HERMOS
Informatik GmbH
BROOKS·PRI AUTOMATION

SA FOUP Read-Write Station – Stand Alone

Short Descsription

ID030042
Rev 08-2003
Printed in Germany
Subject to modifications

A Division of Brooks Automation
Gartenstrasse 19
D-95490 Mistelgau
Germany

Tel: +49 9279 991 910
Fax: +49 9279 991 900
E-mail: rfid.support@brooks.com

1 IMPORTANT NOTE

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 inteference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

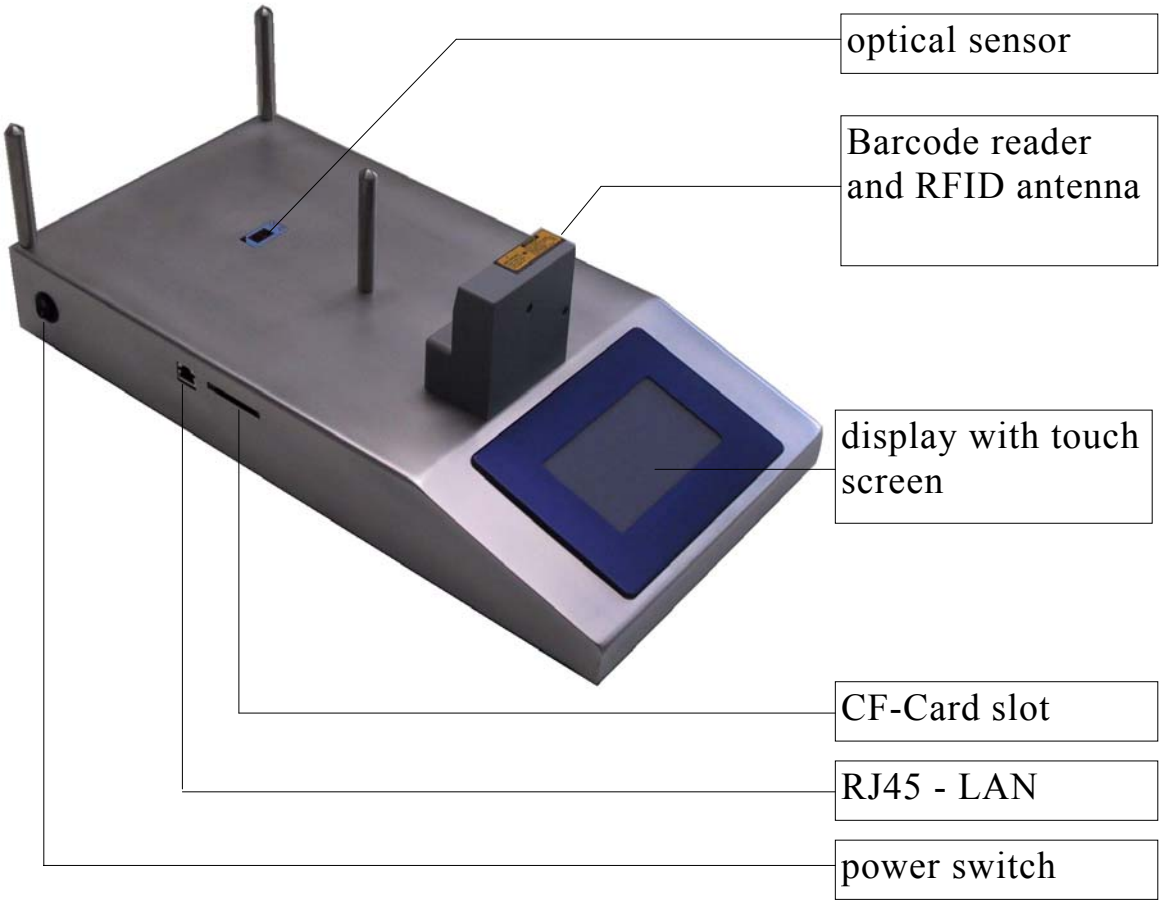
CAUTION:

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

2 PRODUCT OVERVIEW

2.1 SA FOUP Read – Write Station

The unit is composed of a RF tag reader, a barcode reader, an optical sensor, and a 240x128 pixel display with integrated touch screen (10x6 touch areas). It is used to read information from barcodes and write this information to the RF tag. Therefore a FOUP must be placed on the unit, which is detected by an optical sensor.



