LANTRONIX®

BOLERO40 Series
Hardware Manual

Part Number PMD-00012
Revision E March 2025

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Revision History

Date	Rev.	Comments
January 2017	1.0.0	Initial version
August 2017	1.0.1	Document throughout updated
January 2018	1.0.2	Added two different power supply ranges for BOLERO40 series with a connector at harness and harness with open ends. See Chapter 4.1
April 2019	1.0.3	Removed the model of BOLERO40 series with harness and open ends for Asia and India.
October 2019	A	Added Lantronix logo, Part Number and Revision A. Updated document with Lantronix contact information and links.
January 2020	B	Fixed SDRAM specification
April 2021	C	• Changed 8-pin/8-wire to 10-pin/10-wire and updated drawings. • Updated *Table 1* product options and order codes. • Added LTE Cat M1 cellular type (BOLERO 43). • Section *6.1.2* Removed statement that using the serial port is a premium feature. It is not a premium feature.
October 2022	D	Updated pins 9 and 10 in Chapter 6.
March 2025	E	Updated for Bolero 43 FCC, PTCRB, and UL/CB certs. Added section Compliance. Added section Cellular Bands and Frequencies for BOLERO40 Series Devices.

For the latest revision of this product document, please check our online documentation at www.lantronix.com/support/documentation.

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1 Introduction

This product manual is only addressed to qualified personnel who are well skilled in electronical/electrical installation and not to the private consumers/end users. The installation, implementing or setting into operation of the product can be performed only by qualified personnel.

The product status described in this document may have changed since first publication and therefore the information in this document about the product status may be outdated. The latest product information is available on the BOLERO40 Series Product page of the Lantronix website.

1.1 General

Lantronix is using state-of-the-art technology to develop unique devices for managing and tracking assets more effectively than current systems on the market today.

The BOLERO40 series is a rugged micro-tracker, which is especially designed to match the environmental, mechanical and electrical requirements of the tracking market. BOLERO40 series is a multi-GNSS tracking device available in 2G, LTE-M1 and 3G models. It is designed to operate with internal GSM/GNSS antennas allowing fast and easy installation. This device supports the new firmware version 3.0.0 and higher. The BOLERO40 series comes with a 10-wire harness with a 10-pin connector at the cable's end.

Table 1 shows the available models of BOLERO40 Series.

Model Name	Territories or Operator(S)	Cellular Type[1]	Bands[2]	Fallback Mode[1]	Bands[2]	Location Services	Order Code
BOLERO41	Worldwide	2G $^{\lambda 1}$	5/8/3/2	×	N/A	Concurrent GPS, Galileo and either GLONASS (factory setting) or Beidou	B41H00FS
BOLERO43	EMEA	LTE-M1	20/8/3/7	2G $^{\lambda 3}$	8/3		B43H002S
	Verizon Wireless		13	×	N/A		B43H001S
	Japan		18/19[2a]/8/1				B43H007S
BOLERO45	Worldwide	3G	5[2b]/8/2/1	2G $^{\lambda 2}$	5/8/3/2		B45H00FS

Please contact Lantronix Sales regarding planned certifications.

[1]Uplink / Downlink maximum data rates

2G: $^{\lambda 1}$ 85.6 / 236.8; or 236.8 / $^{\lambda 2}$ 236.8; or $^{\lambda 3}$ 296 kbps

LTE-M1: 375 / 375 kbps

3G: 5.76 / 7.2 Mbps

[2]Ranked by increasing frequencies

[a]Containing Japan's B6 (3G)

[b]Containing Japan's B19, that contains B6

Table 1. BOLERO40 Series hardware models

BOLERO40 series can be used in a variety of applications, such as:

- Real time tracking
- Fleet management / monitoring
- Security services
- Bike & Car sharing
- Territory management/Theft protection/
- Route verification/Trip management
- Distance calculations
- Encrypted TCP based on AES 128 bit algorithm - (PREMIUM feature) and more.

1.2 Circuit concept and System architecture

The architecture of the BOLERO40 Series consists of the following major components:

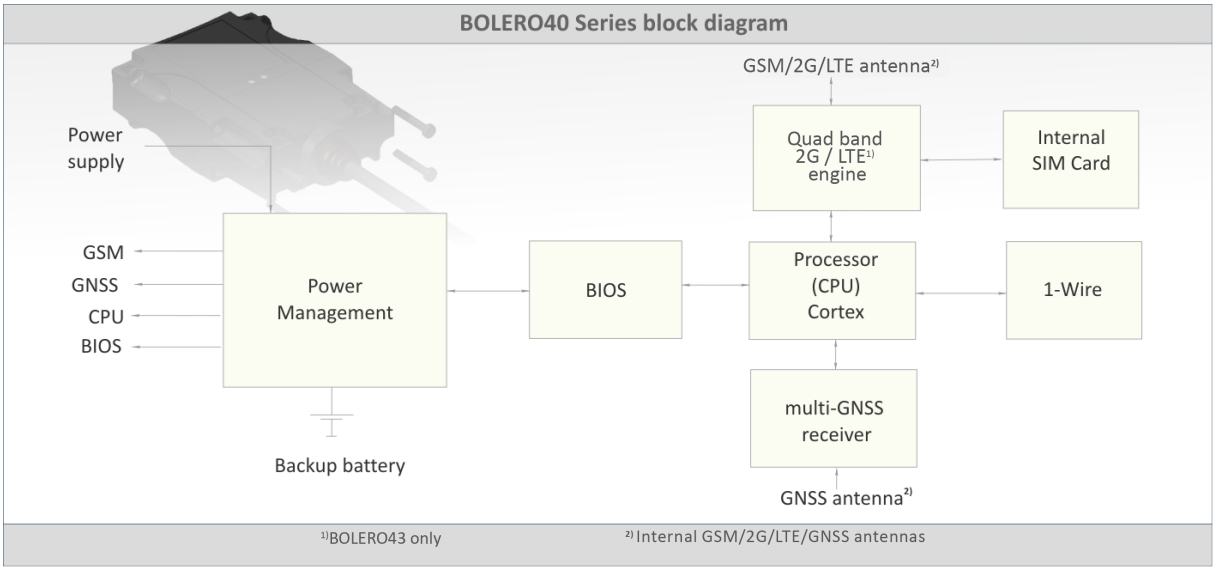


Figure 1. BOLERO40 Series block diagram

The principle of system operation is very simple. In each system is installed one of BOLERO40 series device, which consists of:

- A GNSS-receiver to receive signals from GPS/GLONASS/Galileo/BeiDou navigation satellites,
- A GSM/2G/LTE modem to transmit the data by radio to the internet or via SMS.

The GNSS receiver inside the device receives incoming signals from each satellite in view. These signals include information about the satellite position and the time. The receiver uses this satellites data to calculate its exact position. The data can then be transmitted over 2G/3G network (IP-based) through the Internet to your remote server or via SMS to a remote SMS server via GSM. A user-developed program on the remote server can help you to connect the device to the server and get all information the device sends.

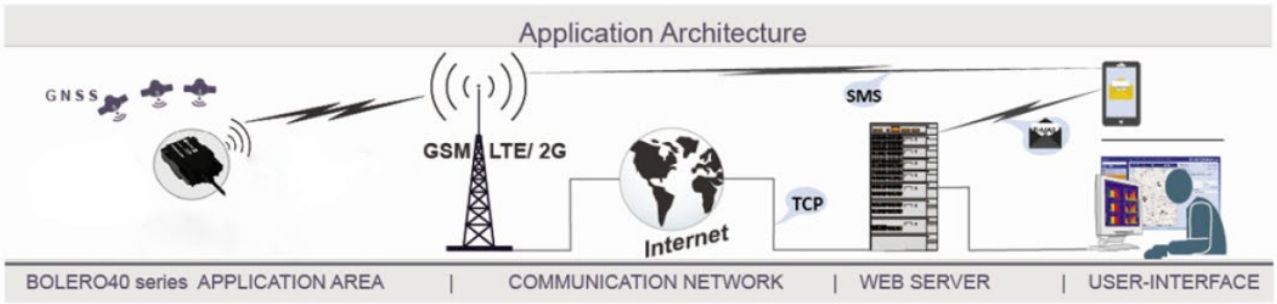


Figure 2. BOLERO40 Series application architecture

1.3 Packaging

The BOLERO40 Series is shipped in a cardboard box with following content:

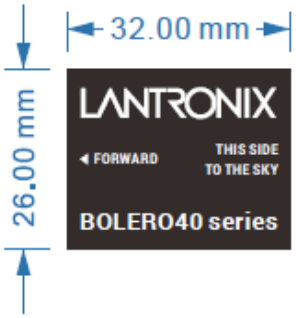
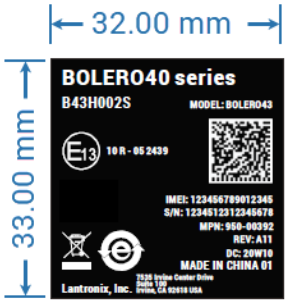
Packing in cardboard box:

- Overall size: 170mm x 120mm x 56mm

- Weight: 210 gr / cardboard box
- Packaging insert and quick setup guide

Figure 3. BOLERO40 series standard box contents

1.4 Labelling

Font label of BOLERO40 Series	Back label of BOLERO40 Series
	

1.5 Related documents

In addition to this document, the following files comprise the set of BOLERO40 Series product manuals and application notes.

