

Gemia™

Attachable ISO 18000-6c RFID Reader Datasheet

Features

- ISO 18000-6c (EPC Gen2) reader
- Bluetooth® interface for linking to laptop computer, desktop computer or handheld
- Multiple uses via accessories
 - Desktop stand
 - Holder for Opticon PHL8112/8212
 - Holder for Pision Teklogix Ikôn 7505 with Bluetooth®
 - Holders for vertical or horizontal mounting, e.g. at POS station
 - Belt with belt-clip
- Built-in rechargeable battery for 10 hours continuous operation and up to 24 hours intermittent operation. Charges via mini-USB.
- Anti-collision technology supports reading 25 tags per second
- Rugged enclosure, IP54, drop tested at 1 metre
- Read range application configurable from 5 cm (2 inches) up to 60 cm (2 feet)
- Light weight
- Frequency and RF power software configurable to regulatory domain

Applications

- Supply chain management
- Warehouse management
- Item level inventory management
- Transportation applications
- General identification of objects



General Description

The Gemia™ brings ISO 18000-6c and EPC Gen2 capability to systems which are widely used in the industry.

It offers entirely cable-free operation.

Gemia™ can also be used as a self-sufficient and lightweight extension that can be easily clipped onto a host handheld.



Gemia™ can also be used on the desktop; linking with laptop or desktop computers.

By offering Bluetooth® interface and power self sufficiency, the Gemia™ does not demand specific interfaces from the host, nor does it reduce its battery life.

Making use of the host handheld's touch-screen or laptop's colour screen; task critical information can be presented in a user friendly manner.

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1 Technical Data

1.1 General

Parameter	Value
Dimensions:	112 × 75 × 29 mm (excluding any handheld and accessories)
Weight:	200 g
Protection:	IP54 standard 1 metre drop
Operating temperature:	-20 °C to +60 °C.
Powered:	Lithium Ion Battery – Rechargeable with up to 10 hours battery life at normal operation
Operating frequency:	862 to 955 MHz software configurable to regulatory domain
UHF output power:	Software adjustable between 10 to 24 dBm in 0.5 dBm steps
Range:	Up to 60 cm (2 feet) depending on tag type and environmental conditions
Read performance:	up to 80 kpbs
RFID protocol:	ISO 18000-6c, EPC Class 1 Gen 2
User interface:	Application user interface provided by the host handheld LED indicators are provided on the Reader itself for Power and Charging Two application programmable LEDs also available. Programmable buzzer
Compliance:	RoHS FCC CE Bluetooth® v2
Bluetooth® interface:	Class 2 Bluetooth® v2 with EDR and Adaptive Frequency Hopping for WLAN co-existence. Supports SPP and GAP profiles. Up to 60 metres range with Free2move's Uncord™ F2M01SXA-S01 Bluetooth® RS232 serial port plug.
API support:	FRAP (Free2move RFID Reader Application Programming Interface)
Evaluation application available for:	Windows XP / Windows 7 Windows CE v5 Windows Mobile v6.0 & v6.1

1.2 Transponder chip support

Protocol	Manufacturer, Model	Memory (bits)	64-bit TID
ISO 18000-6c / EPC Class 1 Gen 2	Impinj, Monza	256	
ISO 18000-6c / EPC Class 1 Gen 2	ST Micro, XRAG2	432	
ISO 18000-6c / EPC Class 1 Gen 2	NXP, UCode G2XL	240	Yes
ISO 18000-6c / EPC Class 1 Gen 2	NXP, UCode G2XM	512	Yes

2 Examples of compatible devices



Opticon PHL8112
Opticon PHL8212



Psion Teklogix Ikôn 7505
with Bluetooth™ option



Any Windows XP or
Windows 7 computer with
Bluetooth™ SPP support



Free2move's Uncord™
F2M01SXA-S01

Devices running Android and Symbian with Bluetooth® SPP support can be used as hosts for Gemia™. Computers without Bluetooth® interfaces can connect to Gemia™ via Free2move's Uncord™ connected to their RS232 port.

3 FRAP command support

- Tag detection
 - First tag detect
 - Search for tags
- Reader management
 - Host interface
 - Bluetooth name
 - Reader UID and information
 - Battery status
 - Field firmware upgrade
- Tag configurations
 - Read/write data
 - Set passwords
 - Lock tag
 - Kill tag
- Radio configurations
 - Output power for configuring read range
 - Frequency band
 - Channel separation
 - Frequency hopping mode
 - Modulation mode
- Autonomous operation
 - Data collection
 - Logging
 - Autostart
 - Tag status filtered sound and light indication
- Tag chip specific features
 - EAS (NXP G2XL and G2XM)

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4 Ordering information

4.1 Ordering details

Lead time: 6-12 weeks depending on quantity.
 Minimum order quantity: 10 units.

4.2 Part numbers – product and kits

Part Number	Description
FS901-AB0A-U	Attachable EPC Gen2 RFID Reader with Bluetooth® interface with antenna optimised for 902-928 MHz (FCC)
FS901-AB0A-E	Attachable EPC Gen2 RFID Reader with Bluetooth® interface with antenna optimised for 865-868 MHz (CE)

4.3 Part numbers – kits

FSK-901-000-U FSK-901-000-E	Evaluation KIT including FS901-AB0A, sample application for Windows XP or Windows7, power adapter, source code examples and 10 pieces sample ISO 18000-6c RFID tags
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4.4 Part numbers – accessories

Part Number	Description
FA-00-VUM00a	110-230V AC adapter for USB power via mini-USB connector with multi-powerpoint support (EU, UK, US, AU)
FA-00-CAB00a	USB standard to mini-USB cable for charging and interfacing
FSA-901-000	Desktop stand for Gemia™
FSA-901-001	Gemia™ U-shaped clip for Psion Teklogix Ikôn 7505
FSA-901-002	Screwed Gemia™ holder for Opticon PHL8112 and PHL8212
FSA-901-003	Vertical holder with flanges for Gemia™
FSA-901-004	Belt and belt-clip for Gemia™, black
F2M01SXA-S01	Uncord™ Bluetooth® adapter for hosts with RS232 ports

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5 Contact information

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