


SR113 Preliminary Data sheet

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|---|---|
|  The image shows the Deltech SR113 RFID reader. It is a black, rectangular device with a large central display screen. The screen displays the 'Deltech SR113' logo and a list of settings: Listening, Sense, RF On, LBT Mode, Dense Mode, Normal Mode, and Power On. Above the screen, there are four antenna ports labeled Ant 1, Ant 2, Ant 3, and Ant 4. Below the screen, there are several ports: Ethernet (RJ45), COM Port (RS232), I/O Port (5V), and Power (24, 50W) and Power (12V). The device has a sleek, industrial design with mounting brackets on the sides. | <h3>Features</h3> <ul style="list-style-type: none">• 860-960 MHz Freq Range• Multi-Protocol• Multi-regional• Dense Reader Mode (DRM)• Listen before talk (LBT)• 1 Watt max output power• 4 port antenna output• Field upgradeable firmware• LED for status reporting |
| <h3>Product Overview</h3> <p>The SR113 is a multi-protocol Ultra High Frequency RFID reader specifically designed for a wide variety of RFID applications. It comes with standard 4-port antenna to facilitate maximum antenna deployment configurations to optimize operating performance. Flexible interface options through Ethernet, RS232, RS485, Wiegand and general I/O ports are available to ensure convenient connectivity. The SR113 also supports field firmware upgrades for application enhancement and to protect hardware investments. Listen Before Talk (LBT) and Dense Reader Mode (DRM) features are also supported.</p> <p>Semi or full customization of the reader to fit application requirement is possible upon request. We offer quick design turn around time as all key design functional blocks are readily available in the design libraries.</p> | <h3>Range</h3> <ul style="list-style-type: none">• Read 4 to 10 Meter (tag dependent)• Write is 70% of read range <h3>Protocols</h3> <ul style="list-style-type: none">• ISO 18000-6C• ISO 18000-6B• EPC C1G2• EM Microelectronic (EM4122) |

Electrical and RF Specifications

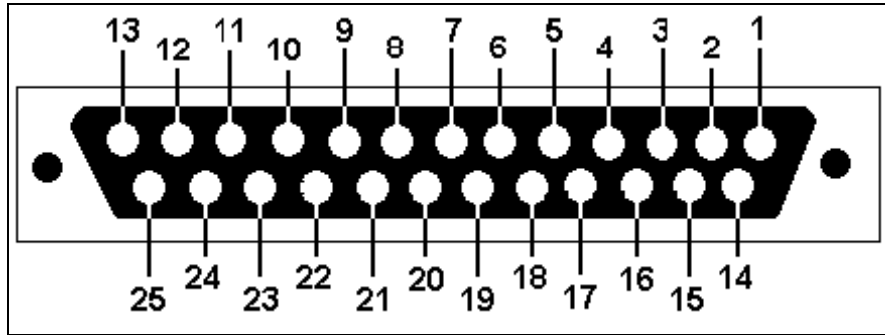
| Parameter | Min | Type | Max | Unit |
|-----------------------------|-----|---------|-------|--------|
| RF Specifications | | | | |
| Frequency | 860 | | 960 | MHz |
| Channel Bandwidth | 200 | | 500 | KHz |
| Carrier Frequency Shift | | +/-5 | | ppm |
| Transmit Power | 15 | | 30 | dBm |
| Transmit Power step control | | 1.0 | | dBm |
| Antenna output impedance | | 50 | | ohm |
| Receiver Sensitivity | -93 | -95 | -97 | dBm |
| Power | | | | |
| Supply Voltage | 11 | 12 | 13 | Vdc |
| Current | | 2 | | Amp |
| Current (Idle) | | 0.18 | | Amp |
| Data Interface | | | | |
| RS232 (DB9) | 9.6 | | 115.2 | kbps |
| Ethernet (RJ45) | | 10/100 | | Base-T |
| RS485 (DB25) - optional | | | | |
| Weigand (DB25) - optional | | | | |
| Relay | | | | |
| Header | | 2-way 2 | | Amp |
| | | 60 | | Watt |

Environmental Specifications

| Parameter | Min | Typ | Max | Units |
|--------------------|-----|-----|-----|-----------|
| Temperature | | | | |
| Operating | -20 | | 60 | d Celsius |
| Storage | -35 | | 85 | d Celsius |
| Humidity | 0% | | 90% | |

Mechanical Specifications

| Size | Values |
|-------------------|---------------|
| LxBxH | 263x185x36 mm |
| Weight | 2.0 Kg |
| Case Material | Aluminum |
| Antenna connector | SMA Female |



