# imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

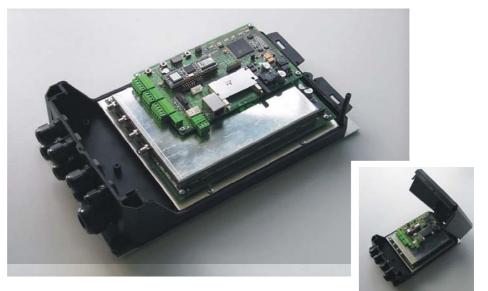
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





i-scan<sup>®</sup> UHF

#### Long Range Reader ID ISC.LRU1000



Multi-protocol Long Range Reader for identification of UHF transponders (865-928 MHz) in the fields of retail, industry, logistics etc.

### Features:

- Multi-protocol technology (ISO 18000-6-A/B, EPC UHF class 1, EPC UHF Gen 2)
- Connection of up to 4 external antennas
- BRM-function: Data filtering and -buffering
- Solid housing (protection class IP 54)
- Interfaces: RS232, RS485, Ethernet, WLAN
- Variants for use in Europe and North America
- Problemless Firmware-updates



#### Short description and technical information

#### Long Range Reader ID ISC.LRU1000

#### Short description -

The UHF-Long Range Reader ID ISC.LRU1000 identifies UHF transponders within a frequency range from 865 to 928 MHz and so can be used in Europe and in North America.

Licensed according to EN and FCC, in each area maximum allowed transmitting power can be realized. Due to the high maximum reading range of up to 5m with a single antenna and up to 10m with a multi-antenna application, the reader is suitable especially for Asset Management and logistical applications -- especially there, simultaneous identification of several transponders and very high reading ranges are necessary !

The multi-protocol structure of the reader (currently ISO 18000-6-A and -B as well as several EPC tags) enables already now the use of several differnt transponders and reduces in future the integration of new tags and standards, because always the same protocol structure (ISO Host) will be used.

Connection of up to 4 external antennas enables realization of multi-antenna-applications (integrated Multiplexer), the several interfaces (RS232, RS485, Ethernet, WLAN) guarantee highest flexibility to connect the reader with your individual backup-system.

The solid housing (IP 54) allows the readers use even in harsh industrial surroundings; the readers ISO Host Protocol is identical with the protocol of the readers within the 13.56 MHz OBID i-*scan*<sup>®</sup>*HF* reader family -so HF- and UHF-readers can be used within the same application without additional efforts !





