



LogiScan-17xx

Operating Manual

Edition 22.11.2018

Manual



LogiScan-17xx
Operating Manual
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We don't deliver just our Mobile Terminals with Standard Software...

but also develop to customers specific

- Applications for this Devices
- PC Applications
- Hardware

and advise you on

- Creating concepts for mobile and stationary data collection
- Queries surrounding Bar Code and RFID
- Hardware problems

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1. General

This Android-based mobile computer has a powerful quad-core processor, stable wireless connectivity (4G LTE, Wi-Fi, Bluetooth), a high-resolution camera, accurate GPS, NFC, optional 2D barcode scanner and Iris Recognition. This robust device can be used in industries such as express delivery, logistics, warehousing, manufacturing.

The free apps devin and aiBrowser for barcode and RFID management with Android apps and Android web applications, as well as the app ScannerDemo (including source code) are already pre-installed and enabled on this device. These apps have been developed specifically for android-based LogiScan-15xx/17xx and can only be run on these devices.

2. Batteries

Precautions for using Batteries

- Do not damage the batteries, heat, compress, open (eg with a drill) or soak in water: danger of explosion! Make sure to store batteries out of the reach of children or animals.
- Do not use the product in explosion hazardous areas.
- If the product gets wet, do not heat or heat (eg heating, microwave, etc.). Heated battery can cause an explosion, deform or become unusable. On contact with water and other liquids, the sticker changes color inside the terminal. In this case, the warranty claim expires.
- Do not use in an airplane or hospital.
- Do not expose batteries to direct sunlight (eg car dashboard), because they are deformed by heat and become unusable.
- Do not let the battery unused for long periods in the device or in storage. If the battery has not been used for 6 months or longer, check the charge status and charge or dispose of the battery if necessary.
- The typical estimated life of a lithium-ion battery is approximately 2 to 3 years, or 300 to 500 charge cycles, whichever occurs first. A charge cycle is the useful life of fully charged to fully discharged and fully recharged. For batteries with which no full charge cycles are run through, the life expectancy is about 2 to 3 years.
- Rechargeable lithium ion batteries have a limited lifespan, and gradually lose their ability to hold a charge. This loss in capacity (aging) is irreversible. Since the battery capacity decreases, so does the time from about the device can be operated with a fully charged battery.
- Lithium-ion batteries gradually, if they are not in use or during storage (self-discharge). The battery charge status should be checked regularly. The

instructions contain information such as the state of charge to check and how the batteries must be recharged.

- Observe and register the term, which can be reached with a new, fully charged battery with your device. Use the term of a new battery as a basis to compare the runtimes with older batteries. The duration of the batteries varies depending on the configuration of the device and applications that are running.
- Batteries that have almost reached the end of their estimated life is to carefully monitor.

Replace the battery with a new one of the following conditions applies:

- The battery life is less than about 80% of the initial term.
- The battery charge time increases significantly.
- If a battery is stored for long periods of time or otherwise not used, please see the instructions for the storage of batteries in this document. If you have not followed the instructions and the battery has no charge, you look at it as damaged and replace it with a new one.
- Observe the loading instructions in the user manual of the product and / or the detailed online help to recharge your batteries.
- Charging or discharging the battery to approximately 50% of capacity before storage.
- Charge the battery to approximately 50% of capacity at least once every 6 months.
- Remove the battery and store these separately from your device.
- Store the battery at a temperature between 5 °C and 20 °C (41 °F and 68 °F).

Charging the Battery

Direct Charging: Connect AC adapter with charging cable or AC adapter with USB cable to USB jack of the Snap-On.

Please notice: If the device should be charged via the AC adapter, the USB cable has to be disconnected, otherwise the charging will be done via the USB cable.

Cradle Charging: Connect AC adapter to the cradle and plug LogiScan-1700 into the cradle.

Deeply discharged Batteries

- **Symptoms:** A device with a deeply discharged battery can no longer be switched on. After the AC adapter has been plugged in or the device has been put into the cradle, the flash symbol can flash for a short time. Until then the red charge LED at the top left of the device can go up to 10 minutes.
- **Leave the device connected in the cradle or the AC adapter!**
- **Observe the notes in "Charging the Battery".**

Thus, a deep discharge of the battery can be avoided:

- Charge the batteries regularly. For intensive use should be loaded daily.
- Charge the battery as soon as possible after you receive the prompt from the device.
- If a device is not used for more than 2 days, turn it off as follows: Press and hold the power button on the side of the device, and then press "Turn off" in the menu that appears.

