


AVAILABLE MODELS
TS601

Built-in temperature & humidity, status LED, no probe connector

TS602

0.96" OLED display, 5-pin M12 for one external probe

KEY FEATURES

- LTE Cat.1 cellular — gateway-free deployment, no LoRaWAN infrastructure required
- IP67 housing with sealed battery compartment for harsh, wash-down environments
- 5,000-entry on-device buffer with retransmission, threshold alarm, and flight mode
- Base-station positioning (typ. 1 km, max 5 km) for cold-chain shipment tracking
- Built-in light sensor for cargo-box opening detection plus 3-axis tilt accelerometer

Multi-Year Battery Life

TS601 runs **up to ~5 years** on 2 × 2500 mAh CR18505 Li-MnO₂ cells (UDP, 6 reports/day at -20 °C, lab conditions) — replaceable in the field, no recharging cycle.

CONFIGURATION & CONNECTIVITY

LTE Cat.1

NFC

USB-C

IP67

MODEL COMPARISON

Parameter	TS601	TS602
Built-in temperature + humidity	✓	—
External probe (M12, 5-pin)	—	✓
0.96" OLED display	—	✓
Status indicator LED	✓	—
Sensing range	-35 to +70 °C / 0-100 %RH	-200 to +500 °C (probe-dependent)
Weight (with batteries)	192 g	200 g
Battery life — UDP, lab	~5.1 yr	~4.6 yr

TECHNICAL SPECIFICATIONS

Parameter	Specification
WIRELESS TRANSMISSION	
Technology	LTE Cat.1 — TCP / UDP / MQTT / AWS
SIM	1 × Micro SIM (3FF), 1.8 V / 3 V
Min. Tx interval	15 min above 0 °C · 30 min at or below 0 °C
Reporting formula	Tx interval = reporting interval × cumulative count
SENSING	
Built-in (TS601)	Digital MEMS — temperature ±0.2 °C typ., humidity ±2 %RH typ.
Built-in range	-35 to +70 °C · 0-100 %RH · 0.1 °C / 0.1 %RH res.
External probes (TS602)	Digital, low-temperature PT100, or T+RH probe via M12 — see page 2
Light sensor	0-600 lux · Light/Dark status (cargo-box open detection)
Accelerometer	3-axis · Normal/Tilt status · -90° to +90° on X/Y/Z
Positioning	Base-station (cell-tower) — typ. 1 km, max 5 km on urban roads
POWER & STORAGE	
Battery	2 × CR18505 Li-MnO ₂ 2500 mAh, replaceable

OPTIONAL PROBES (TS602)

Probe	Range & Accuracy
Digital probe	-40 to +125 °C · ±0.5 °C typ. (-10 to +85 °C) · 316SS Ø6×50 mm · 1.5 m PVC cable · IP67
PT100 low-temperature	-200 to +50 °C · Class A · ±0.5 °C typ. (-175 to +50 °C) · 304SS Ø4×30 mm · 1.5 m Teflon cable · IP67
T + RH combined	-40 to +125 °C / 0–100 %RH · ±0.2 °C / ±2 %RH typ. · 304SS Ø6×50 mm · 1.5 m PVC cable · IP67

Enclosure caveat. The TS60x body is rated -35 to +70 °C. The low-temperature probe is designed to read media down to -200 °C — only the probe tip enters the cold zone; the transmitter housing itself must remain within -35 to +70 °C ambient.

CELLULAR BANDS

Region	LTE Cat.1 FDD Bands
EMEA + AU/NZ (default OEM build)	B1 / B3 / B5 / B7 / B8 / B20 / B28
North America	Configured at order — confirm carrier / band pack with ATEK before quoting

Important — North American deployments. The bands listed above are the EMEA + Australia / New Zealand build documented by the OEM. North-American (Canada / US) units use a different LTE Cat.1 band pack configured at order. Always confirm band/carrier compatibility with ATEK before specifying TS60x for a Canadian or US site.

ORDERING INFORMATION

ATEK Part Number	Description
TS601 — BUILT-IN T + RH	
MS-TS601	TS601 cellular T + RH sensor, status LED, IP67 (region-band specified at order)
TS602 — EXTERNAL PROBE	
MS-TS602-DIGITAL	TS602 + digital probe (-40 to +125 °C, 316SS, IP67)
MS-TS602-PT100-LOW	TS602 + PT100 low-temperature probe (-200 to +50 °C, Class A)
MS-TS602-TH	TS602 + combined T+RH probe (±0.2 °C / ±2 %RH)
ACCESSORIES	
MS-TS60X-MAGKIT	Optional magnetic mount kit
MS-TS60X-CAL-A2LA	ISO/IEC 17025 calibration certificate (A2LA-accredited)

SIM card sold separately. Cellular plan / band pack / carrier confirmed with ATEK at order. Calibration certificate available as an add-on or bundled.

ATEK PLATFORM INTEGRATION

- Zero-touch provisioning — IMEI pre-linked to your account; sensor reports in over LTE the moment power is applied
- Real-time temperature, humidity, light, tilt, and location readings — alarms within seconds of uplink
- Cargo-box open / tilt events surfaced as security alarms with site & shipment context
- Calibration tracking — certificate storage, expiry alerts, and audit trail tied to each sensor serial
- Historical reports — CSV / PDF / Excel exports with hourly, daily, monthly aggregations
- Multi-channel alerts — email, SMS, voice call, webhook
- Immutable time-series storage with tamper-evident audit logs
- GxP / 21 CFR Part 11 aligned — user-level audit trails, e-signature, ALCOA+ data integrity
- NFC mobile configuration — pair, set thresholds, and provision on-site without a laptop