#### Technical Data

HousingPlastic with heatsinkDimensions (WxLxH)180 x 320 x 110 mmProtection classIP 54Power supply12-24 V DCPower consumptionmax. 30 VAOperating frequency869,525 MHz ; 865,6-867,6 MHz (200 kHz-steps); 902-928 MHz (500 kHz-steps); 902 kHz (kLNN)Outputs - 1 Differential input - 1 Differential input - 1 Differential input Reader synchronization InterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable - Coperation - OperationS0 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Stora		
Protection classIP 54Power supply12-24 V DCPower consumptionmax. 30 VAOperating frequency869,525 MHz ; 865,6-867,6 MHz (200 kHz-steps); 902-928 MHz (500 kHz-steps); Protocol modesInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950 </td <td>Housing</td> <td>Plastic with heatsink</td>	Housing	Plastic with heatsink
Power supply12-24 V DCPower consumptionmax. 30 VAOperating frequency869,525 MHz ; 865,6-867,6 MHz (200 KHz-steps); 902-928 MHz (500 kHz-steps); 902-928 MHz (500 kHz-steps); 902-928 MHz (500 kHz-steps)Transmitting power100 mW - 4 W (100 mW-steps) 4 Watt EIRP 2 Watt ERP (0,5 Watt ERP)Modulation20% - 40% and 100% (scalable via Software)ReceiverData rates 40 - 320 kbpsAntenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Optocoupler24 V DC / 30 mA Reader synchronization-1 Optocoupler24 V DC / 2 AInputs - 1 Differential outputmax. 24 V DC / 20 mA Reader synchronization-1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/P) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Dimensions (WxLxH)	180 x 320 x 110 mm
Power consumptionmax. 30 VAOperating frequency869,525 MHz : 865,6-867,6 MHz (200 kHz-steps); 902-928 MHz (500 kHz-steps); 902-928 MHz (500 kHz-steps); 4 Watt EIRP 2 Watt ERP (0,5 Watt ERP)Modulation20% - 40% and 100% (scalable via Software)ReceiverData rates 40 - 320 kbpsAntenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Optocoupler24 V DC / 30 mA Reader synchronization- 1 Optocoupler - 1 Optocoupler24 V DC / 20 mA Reader synchronization- 1 Optocoupler - 1 Differential output Reader synchronizationmax. 24 V DC / 20 mA Reader synchronizationInputs - 1 Optocouplermax. 24 V DC / 20 mA Reader synchronization- 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityEN 300 220 FCC 47 CFR Part 15EMIEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Protection class	IP 54
Operating frequency869,525 MHz ; 865,6-867,6 MHz (200 kHz-steps); 902-928 MHz (500 kHz-steps); 902-928 MHz (500 kHz-steps); 4 Watt EIRP 2 Watt ERP (0,5 Watt ERP)Modulation20% - 40% and 100% (scalable via Software)ReceiverData rates 40 - 320 kbpsAntenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Optocoupler24 V DC / 30 mA Reader synchronization- 1 Differential output - 1 Relay (1x NO/NC)24 V DC / 2 AInputs - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronization- 1 Differential inputReader synchronization- 1 Differential inputReader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityEN 300 220 FCC 47 CFR Part 15EMIEN 301 489 SafetySafetyEN 60950 VibrationVibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Power supply	12-24 V DC
Arter of the term865,6-867,6 MHz (200 kHz-steps); 902-928 MHz (500 kHz-steps); Potocoupler Protocoupler Protocoupler-1 Differential output -1 Differential input24 V DC / 20 mA Reader synchronization Protocol modesInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 60950 VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Power consumption	max. 30 VA
A Watt EIRP 2 Watt ERP (0,5 Watt ERP)Modulation20% - 40% and 100% (scalable via Software)ReceiverData rates 40 - 320 kbpsAntenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Optocoupler - 1 Differential output - 1 Relay (1x NO/NC)24 V DC / 30 mA Reader synchronization- 1 Differential output - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInputs - 1 Optocoupler - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489 SafetySafetyEN 60950 VibrationVibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Operating frequency	865,6-867,6 MHz (200 kHz-steps);
ReceiverData rates 40 - 320 kbpsAntenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Optocoupler - 1 Differential output - 1 Relay (1x NO/NC)24 V DC / 30 mA Reader synchronization 24 V DC / 2 AInputs - 1 Optocoupler - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInputs - 1 Optocoupler - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489 SafetySafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Transmitting power	4 Watt EIRP
