

DATA SHEET**SCIEL READER Lite****High range active RFID – RS232 gateway
for Telematics application****Reference: SCIBT22D**

- 👁 « Hands-Free »: automatic contactless reading system without any operation on our Active RFID Tags.
- 👁 Adjustable receiving range
- 👁 RS232 communication port
- 👁 Open Collector Output
- 👁 Internal antenna and SMA connector for external antenna
- 👁 Configuration and management with ERM software running on PC
- 👁 EMC: this product complies with the standard I-ETS 300-683 on the electromagnetic emissions.

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1 MAIN SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
External Power Supply	10-26VDC (with accepted voltage peak up to 32VDC) or 5VDC through Output Power from AVL device Selection by internal jumper
Average Current	25mA
Frequency	433,92 MHz
Receiving Range	Adjustable by software command Internal Antenna's receiving range: up to 15m External Antenna's receiving range: up to 80m (depending on external antenna's type)
Output Interface	RS232 (RX/TX)
Active RFID Antenna	Internal antenna or external antenna F-SMA connector Selection by internal jumper
Connectors	6-pin µFit Connector (Power, RX, TX, 0,1A Open Collector Output, Ground) Female SMA connector (for external RFID antenna)
Settings	ERM Configuration tool provided for PC running on Windows XP, W7, W8 Programming by specific RS232 – USB cable
DEL Indicators	Power (green), ID frame reception (yellow)
Housing	ABS Grey housing: 96 x 40 x 20 mm 2 mounting slotted holes 12 x 3.5 mm
Operating Temperature	-20 °C to +60 °C
Standards	EN 301 489 - 3 : 2002 V1.4.1 ; EN 300 220 - 2007 : V2.1.2 ; CE Mark ; RoHS Certified
Accessories	RS232/ USB programming cable – reference ACIOM08 Active RFID 433MHz antennas for automotive applications

DETAILED CURRENT CONSUMPTION	
Voltage	Mean current
5VDC	21mA
10-26VDC	22,3mA

2 PACKING INFORMATION

The packaging of the **SCIEL READER Lite**, reference SCIBT22D, contains:

- ☉ The **SCIEL READER Lite** itself, packed in a **ESD plastic bag**
- ☉ Its **6-wire Power & Data cable**

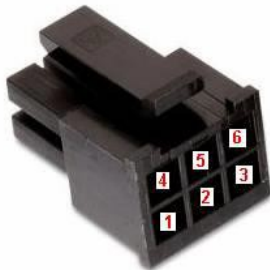


Image 1: the SCIEL READER Lite's packaging

- The 6-wire Power and Data cable provided with the SCIEL READER Lite is a 2,50m cable, with a 6-pin male μ Fit connector at the end, and 6 stripped and tinned wires at the other end.



The wire 1 is equipped with a 1-3A fuse and its holder.

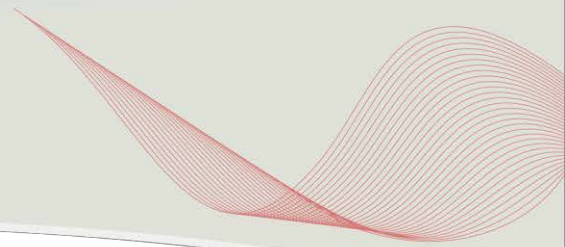


Pin	Description	Wire Color
1	+V	RED
2	Reader RX	ORANGE
3	Reader TX	YELLOW
4	I/O	VIOLET
5	External Power GND	BROWN
6	RS232 GND	BLACK

3 PHYSICAL INFORMATION



Image 3: SCIEL READER Lite external connectors



3.1 6-pin µFit connector: power supply, open collector output, RS232 communication

The reader is equipped with a 6-pin µFit connector for the external power supply, the RS232 communication port and the open collector output.



Connector's pin	Description
1	Power Supply
2	Reader RX
3	Reader TX
4	Open Collector Output (0.1A, 30V)
5	External Power Supply Ground
6	RS232 Ground

3.2 Antenna connector

The external antenna connector is a Female SMA connector with a 50Ω impedance.

3.3 Jumper J1

The jumper J1 can be used to configure the type of external power supply. Actually, the SCIEL READER Lite can be powered up either by an external power supply from 10 to 26VDC or through the 5V power output provided by few external devices like GSM – GPS products.



By default, the Jumper J1 is placed in the 10-26VDC mode.

