



# Digiseal Wire NB-IoT

Cloud-connected wire seal with GPS tracking — no gateway needed



The Digiseal Wire NB-IoT combines all the features of the standard Wire Seal with built-in multi-technology cellular connectivity (LTE CAT-M1, NB-IoT, GPRS/EDGE) and GPS/GNSS location tracking. Wire-cut, cover-open, tilt and shock events are transmitted directly to the cloud without requiring a local gateway — complete tamper intelligence with real-time asset position. Primary power is provided by two AA alkaline batteries; a USB-C port supports optional wired power for fixed installations. Note: the electronics contain no battery charging circuit, so only non-rechargeable alkaline batteries should be used alongside USB-C power.

## Technical Specifications

<b>PCB Dimensions</b>	90.0 × 31.0 mm
<b>Casing Dimensions</b>	Customisable per customer requirements
<b>Power Supply</b>	2 × AA alkaline batteries or USB-C external power (e.g. powerbank) — one at a time; cannot be used simultaneously. Rechargeable batteries not supported; available on request via hardware modification at customer's expense.
<b>Connectivity</b>	Bluetooth 5.1 (BLE): 6–12 m indoors; up to 50 m outdoors LTE CAT-M1 (eMTC): up to 375 kbps ↑ / 300 kbps ↓ LTE NB-IoT: up to 66 kbps ↑ / 34 kbps ↓ GPRS / EDGE (2G fallback): up to 236.8 kbps Cellular module: SIMCom SIM7000G — global band support
<b>Network Coverage</b>	LTE CAT-M1 and NB-IoT on global LTE bands; GPRS/EDGE fallback on 2G networks
<b>GPS / GNSS</b>	Integrated GNSS via SIM7000G (GPS, GLONASS, BeiDou, Galileo); active external antenna
<b>Wire Length</b>	5–500 cm; replaceable on-site without factory return
<b>Tamper Detection</b>	Wire-cut, cover-open, tilt and shock events; real-time cloud alerts via NB-IoT
<b>Encryption</b>	ECC secp256r1 hardware-bound keys; AES-256 CBC; end-to-end
<b>IP Rating</b>	Determined by customer-selected enclosure; IP65, IP67, IP68 and explosion-proof options available
<b>Operating Temp.</b>	–40 °C to +85 °C
<b>Electrical Consumption</b>	PSM sleep ~15 µA; idle ~2.5–3 mA; NB-IoT TX avg ~85–105 mA; peak ~600 mA
<b>API Integration</b>	MQTT for real-time integration with NOC, SCADA, or ticketing systems
<b>Certifications</b>	Available on request; additional certifications at customer cost



## Key Features

- Integrated multi-technology cellular (LTE CAT-M1, NB-IoT, GPRS/EDGE) — no gateway required
- GPS/GNSS location tracking (GPS, GLONASS, BeiDou, Galileo)
- Full tamper intelligence: wire-cut, cover-open, tilt and shock detection
- Real-time tamper and location alerts transmitted directly to cloud via cellular
- AA alkaline battery powered; USB-C optional for fixed installations
- Authorised-key-aware alarms — distinguishes valid openings from tampering
- MQTT API for direct integration with NOC, SCADA, or workflow systems
- Fully reusable — replace only the wire on wire-cut events

## Applications

- Petroleum and energy infrastructure monitoring
- Sea container and cargo trailer sealing with location tracking
- High-value logistics and currency transport
- Remote utility meter and substation equipment
- Critical infrastructure requiring always-on cloud visibility