Antenna connectors4 x SMA connector (50 Ohm)Outputs - 1 Differential output - 1 Relay (1x NO/NC)24 V DC / 30 mA Reader synchronization 24 V DC / 2 AInputs - 1 Optocoupler - 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Modulation	
Outputs 1 Optocoupler 1 Differential output 1 Relay (1x NO/NC)24 V DC / 30 mA Reader synchronization 24 V DC / 2 AInputs 1 Optocoupler 1 Differential inputmax. 24 V DC / 20 mA Reader synchronizationInterfacesmax. 24 V DC / 20 mA Reader synchronizationInterfacesRS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489 SafetySafetyEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Receiver	Data rates 40 - 320 kbps
<ul> <li>1 Optocoupler</li> <li>1 Differential output</li> <li>1 Relay (1x NO/NC)</li> <li>24 V DC / 30 mA Reader synchronization</li> <li>1 Relay (1x NO/NC)</li> <li>24 V DC / 2 A</li> <li>Inputs</li> <li>1 Optocoupler</li> <li>1 Differential input</li> <li>Reader synchronization</li> <li>Interfaces</li> <li>RS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)</li> <li>Protocol modes</li> <li>FEIG ISO HOST; BRM (data filtering and -buffering)</li> <li>Processable</li> <li>transponders</li> <li>ISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0</li> <li>Indicators</li> <li>5 LED's</li> <li>Temperature range</li> <li>Operation</li> <li>Storage</li> <li>25°C up to 55°C (-25°C up to 70°C)</li> <li>-25°C up to 85°C</li> <li>Standard conformity</li> <li>Radio license</li> <li>Europe</li> <li>USA</li> <li>EN 300 220 FCC 47 CFR Part 15</li> <li>EMI</li> <li>EN 301 489</li> <li>Safety</li> <li>Vibration</li> <li>EN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g</li> </ul>	Antenna connectors	4 x SMA connector (50 Ohm)
- 1 Optocoupler       max. 24 V DC / 20 mA         - 1 Differential input       Reader synchronization         Interfaces       RS232 and RS485         Ethernet (TCP/IP)       Compact Flash-2 (WLAN)         Protocol modes       FEIG ISO HOST; BRM (data filtering and -buffering)         Processable       ISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2         transponders       S LED's         Temperature range       -Operation         - Storage       -25°C up to 55°C (-25°C up to 70°C)         Standard conformity       -25°C up to 85°C         Radio license       EN 300 220         - USA       FCC 47 CFR Part 15         EMI       EN 301 489         Safety       EN 60950         Vibration       EN 60068-2-6         10 Hz up to 150 Hz: 0,075 mm / 1g	<ul> <li>1 Optocoupler</li> <li>1 Differential output</li> </ul>	24 V DC / 30 mA Reader synchronization 24 V DC / 2 A
Ethernet (TCP/IP) Compact Flash-2 (WLAN)Protocol modesFEIG ISO HOST; BRM (data filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	- 1 Optocoupler	
Filtering and -buffering)Processable transpondersISO 18000-6-A and -B (U-Code), EPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformity-25°C up to 85°CRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	Interfaces	RS232 and RS485 Ethernet (TCP/IP) Compact Flash-2 (WLAN)
transpondersEPC class 1 and Gen 2 Optional: EPC class 0Indicators5 LED'sTemperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformity-25°C up to 85°CRadio license - Europe - USAEN 300 220 	Protocol modes	FEIG ISO HOST; BRM (data filtering and -buffering)
Temperature range - Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformityRadio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g		EPC class 1 and Gen 2
- Operation - Storage-25°C up to 55°C (-25°C up to 70°C) -25°C up to 85°CStandard conformity	Indicators	5 LED's
Radio license - Europe - USAEN 300 220 FCC 47 CFR Part 15EMIEN 301 489SafetyEN 60950VibrationEN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	- Operation	-25°C up to 55°C ( <b>-25°C up to 70°C)</b> -25°C up to 85°C
- Europe       EN 300 220         - USA       FCC 47 CFR Part 15         EMI       EN 301 489         Safety       EN 60950         Vibration       EN 60068-2-6         10 Hz up to 150 Hz: 0,075 mm / 1g	Standard conformity -	
Safety         EN 60950           Vibration         EN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	- Europe	
Vibration EN 60068-2-6 10 Hz up to 150 Hz: 0,075 mm / 1g	EMI	EN 301 489
10 Hz up to 150 Hz: 0,075 mm / 1g	Safety	EN 60950
Shock EN 60068-2-27; Acceleration: 30g	Vibration	
	Shock	EN 60068-2-27; Acceleration: 30g

FEIG ELECTRONIC GmbH Lange Straße 4, D-35781 Weilburg Tel.: +49 (0) 6471 / 3109-0, Fax: -99 Internet: http://www.feig.de e-mail: OBID@feig.de

© 2004 FEIG ELECTRONIC reserves the right to change the specification at any time