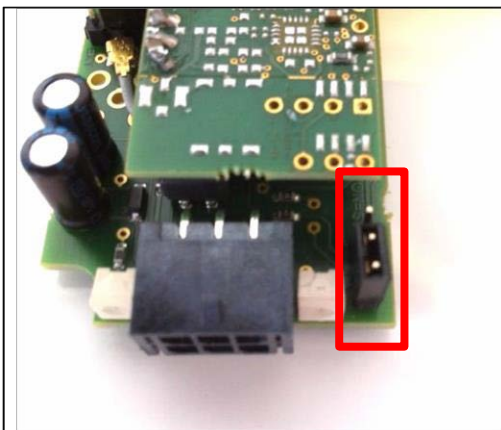


Image 4: jumper J1 in 10-26V mode (bottom)

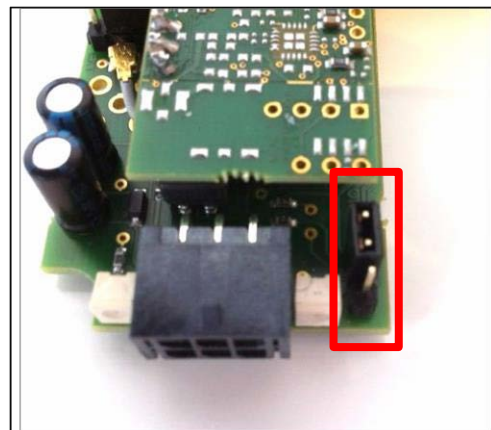


Image 5: jumper J1 in 5V mode (top)



To change the jumper's placement, you have to unscrew the 2 screws on the back side, as shown on the picture below.



Image 6: 2 screws to be unscrewed

3.4 Jumper J2: internal or external antenna

The J2 jumper is used to configure which antenna will be used. Actually, the SCIEL READER Lite has an internal RFID 433MHz antenna for short detection (<10-15m depending of the environment). For higher detection range we recommend using an external 433MHz antenna, to be connected to the reader though the F-SMA connector.



By default, the Jumper J2 is placed for external antenna.

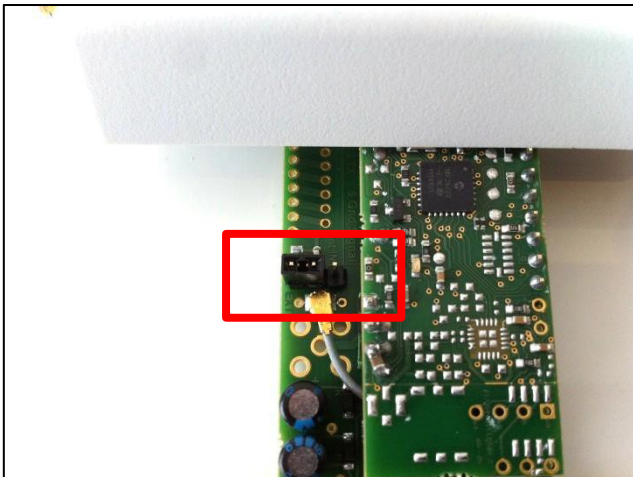


Image 7: jumper J2 for external antenna (left)

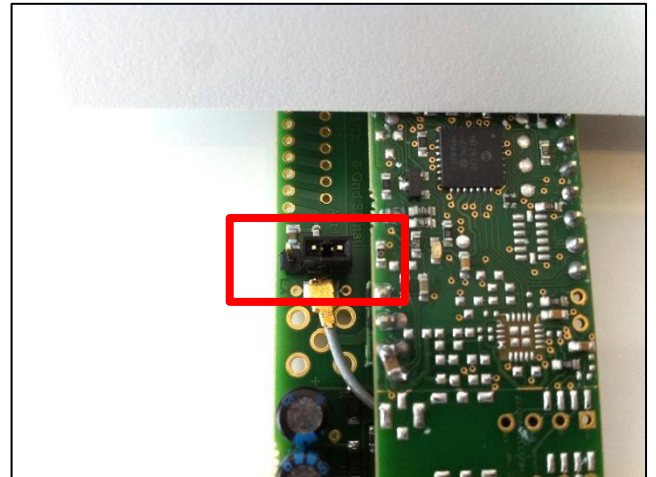


Image 8: jumper J2 for internal antenna (right)

3.5 DEL Indicators



Image 9: DEL indicators

DEL color	Description	State
Green	Power Supply	Permanently lighting
Orange	TX level (communication from SCIEL READER Lite to external device through RS232)	Blinking



By default, the SCIEL READER Lite is configured in ON LINE mode. Therefore, the orange DEL blinking rate also corresponds to the receipt of ID radio frames.

4 READER'S OPERATING MODE

4.1 Programming Cable

To configure directly the SCIEL READER Lite with any device providing an USB port, you have to use our SCIEL READER Lite Programming Cable, reference ACIOM08. This cable provides the 6-pin µFit connector at one end and a USB port at the other end.

