carries one, K300 and K800 two, K2300 four
Construction logic	2-wire rope detects; 4-wire rope detects and locates	The two constructions do different jobs and are not interchangeable
Distance reporting	4-wire rope reports position along the run	Position resolution and locating accuracy belong to the EMS-LD- controller datasheets and are not restated on this module
Leak channel input	Presented to the gateway as a digital input or relay contact	See the EMS-TL-G10, G25 and G50 point counts for the head end
Cable health monitoring	Continuous, on 4-wire construction	A damaged or disconnected rope is reported rather than reading as a quiet loop
Alarm logic	Two-of-two for automatic intervention	A tray point sensor and a rope on the manifold: either detects and alarms, both together permit intervention

DETECTION PRECONDITIONS

Parameter	Value	Notes
Compatible fluid	Conductive liquid must touch the sensor in sufficient volume	A direct-detection rope needs the fluid to arrive, not merely to be present in the room
Fast-evaporating fluid	Can be missed	A fluid that evaporates before it bridges the sensing path does not produce a stable detection

Parameter	Value	Notes
Concentration limitation	One rope is rated only to 35 % propylene glycol by weight	A competing CDU vendor's sensors are tested across 10–55 %, so a 55 % or 60 % premix sits outside the first envelope
Minimum liquid volume	Not published in the retrieved material for this module	Quoted on request; the EMS-LD- rope datasheets carry the liquid depth figure for the rope itself
Response time	Not published in the retrieved material for this module	Controller dependent; the EMS-LD- controller datasheets carry the response setting

ROPES, PROBES AND CROSS-LISTING

Parameter	Value	Notes
Rope and probe codes	Cross-listed from the EMS-LD- line	Ropes and probes are ordered by their own codes; this module is the input channel
Standard cable lengths	3, 10, 17, 25, 50 and 100 ft (0.91–30.48 m)	Published lengths for the sensing cable used on this channel
Sensing-cable temperature rating	0–75 °C	Published rating for the sensing cable of this product class
Enclosure rating	No IP rating is published for a sensing cable or a standard controller	The research found no datasheet in this category that publishes one, so none is stated here
Wetted materials	Fluoropolymer rope construction; 316L stainless steel on wetted probe bodies	Peroxide-cured EPDM seals; sulfur-cured EPDM is discouraged

LOOP CONTEXT

Parameter	Value	Notes
Loop type this channel serves	Both loop types	A glycol-premix loop at 50–300 µS/cm conducts readily; a de-ionised loop at 0.2–20 µS/cm still conducts enough for direct detection once the fluid reaches the rope
Concentrated premix caveat	EMS-CL-PG40, PG50 and PG55 sit at or above the rope's 35 % by weight envelope	Those loops need the tray probe arrangement rather than rope coverage alone
Mounting positions	Tray, sump, manifold, rack perimeter and hose set	Position is chosen so the fluid arrives at the sensor under gravity
Companion instruments	EMS-TL-SL level channel and the EMS-LD- controller line	Level gives the second opinion; the controller owns the distance report

APPLICATIONS

- Rope supervision along a rack manifold, hose set or pipe run
- Point supervision in a tray or sump, cross-checked against a rope channel
- Loops where a damaged or disconnected sensing cable must report itself
- Any loop whose premix stays inside the rope's 35 % by weight envelope

COMPATIBLE WITH

- EMS-LD- sensing ropes, probes and controllers
- EMS-TL-SL liquid level instrument for the second detection channel
- EMS-TL-G10, EMS-TL-G25 and EMS-TL-G50 gateways

- EMS-TL-K100, EMS-TL-K300, EMS-TL-K800 and EMS-TL-K2300 kits

SCOPE

- Leak channel input module only: coolant distribution units and cold plates are outside this scope

LEAK CHANNEL COUNT BY KIT

Parameter	Value	Notes
EMS-TL-K100	1 leak channel	Single-zone supervision
EMS-TL-K300	2 leak channels	Two zones, or a rope and a tray probe on separate channels
EMS-TL-K800	2 leak channels	Two zones
EMS-TL-K2300	4 leak channels	Four zones across a room-scale loop

NOTES

- Direct detection needs the liquid to reach the sensor in sufficient volume and to be electrically conductive; a fast-evaporating fluid can be missed.
- One rope is rated only to 35 % propylene glycol by weight. A 40 %, 50 % or 55 % premix sits outside that envelope and takes a different detection arrangement.
- No IP rating is published on any sensing cable or standard controller in this product class, so none is stated on this datasheet.
- Distance reporting, position resolution and locating accuracy belong to the EMS-LD- controller and rope datasheets and are deliberately not restated here.
- 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-SK Rev. A 2026-09-19
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