DB25 Pinout Indication

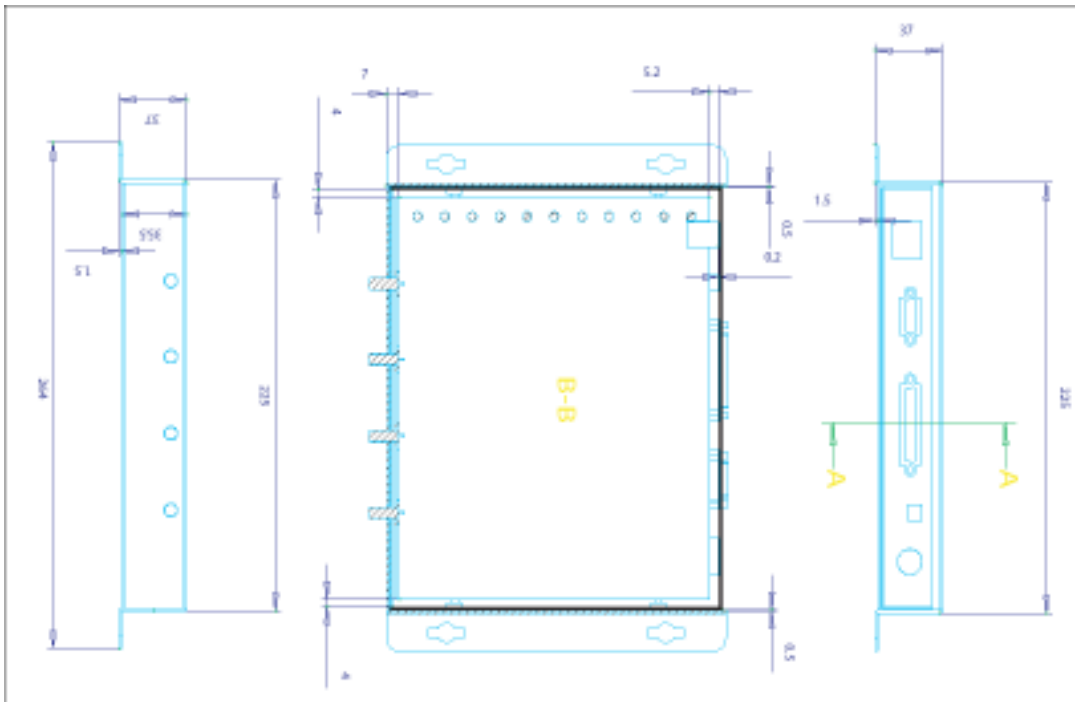
| DB25 Connector | Description |
|----------------|-----------------|
| Pin 1 | RS485 +Tx |
| Pin 2 | RS485 -TX |
| Pin 3 | RS485 -Rx |
| Pin 4 | RS485 +Rx |
| Pin 5 | I/O IN1 |
| Pin 6 | I/O IN2 |
| Pin 7 | I/O Out1 |
| Pin 8 | I/O Out2 |
| Pin 9 | Weigand 1 |
| Pin 10 | Weigand 2 |
| Pin 11 | NC |
| Pin 12 | NC |
| Pin 13 | GND |
| Pin 14 | GND |
| Pin 15 | Power LED |
| Pin 16 | RF On LED |
| Pin 17 | Sense LED |
| Pin 18 | Listening LED |
| Pin 19 | Ant 1 LED |
| Pin 20 | Ant 2 LED |
| Pin 21 | Ant 3 LED |
| Pin 22 | Ant 4 LED |
| Pin 23 | Normal Mode LED |
| Pin 24 | Dense Mode LED |
| Pin 25 | LBT Mode LED |

LED When lighted

| | |
|-------|--------------------|
| Ant 1 | Ant 1 in operation |
| Ant 2 | Ant 2 in operation |
| Ant 3 | Ant 3 in operation |
| Ant 4 | Ant 4 in operation |

LED When lighted

| | |
|-------------|----------------------------|
| Listening | Reader listening before tx |
| Sense | Reader detection of tags |
| RF on | RF transmission is on |
| LBT Mode | LBT mode is activated |
| Dense Mode | DRM is activated |
| Normal Mode | Normal mode is activated |
| Power On | Reader power on (+12V) |



Precaution - Electrostatic Discharge (ESD) Sensitive Device

Electrostatic charges as high as 4000 Volts can easily accumulate on the human body and test equipments. ESD discharge to the reader module can result in permanent damage. To protect against ESD damage, proper ESD protection such as grounded wrist straps and work surfaces must be used.