To use this cable, its driver has to be present on your computer. In the most of cases, this USB driver is either load in the computer's operating system or the automatic download is managed by the OS at the first connection. However, if this is not the case, you can download its driver in function of your OS at this page: <http://www.ftdichip.com/Drivers/VCP.htm>



Image 10: SCIEL READER Lite μ Fit Programming cable



The SCIEL READER Lite programming cable is not required in all the cases. Actually, you can configure the SCIEL READER Lite through the RS232 based device with what it will be connected in the applicative use. In this case, you can use the 6-wires Power & Data cable which is provided in each SCIEL READER Lite's package.

4.2 Configuration Command List

Please refer to our Software Datasheet MCHD: READER COMMUNICATION PROTOCOL AND SETUP COMMAND LIST.

Furthermore, our Terminal software ETER is available to communicate in a serial mode with our reader. This software is available in our DOWNLOAD area.

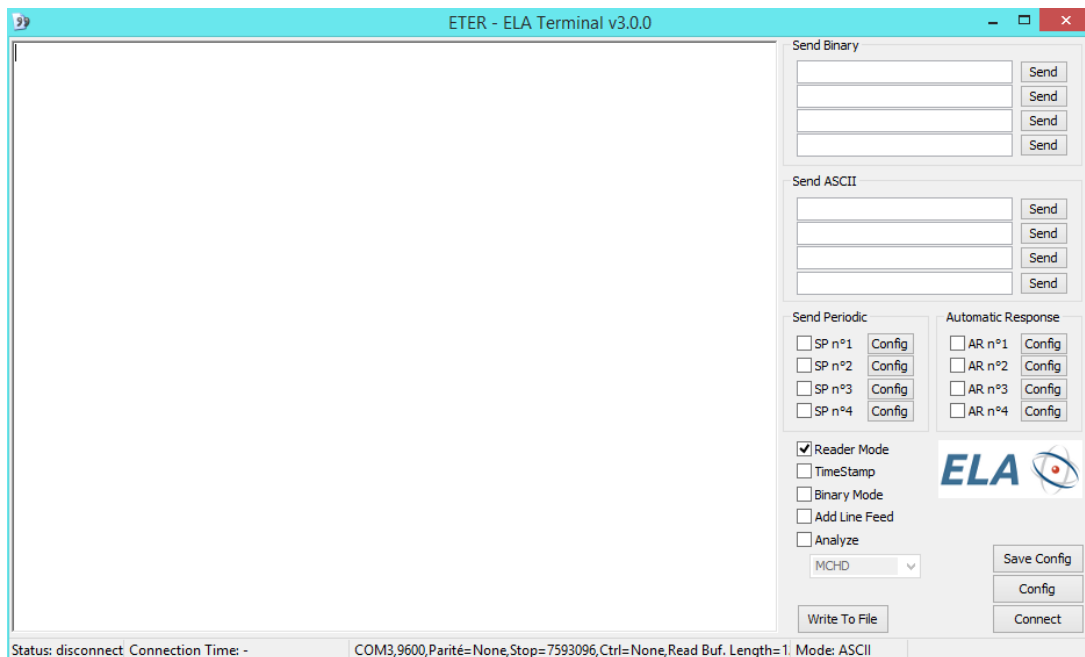


Image 11: ETER's main page

4.3 Configuration by software

Our configuration software tool, ERM, is available to configure our SCIEL READER Lite devices.

