

User Manual

RFID Transceiver 13.56 MHz Model S29311-D2626-V*

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1 Applicability

This paper applies to the RFID unit model S29311-D2626-V*-*-7411, which operates in the frequency range specified in ISO 15 693 (13.56 MHz). The unit can be operated with on-board antenna (S29311-D2626-V11) or with an external antenna (S29311-D2626-V2). The configuration is applied during the manufacturing process and cannot be changed later.

2 Purpose

This User manual describes the operator activities for the variants S29311-D2626-V11 and S29311-D2626-V2 RFID modules used in inkjet and dry toner printers:

- a. Description of the RFID device operation
- b. Description of mounting space

3 Applicable Documents

Ref.	Document	Issue	Title
1	ISO/IEC 15693-1	First edition 2000-07-15	Identification cards – Contactless integrated circuit(s) – Vicinity cards - Part 1: Physical characteristics
2	ISO/IEC 15393-2	First edition 2000-05-01	Identification cards – Contactless integrated circuit(s) – Vicinity cards - Part 2: Air interface and initialization
3	ISO/IEC 15693-3	First edition 2001-04-01	Identification cards – Contactless integrated circuit(s) – Vicinity cards – Part 3: Anticollision and transmission protocol

Table 1: Applicable Documents

4 Configurations for various printer models

4.1 Hardware Configuration

4.1.1 Ink jet printers

For each ink color, there is one RFID unit. On a CMYK inkjet printer, there are four independent units. Each RFID unit consists of a S29311-D2626-V11 PCB (see fig. 1) and a high impedance conductive plastic housing.



Figure 1: RFID unit (front & rear view) with S29311-D2626-V11 for ink jet printers



Figure 2: Mounting example CS3000Z

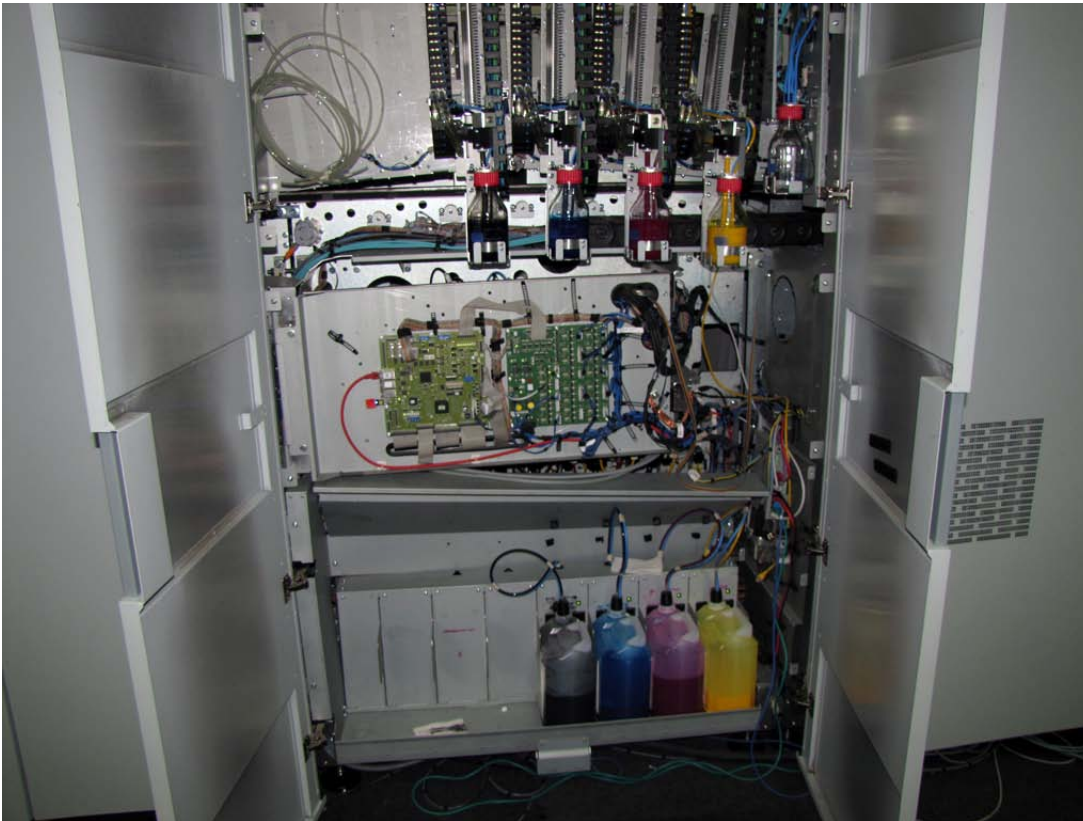


Figure 3: Ink container on CS3000Z (working position)

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4.1.2 Dry toner printers

For each toner color, there is one RFID unit. Current models are equipped with one color only. Each RFID unit consists of the S29311-D2626-V2 PCB, an antenna cable and the S29311-D2674-V1 antenna PCB. All components are mounted in a high impedance conductive plastic housing.



Figure 4: RFID unit (front& rear view) with S29311-D2626-V2 for dry toner printers



Figure 5: Mounting example VS4000

4.2 Software Configuration

Embedded software of the functional printer control
PCB D2626, Firmware xxyy (Label on processor XC164)

4.3 Cable Harness

CAN bus, 16 Pins twisted pair
DC Power Supply +24V

4.4 Supporting Equipment

No additional equipment necessary

4.5 Test Fixture, Artificial Antenna

No additional fixture or antenna required.

4.6 Functional Test Set Up

Inkjet Printer: Standard ink container (for details see printer specification)
Dry Toner Printer: Standard dry toner container (for details see printer specification)

4.7 Mode of Operation

Upon switch-on of the printer, the RFID unit will be powered on together with all other logic PCBs. During the power-on routine, the microcontroller initializes the ports, memory, the RF interface and the CAN bus interface. Then it waits for the commands of the superior embedded control module. The start of a read/write cycle to the transponder tag differs a little bit between the various printer models:

4.7.1 Inkjet printers

Read/write cycle of the RFID tag will start automatically, when the ink container is inserted into the appropriate container bay (see figure 2, 3). No further operator intervention required.

4.7.2 Dry toner printers

The toner bottle must be secured in the toner container bay by closing the load lever. The read/write cycle of the RFID tag will start automatically, when the toner container bay is swiveled into working position (see figure 5). No further operator intervention required.

4.8 Function Control

By inserting the appropriate consumable, the embedded software will issue a read/write operation to the transponder tag in place. If the toner/ink is not detected or if an error occurs, a message will be displayed on the operator panel.

4.9 Operation Requirements

No additional requirements.

5 Compliance

5.1 FCC

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

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

5.2 ISED

This device complies with Industry Canada licence-exempt RSS standard(s). 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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