NR	PDF file name	Description
[1]	AVL_PFAL_Command_Reference.pdf	Contains the description of the internal firmware and the supported Configuration Command Set for the AVL devices.
[2]	AppNotes_Transform_history_data.pdf	Contains information of how to decode history data that are being transmitted from an AVL device via TCP connection.
[3]	AppNote_Remote_update.pdf	Contains information of how to upgrade AVL devices to a new firmware revision remotely via TCP (server based application).
[4]	AppNotes_AVL_Installation_Guide.pdf	This document provides all the necessary information how to install your product properly and safely.
[5]	AppNotes_ECO-DRIVE-GPS.pdf	This document contains information of how to use the features of the GPS-ECO-DRIVE supported as PREMIUM-FEATURE in the firmware version avl_2.11.0 and above.
[6]	AppNotes_AES_TCP.pdf	This document contains information of how to use the features of the AES_TCP (ADVANCED ENCRYPTION STANDARD) supported as PREMIUM-FEATURE in the firmware version avl_2.10.0 and above.
[7]	AppNotes_HowToActivatePremiumFeatures.pdf	This document contains information of how to activate a PREMIUM-FEATURE on an AVL device.
[8]	AppNote_WebUpdate_Howto.pdf	This document contains information of how to upgrade an AVL device firmware remotely over the air.
[9]	AVL_Software_Update.pdf	Contains information how to upgrade an AVL device to a new firmware version locally via serial port.
[10]	AppNote_1-Wire_Guide.pdf	Contains information how to use the 1-Wire interface on the BOLERO40 series devices.

These PDF files are viewable and printable from Adobe Reader. If you do not have the Adobe Reader installed, you can download it from http://www.adobe.com.

2 Security

IMPORTANT FOR THE EFFICIENT AND SAFE OPERATION OF YOUR GSM-MODEM, READ THIS INFORMATION BEFORE USE!

Your cellular engine BOLERO40 is one of the most exciting and innovative electronic products ever developed. With them, you can stay in contact with your office, your home, emergency services and others, wherever service is provided.

This chapter contains important information for the safe and reliable use of the BOLERO40 device. Please read this chapter carefully before starting to use the cellular engine BOLERO40.

2.1 General information

Your BOLERO40 device utilizes the GSM/GNSS standard for cellular technology. Your BOLERO40 is a low power radio transmitter and receiver. It sends out and receives radio frequency energy. When you use your modem, the cellular system handling your calls, controls both the radio frequency and the power level of your cellular modem.

SIM cards are needed for the use of the acquired devices, which are not included in the scope of delivery of the device. The SIM cards can be acquired by specific providers. Additional costs can result from the use of the SIM cards which are to be borne by the purchaser (client) of the devices. The seller does not cover the extra costs for the use of the devices. The seller gives no recommendation for the use of specific SIM cards and is not liable for the fact that the devices are usable with all available SIM cards. The seller is also not liable for any other costs that are needed for the application of the customer in connection with this device.

2.2 Exposure to RF energy

There has been some public concern about possible health effects of using GSM modems. Although research on health effects from RF energy has focused for many years on the current RF technology, scientists have begun research regarding newer radio technologies, such as GSM. After existing research had been reviewed, and after compliance to all applicable safety standards had been tested, it has been concluded that the product is fit for use.

If you are concerned about exposure to RF energy, there are things you can do to minimize exposure. Obviously, limiting the duration of your calls will reduce your exposure to RF energy. In addition, you can reduce RF exposure by operating your cellular modem efficiently by following the guidelines below.

2.3 Driving

Check the laws and regulations on the use of cellular devices in the area where you drive. Always obey them. Also, when using your BOLERO40 while driving, please pay full attention to driving, pull off the road and park before making or answering a call if driving conditions so require. When applications are prepared for mobile use, they should fulfil road-safety instructions of the current law!

2.4 Electronic devices

Most electronic equipment, for example in hospitals and other devices is shielded from RF energy. However, RF energy may affect some malfunctioning or improperly shielded electronic equipment.

2.5 Device electronic equipment

Check your device manufacturer's representative to determine if any on board electronic equipment is adequately shielded from RF energy.

2.6 Medical electronic equipment

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.

Turn your BOLERO40 device OFF in health care facilities when any regulations posted in the area instruct you to do so. Hospitals or health care facilities may be using RF monitoring equipment.

2.7 Aircraft

Turn your BOLERO40 OFF before boarding any aircraft. Use them on the ground only with crew permission. Do not use them in the air.

To prevent possible interference with aircraft systems, Federal Aviation Administration (FAA) regulations require you to have permission from a crewmember to use your modems while the plane is on the ground. To prevent interference with cellular systems, local RF regulations prohibit using your modems whilst airborne.

2.8 Children

Do not allow children to play with your BOLERO40 series devices. It is not a toy. Children could hurt themselves or others (by poking themselves or others in the eye with the antenna, for example). Children could damage the modems or make calls that increase your modem bills.

2.9 Blasting areas

To avoid interfering with blasting operations, turn your device OFF when in a "*blasting area*" or in areas posted: *"turn off two-way radio"*. Construction crew often uses remote control RF devices to set off explosives.

2.10 Potentially explosive atmospheres

Turn your BOLERO40 device **OFF** when in any area with a potentially explosive atmosphere. It is rare, but your modems or their accessories could generate sparks. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as petrol stations; below decks on boats; fuel or chemical transfer or storage facilities; and areas where the air contains chemicals or particles, such as grain, dust, or metal powders. Do not transport or store flammable gas, liquid, or explosives, in the compartment which contains your modem or accessories.

Before using your modems in a device powered by liquefied petroleum gas (such as propane or butane) ensure that the device complies with the relevant fire and safety regulations of the country in which the device is to be used.

2.11 Non-ionizing radiation

The BOLERO40 Series comes with internal LTE/GSM/GNSS antennas. Therefore, care should be taken to install the devices/antennas in such a position that no part of the human body will normally rest within 20 cm of any part of the antennas/casing for more than a few minutes whilst the equipment is in use. It is also recommended to use the devices not close to medical devices as for example hearing aids and pacemakers.

3 Safety Standards

The devices of the LTE/GSM/GNSS BOLERO40 Series comply with all applicable RF safety standards.

BOLERO40 meet the safety standards for RF receivers and the standards and recommendations for the protection of public exposure to RF electromagnetic energy established by government bodies and professional organizations, such as directives of the European Community, Directorate General V in matters of radio frequency electromagnetic energy.

4 Technical Data

4.1 Product specifications

FEATURES	DESCRIPTION
POWER SUPPLY RANGE	10,8V ~ 48V DC permanent power with connector at harness Short-term peak voltages of up to +75V DC
POWER SAVING	Different energy-saving modes - programmable with PFAL commands. See *section 5.2* for more details
DIMENSIONS	Size: 70.0 mm x 52.5 mm x 20.6 mm (without harness) Weight (without battery): ca. 118 gr
PHYSICAL INTERFACES	10-wire harness consists of: • 1 x CAN H • 1 x CAN L • 2 x I/Os multi-functional lines with dual functions as analogue /digital inputs or digital outputs – user-configurable. • 1 x Ignition pin (software-controlled feature) • 1 x Power supply (software-controlled feature) • 1 x Serial port (Rx, Tx), Baud rate 4800...115200 bps (default=115200 bps), 8 data bits, no parity, 1 stop bit, no flow control. • 1-Wire line for connecting 1-Wire slave devices, such as iButton, temperature sensors etc. 2 x Inside SIM card holders (supports 1.8/3 V SIM cards) Built-in 3D G-sensor for power management, motion and shock alarm 2 x LED indicators (red, green) user-programmed
CASING / HOUSING	Automotive compliant, UV resistant, non-flammable fiberglass-reinforced Protection class: IP68
DIRECTIVE	RoHS compliant (RoHS Directive 2002/95/EC)
FIRMWARE FEATURES	Embedded TCP/IP stack (TCP, SMTP, HTTP and UDP protocols) Accessible via PFAL commands Upgradable locally via serial port and remotely over the air (OTA).
INTERNAL MEMORY	8 Mbyte SDRAM 16 Mbyte Flash for configuration, data-logging and firmware storage
SUPPORTED PROTOCOLS	**NMEA Msg.:** GLL, GGA, RMC, VTG, GSV, GSA **Lantronix Msg.:** IOP, GSM, AREA, 3DP, BIN - see documents [1].
GSM/2G/3G/GNSS ANTENNA	Internal antennas

Table 2. Product specifications

4.1.1 Power consumption for BOLERO40 Series

These measurements are performed with the firmware version 3.1.0_rc8.

All measurements performed under T_{amb}= 23°C, V_{+IN}=12 VDC; **BOLERO45**: 2G: 1800 MHz

Modes	Avr. power consum. @12 VDC			Comments
	2G	3G	Unit	
Max.	2	2	A	In a transmit burst the current consumption can rise to typical peaks of 2 A
CPU on / GPS on / GSM off	39	39	mA	GPS-fix valid.
CPU on / GPS off / GSM on	45	45	mA	GSM idle (registered) and GPRS detached.
CPU on / GPS on / GSM on	51	51	mA	Power mode = disable, GPS fix valid, GPRS and TCP connected.
	11	11	mA	Power mode = auto, GPS fix valid, GPRS and TCP connected.
	19	19	mA	Power mode = doze, GPS fix valid, GPRS and TCP connected.
Transmit Data	159	190	mA	Sending data over TCP

Table 3. Current consumption at 12 VDC

All measurements performed under T_{amb}=23°C, V_{+IN}=24 VDC; **BOLERO45**: 2G: 1800 MHz/3G: 2100 MHz.