3. Controls

LogiScan-1700



- 1 Iris light
- 2 Iris camera
- 3 Menu Button
- 4 Light sensor, distance sensor
- 5 Home Button
- 6 Scan Engine
- 7 Back Camera
- 8 Iris camera (rear)
- 9 Iris light
- 10 Scan Button
- 11 Card rack slot
- 12 Flash Light
- 13 Power
- 14 Setup
- 15 NFC

LogiScan-1710



LogiScan-1720 UHF



4. Inserting SIM and Mini SD Cards



- Open the rubber cap on the right side of the device.
- Press with the tip of the included tool (or a straightened paper clip) into the small lock of the SIM tray until it pops out a little bit and pull out the SIM tray.
- Insert SIM and SD cards into the SIM tray as shown in the picture above.
- Push the SIM tray completely into the receiving slot and close it with the rubber cap.

5. AppCenter

The AppCenter contains a collection of apps for hardware-specific test functions, such as

- Barcode Scanner,
- RFID Reader,
- Fingerprint Sensor,
- GPS,
- Network,
- Bluetooth,
- NFC,
- Telephone,
- Camera,
- Printer.

6. Barcode Scanning

1D Barcode



Right



Wrong

2D Image



Right



Wrong

7. Turning Device on/off

Press the power button at the side of the device **short** to switch on / off the device.

Press the power button at the side of the device and **hold** to start up / shut down the device, to reboot or enable flight mode.

8. Pre-installed Android apps from aitronic

The following Android apps by aitronic are preinstalled on Android-based devices from aitronic:

- **devin**
allows the transfer of the scanned barcode scanner or RFID reader data of an android-based LogiScan to the keyboard buffer or the clipboard. Alternatively, a broadcast message is possible. Thus, the bar code scanner and RFID reader can serve as a data source for each app.
- **aibrowser**
interacts with the Android app devin and allows the transfer of the scanned barcode scanner or RFID reader data of an android-based LogiScan into web applications. The aiBrowser is HTML-5 compliant and is useful for modern JavaScript-based web applications (such as Microsoft Dynamics NAV). The optional kiosk mode prevents access to the system.
- **ScannerDemo**
serves as a demonstration for the barcode and transponder tag pickup, on the other hand it serves app developers as an example of the integration of barcode scanners and RFID scanner features in a native app. We provide this demo app to incl. source code for download.
- **ailinventur**
The Android app ailInventur interacts with the Android app devin. ailInventur is used for the demonstration of barcode scanners and/or RFID readers and can be used for simple inventory with android based LogiScan.

These apps as well as the corresponding documentation can be downloaded at <https://www.aitronic.de/en/support/downloads>.

9. Reset to Factory Default

Before resetting the device to factory default settings, please save the folder /aitronic from the device on your PC/Mac.

After the reset, copy this folder back to the device to continue using the aitronic apps.

10. Disposal

Disposal of Batteries

Duty to inform in accordance with battery legislation (BattG)



Batteries and rechargeable batteries do not belong in household waste. The consumer is obliged to dispose of no longer used batteries properly. Let please dispose of them only through retailers or battery collection points. Hereby you make an actual contribution to environmental protection. Since 2009, the German battery legislation obligates all citizens to dispose of used batteries exclusively via the trade or specially equipped collection points (statutory obligation to return). Retailers and manufacturers are obliged to take back these batteries free of charge and properly and batteries to be recycled or disposed of as hazardous waste (legal obligation). Batteries may only be disposed in the discharged state at the return points, and / or (e.g. by isolating the poles with adhesive strips), precaution against short-circuits has to be taken.

The built-in Li-Polymer battery of this device is marked with the adjacent Disposal characters (consisting of a crossed out dustbin and the type of batteries used).

The symbols shown on the batteries have the following meaning:



= Battery must not be placed in household waste

Pb = Battery contains more than 0.004 percent lead

Cd = Battery contains more than 0.002 percent cadmium

Hg = Battery contains more than 0.0005 per cent of mercury

Legal notice for waste disposal



In accordance with the European legislation, it is forbidden to dispose of electrical and electronic equipment in the domestic waste. The aitronic GmbH takes back all of it placed on the market or sold electronic devices and accessories. So environmentally sound disposal is ensured.

