

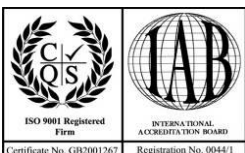
User Manual



Technology Solutions UK Ltd Suite C
Loughborough Technology Centre
Epinal Way
Loughborough
Leicestershire
LE11 3GE
UNITED KINGDOM

Tel: +44 (0) 1509 238248
Fax: +44 (0) 1509 220020

Email: enquiries@tsl.uk.com



Contents

1. Connections	3
1.1. Connection locations	3
1.2. Data and power connector details	4
1.3. Antenna connector details.....	4
2. Installation	5
3. Regulatory information	5
3.1. Labelling requirements	5
3.2. Information to the user - FCC.....	5
3.3. Information to the user - IC	6
3.4. RF exposure.....	6

History

Version	Date	Modifications	Approved By	Date	Sign
1.0	23 rd July 2010	First version	DAC	23 rd July 2010	
1.1	5 th August 2010	FCC ID changed. Additional FCC text added.	DAC	5 th August 2010	
1.2	17 th August 2010	Add IC ID. Add details of approved antenna.	DAC	18 th August 2010	

Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.

1. Connections

1.1. Connection locations



Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.

1.2. Data and power connector details

The data and power connector is an 8 way Molex 52745 series (0.5mm pitch, top contact) FFC-FPC connector. A Molex 98266-007x / 21020-07x cable should be used with this connector.

Pin	Function
1	5V \pm 5% DC supply. Average operating current 800mA, peak operating current 1.5A. Connect to both pins
2	5V \pm 5% DC supply. Average operating current 800mA, peak operating current 1.5A. Connect to both pins
3	GPIO2
4	GPIO3
5	Serial data from reader to host. 3V3 logic levels.
6	Serial data from host to reader. 3V3 logic levels.
7	Data and power common. Connect to both pins.
8	Data and power common. Connect to both pins.

1.3. Antenna connector details

The antenna connector is a Hirose U.FL receptacle. The antenna characteristics have a significant effect on overall reader performance. A 50 Ω antenna with return loss better than 10dB over the operating frequency range should be used. The only antenna currently approved for use with the 1116-01-UHF reader is the 1095FCC circularly polarised patch antenna available from Technology Solutions (UK) Ltd.

Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.

2. Installation

The reader should be secured using three M2 pan head screws of a suitable length. The mounting holes are connected to pins 7 and 8 (common).

If the reader is to be operated continuously at high ambient temperatures it is recommended that the mounting surface for the reader provides additional heatsinking.

3. Regulatory information

3.1. Labelling requirements

If the module label is not visible when the module is installed in the final product then the final product label must contain the text:

“Contains FCC ID: S6J-1116 IC ID: 8948A-1116”

3.2. Information to the user - FCC

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) this device must accept any interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.

- Consult the dealer or an experienced radio/TV technician for help.

3.3. Information to the user - IC

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Operation is subject to the following two conditions:

- 1) This device may not cause interference, and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

3.4. RF exposure

This RFID reader module is a spread spectrum transmitter operating under 47 CFR §15.247. The low operating power ensures a high likelihood of compliance with the RF exposure standards. In the final product antenna should be located so that the direction of maximum radiation is away from the user.

In addition it is recommended that the user manual for the final product incorporating the RFID reader module indicates where the antenna is located.

Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.

+ About TSL

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

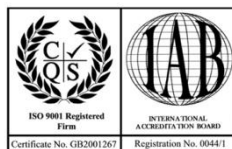
- GPS
- RFID – Low Frequency, High Frequency and UHF
- GPRS/GSM
- IrDA
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- Bluetooth
- 802.11 WiFi
- Magnetic Card Readers
- OCR – B and ePassport

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.

Telephone: +44 (0)1509 238248
Fax: +44 (0)1509 220020

Postal Address:
Technology Solutions (UK) Limited,
Suite C, Loughborough Technology Centre,
Epinal Way,
Loughborough,
Leicestershire,
LE11 3GE.
United Kingdom.

Email: enquiries@tsl.uk.com



Technology Solutions (UK) Limited reserves the right to change its products, specifications and services at any time without notice. Technology Solutions (UK) Limited provides customer assistance in various technical areas, but does not have full access to data concerning the uses and applications of any customer's products. Therefore, Technology Solutions (UK) Limited assumes no responsibility for customer product design or for infringement of patents and/or the rights of third parties, which may result from assistance provided by Technology Solutions (UK) Limited. No part of this document may be reproduced in any form without the written consent of the author.