Modes	Avr. power consum. @24 VDC			Comments
	2G	3G	Unit	
Max.	2	2	A	In a transmit burst the current consumption can rise to typical peaks of 2 A
CPU on / GPS on / GSM off	22	22	mA	GPS-fix valid.
CPU on / GPS off / GSM on	25	25	mA	GSM idle (registered) and GPRS detached.
CPU on / GPS on / GSM on	25	25	mA	Power mode = disable, GPS fix valid, GPRS and TCP connected.
	7	7	mA	Power mode = auto, GPS fix valid, GPRS and TCP connected.
	7	7	mA	Power mode = doze, GPS fix valid, GPRS and TCP connected.
Transmit Data	80	92	mA	Sending data over TCP

Table 4. Current consumption at 24 VDC

All measurements performed under T_{amb}= 23°C, V_{Bat}=3.8 VDC; **BOLERO45**: 2G: 1800 MHz/3G: 2100 MHz;

Modes	Avr. power consum. @3.8 VDC			Comments
	2G	3G	Unit	
Max.	2	3	A	In a transmit burst the current consumption can rise to typical peaks of 3A
CPU on / GPS on / GSM off	83	83	mA	GPS-fix valid.
CPU on / GPS off / GSM on	100	100	mA	GSM idle (registered) and GPRS detached.
CPU on / GPS on / GSM on	100	105	mA	Power mode = disable, GPS fix valid, GPRS and TCP connected.
	22	22	mA	Power mode = auto, GPS fix valid, GPRS and TCP connected.
	21	21	mA	Power mode = doze, GPS fix valid, GPRS and TCP connected.
Transmit Data	205	258	mA	Sending data over TCP

Table 5. Current consumption at 3.8 VDC

Sleep Modes	Avr. power consum. in sleep			Unit
	@ 12	@ 24	@ 3.8V	
IGN	3	2	4	mA
IGN+Ring	9	6	18	mA
IGN+Timer	3	2	4	mA
IGN+GPS	3	2	3	mA
IGN+Motion	3	2	4	mA

Table 6. Power supply and current consumption for sleep modes

4.1.2 Operating temperatures

Parameter	Min.	Typ.	Max.	Unit	
Operating temperature	-40	+25	+85	°C	
Storage temperature (Bolero41 and Bolero45	-40	+25	+85	°C	
Storage temperature (Bolero43)	-30	+25	+70	°C	

** Storage capacity should be 40% ~ 50% full charge capacity.*

Table 7. Operating temperature

4.2 GSM/2G/3G engine specifications

FEATURES	DESCRIPTION
2G/3G CORE	About the 2G/3G frequencies supported on each device refer to *Table 1*.
	All devices are compliant to GSM Phase 2/2+. See *Table 1*.
OUTPUT POWER	Class 4 (33 dBm) EGSM900/850 MHz Class 1 (30 dBm) GSM1800 and GSM 1900 MHz LTE CAT M1 Class 3 (23 dBm)
MOBILE CONNECTIVITIES	GPRS multi-slot class 12 GPRS mobile station class B.
DATA	HSPA: Downlink transfer: max. 7,2 Mbps Uplink transfer: max. 5,76 Mbps LTE-M1: Downlink transfer: max. 300 kbps Uplink transfer: max. 375 kbps GPRS: Downlink transfer: max. 85.6 kbps (see*Table 14*) Uplink transfer: max. 42.8 kbps (see *Table 14*) Coding scheme: CS1- CS4. SMS: Text mode.
AUDIO	Not supported

Table 8. GSM/2G/3G engine specifications

4.2.1 GNSS engine specifications

FEATURES	DESCRIPTION
GNSS ENGINE	Multi-constellation GNSS technology (GPS, Galileo, GLONASS, BeiDou) Concurrent reception of up to three GNSS systems (GPS/Galileo together with BeiDou or GLONASS) GPS L1 C/A
POSITION ACCURACY	Position: 2.5 m
ACQUISITION	Cold starts: 28 sec. Tracking: -164 dBm
ACQUISITION (4G LTE M)	Cold starts: 26 sec. Tracking: -164 dBm
SENSITIVITY	Cold start: -148 dBm
OPERATIONAL LIMITS	Velocity: 500 m/s (972 knots) Altitude: 50,000 m Max. update rate: 1 Hz.
A-GPS SUPPORT	Online / Offline / Autonomous
OSCILLATOR	Crystal Oscillator

Table 9. GNSS engine specifications

5 BOLERO40 Series Application Interface

5.1 Power supply

The power supply for the BOLERO40 series devices must be a single voltage source of:

$V_{DC\ IN}$ = +10.8 V...+48.0 VDC

The operating voltage ($V_{DC\ IN}$) must be applied permanently to the BOLERO40 series devices and able to provide sufficient current of up to **2 A** (pulse).

***Note**: Operating voltage range must never be exceeded; care must be taken to fulfill min/max voltage requirements. The short-term voltage peaks of +75 VDC must not be exceeded at any time. The operating voltage ($V_{DC\ IN}$ and GND) is protected against short-term voltage spikes and reverse polarity, but **NOT** protected against continuous overvoltage.*

5.1.1 Power lines on the 10-wire harness

One DC IN pin on the main 10-pin port is dedicated to connecting a constant +12, +24 volt DC voltage source, and the BROWN wire (GND) to the ground. For more details about the operating voltage refer to *section 9.1, "Installation guidance"*.

Both DC IN and GND wires serve for charging the connected backup battery and for powering device.

Signal name	I/O	Parameter	Description
DC IN	I	+10.8 V...+48.0 VDC permanent power	Positive operating voltage. For more details, see section *9.1, "Installation guidance"*.
GND	-	0 V	Ground (should be isolated from the Earth grounds).

5.1.2 Automatic shutdown

Automatic shutdown takes effect if:

- under voltage is detected (optional internal battery level runs below the nominal voltage and the external power supply is disconnected)

5.2 Power saving

SLEEP mode reduces the functionality of the modules of the BOLERO40 series devices and minimizes the current consumption to the lowest level. The BOLERO40 can be set into the sleep mode using the command `$PFAL,Sys.Device.ChargeSleep` or with one or more parameters listed in the table below. The following SLEEP modes are supported by the BOLERO40 series devices:

Modes	Description
IGN	Device wakes-up when a rising edge (Low to High signal) on the IGN pin is detected.
Wakeup=15:30:00	Device wakes up at the set wake up time.
Timer=1:20:00	Device wakes up when timeout has expired.

Motion=200	Device wakes up when the set motion value is exceeded.
ExtPwrDetect	Device wakes up when external power connection is detected.
ExtPwrDrop	Device wakes up when external power disconnection is detected. For battery powered devices, the device wakes up when the battery voltage drops below the minimum.
LowBat=3.7	Device wakes up when the battery voltage drops below the specified value
Example	**$PFAL,Sys.Device.ChargeSleep=IGN+Motion=200**

IMPORTANT: The sleep and wake-up procedures are quite different depending on the selected ChargeSleep mode.

When activating any sleep mode, make sure that the internal battery has enough power to safely wake up the device from that sleep mode. If the internal battery does not have enough power, the device cannot complete the wake-up process.

5.3 Determining the External Equipment Type

Before you connect the serial port pins of the BOLERO40 series devices to external equipment, you need to determine if the external hardware serial ports are configured as DTE *(Data Terminal Equipment)* or DCE *(Data Communications Equipment)*.

BOLERO40 is designed for use as DCE devices. Based on the conventions for DCE-DTE connections, it communicates with the customer application (DTE) using the following signals:

BOLERO40 Terminal (DCE)	to	Application (DTE)
RXD	<----------	TXD
TXD	---------->	RXD
GND	-	GND

Table 10. Signaling definitions between DTE and DCE

6 Hardware Interfaces

6.1 10-Wire harness

Figure 4. 10-wire harness

Table 11 shows the description of the 10-wire harness on the BOLERO40.

PIN-COLOR	NAME	DIRECTION	DESCRIPTION	LEVEL
1-RED	DC IN	IN	Power supply input. The power supply must be able to meet the requirements of current consumption. Care must be taken so that the applied voltage stays within the specified range. Applying a voltage outside the range can damage the device. For more details, see *chapter 9.1, "Installation guidance"*	- $V_{DC\ IN}$=+10.8...+ 48.0 VDC permanent power - Imax ≤ 2 A
2-BROWN	GND	-	Ground.	0 V
3-BLUE	IGN	IN	General purpose input. It can be connected to the ignition to wake up the BOLERO40 from "Sleep" mode and use journey START/STOP reports.	HIGH = 10.8...$V_{DC\ IN}$; LOW = 0V
4-PINK	1-wire	IN/OUT	1-Wire master interface for iButton and 1Wire-temp. sensors.	V_{OUT} = + 3.3 VDC
5-YELLOW	IO2	IN/OUT	Software controlled pins. Each pin has dual functions as analogue or digital. As digital they can be used either as input or output. Outputs (open collector) do not include internally any fly-back diodes for protection when interfacing inductive loads (e.g. relays). Thus, when controlling a relay, it is strongly recommended to use a fly-back diode.	OUT: 100 mA max. @ +0 .. +32.0V DC
6-GREEN	IO3			IN: 0V..+32.0V DC (High & Low levels are user-programmable)
7-VIOLET	RXD	IN	(Serial 0) The serial port (receive data) for direct connection to the host PC.	V24, ±12 VDC
8-BLACK	TXD	OUT	(Serial 0) Serial port (transmit data) for direct connection to the host PC.	
9-ORANGE	CAN L	IN	CAN-Low CAN-BUS	<1.5 V
10-WHITE	CAN-H	IN	CAN-High CAN-BUS	>3.5 V

Table 11. 10-wire harness/connector description

6.1.1 Special IO description

The IO2 and IO3 have dual functions. Both are controlled by the internal firmware of BOLERO40. Therefore, the user must define whether to use them as analogue or digital. IOs as digital can be used as inputs or outputs while as analogue can only be used as inputs.

For example, if you want to use **IO2** as analogue and **IO3** and as digital, then use the following commands respectively:

PFAL COMMANDS	IO INDEX	DESCRIPTION
$PFAL,IO1.Config=AI,2,11	1	AI=analog; 2 and 11=min. and max. voltages for Low and High events
$PFAL,IO2.Config=DI,5,10	2	DI=digital input; 5 and 10=min. and max. voltages for Low and High events.

If you want to use a digital pin, e.g. **IO2** or **IO3,** as a digital output pin, then use the following PFAL command:

PFAL COMMANDS	IO INDEX	DESCRIPTION
$PFAL,IO5.Set=high	5	AI=analog; 2 and 11=min. and max. voltages for Low and High events
$PFAL,IO6.Set=cyclic,2000,1000	6	DI=digital input; 5 and 10=min. and max. voltages for Low and High events.

In the sections below there are some examples showing how to use them.

When using IOs as digital you must set them first to high (with PFAL command "`$PFAL,IO5.Set=high`" or "`$PFAL,IO6.Set=high`"), otherwise 0V will be measured and the device could get damaged.