11. Technical Specifications

LogiScan-1700

Physical Characteristics	
Dimension, Weight	163,8 x 79,2 x 13,8 mm (L x W x H), 242 g
Display	5.2 inch, high resolution (1920 x 1080)
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Tastatur	4 front buttons, 1 side button, 2 scan keys, 1 multifunctional key
Battery	Li-ion, rechargeable, 4000 mAh
Expansion Slot	1 slot for SIM card, 1 slot for SIM or TF card
Audio	speaker, 2 microphones
Performance	
CPU	Cortex-A53 1,3 GHz Quad-Core
Memory	2 GB RAM, 16 GB ROM, Supports up to 32 GB Micro SD card
Interfaces	USB2.0 Type-C, OTG
Developing Environment	
Operating System	Android 6.0
SDK	Chainway SDK
Programming Language	Java
Development Tool	Android Studio
Wireless Communication	
WWAN & Voice	2G: 850/900/1800/1900 Mhz, 3G: 850/900/1900/2100 Mhz, 4G: B1, B3, B5, B7, B8, B20, B40
WLAN	IEEE802.11 a/b/g/n, 2,4 GHz/5 GHz Dual Band, internal antenna
WPAN	Bluetooth 4.0, BLE
GPS	GPS/AGPS, GLONASS, BeiDou, internal antenna
Data Capturing	
1D/2D Imager (optional)	ZEBRA SE4710, all common 1D barcode types and the following 2D codes: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR Code, Micro QR Code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.
Camera (optional)	Rear: 13 Megapixel, autofocus with flash, front camera 5 Megapixel (optional)
NFC	13.56 MHz, Protocol: ISO/IEC 18092 (ECMA 340) and ISO/IEC 21481 (ECMA 352), range 2 - 4 cm
Iris Recognition (optional)	Rate < 150 ms, scan range 20 - 40 cm, FAR (False Acceptance Rate) 1/10.000.000

User Environment	
Operating Temperature	-20 to 50° C
Storage Temperature	-40 to 70° C
Humidity	5% - 95% (not condensing)
Drop Specification	At least 1.8 m drops to the concrete across the operating temperature range and 1000 0.5 m falls at room temperature
ESD	± 8 kV air discharge, ±4 kV conductive discharge
Sealing	IP67

LogiScan-1710

Physical Characteristics	
Dimension, Weight	164.2 x 78.8 x 17.0 mm (L x B x W), 288 g
Display	5.2 inch, high resolution (1920 x 1080)
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Tastatur	4 front buttons, 1 side button, 2 scan keys, 1 multifunctional key
Battery	Li-ion, rechargeable, 5000 mAh
Expansion Slot	1 slot for SIM card, 1 slot for SIM or TF card
Audio	speaker, 2 microphones
Sensors	Gravity, light and proximity sensor, vibration motor
Performance	
CPU	Cortex-A53 1,3 GHz Quad-Core
Memory	2 GB RAM, 16 GB ROM, Supports up to 32 GB Micro SD card
Interfaces	USB2.0 Type-C, OTG
Developing Environment	
Operating System	Android 6.0
SDK	Chainway SDK
Programming Language	Java
Development Tool	Android Studio
Wireless Communication	
WWAN & Voice	2G: 850/900/1800/1900 MHz, 3G: 850/900/1900/2100 Mhz, 4G: B1, B3, B5, B7, B8, B20, B40
WLAN	IEEE802.11 a/b/g/n, 2.4/5 GHz Dual Band, internal antenna
WPAN	Bluetooth 4.0, BLE
GPS	PS/AGPS, GLONASS, BeiDou, internal antenna

Data Capturing	
1D/2D Imager (optional)	ZEBRA SE4750, alle gängigen 1D- und folgende 2D-Codes: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.
Camera (optional)	5 MP, autofocus with flash
NFC	13.56 MHz, Protocol: ISO/IEC 18092 (ECMA 340) and ISO/IEC 21481 (ECMA 352), range 2 - 4 cm
RFID LF/HF Reader Modul Standard or LEGIC (optional)	125 and 134 kHz, 13,56 MHz Supported transponder tag types see pages 17 and 18
Iris Recognition (optional)	Rate < 150 ms, scan range 20 - 40 cm, FAR (False Acceptance Rate) 1/10.000.000
User Environment	
Operating Temperature	-20 to 50° C
Storage Temperature	-40 to 70° C
Humidity	5% - 95% (not condensing)
Drop Specification	At least 1.8 m drops to the concrete across the operating temperature range and 1000 0.5 m falls at room temperature
ESD	± 8 kV air discharge, ±4 kV conductive discharge
Sealing	IP67

