



### IP68-rated and roadworthy micro-tracker

Available in 2G, LTE-M1 and 3G, the BOLERO40 series of rugged micro-trackers is especially designed to match the environmental, mechanical and electrical requirements of the vehicle tracking market.



**IP68  
Waterproof  
Dustproof**

Waterproof (immersion at 1.2 metres for 60 minutes) and dustproof, it is the perfect tracking device for extreme conditions and activities

**“Indestructible”  
power section**



Roadworthy 10.8 VDC ~ 60.0 VDC  
Ideal for electrical and recreational vehicles



**Dual  
SIM**

Hosts two Mini SIM (aka 2FF) and switches between carriers

**Powerful  
scripting  
language**



PFAL monitors the vehicle environment and responds instantly to user-defined threshold conditions related to input, time, date, location, zone, motion and other event combinations



**D2SPHERE™**

**D2SPHERE™** device management services let you monitor, diagnose, control and update your FALCOM devices. Information such as signal strength, geographic location, battery state, temperature, device firmware and software versions can be remotely monitored, stored and presented to help you maintain connectivity, manage quality of service and prevent downtime.

# BOLERO40 Series specifications

## HARDWARE

|                                    |  |
|------------------------------------|--|
| <b>Casing</b>                      | Automotive graded, UV resistant, non-flammable fibreglass-reinforced IP68-certified casing |
| <b>Dimensions</b>                  | 70 x 52.5 x 20.6 mm  |
| <b>Weight</b>                      | 118 g  |
| <b>Wire harness</b>                | 1 m  |
| <b>Operating temperature range</b> | -40°C ~ +85°C<br>Battery discharging temp.: -10°C ~ +60°C<br>Battery charging: 0°C ~ +45°C |
| <b>SDRAM</b>                       | 16 Mbit  |

## TRACKING

|                    |  |
|--------------------|--|
| <b>GNSS</b>        | 72-channel GNSS engine<br>GPS/QZSS, GLONASS<br>SBAS: WAAS, EGNOS, MSAS                   |
| <b>A-GNSS</b>      | AssistNow Online / offline / autonomos   |
| <b>Protocols</b>   | NMEA, FALCOM (binary)  |
| <b>Accuracy</b>    | Position: 2.5 m (GPS) / 4.0 m (GLONASS)  |
| <b>Acquisition</b> | Cold Start: 30 s (GPS) / 33 s (GLONASS)<br>Tracking: -164 dBm (GPS) / -163 dBm (GLONASS) |
| <b>Sensitivity</b> | Cold start: -147 dBm (GPS) / -145 dBm (GLONASS)  |
| <b>Limits</b>      | Velocity: 500 m/s (972 knots)<br>Altitude: 50,000 m<br>Update rate: 1 Hz                 |

## FIRMWARE FEATURES

- Embedded TCP/IP stack for client-server application
- Support SMS/USSD/TCP/IP/UDP/SMTP/HTTP
- FALCOM protocols: IOP, GSM, AREA, 3DP, BIN
- 20 programmable Timers, Triggers, Counters
- 3000 programmable geofences, 2000 waypoints
- Intelligent and flexible configuration settings
- Detection of GPS jamming signals
- Multi power-saving modes and wake-up conditions
- Report by distance, time, tilting and on demand
- Drivers Logbook / History / Trip management
- FALCOM PREMIUM features supported
- Local and remote firmware and configuration update
- Over-the air-access (OTA)

## INTERFACES

|                                   |   |
|-----------------------------------|---|
| <b>SIM interface</b>              | 2FF SIM 1.8 V / 3.0 V x 2 or factory-fitted MFF SIM x 2                             |
| <b>Cellular and GNSS antennas</b> | Internal  |
| <b>Internet</b>                   | TCP / UDP / SMTP / HTTP   |
| <b>RS-232</b>                     | V.24 level on 2 wires   |
| <b>I/Os</b>                       | Two 'versatile', i.e. user-configurable as analogue/digital input or digital output |
| <b>Analogue input</b>             | Maximum 32 VDC  |
| <b>Digital output</b>             | Open collector  |
| <b>Digital input</b>              | Ignition sensing  |
| <b>1-wire interface</b>           | 3.3 VDC for temperature, humidity sensor or driver ID                               |
| <b>Multi power saving mode</b>    | ✓   |
| <b>Accelerometer</b>              | Internal 3-axis   |
| <b>LEDs</b>                       | User-configurable (e.g. Cellular, GNSS, Power ... etc.)                             |
| <b>Cloud Services</b>             | Embedded profile to connect to D2SPHERE™ remote management services                 |

## POWER

|                                  |                                |
|----------------------------------|--------------------------------|
| <b>Main Source</b>               | Roadworthy 10.8 VDC ~ 60.0 VDC |
| <b>Alternate source</b>          | Li-ion 3.15 Wh backup battery  |
| <b>Average power consumption</b> | 3G normal operation: 1.2 W     |

| PRODUCT NAME | TERRITORIES / OPERATORS                    | CELLULAR TYPE | BANDS    | FALL-BACK MODE | BANDS   | PLANNED APPROVALS AND CERTIFICATIONS |          |                  | C/A    | ORDER CODE    |
|--------------|--|---------------|----------|----------------|---------|--------------------------------------|----------|------------------|--------|---------------|
|              |  |               |          |                |         | REGULATORY                           | INDUSTRY | OPERATOR         |        |               |
| BOLERO41     | EMEA and Asia excl. Japan and Korea        | 2G            | 3/8      |                |         |                                      |          |                  |        | BOLERO41#02   |
| BOLERO41     | World excl. Japan and Korea                | 2G            | 2/3/5/8  |                |         | CE Marking e-mark                    | GCF      |                  | Q3 '17 | BOLERO41      |
| BOLERO43     | Verizon Wireless                           | LTE-M1 (*)    | 13       |                |         | FCC                                  |          | Verizon Wireless | Q4 '17 | BOLERO43#D    |
| BOLERO43     | AT&T Wireless, T-Mobile USA and Sprint     | LTE-M1 (*)    | 2/4/5/12 |                |         |                                      |          |                  | Q4 '17 | BOLERO43#245C |
| BOLERO43     | Asia Pacific                               | LTE-M1 (*)    | 3/5/8/28 |                |         |                                      |          |                  | Q4 '17 | BOLERO43#358S |
| BOLERO45     | EMEA and Asia excl. Telstra and NTT docomo | 3G (**)       | 1/8      | 2G             | 3/8     |                                      |          |                  |        | BOLERO45#02   |
| BOLERO45     | World                                      | 3G (**)       | 1/2/5/8  | 2G             | 2/3/5/8 | CE Marking e-mark                    | GCF      |                  | Q3'17  | BOLERO45      |

Please consult us regarding the models in grey

(\*) 375 kbps down; 375 kbps up (\*\*) 7.2 Mbps down; 5.76 Mbps up

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