6.1.1.1 How to use IOs as analogue inputs

When using IO as analogue inputs they must be configured and calibrated with corresponding PFAL commands. For more details, refer to the related documents [1].

Analogue voltages of up to 32.0V with a 12 bits resolution can be processed and remotely evaluated by a server application. A pull-up resistor to a constant input voltage allows for resistive transducers to ground, e.g., fuel sensor or thermistors.

To use these IOs as analogue inputs, send the following command to the device.

PFAL COMMANDS	IO INDEX	DESCRIPTION
$PFAL,IO*1*.Config=AI,2,11	1	Where **1** and **2** are indices corresponding to IO1 (yellow), IO2 (green), respectively. While the value 2 and 11 are min. and max. voltages that will be used to generate Low and High events, respectively. For more details, refer to the related documents [1].
$PFAL,IO*2*.Config=AI,2,11	2	

Connection example 1 (IO2 and IO3):

Analogue inputs can be connected to temperature sensors (e.g., NTC resistor as shown in *Figure 5* or other sensor as shown in *Figure 6*. Figure 5 shows a fixed resistor and a variable resistor (Negative Temperature Coefficient - whose resistance or capacitance decreases when

temperature increases) to ground. It is possible to set an alarm for low temperatures and alarm for high temperature. Passage through these thresholds can generate events that can be used to trigger alarms for low and high temperatures. Alarms including the GPIOP protocol can be sent via SMS to a mobile phone or TCP to a server. The analog-to-digital converter (ADC) inside the unit has an input voltage range from 0 to 2.5 V.

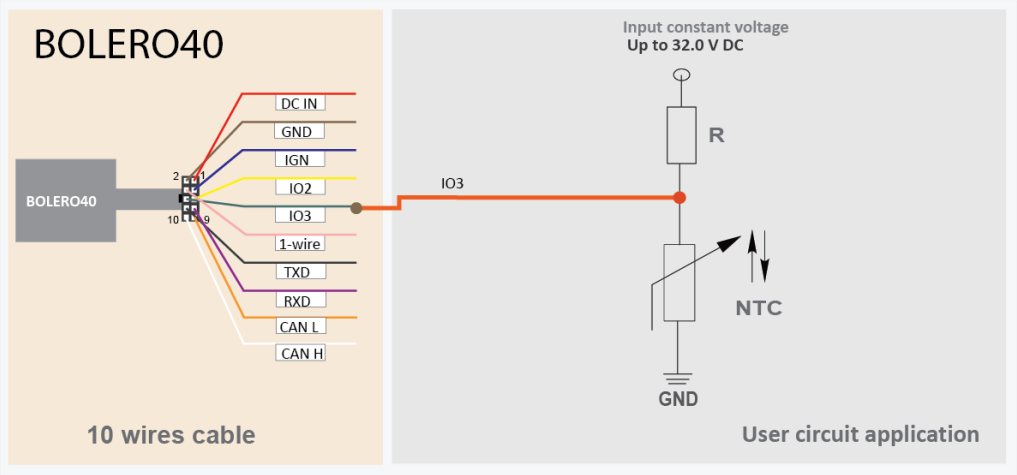


Figure 5. Connection example 1 when using it as analogue input

Connection example 2 (IO2 and IO3):

An analogue input can be connected to a sensor generator. The maximum output voltage of the sensor should be + 32.0 V (see illustrated example in *Figure 6*). Both circuit examples (the NTC diagram above and the sensor below) are only illustrations to show the aim of these IOs when using them as analogue inputs.

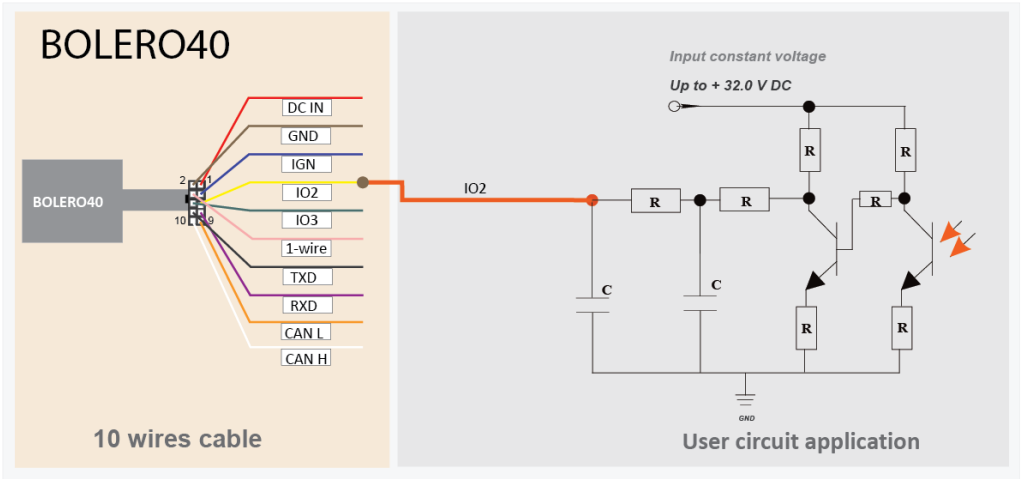


Figure 6. Connection example 2 when using it as analogue input

6.1.1.2 How to use IOs as digital Inputs

These pins are high active when used as digital inputs, so you can set $V_{IN(LOW)}$ and $V_{IN(HIGH)}$ to any levels within the range from +0 to +32.0 VDC. The High and Low levels can be set with PFAL command.

PFAL COMMANDS	IO INDEX	DESCRIPTION
PFAL,IO*1[2]*.Config=DI,5,10	1 2	Indices 1 and 2 correspond to IO1 (pin 4), IO2 (pin 5) respectively. The values 5 and 10 are min. and max. voltages are used to generate Low and High events respectively. For more details, refer to the related documents [1].

Figure 7 illustrates how these inputs can be used in practice. If the internal software has detected any input changes from *High* to *Low* or vice versa, it generates a *Falling* or *Rising* edge Event, respectively. Therefore, depending on the alarm type, the BOLERO40 can react to the input changes and release different alarms such as SMS, email, TCP message or activating an output port. The alarm type is configuration dependent.

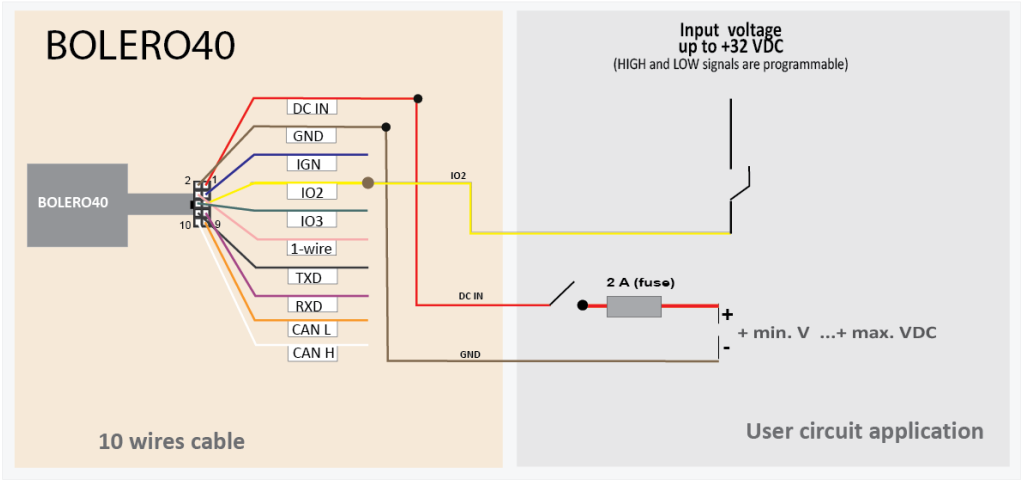


Figure 7. Connection example as digital input

A completed circuit example for all inputs is shown in *Figure 18*.

6.1.1.3 How to use IOs as digital outputs

BOLERO40 supports two IOs which can be used either as input or output. These outputs are open collectors and can be used to indicator lamps or relays with up to *100 mA @ max + 32.0 V DC*. They do not include internally any flyback diodes for protection when interfacing inductive loads such as relays. Thus, when controlling a relay, it is strongly recommended to use a fly-back diode as shown in *Figure 8* below. To activate these outputs, use the command `$PFAL,IO5[6].Set=high[low,hpulse,lpulse,cyclic]` for **IO2, IO3** respectively or you can configure one or more alarms that activate these outputs when specific events occur (e.g., `$PFAL,Cnf.Set,AL0=IO.e8=redge:IO5.Set=cyclic,1000,2000`).

