TECHNOLOGY SOLUTIONS UK LTD

www.tsl.com

1128 *BLUETOOTH*® UHF RFID READER

HIGH PERFORMANCE, *BLUETOOTH*® WIRELESS ENABLED UHF RFID READER

With 2D Imager Antenna option

RFID-only Antenna with Slimline Grip

Trigger Handle and 2D UHF antenna

Custom Mount for Datalogic Skorpio X3

Modular design

Made for iPhone | iPad | iPod

Bluetooth®

Data Collection Performance Like No Other

The TSL® 1128 *Bluetooth*® UHF RFID reader provides new levels of RFID performance. With its R2000 core and range of interchangeable high performance antennas, the 1128 performs like no other reader giving the user the highest levels of flexibility currently available in today's market. Designed to read and write to EPC Class 1 Gen 2 (ISO18000-6C) tags, the 1128 can also be configured with class leading high performance 2D barcode data scanning to bring unparalleled data collection capabilities to any host it is connected to. The Motorola SE4500 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[1] host devices including Enterprise Handhelds, Consumer Phones, Touchscreen MP3 players, Tablets and PC's – the 1128 will bring high performance RFID and 2D scanning to all these devices running a wide range of Operating Systems. The 1128 *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.

As Easy As ABC....

The new 1128 *Bluetooth*® UHF RFID reader incorporates TSL's unique ASCII protocol for faster and easier application development. This sophisticated parameterised ASCII protocol provides the developer a powerful set of commands that carry out multiple actions locally within the reader. This approach enables multiple tag operations 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 a compact slimline grip through to a comfortable trigger handle 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.

Features:

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

Operates with Android, iOS, Windows 10, 8, 7, Vista, XP, Windows Mobile, Windows CE, and Windows Phone.

Batch Data Collection

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

Flexible Configuration

Unique interchangeable high performance antennas including optional 2D scanning and trigger handle with a range of device specific mounts for holding phones and MP3 players.

High Performance Barcode Scanning

Integrated Motorola SE4500 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

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1128 SPECIFICATIONS

Physical and Environmental Characteristics

Dimensions (LxWxH):	16.0 cm x 7.7 cm x 16.9 cm – Trigger handle 16.0 cm x 7.7 cm x 9.7 cm – Slimline grip
Weight:	380 g / 13.4 oz (including battery & trigger handle)
User input:	Trigger button
User feedback:	Speaker, vibration motor, LED
Power:	Removable, rechargeable 4.2 volt Lithium Polymer 2400 mAh battery pack, 8.9 watt hrs
Enclosure materials:	Polycarbonate

Performance Characteristics

RFID engine:	TSL® custom module with embedded Impinj R2000
Communication protocols:	TSL® ASCII 2.0 parameterised command set Impinj binary
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[1] supporting the Serial Port Profile (SPP) or Human Interface Device (HID) profile (Android, iOS, Linux, Mac, Windows). See *Bluetooth*® Mode Comparison.
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 -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:	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[2]:	Up to 7m (23ft)
Nominal write range[2]:	Up to 2m (6.5ft)
Field:	150-degree forward facing (approx.) measured from front of device
Antenna:	Detachable, Circularly Polarized with optional 2D scanner
Frequency Range:	EU: 865-868MHz; US: 902-928MHz
Maximum Output Power:	32dBm EIRP or maximum for regulatory region
Antenna options:	High Performance CP High Performance CP with 2D Imager Custom antennas available

Barcode Scanning

Imager:	Motorola SE4500 2D imager
Sensor Resolution:	752 x 480 pixels
Field of View:	Horizontal: 40°, Vertical: 25°
Focal Distance:	SR: 8 in. DL: 5.3 in. HD: 2.9 in.
Aiming LED (VLD):	655 ±10 nm Laser
Illumination:	625 ±5 nm LEDs (2x)
Min. Print Contrast:	Minimum 25%
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[3]:	DL Focus / Near / Far 5 mil Code 39 / 1.4 in./36 mm / 7.3 in./185 mm 100% UPC / 1.6 in./41 mm / 12 in./305 mm 5 mil PDF417 / 2.8 in./71 mm / 4.5 in./114 mm

