ACKCIO GATEWAY

Code : N640

- The Ackcio BEAM-GW Gateway is the central communication hub of Ackcio's wireless monitoring ecosystem, connecting all BEAM nodes to cloud or local data platforms via secure and reliable channels.
- It manages data acquisition, processing, and transmission using Ackcio Snape, an intelligent on-Gateway data and device management software that enables real-time visualization, diagnostics, and system configuration.
- The Gateway coordinates Ackcio's proprietary Ackcio Mesh network, supporting up to 50 nodes and 12 hops, ensuring long-range and self-healing communication even in complex or obstructed environments.
- Equipped with multiple communication interfaces including 3G/4G cellular, Wi-Fi, Ethernet, and GPS, the BEAM-GW provides flexible connectivity options for both remote and site-based monitoring systems.
- The unit incorporates a quad-core 64-bit CPU with industrial-grade storage, integrated modem, and optional solar power capability, making it suitable for long-term autonomous operation in the field.
- Designed for durability, the Gateway features an IP67-rated die-cast aluminium enclosure and operates reliably across a temperature range from −40 °C to +80 °C.

- The built-in real-time clock, internal sensors, and external RTC ensure precise time synchronization and performance stability.
- Advanced power management allows operation from 12 V or 24 V DC supply, with backup from a high-capacity Li-$SOCl_2$ battery or solar-charged lead-acid batteries.
- Status LEDs and on-board control buttons simplify local inspection and diagnostics, while the Ackcio Nimbus app provides mobile configuration and network monitoring.
- This gateway serves as the key interface between field instrumentation and data management systems, offering secure AES-128 encrypted end-to-end data transfer for industrial and geotechnical monitoring applications.

TECHNICAL SPECIFICATIONS

al microSD (13 GB usable)

- Internal Sensors: Temperature ±2 °C accuracy
- Internal RTC: ±3.5 ppm (0–60 °C); External RTC: ±2 ppm (0–40 °C, CR3032 powered)
- MCU (Auxiliary): Arm® Cortex®-M3 48 MHz, 32-bit CPU
- MCU Memory: 128 KB flash, 20 KB SRAM, 8 MB external flash
- On-board Sensors:
  - Temperature: −40 °C to +80 °C, ±1.8 °C accuracy
  - Barometer: 300–1100 hPa, ±1.7 hPa accuracy
- Communication Interfaces:
  - Cellular: Integrated 3G/4G LTE modem (HSDPA, EDGE, GPRS)
  - Ethernet over USB 2.0
  - Wi-Fi (2.4 GHz / 5 GHz IEEE 802.11 b/g/n/ac)
  - GNSS high-sensitivity GPS (external antenna)
- Cellular Bands (LTE): Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 25, 26, 28, 38–41
- Cellular Data Rates:

- LTE FDD: 150 Mbps (DL), 50 Mbps (UL)
- LTE TDD: 130 Mbps (DL), 35 Mbps (UL)
- WCDMA: 42 Mbps (DL), 5.7 Mbps (UL)
- GSM/EDGE: 296 Kbps (DL), 236.8 Kbps (UL)

- RF Band: ISM 863–870 MHz / 902–928 MHz
- Transmit Power: Up to 1 W (30 dBm)
- Modulation: 2-GFSK
- Network Capacity: Up to 50 nodes, 12 hops
- Range: Up to 5 km (line-of-sight), 1 km (urban), 500 m (below ground)
- Data Security: AES-128 encrypted end-to-end
- Operating Temperature: −40 °C to +80 °C
- Protection: IP67 rated die-cast aluminium enclosure
- Power Supply: 12 V DC @ 3 A nominal (max 24 V DC)
- Backup Battery: 1 × D-cell Li-$SOCl_2$ 3.6 V, 19 Ah
- Typical Current Drain: 250 mA (operation), max 3 A
- Solar Option: 12/24 V, 80 W panel minimum, 18 Ah lead-acid battery recommended
- Interfaces: USB 2.0 Micro B, LEDs (SYS, NET, RF, WF), buttons (Wi-Fi toggle, Shutdown)
- Firmware: Ackcio Mesh
- Software: Ackcio Snape (on-Gateway), Ackcio Nimbus (mobile configuration)

ORDERING INFORMATION

will be added soon ...

OTHER PHOTOS


ACKCIO