Note: *The power should not be applied directly to the IOs configured as outputs without having a resistor between them.*

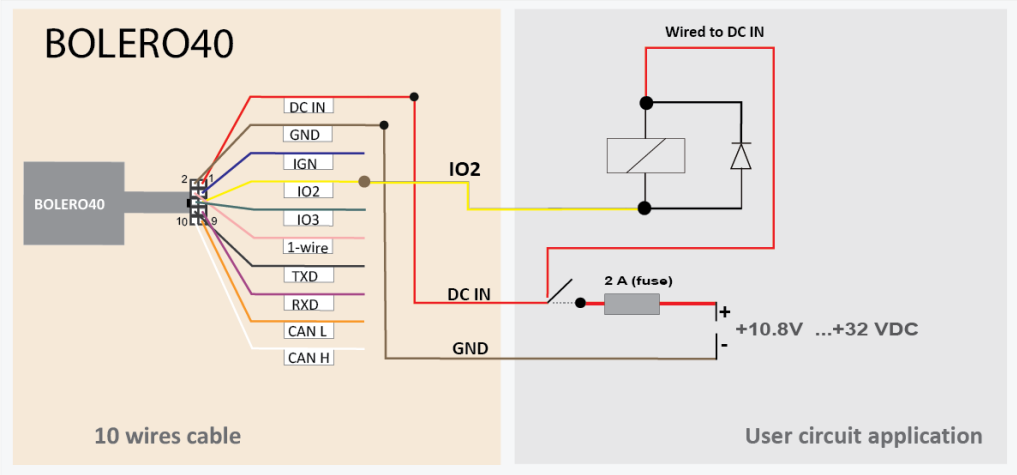


Figure 8. Connection example when controlling a relay

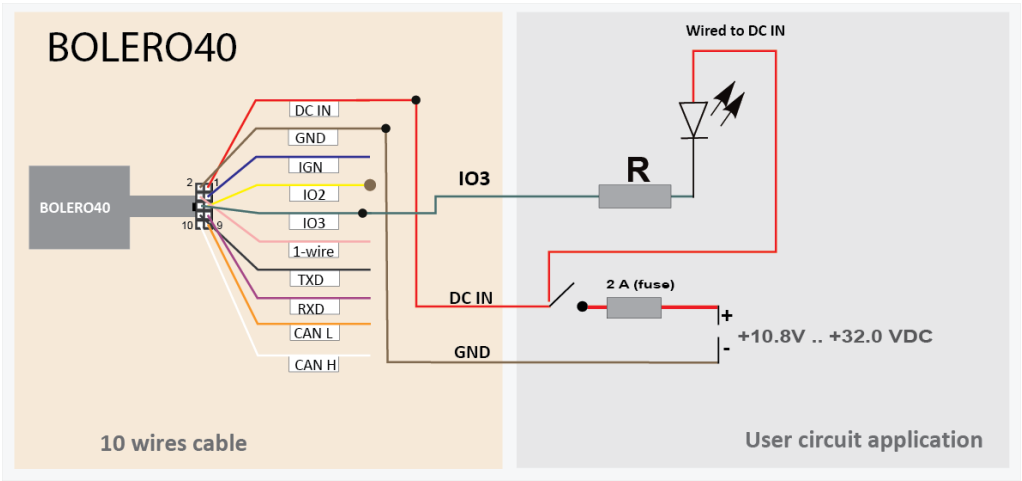


Figure 9. Connection example when controlling a relay

6.1.2 Serial Port 0 - Serial communication signals (RTD and TXD)

This serial port can be connected to an external serial communication device such as an RFID device.

BOLERO40 incorporates a full duplex serial channel which allows two devices to communicate directly with each other via the RS232 serial port. All supported variable baud rates are software controlled. The signals on these pins are obtained to RS232 compatible signal levels.

6.1.3 Description of 1-Wire interface

A 1-Wire bus uses only one wire for signaling and power. Up to four 1-Wire devices can be connected to the 1-wire interface of the BOLERO40 at the same time. The information received from 1-Wire sensors can then be sent to the remote TCP server using PFAL commands/scripts.

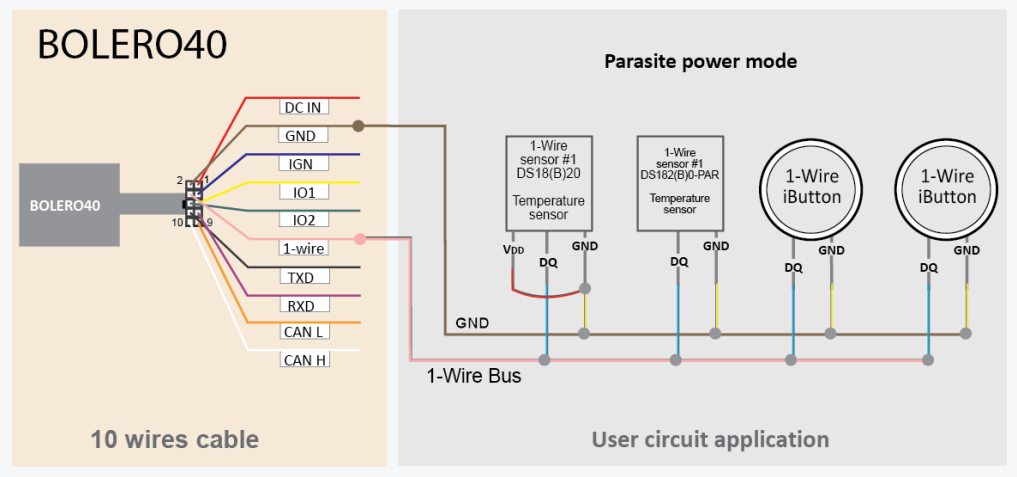


Figure 10. 1-wire typical application

For more details about the 1-Wire interface refer to the document *"AppNote_1-Wire_Guide.pdf"*.

6.2 Inserting a SIM card into the SIM holder

BOLERO40 has a GSM modem that requires a SIM card to access to the mobile network services. The SIM card is obtained from your mobile provider and must be activated for GSM data services before using it. Together with the SIM card, you receive a 4-digit PIN number. Entering the PIN allows your device to access the mobile network.

To insert the SIM card into the BOLERO40 SIM slot:

1. Remove the power supply and any other connections from the device. Hold the device with the two LEDs facing the sky (see *Figure 13*). If the device case is already screwed together then unscrew the 4 x TORX#8 screws. Screws may also be delivered in a separate plastic bag.
2. Carefully remove the half part of the casing. If the battery harness is connected to the 3-pin white connector on the PCB, unplug it.
3. Locate the SIM card holder on the left of the PCB. Insert the primary SIM (mandatory) into the bottom SIM slot and the secondary SIM (optional) into the top SIM slot with contacts facing down and the cat edge as shown in *Figure 13*.
4. Push the card into the slot until it clicks into place.
5. (Re)Connect the battery harness to the to the 3-pin white connector on the PCB.
6. Finally, replace the half part of the casing and screw the 4 x TORX#8 screws with your screwdriver.

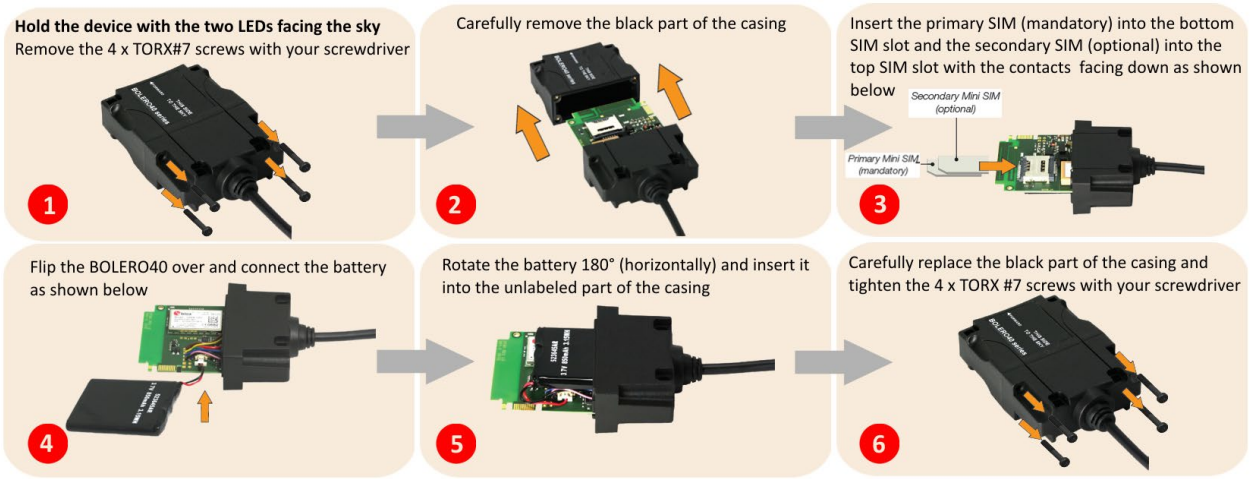


Figure 11. Inserting the SIM card

6.2.1 Entering PIN of SIM card

To enter the PIN of the SIM card, follow the steps below *(refer to* Figure 14*)*:

1. Read the information in *section 6.1.2* about the serial port of the BOLERO40 Series.
2. Install the Lantronix Workbench software.
3. Connect your BOLERO40 to a free PC COM port using your own cable and power up your device. Refer to *Table 11. 10-wire harness/connector description* indicate the serial port lines.
4. Start the Workbench software, open a COM Port (1), a Terminal (2) and an Editor (3), then select the COM port (4) and port settings (115200 bps, 8 Data bits, No Parity bit, 1 Stop bit, None Flow control).
5. Next, click on the Connect icon (II) on the left of the text "Port", to connect to. Connect the Console (5) to the COM Port and the Editor (6) to the Console on the Connection view. For more details refer to the Workbench User's Guide.
6. Finally, type the command `$PFAL,Cnf.Set,GSM.PIN=xxxx` on the editor (xxxx=PIN of your SIM card) and then send it to the device by double-click. For using GPRS and TCP services, refer to the related documents [1].

