



AVAILABLE MODEL

MS-EM300-DI

Battery-powered LoRaWAN® Class A sensor with one dry-contact digital input — runs as a pulse counter or open/closed status monitor. Embedded temperature & humidity sensing. Frequency band specified at order.

KEY FEATURES

- One dry-contact digital input — pulse counter up to 2,000 Hz, or open/closed status monitoring on the same channel
- Turns reed-switch and passive pulse meters (water, gas) into wireless intelligent meters — no powered wiring at the meter
- Digital filtering rejects interference signals for accurate, drift-free counts; flow and outage alarms on consumption
- Embedded temperature & humidity sensors for ambient environment monitoring alongside the counter
- IP67 flame-retardant enclosure — indoor and outdoor harsh-environment applications
- 1,000-entry on-device data buffer with retransmission to prevent data loss; NFC mobile-app configuration

5-Year Replaceable Battery

EM300-DI runs **up to 5 years** on one 4,000 mAh Li-SOCl₂ cell (10-min uplink, 25 °C) — with an 8,000 mAh option for longer service intervals. Fewer truck rolls in hard-to-reach metering points.

AT A GLANCE

Capability	MS-EM300-DI
Digital inputs	1 × dry contact
Work modes	Pulse counter · digital input (status)
Max pulse frequency	≤ 2,000 Hz
Minimum pulse width	250 μs
Embedded T & RH sensing	✓
On-device data buffer	1,000 entries + retransmission
Ingress protection	IP67
Battery life (10-min uplink)	up to 5 years (replaceable)

TECHNICAL SPECIFICATIONS

Parameter	Specification
WIRELESS TRANSMISSION	
Technology	LoRaWAN® 1.0.x — Class A (OTAA / ABP)
Antenna	Internal antenna
Frequency Bands	EU868, US915, AU915
Tx Power	20 dBm @ 915 MHz / 16 dBm @ 868 MHz
Sensitivity	-137 dBm @ 300 bps
Configuration	NFC + mobile app, or LoRaWAN downlink
DIGITAL INPUT	
Port	1 × GPIO interface, dry contact
Work modes	Pulse counter · digital input
Input frequency	≤ 2,000 Hz
Minimum pulse width	250 μs
Cable	1 m, 3.5 mm connection (length customizable)
Compatible meters	Reed-switch meters or any passive pulse-output meter
Counting	Enable / stop / clear accumulated value; digital filtering
EMBEDDED SENSORS	

LORAWAN FREQUENCY BANDS

Region	Band
Europe	EU868
North America	US915
South America	AU915

ADVANCED FEATURES

Parameter	Specification
Counting	Enable / stop / clear accumulated value, with digital filtering
Alarms	Water flow / outage alarms, temperature threshold alarms
Data storage	1,000-entry on-device buffer
Reliability	Data retransmission & retrievability — no data loss
Configuration	NFC via mobile app, LoRaWAN downlink
Controls	1 × internal LED, 1 × internal power/reset button

ORDERING INFORMATION

ATEK Part Number	Description
MS-EM300-DI	LoRaWAN® digital-input / pulse-counter sensor with 1 × dry-contact GPIO ($\leq 2,000$ Hz), embedded T & RH sensing, 4,000 mAh replaceable battery — frequency band specified at order

Each unit ships with a 1 m input cable (3.5 mm connection), replaceable Li-SOCl₂ battery, and wall-screw / tape / cable-tie mounting. 8,000 mAh extended-battery and custom cable lengths available at order. Contact ATEK for additional accessories or customisation.

TYPICAL APPLICATIONS

- Utility metering — water, gas, and other pulse-output meters with reed-switch or passive pulse contacts
- Leak & contact detection — wire any dry-contact closure for instant open/closed alarms
- Door / window status monitoring — open/closed state on the digital input channel
- Run-time & cycle logging — count machine starts, strokes, or operating pulses for usage analytics
- Agricultural irrigation and industrial water-use tracking in indoor and outdoor sites

ATEK PLATFORM INTEGRATION

- Zero-touch provisioning — DevEUI pre-linked to your account; sensor joins a LoRaWAN gateway and appears in the dashboard automatically
- Real-time pulse counts, consumption, and ambient T/RH with trends and alarms within seconds of uplink
- Flow / outage and threshold alarms via email, SMS, voice call, and webhook
- Historical reports — CSV / PDF / Excel exports with hourly, daily, monthly aggregations
- 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 configuration via mobile — pair and provision on-site without a laptop