



# **RFID Reader Product Manual**

20 August 2021

915MHz Version (Certified Model: SX00A)

## **Table of Contents**

1	General Description (Product Overview, Definitions & Manufacturers) .....	4
2	Warnings.....	4
2.1	FCC Statements: .....	4
3	Theory of Operation .....	6
4	Technical Specifications .....	8
4.1.1	Power requirement.....	8
4.1.2	Environmental ratings.....	8
4.1.3	General Information - Physical form factors.....	8



**List of Figures**

Figure 1 RFID reader mounting orientation ..... 7

## **1 General Description (Product Overview, Definitions & Manufacturers)**

This device functions to read RFID tags embedded in the wrap material of a cotton module. The RFID tag information is sent over CAN to other controllers on the vehicle where it is paired with moisture, GPS, and other data about the cotton module. This device contains the RFID radio, antenna cable, and antenna inside the enclosure.

There are two versions of this device which are identical except for the RFID engine's operating region – 866MHz or 915MHz.

This device is intended to be installed on the Cotton machine at the factory, as a service part, and as a field kit.

## **2 Warnings**

### **2.1 FCC Statements:**

#### **FCC Interference Statement (Part 15.105 (b))**

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 of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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



### **FCC Part 15 Clause 15.21**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **FCC Part 15.19(a)**

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 received, including interference that may cause undesired operation.

### **Radio Frequency (RF) Exposure Guidance**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm (7.9 in.) between the radiator and persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.



### **3 Theory of Operation**

#### **Connector pinout:**

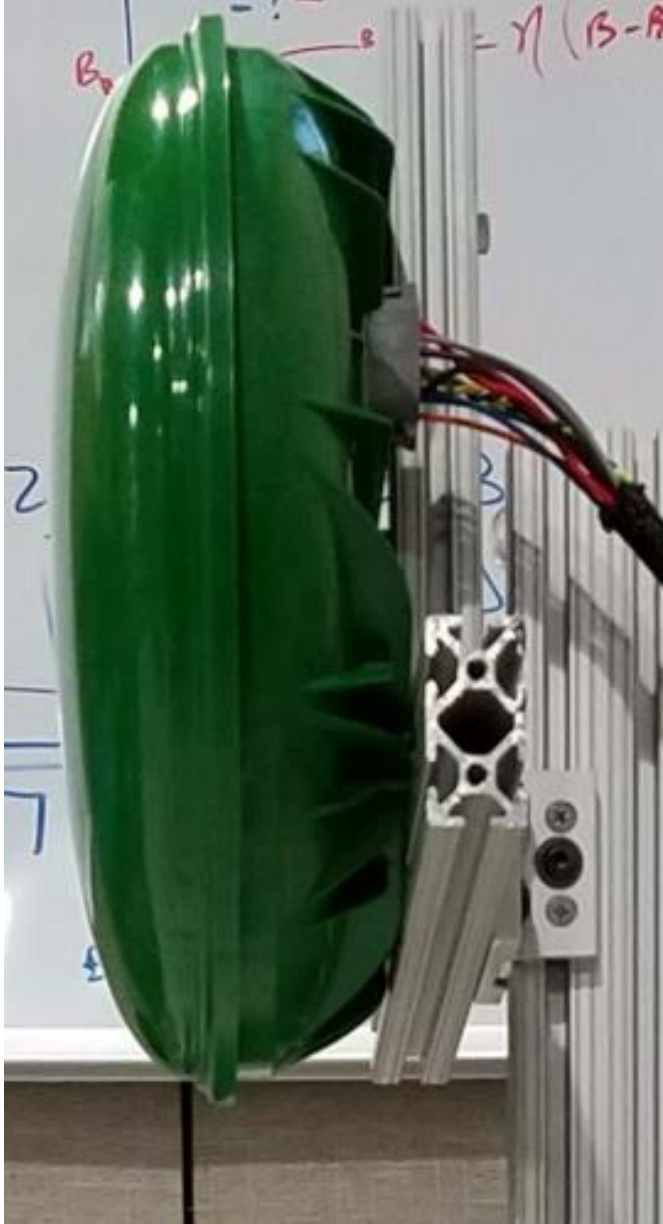
<b>Pin</b>	<b>Description</b>
1	CAN0_Low
2	Switched Battery
3	Unswitched Battery
4	CAN0_H
5	Unused
6	Ground

#### **Usage:**

The RFID reader is intended for use installed on a machine. The operator of the machine does not directly interact with the RFID reader. The machine contains other devices which interact with the RFID reader to enable and disable RF functions as well as send and receive data.

#### **Machine installation configuration:**

The RFID reader is installed on a machine with the dome facing in a horizontal orientation.



**Figure 1 RFID reader mounting orientation**

## **4 Technical Specifications**

### **4.1.1 Power requirement**

- Voltage range: 9-32VDC
- Maximum current: 1A at 12VDC
- Note: Device is externally protected by 10A fuse located in machine wire harness

### **4.1.2 Environmental ratings**

- Storage temperature range: -40C to +85C
- Operating temperature range: -20C to +65C
- Ingress Protection: IP67 sealing (\*Only when connector is mated\*)

### **4.1.3 General Information - Physical form factors**

- Harness connector: AMPSEAL 16, 6P Key 1
- Mating connector: 776433-1 / 57M9750
- Overall dimensions: 300 x 300 x 120 (mm)