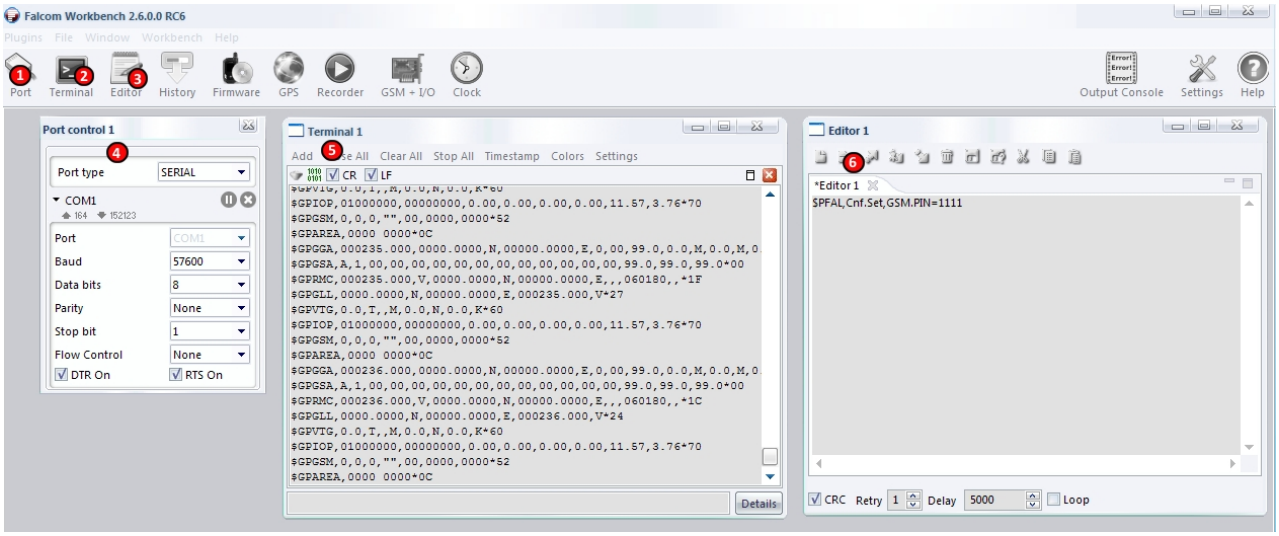


Figure 12. Entering the PIN codes of the SIM cards

6.3 LED indicators

The actual state of the BOLERO40 can be displayed by two LEDs on the top panel of the unit. These LEDs are programmable and can be used to show different states of the device. References how to use these LEDs can be found in the related documents [1].

Figure 13. LED indicators

To evaluate these LEDs, use the PFAL commands below (copy and paste them into the Workbench Editor 1, see *Figure 14*):

PFAL COMMANDS	LED COLOR	LED INDEX	DESCRIPTION
$PFAL,IO*12*.Set=hpulse,2000	GREEN	12	Turns on the LED for 2 sec.
$PFAL,IO*13*.Set=cyclic,2000,1000	RED	13	Turns on the LED in a cyclic manner.

To turn off these LEDs, use the following command with corresponding index number:

PFAL COMMANDS	LED COLOR	LED INDEX	DESCRIPTION
$PFAL,IO*12*.Set=low	GREEN	12	Turns off the LED
$PFAL,IO*13*.Set=low	RED	13	Turns off the LED

6.4 Mounting

When installing BOLERO45, please make sure the device's top side with the text "THIS SIDE TO THE SKY" is facing up and in full view of the sky and that no metal objects are interfering with the GNSS/GSM signals. Try to operate the device permanently powered by battery instead of its backup battery. The device should be configured to automatically switch from main power to battery backup when main power is not available and visa-versa when main power is available again.

Each BOLERO40 devices provides 4 holes for attaching it to suitable locations (see *Figure 16*). It can be mounted in different locations such as on a wall. There are two types of mounting options either by using your own double-sided adhesive pad (not included) or cable ties (not included). For more detailed information how to install BOLERO40 devices and what should be considered during the installation, refer to the application note [*AppNotes_AVL_Installation_Guide.pdf*].

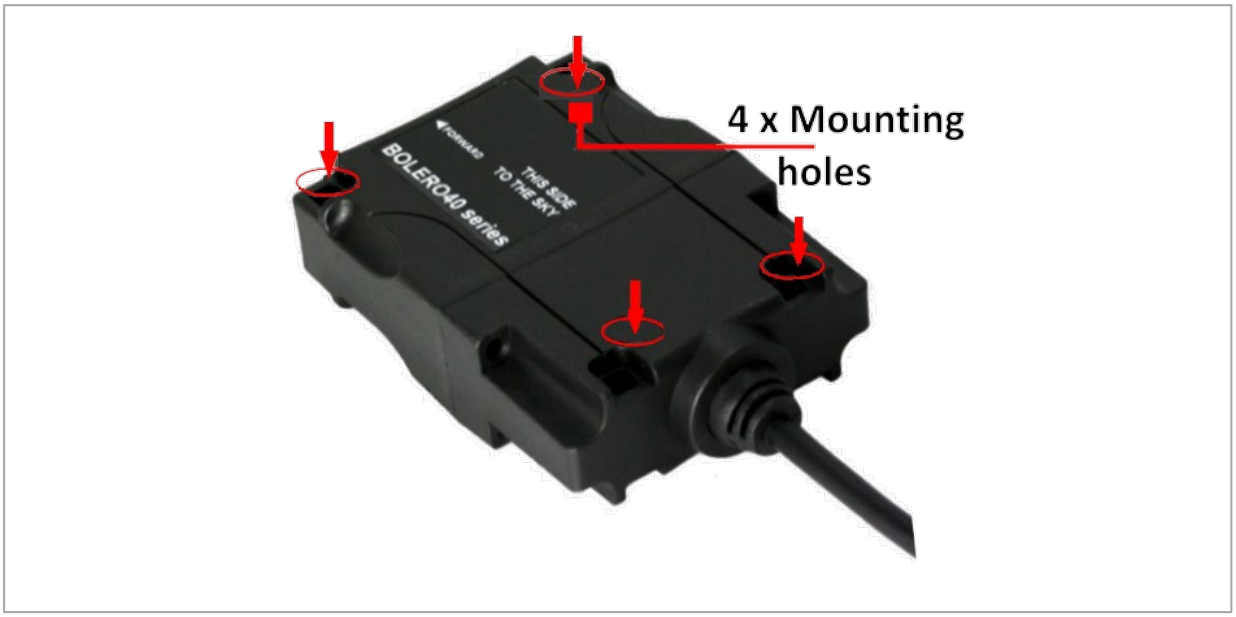


Figure 14. Device mounting types

7 Housing

The necessary dimensions for mounting the housing can be found in the drawing below.

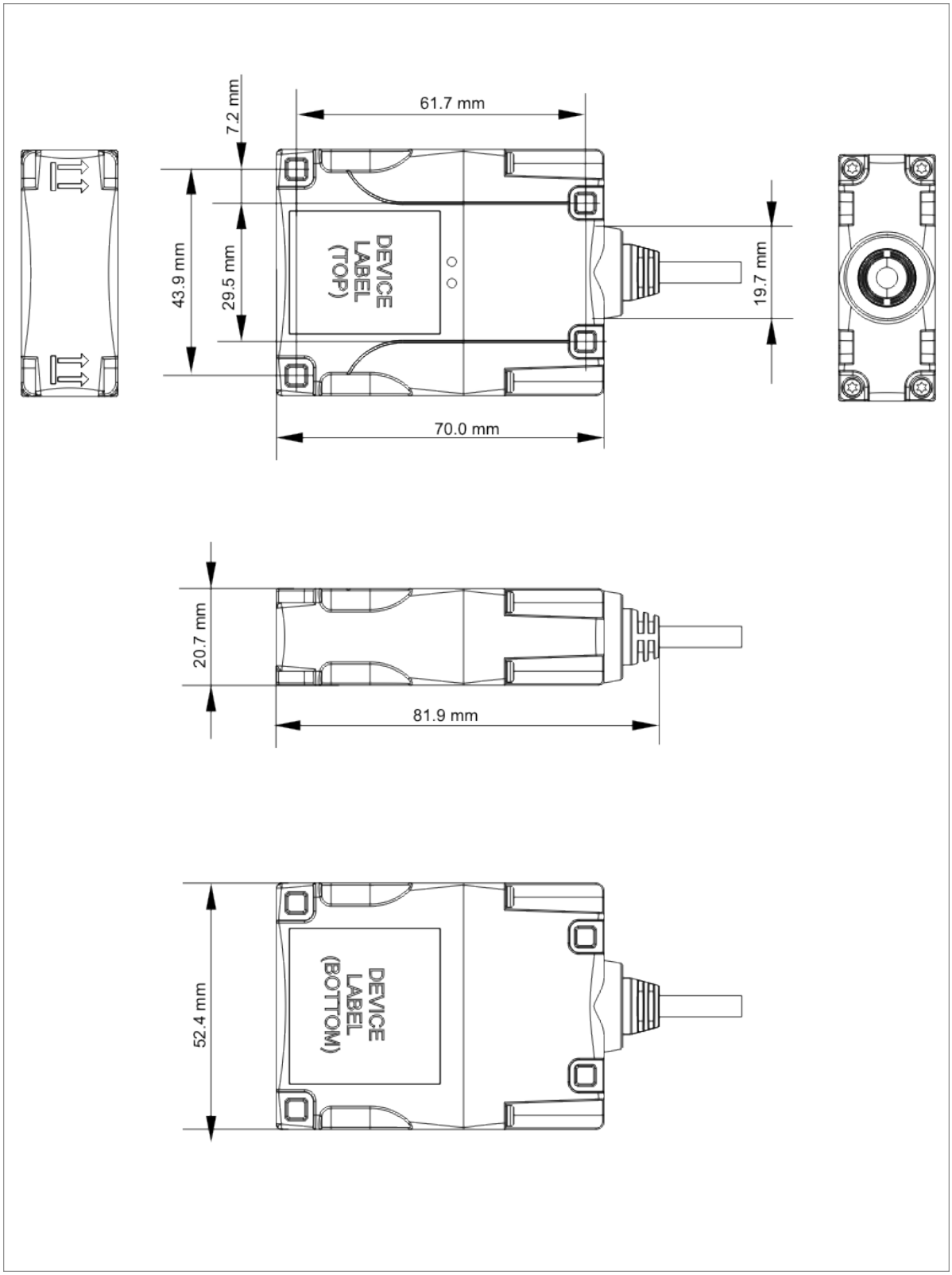


Figure 15. BOLERO40 housing

8 RF Exposures

8.1 RF Exposures

This device contains 850/900/1800/1900 MHz GSM/GPRS functions, LTE Cat M1 bands 2, 3, 4, 8, 12, 13, 20, 26, 28 functions and is operational in these frequencies, respectively.

Following frequency bands are not operational (must not be used) in U.S. Territories.

- GSM: 900/1800 MHz
- LTE: Bands 3, 8, 20, 26, 28

The external antennas used for this mobile transmitter must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Statement according to FCC part 15.19:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

Statement according to FCC part 15.21:

Modifications not expressly approved by this company could void the user's authority to operate the equipment.