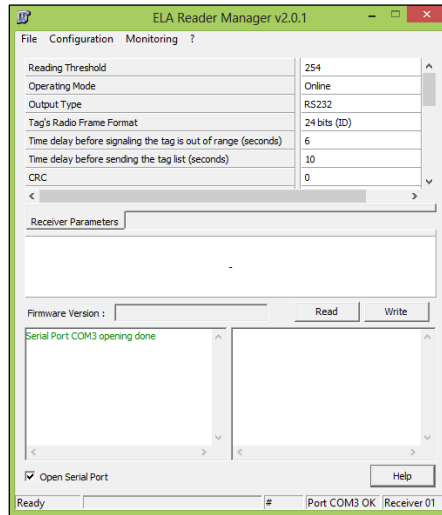
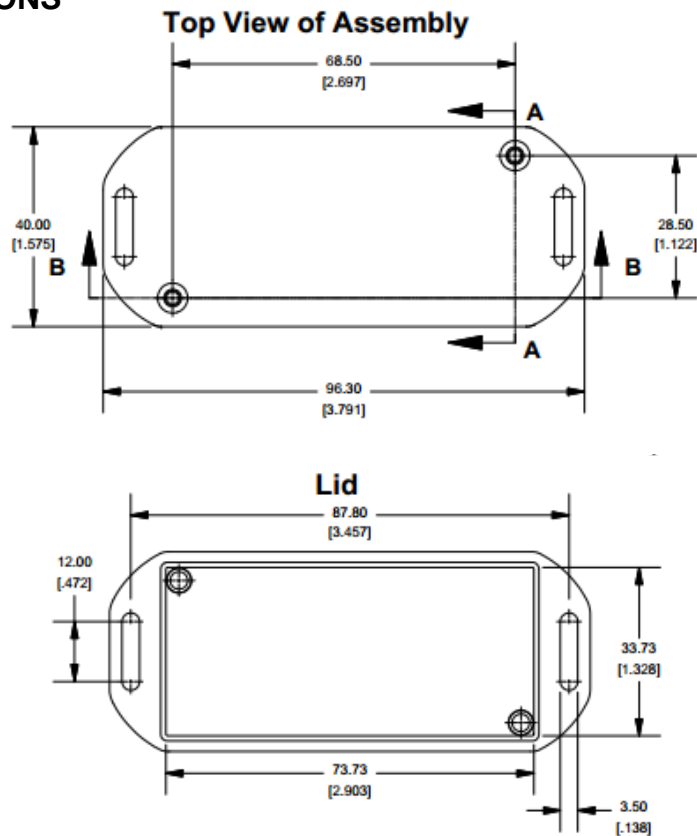
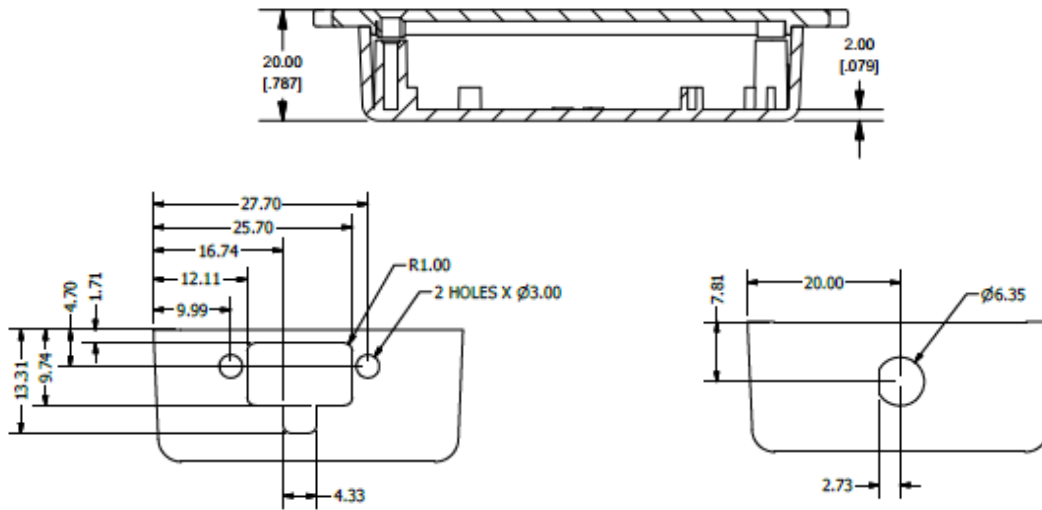


Image 12: ERM's main page

5 MECHANICAL SPECIFICATIONS



SECTION B-B Side View of Assembly

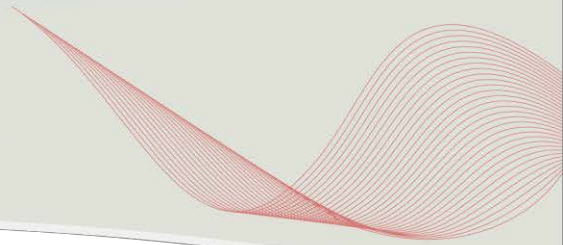


6 REFERENCES AND VERSIONS

Model	Reference P/N	Specifications
SCIEL Reader Lite	SCIBT22D	10-26VDC or 5VDC - 433.92 MHz
SCIEL Reader Lite Programming Cable	ACIOM08	12VDC 433.92 MHz – USB cable directly mounted on the board


7 STANDARDS

- EN 301 489 – 3: 2002 V1.4.1; EN 300 220 – 2007: V2.1.2;
- EC Mark RoHS
- Certified



8 DOCUMENT VERSION

Version	Date	Author	Changes
01A	01/06/14	PB	First UK document version
01B	05/08/14	PB	Modification of external power supply values
01C	01/12/15	LA	Add an accessory: 433MHz filter
01D	14/06/16	LA	Reference updated: SCIBT22C & Removal of the 433Mhz filter
02A	22/11/16	DJ et LA	Temperature modification & ref. updated: SCIBT22D
03A	30/03/2017	FB et LA	Add table current consumption at different voltages

STATUS	DRAFT	CORRECTION	FINAL
			
DISTRIBUTION LEVEL	CONFIDENTIAL	LIMITED	GENERAL
			