2128P Bluetooth® UHF RFID Reader

High Performance RFID Reading

The fixed High Gain Antenna provides up to 9m (29.5ft) of read range.

Enhanced Modes of Operation

The 2128P UHF RFID Reader can provide in- reader tag de-duplication for more than 50,000 unique tags from more than 1 million tag reads. In addition the Reader can store on-board (using the embedded micro SD card) more than 500 million unique tags with date and time stamping for a truly powerful batch collection mode of operation.

Sophisticated user feedback provides the most configurable, in-depth and capable 'search and find' features currently available.

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Connect Devices Using ePop-Loq®

The 2128P UHF RFID Reader features the new TSL® ePop-Loq® connector. The patented ePop-Loq® system allows data and charge connections to be passed from the reader to an attached device, such as a smartphone or handheld terminal.
The unique ePop-Loq® system is designed to safely separate when the reader is subject to large impacts, such as when dropped.

Single Point Charge Solution

The 2128P Docking Station allows charging of both the 2128P UHF RFID Reader and a smartphone or handheld terminal attached via an ePop-Loq® mount. This unique design can accommodate a wide range of devices from many handheld and smartphone manufacturers. The 2128P Docking Station Kit is supplied separately and includes the docking station, power supply unit and a USB data cable.

Powerful and Comprehensive Software Development Tool

Applications developed for the 1128, 2128, 2128P 1153, 1166 or 2166 UHF RFID Readers can easily be configured to work with the 2128L, as all of these readers share TSL's unique 'ASCII 2 Protocol'. This sophisticated, parameterised set of commands carry out multiple actions locally within the reader. This approach enables multiple tag operations to be executed using simple pre-configured ASCII 2 commands which not only speeds integration of the reader into applications but also makes application development easier.

Flexible Bluetooth® Connectivity

The 2128P supports both Bluetooth® Classic as well as Bluetooth® Low Energy (BLE). The reader can be operated in Serial Port Profile (SPP) or Human Interface Device mode (HID), as well as supporting iApp2 for Apple iOS devices. The reader also supports an automatic re-connect mode for both Android and Apple devices.
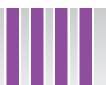
Ultra Secure Data Gathering Option

As the ePop-Loq® system provides a wired connection between the host device and RFID Reader, sensitive data can be given that extra level of security by avoiding the use of wireless data transfer.

OS Independence

The reader is compatible with Android, iOS and Windows.

Lightweight

Only 400g (14.1oz) including battery, trigger handle and 2D Imager.

Specifications

Physical and Environmental Characteristics

Dimensions (LxWxH):	158 x 98 x 170 mm (LxWxH)
Weight:	465 g / 16.4 oz (including battery & trigger handle).
User input:	Trigger button.
User feedback:	Speaker, vibration motor, LED - configurable
Power:	Removable, rechargeable 3.7V, 2400mAh, 8.9Wh Lithium Polymer battery pack.
Minimum operating time[1]:	Light use[2]: 8.5 hrs Moderate use[3]: 5 hrs Heavy use[4]: 2.5 hrs
Enclosure materials:	Polycarbonate.

Performance Characteristics

RFID engine:	TSL® custom module
Communication protocols:	TSL® ASCII 2.0 parameterised command set Impinj binary protocol.
Memory:	Optional Micro SD card (maximum 32GB capacity supported). Up to 500 million date and time stamped EPCs can be stored on a 32GB Micro SD card (separate purchase from alternative supplier).
Compatible Host devices (Bluetooth®):	Any Bluetooth® Host[5] supporting the Serial Port Profile (SPP) or Human Interface Device (HID) profile (Android, iOS, Linux, Mac, Windows).
Compatible Host devices (USB):	Any USB host with FTDI VCP driver support (Windows, Linux, Mac, Android).

Environmental

Operating Temp.:	-10°C to 50°C (14°F to 122°F).
Charging Temp.:	5°C to 40°C (41°F to 104°F).
Storage Temp.:	Less than 1 month at -20°C to +45°C (-4°F to 113°F). Less than 6 months at -20°C to +35°C (-4°F to 95°F).
Humidity:	5% to 85% non-condensing.
Drop Spec:	Multiple drops to concrete: 4 ft./1.2 m ambient, 3ft / 0.9m across the operating temperature range.
Tumble:	1000 0.5 metre tumbles at room temperature (2000 cycles).
Environmental Sealing:	IP54.
Electrostatic Discharge (ESD):	± 15kVdc air discharge; ± 8kVdc contact discharge.
MIL-STD 810F:	Meets and exceeds applicable MIL-STD 810F for drop, tumble and sealing.

RFID Performance

Standards supported:	EPC Class 1 Gen 2.
Nominal read range[6]:	Up to 9 m (29.5 ft).
Nominal write range[6]:	Up to 4 m (13.1 ft).
Field:	150-degree forward facing (approx.) measured from front of device.

Antenna:	Right Hand Circularly Polarized with optional 2D Scanner.
Frequency Range:	865-868MHz (EX1/ES1 variant) 902 – 928 MHz (AX1/AS1 variant)
Maximum Output Power:	Up to 30 dBm (region dependent) + 4.0 dBiC Antenna

Barcode Scanning

Optional 2D Barcode Engine:	Optional TSL® custom 2D Barcode Scan Engine module.
Sensor Resolution:	1280 x 960 pixels, rolling shutter
Field of View:	Horizontal: 44.5°, vertical: 33.5°
Focal Distance:	From front of engine: 15.24 cm (6 in.)
Aiming LED:	Green LED
Illumination:	1 warm white LED
Symbologies Supported:	1D: All major codes 2D: 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).

Ranges[7]:	Barcode	Near	Far
	5 mil Code 39	6.1 cm	24.1 cm
	5 mil Code 128	7.1 cm	22.9 cm
	6.67 mil PDF 417	6.1 cm	20.3 cm
	10 mil DataMatrix	7.4 cm	21.6 cm
	100% UPCA	4.6 cm	49.5 cm
	15 mil QR	3.0 cm	29.2 cm
	20 mil QR	3.0 cm	35.6 cm

Communication

Bluetooth®:	Bluetooth® Version 4.2.
Bluetooth® Frequency Range:	2.4 - 2.4835 GHz.
Bluetooth® Profiles:	SPP Profile, HID Profile, Apple iAP, Bluetooth®
Bluetooth® Range[8]:	Up to 100 m.
Bluetooth® Pairing:	Simple Secure Pairing, NFC OOB Pairing.
Direct USB	USB connection to handheld terminal via ePop-Loq® cases (separate purchase).

[1] Minimum operating time figures are based on new units that have been stored, charged and operated within the stated Environmental Specifications. Units stored over 3 months must be recharged every 3 months. Number of transponders in the environment affects minimum operating time.

[2] Light Use: Continuous RFID inventories for 20s of every 120s

[3] Moderate Use: Continuous RFID inventories for 10s of every 30s

[4] Heavy Use: Continuous RFID inventories for 59s of every 60s

[5] Compatible Bluetooth® stack required in the Host device

[6] Tag Read/Write performance is dependent on tag type, items tagged, number of tags in the field and other radio and environmental factors

[7] Artificial lighting can affect scanning performance

[8] Open field

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