Statement according to FCC part 15.105:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

9 Appendix

9.1 Considerations when using BOLERO40 Series

BOLERO40 is controlled by means of the PFAL commands, which are developed by Lantronix. These PFAL commands can only be executed when the device is on and the firmware inside the device is running. To create applications with the BOLERO40 and to obtain maximum benefit from the BOLERO40 operating firmware, you must set up your configuration and store it in the device. All PFAL commands can be sent to the BOLERO40 with the help of the Workbench software, which is free of charge and can be downloaded from the Lantronix website (`http://www.lantronix.com`). All PFAL commands supported by the BOLERO40 and other AVL devices are listed in the related documents [1].

9.2 NMEA data message

BOLERO40 deliver data in the NMEA-0183 format and Lantronix own format. *Table 12* below lists the NMEA and Lantronix supported protocols and gives a brief description for each of them. For further description about these protocols, refer to the related documents [1].

These protocols can be sent via SMS, TCP, data call, serial port, e-mail or stored inside the device using the corresponding PFAL-Commands. For example, the PFAL-Command `"$PFAL,GSM.Send.TCP..."` allows sending the protocols via TCP to a remote server including the current device location, GPS state, UTC time, date, speed, and course over ground. The received protocols by the server can then be used for graphically representation of the device location. Installing such a device, lets you know where your device is, what is happening with your device, has your device been moved without authorization from an area, updating device movements in real time and more.

NMEA	Description
GPGGA	It contains GPS time, position and fix type data.
GPGLL	It contains GPS latitude, longitude, UTC time of position fix and status.
GPGSA	It contains satellites used in the GPS position solution and DOP values.
GPVTG	It contains the number of GPS satellites in view satellite ID numbers, elevation, azimuth and SNR values.
GPGSV	It contains the number of GPS satellites in view satellite ID numbers, elevation, azimuth and SNR values.
GPRMC	It contains GPS time, date, position, course and speed data.
GLGSA	It contains the GNSS DOP and Active Satellites (if GLONASS activated)
GLGSV	It contains the GNSS satellites in view (if GLONASS activated)

Table 12. NMEA output messages

NMEA	Description
GPIOP	It contains the status of digital/analogue inputs and output ports and battery voltage (if battery available).
GPGSM	It contains the GSM operator, reception, registration status, GSM field strength, area code and cell ID.
GPAREA	It contains the state (entered or left the area/geofence) of 32 areas and 100 geofences - such as territory management, route verification, prohibited locations, parking area and more.
GP3DP	It contains the state values of the motion sensor.
BIN	The user protocol contains GPS time, date, position, course and speed data in binary format (small sized - only 21 characters).

Table 13. Lantronix output messages

9.3 GPRS Coding scheme

Coding scheme	1 Timeslot	2 Timeslots	4 Timeslots
CS-1:	9.05 kbps	18.1 kbps	36.2 kbps
CS-2:	13.4 kbps	26.8 kbps	53.6 kbps
CS-3:	15.6 kbps	31.2 kbps	62.4 kbps
CS-4:	21.4 kbps	42.8 kbps	85.6 kbps

Table 14. Coding schemes and maximum data rates over air interface

Note: *The values listed above are the maximum ratings which, in practice, are influenced by a great variety of factors, primarily, for example, traffic variations and network coverage.*

9.4 Cellular Bands and Frequencies for BOLERO40 Series Devices

The table below lists the bands, and their corresponding frequencies used by BOLERO40 series devices for different cellular networks.

Cellular Bands	Frequency
LTE BAND1	TX: 1920~1980 MHz; RX: 2110~2170 MHz
LTE BAND3	TX: 1710~1785 MHz; RX: 1805~1880 MHz
LTE BAND7	TX: 2500~2570 MHz; RX: 2620~2690 MHz
LTE BAND8	TX: 880~915 MHz; RX: 925~960 MHz
LTE BAND13	TX: 777~787 MHz; RX: 746~756 MHz
LTE BAND18	TX: 815~830 MHz; RX: 860~875 MHz
LTE BAND19	TX: 830~845 MHz: RX: 875~890 MHz
LTE BAND20	TX: 832~862 MHz; RX: 791~821 MHz
3G BAND1	TX: 1920~1980 MHz; RX: 2110~2170 MHz
3G BAND2	TX: 1850~1910MHz; RX: 1930~1990 MHz
3G BAND5	TX: 824~849 MHz; RX: 869~894 MHz
3G BAND8	TX: 880~915 MHz; RX: 925~960 MHz
2G BAND2	TX: 1850~1910MHz; RX: 1930~1990 MHz

Cellular Bands	Frequency
2G BAND3	TX: 1710~1785 MHz; RX: 1805~1880 MHz
2G BAND5	TX: 824~849MHz; RX: 869~894 MHz
2G BAND8	TX: 880~915MHz; RX: 925~960 MHz

Table 15. Cellular Bands and Frequencies for BOLERO40 Series Devices

9.5 Compliance

9.5.1 UK Declaration of Conformity

LANTRONIX®

UKCA

UK DECLARATION OF CONFORMITY

Manufacturer's Name: LANTRONIX, INC.
Manufacturer's Address: 48 Discovery, Suite 250, Irvine, CA 92618 USA
Product Type: Bolero Series
Product Family: Bolero43
Rated: 10.8-48VDC

Manufacturer's Quality System:

TÜVRheinland® ISO 9001:2015 Certificate No. 74 300 4282 TUV Rheinland

Safety
- **BS EN 62368-1:2020+A11:2020**
- **EN 62368-1:2020+A11:2020**

EMC
- **ETSI EN 301 489-1 V2.2.3**
- **ETSI EN 301 489-19 V2.1.1**
- **Draft ETSI EN 301 489-52 V1.1.2**
- **BS EN 55032:2015+A1:2020 class B**
- **EN 55032:2015+A1:2020 class B**
- **BS EN 55035:2017+A11:2020**
- **EN 55035:2017+A11:2020**
- **EN 61000-4-2 Ed.2.0:2008**
- **EN 61000-4-3 Ed.4.0:2020**
- **EN 61000-4-4 Ed.3.0:2012**
- **EN 61000-4-6 Ed.4.0:2013**
- **EN 61000-4-8 Ed.3.0:2020**

RF
- **ETSI EN 303 413 V1.2.1**
- **ETSI EN 301 511-1 V12.5.1**
- **ETSI EN 301 908-1 V15.1.1**
- **BS EN IEC 62311:2020**

UK SI 2012 No. 3032 for Restriction of Hazardous Substance (RoHS2) with exemption 7(c)-I and 6(c).
1) 2011/65/EU Restriction of the use of Hazardous Substances in EEE (RoHS)
2) 2015/863/EU Change of Annex II from 2011/65/EU
3) Directive 2018/736/EU[7(c)-I] and 2018/741/EU[6(c)]
BS EN IEC 63000 : 2018

Statement of Conformity: The product specified above meets the test requirements of the relevant legislation of United Kingdom, including the application of sound engineering practice.

Signature: _____ Date: September 19, 2022

Name: Fathi Hakam Title: VP of Engineering

Figure 16. UK Declaration of Conformity

9.5.2 EU Declaration of Conformity

LANTRONIX®

CE

EU DECLARATION OF CONFORMITY

Certificate no.

Manufacturer's Name: LANTRONIX, INC.
Manufacturer's Address: 48 Discovery, Suite 250, Irvine, CA 92618 USA
Product Type: Bolero Series
Product Family: Bolero43
Rated: 10.8-48VDC

Manufacturer's Quality System:

ISO 9001:2015 Certificate No. 74 300 4282 TUV Rheinland

Applicable EU Directives:

Low Voltage Directive (2014/35/EU)
- **EN 62368-1:2020+A11:2020**

EMC Directive (2014/53/EU)
- **EN 301 489-1 V2.2.3**
- **EN 301 489-19 V2.1.1**
- **Draft ETSI EN 301 489-52 V1.1.2**
- **EN 55032:2015+A1:2020 class B**
- **EN 55035:2017+A11:2020**
- **EN 61000-4-2 Ed.2.0:2008**
- **EN 61000-4-3 Ed.4.0:2020**
- **EN 61000-4-4 Ed.3.0:2012**
- **EN 61000-4-6 Ed.4.0:2013**
- **EN 61000-4-8 Ed.3.0:2020**

RF Radio Directive (2014 / 53 / EU)
- **ETSI EN 303 413 V1.2.1**
- **ETSI EN 301 511-1 V12.5.1**
- **ETSI EN 301 908-1 V15.1.1**
- **EN IEC 62311:2020**

EU Directive 2011/65/EU for Restriction of Hazardous Substance (RoHS2) with exemption 7(c)-I

1) 2011/65/EU Restriction of the use of Hazardous Substances in EEE (RoHS)
2) 2015/863/EU Change of Annex II from 2011/65/EU
3) Directive 2018/736/EU and 2018/741/EU
EN 63000-2018

Statement of Conformity: The product specified above complies with applicable EU directive referenced, including the application of sound engineering practice.

Signature: _____ Date: September 19, 2022

Name: Fathi Hakam Title: VP of Engineering

CERT-DoC Bolero43 rev A

Figure 17. EU Declaration of Conformity

9.5.3 EU Statements

Code	Language	Statement
bg	Bulgarian	Lantronix, Inc., декларира, че този BOLERO43 device отговаря на основните изисквания и други приложими разпоредби на Директива 2014/53/EU. Пълният текст на декларацията на ЕС за съответствие е достъпен на следния интернет адрес: https://www.lantronix.com/products/bolero40-series/ Известие на ЕС за ограничения при употреба: Това устройство е ограничено само за вътрешна употреба. Може да не се работи наоткрито.
cs	Česky [Czech]	Lantronix, Inc. tímto prohlašuje, že tento BOLERO43 device je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU. Úplné znění ES prohlášení o shodě je k dispozici na této internetové adrese: https://www.lantronix.com/products/bolero40-series/ Oznámení EU o omezení používání: Toto zařízení je omezeno pouze na použití uvnitř. Nesmí být provozován venku.
da	Dansk [Danish]	Undertegnede Lantronix, Inc. erklærer herved, at følgende udstyr BOLERO43 device overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. Den fulde tekst til EU-overensstemmelseserklæringen er tilgængelig på følgende internetadresse: https://www.lantronix.com/products/bolero40-series/ EU-meddelelse om begrænsninger i brug: Denne enhed er kun begrænset til indendørs brug. Det betjenes måske ikke udendørs.
de	Deutsch [German]	Hiermit erklärt Lantronix, Inc., dass sich das Gerät BOLERO43 device in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EUbefindet. Der vollständige Text der EU-Konformitätserklärung ist unter folgender Internetadresse abrufbar: https://www.lantronix.com/products/bolero40-series/ EU-Hinweis zu Nutzungsbeschränkungen: Dieses Gerät darf nur in Innenräumen verwendet werden. Es darf nicht im Freien betriebenwerden.