Communication

Bluetooth®:	*Bluetooth*® Version 2.1
Bluetooth® Profiles:	SPP Profile, HID Profile, Apple iAP
Bluetooth® Power:	Class 2
Bluetooth® Range[4]:	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 charger:	TSL® 1136 4-Slot desktop charger
Other Accessories:	Adapter mounts are available for a variety of smartphones handheld terminals. Slimline Grip, Trigger Handle

Regulatory

General:	Approved for use in the US, Canada, Europe, Australia, Brazil, China, Hong Kong, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand and UAE.
Electrical Safety:	Certified to UL60950-1, CSA C22.2 No. 60950-1, IEC 60950-1, EN 60950-1
EMI/RFI:	USA: FCC Part 15 Canada: ICES 003 Class B, RSS-Gen, RSS-102, RSS-247 EU: EN 301 489-3, EN 301 489-1, EN 301 489-17, EN 302-208, EN55022 Class B, EN55024
Laser Safety:	IEC Class2/FDA Class II in accordance with IEC60825-1/EN60825-1, 21CFR1040.10

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EXAMPLE CONFIGURATIONS

With Honeywell Dolphin D75e

With Apple iPod touch® (4th & 5th gen)

With Motorola ES400

With *Bluetooth*® wireless technology enabled computer

With Samsung Galaxy Tab S

With iPhone 6 Plus

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PART NUMBERS

RFID Reader Options

1128-EU-BT-UHF-A1 (ETSI) 1128-US-BT-UHF-A1 (FCC)	1128 *Bluetooth*® RFID reader with UHF antenna & trigger handle, battery, battery cover, Micro USB cable, USB charger
1128-EU-BT-UHF-IMG (ETSI) 1128-US-BT-UHF-IMG (FCC)	1128 *Bluetooth*® UHF Reader with 2D Imager, UHF antenna, trigger handle, battery, battery cover, Micro USB cable, USB charger
Grip handle options	
1128-SLG	Slimline Grip attachment
Device mount options*	
1128-MNT-UNI	Accessory Mount

*A range of customisable holders are available by special request - these include mounts for Motorola MC40, MC45, ES400, MC2100, iPhone (4th and 5th gen), iPod touch (4th and 5th gen), Samsung Galaxy Nexus and other handheld devices. Currently these are available in SLS RP materials only.

TSL® RFID Apps

RFID Explorer
www.tsl.com/apps/rfid-explorer

RFID Tag Finder
www.tsl.com/apps/rfid-tag-finder

RFID Web Wedge
www.tsl.com/apps/rfid-web-wedge

RFID Scan Scan Write
www.tsl.com/apps/rfid-scan-scan-write

TSL® Reader Configuration
www.tsl.com/apps/tsl-reader-configuration

WARRANTY

Warrranty

The TSL® 1128 reader is warranted against defects in workmanship and materials for a period of one year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

[1] Compatible *Bluetooth*® stack required in the Host device
[2] Tag Read/Write performance is dependent on tag type, items tagged, number of tags in the field and other radio and environmental factors
[3] Artificial lighting can affect scanning performance
[4] Open field

Terms

"Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

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ABOUT TSL®

TSL® designs and manufactures both standard and custom embedded, snap on and standalone peripherals for handheld computer terminals. Embedded technologies include:

- RFID - Low Frequency, High Frequency & UHF
- *Bluetooth*® wireless technology
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- Magnetic Card Readers
- OCR-B and ePassport

Utilizing class leading Industrial design, TSL® develops products from concept through to high volume manufacture for Blue Chip companies around the world. Using the above technologies TSL® develops innovative products in a timely and cost effective manner for a broad range of handheld devices.

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