LogiScan-1710 UHF

Physical Characteristics	
Dimension, Weight	164.2 x 78.8 x 17.0 mm (L x B x W), 321 g
Display	5.2 inch, high resolution (1920 x 1080)
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Tastatur	4 front buttons, 1 side button, 2 scan keys, 1 multifunctional key
Battery	Li-ion, rechargeable, 5000 mAh
Expansion Slot	1 slot for SIM card, 1 slot for SIM or TF card
Audio	speaker, 2 microphones
Sensors	Gravity, light and proximity sensor, vibration motor
Performance	
CPU	Cortex-A53 1,3 GHz Quad-Core
Memory	2 GB RAM, 16 GB ROM, Supports up to 32 GB Micro SD card
Interfaces	USB2.0 Type-C, OTG

Developing Environment	
Operating System	Android 6.0
SDK	Chainway SDK
Programming Language	Java
Development Tool	Android Studio
Wireless Communication	
WWAN & Voice	2G: 850/900/1800/1900 MHz, 3G: 850/900/1900/2100 Mhz, 4G: B1, B3, B5, B7, B8, B20, B40
WLAN	IEEE802.11 a/b/g/n, 2.4/5 GHz Dual Band, internal antenna
WPAN	Bluetooth 4.0, BLE
GPS	PS/AGPS, GLONASS, BeiDou, internal antenna
Data Capturing	
1D/2D Imager (optional)	ZEBRA SE4750, alle gängigen 1D- und folgende 2D-Codes: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.
Camera (optional)	5 MP, autofocus with flash
NFC	13.56 MHz, Protocol: ISO/IEC 18092 (ECMA 340) and ISO/IEC 21481 (ECMA 352), range 2 - 4 cm
UHF	865 MHz - 868 MHz / 920 - 925 MHz / 902 - 928 MHz, circular polarization, range 5 – 100 cm
Iris Recognition (optional)	Rate < 150 ms, scan range 20 - 40 cm, FAR (False Acceptance Rate) 1/10.000.000
User Environment	
Operating Temperature	-20 to 50° C
Storage Temperature	-40 to 70° C
Humidity	5% - 95% (not condensing)
Drop Specification	At least 1.8 m drops to the concrete across the operating temperature range and 1000 0.5 m falls at room temperature
ESD	± 8 kV air discharge, ±4 kV conductive discharge
Sealing	IP67

LogiScan-1720 UHF

Physical Characteristics	
Dimension, Weight	164.2 x 80.0 x 24.3 mm (L x B x W), 654 g
Display	5.2 inch, high resolution (1920 x 1080)
Touch Panel	Corning Gorilla Glass, multi-touch panel, gloves and wet hands supported
Tastatur	4 front buttons, 1 side button, 2 scan keys, 1 multifunctional key
Battery	Li-ion, rechargeable, 8000 mAh
Expansion Slot	1 slot for SIM card, 1 slot for SIM or TF card
Audio	speaker, 2 microphones

Performance	
CPU	Cortex-A53 1,3 GHz Quad-Core
Memory	2 GB RAM, 16 GB ROM, Supports up to 32 GB Micro SD card
Interfaces	USB2.0 Type-C, OTG
Developing Environment	
Operating System	Android 6.0
SDK	Chainway SDK
Programming Language	Java
Development Tool	Android Studio
Wireless Communication	
WWAN & Voice	2G: 850/900/1800/1900 MHz, 3G: 850/900/1900/2100 Mhz, 4G: B1, B3, B5, B7, B8, B20, B40
WLAN	IEEE802.11 a/b/g/n, 2,4/5 GHz Dual-Band, internal antenna
WPAN	Bluetooth 4.0, BLE
GPS	PS/AGPS, GLONASS, BeiDou, internal antenna
Data Capturing	
Camera (optional)	5 MP, autofocus with flash
UHF	13.56 MHz, Protokoll: ISO/IEC 18092 (ECMA 340) und ISO/IEC 21481 (ECMA 352), range 2 - 4 cm
HF, NFC (optional)	13.56 MHz, Protocol: ISO/IEC 18092 (ECMA 340) and ISO/IEC 21481 (ECMA 352), range 2 - 4 cm
1D/2D Imager (optional)	ZEBRA SE4750, alle gängigen 1D- und folgende 2D-Codes: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode; Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX), etc.
Iris Recognition (optional)	Rate < 150 ms, scan range 20 - 40 cm, FAR (False Acceptance Rate) 1/10.000.000
User Environment	
Operating Temperature	-20 to 50° C
Storage Temperature	-40 to 70° C
Humidity	5% - 95% (not condensing)
Drop Specification	At least 1.8 m drops to the concrete across the operating temperature range and 1000 0.5 m falls at room temperature
ESD	± 8 kV air discharge, ±4 kV conductive discharge
Sealing	IP65