Code	Language	Statement
et	Eesti [Estonian]	Käesolevaga kinnitab Lantronix, Inc. seadme BOLERO43 device vastavust direktiivi 2014/53/EU põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele. EL-i vastavusdeklaratsiooni täielik tekst on saadaval järgmisel Interneti-aadressil: https://www.lantronix.com/products/bolero40-series/ EL-i teade kasutuspiirangute kohta: seda seadet saab kasutada ainult siseruumides. Seda ei tohi õues kasutada.
en	English	Hereby, Lantronix, Inc., declares that this BOLERO43 device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://www.lantronix.com/products/bolero40-series/ EU Notice of Restrictions on Use: This device is limited to indoor use only. It may not be operated outdoors.
es	Español [Spanish]	Por medio de la presente Lantronix, Inc. declara que el BOLERO43 device module cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/EU. El texto completo de la declaración de conformidad de la UE está disponible en la siguiente dirección de Internet: https://www.lantronix.com/products/bolero40-series/ Aviso de restricciones de uso de la UE: este dispositivo está limitado solo para uso en interiores. No puede ser operado al aire libre.
el	Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Lantronix, Inc. ΔΗΛΩΝΕΙ ΟΤΙ BOLERO43 device ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης της ΕΕ διατίθεται στην ακόλουθη διεύθυνση διαδικτύου: https://www.lantronix.com/products/bolero40-series/ Ειδοποίηση της ΕΕ για περιορισμούς χρήσης: Η συσκευή αυτή περιορίζεται μόνο σε εσωτερικούς χώρους χρήσης. Μπορεί να μην λειτουργεί σε εξωτερικούς χώρους.

Code	Language	Statement
fr	Français [French]	Par la présente Lantronix, Inc. déclare que l'appareil BOLERO43 device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/EU. Le texte complet de la déclaration de conformité UE est disponible à l'adresse Internet suivante: https://www.lantronix.com/products/bolero40-series/ Avis de restrictions d'utilisation de l'UE: Cet appareil est limité à une utilisation en intérieur uniquement. Il ne doit pas être utilisé àl'extérieur
is	Icelandic	Hér með lýsir Lantronix, Inc. því yfir að BOLERO43 device sé í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipunar 2014/53 / ESB. Í heildartexta ESB-samræmisyfirlýsingarinnar er að finna á eftirfarandi internetfangi: https://www.lantronix.com/products/bolero40-series/ Tilkynning ESB um takmarkanir á notkun: Þetta tæki er eingöngutakmarkað við notkun innanhúss. Það má ekki nota það úti.
it	Italiano [Italian]	Con la presente Lantronix, Inc. dichiara che questo BOLERO43 device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/EU. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: https://www.lantronix.com/products/bolero40-series/ Avviso di restrizioni d'uso dell'UE: questo dispositivo è limitato esclusivamente all'uso in interni. Potrebbe non essere utilizzatoall'aperto.
lv	Latviski [Latvian]	Ar šo Lantronix, Inc. deklarē, ka BOLERO43 device atbilst Direktīvas 2014/ 53/EU būtiskajām prasībām un citiem ar to saistītajiem noteikumiem. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā tīmekļa vietnē: https://www.lantronix.com/products/bolero40-series/ ES paziņojums par lietošanas ierobežojumiem: šo ierīci var izmantot tikai iekštelpās. To nedrīkst darbināt ārpus telpām.

Code	Language	Statement
lt	Lietuvių [Lithuanian]	Šiuo Lantronix, Inc. deklaruoja, kad šis BOLERO43 device atitinka esminius reikalavimus ir kitas 2014/53/EU Direktyvos nuostatas. Visą ES atitikties deklaracijos tekstą galite rasti šiuo interneto adresu: https://www.lantronix.com/products/bolero40-series/ ES pranešimas apie naudojimo apribojimus: Šis prietaisas skirtas naudoti tik patalpose. Jo negalima naudoti lauke.
nl	Nederlands [Dutch]	Hierbij verklaart Lantronix, Inc. dat het toestel BOLERO43 device overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring is beschikbaar op het volgende internetadres: https://www.lantronix.com/products/bolero40-series/ EU kennisgeving van gebruiksbeperkingen: dit apparaat is beperkt tot gebruik binnenshuis. Het mag niet buitenshuis worden gebruikt.
mt	Malti [Maltese]	Hawnhekk, Lantronix, Inc., jiddikjara li dan BOLERO43 device jikkonforma malħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/EU. It-test sħiħ tad-dikjarazzjoni ta 'konformità tal-UE huwa disponibbli flindirizz tal-internet li ġej: https://www.lantronix.com/products/bolero40-series/ Avviż tal-UE dwar Restrizzjonijiet fuq l-Użu: Dan l-apparat huwa limitat għal użu ġewwa biss. Ma jistax jitħaddem barra.
hu	Magyar [Hungarian]	Alulírott, Lantronix, Inc. nyilatkozom, hogy a BOLERO43 device megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak. Az EU-megfelelőségi nyilatkozat teljes szövege a következő internetes címen érhető el: https://www.lantronix.com/products/bolero40-series/ EU értesítés a korlátozásokról: Ez az eszköz csak beltéri használatra korlátozódik. Lehet, hogy szabadban nem üzemeltethető.
no	Norwegian	Lantronix, Inc. erklærer herved at denne BOLERO43 device er i samsvar med de grunnleggende kravene og andre relevante bestemmelser i direktiv 2014/53 / EU. Den fullstendige teksten til EU-samsvarserklæringen er tilgjengelig på følgende internettadresse: https://www.lantronix.com/products/bolero40-series/ EUs merknad om bruksbegrensninger: Denne enheten er bare begrenset til innendørs bruk. Det kan hende at den ikke brukesutendørs.

Code	Language	Statement
pl	Polski [Polish]	Niniejszym Lantronix, Inc. oświadcza, że BOLERO43 device jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/EU. Pełny tekst deklaracji zgodności EU jest dostępny pod następującym adresem internetowym: https://www.lantronix.com/products/bolero40-series/ Zawiadomienie UE o ograniczeniach użytkowania: To urządzenie jest przeznaczone wyłącznie do użytku w pomieszczeniach. Nie można go obsługiwać na zewnątrz.
pt	Português [Portuguese]	Lantronix, Inc. declara que este BOLERO43 device está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/EU. O texto completo da declaração UE de conformidade está disponível no seguinte endereço na Internet: https://www.lantronix.com/products/bolero40-series/ Aviso da UE de restrições de uso: Este dispositivo está limitado apenas ao uso interno. Não pode ser operado ao ar livre.
ro	Romanian	Prin prezenta, Lantronix, Inc., declară că acest BOLERO43 device respect cerințele esențiale și alte dispoziții relevante din Directiva 2014/53 / UE. Textul complet al declarației de conformitate a UE este disponibil la următoarea adresă de internet: https://www.lantronix.com/products/bolero40-series/ Notificarea UE privind restricțiile de utilizare: Acest dispozitiv este limitat numai la uz interior. Este posibil să nu funcționeze în aer liber.
sr	Serbian	Овиме, Лантроник, Инц., изјављује да је овај FOX4-4G device у складу са суштинским захтевима и осталим релевантним одредбама Директиве 2014/53 / ЕУ. Комплетан текст ЕУ изјаве о усаглашености доступан је на следећој Интернет адреси: https://www.lantronix.com/products/bolero40-series/ Обавештење ЕУ о ограничењима употребе: Овај уређај је ограничен само на унутрашњу употребу. Можда се не користи на отвореном.

Code	Language	Statement
sl	Slovensko [Slovenian]	Lantronix, Inc. izjavlja, da je ta FOX4-4G device v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: https://www.lantronix.com/products/bolero40-series/ Obvestilo EU o omejitvah uporabe: Ta naprava je omejena samo na notranjo uporabo. Morda ga ne uporabljate na prostem.
sk	Slovensky [Slovak]	Lantronix, Inc. týmto vyhlasuje, že FOX4-4G device enterprise Wi-Fi IoT module spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EU. Úplné znenie EÚ vyhlásenia o zhode je k dispozícii na tejto internetovej adrese: https://www.lantronix.com/products/bolero40-series/ Oznámenie EÚ o obmedzeniach pri používaní: Toto zariadenie je obmedzené iba na použitie v interiéri. Nesmie sa používať vonku.
fi	Suomi [Finnish]	Lantronix, Inc. vakuuttaa täten että FOX4-4G device tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. EU-vaatimustenmukaisuusvakuutuksen koko teksti on saatavana seuraavassa Internet-osoitteessa: https://www.lantronix.com/products/bolero40-series/ EU: n ilmoitus käyttörajoituksista: Tämä laite on rajoitettu vain sisäkäyttöön. Sitä ei saa käyttää ulkona.
sv	Svenska [Swedish]	Härmed intygar Lantronix, Inc. att denna FOX4-4G device står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande internetadress: https://www.lantronix.com/products/bolero40-series/ EU-meddelande om begränsningar för användning: Den här enheten är endast begränsad till inomhusbruk. Det får inte användas utomhus.

Table 16. EU Statements