1153 Wearable Bluetooth® UHF RFID Reader

infordata SISTEMI

Data Collection Performance Like No Other

With its compact and lightweight form factor, the TSL® 1153 Bluetooth® UHF RFID reader performs like no other reader, giving the user an extremely compact and lightweight multifunction data collection device. Designed to read and write to EPC Class 1 Gen 2 (ISO18000-6C) tags, the 1153 includes high performance 2D data scanning to bring unparalleled data collection capabilities to any host it is connected to. The 2D imager engine incorporates fast-pulse illumination and fast sensor shutter speeds, delivering outstanding motion tolerance and class leading 1D and 2D data capture.

Platform Independent UHF RFID Reader

Use existing Bluetooth® wireless technology enabled host devices including Enterprise Handhelds, Consumer Phones, Touchscreen MP3 players, Tablets and PC's – the 1153 will bring high performance RFID and 2D scanning to all these devices running a wide range of Operating Systems. The 1153 Bluetooth® UHF RFID reader can also be tethered to a PC using a USB cable.
Extensive software support is available for a wide range of platforms including code samples, demonstration applications and source code.

Integrate into Applications with Ease

The new 1153 *Bluetooth*® UHF RFID reader incorporates TSL's unique ASCII 2 protocol for faster and easier application development. This sophisticated parameterised protocol provides the developer with a powerful set of commands that carry out multiple actions locally within the reader. This approach enables multiple tag operations to be executed using simple pre-configured ASCII commands which not only speeds integration of the reader into applications but also abstracts the developer from some of the complexities of the underlying Native API and ultimately results in un-paralleled levels of performance.

A Configuration To Suit Your Application

The choice of host device is yours - from low cost touchscreen MP3 players through to fully featured Enterprise Handheld Terminals. The choice of ergonomic style includes either a 'back of hand' mount or an arm mount option for scan intensive RFID and 2D bar code data collection applications. EPC data can be stored on an optional Micro SD memory card (up to 500 million transponder EPCs on a 32GB card - separate purchase from alternative supplier). This provides the ability to collect and log data even if USB or Bluetooth® communication channels are not available.

High Performance Bluetooth ® Multi-modal Data Capture

UHF RFID and 2D barcode data capture in one integrated Bluetooth® device.

Hardware Platform Independence

Operates with wide variety of Bluetooth® wireless technology enabled host devices including touchscreen MP3 players, phones, tablets, Enterprise Handhelds and PC's.

OS Independence

The reader is compatible with Android, iOS and Windows.

Batch Data Collection

Removable high capacity Micro SD data card and real time clock for extended batch data collection with time stamp independent of the host connection.

High Performance barcode scanning

Integrated 2D imaging engine provides class leading barcode scan performance via its unique patent pending fast pulse illumination which delivers outstanding motion tolerance and class leading 1D and 2D data capture.

Physical and Environmental Characteristics

Dimensions (LxWxH):	10.2 cm x 5.5 cm x 5.6 cm.
Weight (inc battery):	157 g / 5.5 oz.
User input:	Two Trigger buttons.
User feedback:	Speaker, vibration motor, three LEDs.
Power:	Removable, rechargeable 3.7V, 1200mAh, 4.5Wh Lithium Polymer battery pack.
Minimum operating time[1]:	Light use: 10 hrs Moderate use: 6.5 hrs Heavy use: 2.5 hrs
Enclosure materials:	Polycarbonate.

Performance Characteristics

RFID engine:	ST ST25RU3993 based.
Communication protocols:	TSL® ASCII 2.0 parameterised command set.
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 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 40°C (14°F to 104°F).
Charging Temp.:	5°C to 40°C (41°F to 104°F).
Storage Temp.:	Less than 1 month at at -20 to +60°C (-4°F to 140°F). Less than 3 months at -20°C to +45°C (-4°F to 113°F). Less than 1 year at -20°C to +30°C (-4°F to 86°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:	500 0.5 metre tumbles at room temperature (1,000 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:	up to 6.5 ft./up to 2 m.
Nominal write range:	up to 3.3 ft./up to 1 m.
Field:	150-degree forward facing (approx.) measured from front of device.
Antenna:	Internal Circularly Polarized.
Frequency Range:	EU: 865-868MHz; US: 902-928MHz.
Maximum Output Power:	Up to 25 dBm (region dependent) + 1.0 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:

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 2.1.
Bluetooth® Frequency Range:	2.4 - 2.4835 GHz.
Bluetooth® Profiles:	SPP Profile, HID Profile, Apple iAP.
Bluetooth® Power:	Class 2.
Bluetooth® Range:	30m.
Bluetooth® Pairing:	PIN, Simple Secure Pairing, NFC OOB Pairing.

Peripherals and Accessories

External interface:	MicroUSB connector for battery charging, and USB connectivity.
USB operating modes:	Tethered for real time data capture in conjunction with SmartWedge software. Download of stored scan data.
Optional accessories:	2136 4-Slot Desktop Battery Charger

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