RFID LF/HF Reader Modul

Supported Transponder Tag Types

		Tag Type	Reader Type	
			Standard	LEGIC
13,5 MHz	ISO14443A	LEGIC Advant	✓ ¹⁾	✓
		MIFARE: Classic/DESFire EV1/Mini/Plus S &	✓	✓
		MIFARE Classic EV1	✓ ⁵⁾	✓ ⁵⁾
		MIFARE DESFire EV2	✓ ⁵⁾	✓ ⁵⁾
		MIFARE Pro X, Smart MX	✓ ⁶⁾	✓ ⁶⁾
		LEGIC Prime		✓
		NTAG2xx, SLE44R35	✓	✓
		PayPass	✓ ⁶⁾	✓ ⁶⁾
		SLE66Rxx (my-d move)	✓ ⁶⁾	✓ ⁶⁾
		Topaz	✓	
	ISO14443B	Calypso, CEPAS, Moneo	✓ ⁶⁾	✓ ⁶⁾
		Calypso Innovatron protocol	✓ ⁵⁾	
		Pico Pass	✓ ²⁾	✓ ¹⁾
		SRI4K, SRIX4K, SRI512, SRT512	✓	
		HID iCLASS	✓ ¹⁾	✓ ¹⁾
	ISO18092 / ECMA-340	NFC Forum Tag 1-5	✓	
		NFC Peer-to-Peer, NFC active and passive	✓	✓
		Sony FeliCa	✓ ⁷⁾	✓ ⁷⁾
		Passive peer-to-peer mode - initiator, NFC Tag		✓
	ISO15693	EM4x33, EM4x35	✓ ⁶⁾	✓ ⁶⁾
		HID iCLASS, HID iCLASS SE/SR	✓ ¹⁾	✓ ¹⁾
		ICODE SLI, Tag-it	✓	✓
		LEGIC Advant	✓ ¹⁾	✓
		M24LR16/64	✓	✓
		MB89R118/119	✓ ¹²⁾	
		SRF55Vxx (my-d vicinity)	✓ ⁶⁾	✓ ⁶⁾
		Pico Pass	✓ ²⁾	✓ ¹⁾
		LEGIC Prime	✓	✓
1) UID only, 2) UID Only, read/write on request, 3) on request, 4) r/w, enhanced security features on request, 5) r/w in direct chip command mode, 6) UID + r/w public area, 7) without crypto, 8) hash value only, 9) UID + PAC (CSN & Facility Code), r/w on request, 10) only emulation of 4100, 4102, 11) supported by TWN4 MultiTech 2/3 BLE and TWN4 MultiTech Nano only, 12) not supported by TWN4 MultiTech HF Mini, 13) AES only				

	Tag Type	Reader Type	
		Standard	LEGIC
125 kHz / 134,2 kHz	AWID, Cardax, CASI-RUSCO, FDX-B	✓	✓
	Cotag	✓	
	Deister	✓ ⁹⁾	✓ ⁹⁾
	EM4100, 4102, 4105, 4050, 4150, 4450, 4550	✓	✓
	EM4200	✓ ¹²⁾	✓ ¹²⁾
	EM4305	✓ ⁴⁾	✓ ⁴⁾
	G-Prox	✓ ⁹⁾	✓ ⁹⁾
	HID iCLASS Elite & SE Elite	✓	
	HITAG 1, 2, S	✓ ⁸⁾	✓ ⁸⁾
	ICT	✓ ⁴⁾	✓ ⁴⁾
	IDTECK	✓	✓
	Isonas	✓ ⁴⁾	✓ ⁴⁾
	Keri, Miro, PAC, Pyramid, Q5, UNIQUE	✓	✓
	Nedap	✓ ⁹⁾	✓ ⁹⁾
	T5557, T5567, T5577	✓	✓
	TIRIS/HDX	✓	✓
	TITAN (EM4050)	✓	✓
	ZODIAC	✓	✓
¹⁾ UID only, ²⁾ UID Only, read/write on request, ³⁾ on request, ⁴⁾ r/w, enhanced security features on request, ⁵⁾ r/w in direct chip command mode, ⁶⁾ UID + r/w public area, ⁷⁾ without crypto, ⁸⁾ hash value only, ⁹⁾ UID + PAC (CSN & Facility Code), r/w on request, ¹⁰⁾ only emulation of 4100, 4102, ¹¹⁾ supported by TWN4 MultiTech 2/3 BLE and TWN4 MultiTech Nano only, ¹²⁾ not supported by TWN4 MultiTech HF Mini, ¹³⁾ AES only			