2.2 Component RF Tag Reader

The Transponder Reader System is a high-frequency identification system that uses FM transmission. The basic item is a transponder that works as a forgery-proof electronic identity disk.
The reading unit of the system sends an energy impulse via the antenna. The capacitor of the passive, battery-free transponder is charged by this impulse. After that, the transponder returns a signal with the stored data. The total reading cycle takes less than 100 ms. As a sight connection between the transponder and the reader is not absolutely necessary, the transponder can also be identified through non-metallic material.
The data received by the transponder reader are transmitted via the serial interface in the unit.

2.3 Component Barcode Reader

The Barcode Reader is a device, which uses Laser light to read barcodes over a distance between 45 and 175 mm. The sampling rate is about 500 per seconds. The wave length of the Laser diode is 650 nm and the output power is 1,5 mW (CLASS 2 Laser). The user should avoid staring directly into the beam.

3 INSTALLATION

3.1 Installation Environment

This device is designed for use in an indoor industrial environment only. Installation is only permitted in an environmental indoor climate with a constant temperature of between 0°C and +50°C / 32°F and 122°F, humidity between 25% and 80%, and a maximum temperature of +50°C / 122°F.

Do not install or use this device in or near water. Never spill liquids of any kind onto the device. Should spillage occur, unplug the device and have it checked by a technician.

Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not install the device in a flammable environment.

Never expose the device to intense changes in temperature, otherwise condensation can develop inside the device and cause damages.

Do not locate the device near overhead power lines or other electric lights, or power circuits or where it can encounter such circuits. When installing the device, take extreme care not to encounter such circuits as they can cause serious injury or death.

The device should not be used in the immediate vicinity of electrical units (such as medical units, monitors, telephones, televisions and energy-saver lamps), magnetic data carriers, or metallic objects. This could result in reduced reading/writing ranges.

Never use the device in potentially explosive areas (such as paint shops).

Do not position the device in a location where it can suffer from vibration or shock.

When the device is installed, the installation location must be adequately illuminated.

Do not install the device during periods of lightning.

Ensure the installation location complies with FCC requirements for human exposure to radio frequency.

☞ When determining the assembly location, consider the length of the antenna cable that will be used, and the reading and writing range. See section „Accessories/Antennas“ for further information.

3.2 Qualified Installation Personnel

The installation shall be carried out by specially trained personnel only. If you are uncertain about the qualification, contact the manufacturer.

3.3 Unpacking

This device and its accessories were packed under clean room conditions. To preserve these conditions, the device must be unpacked under clean room conditions.

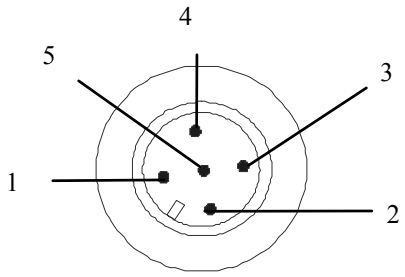
The packing material consists of cardboard and film. Dispose of these materials separately in accordance with the relevant legislation in your country.

4 CONNECTIONS

4.1 Power Connection

Built-in male plug, plastic (power supply)

PIN	Signal
1	+24V
2	0V
3	NC
4	NC
5	NC



The device can be connected to an interior DC power circuit or to a DC adapter.

4.2 RJ-45 Connector (Ethernet interface)

The interface is used to connect the device to LAN network for update the software only. Therefore a FTP program transmits the new files to the flash memory of the station.

5 APPLICATION FLOW

To transfer the FOUP data from barcode label to the RF tag, the FOUP have to be placed on the unit. The optical sensor detects the FOUP and the station will be switched to operation mode. There are different modes to transfer the data from barcode to RF tag.

The Manual Mode for reading the barcode and reading and writing the tag independently from each other.
Automatic Mode and Full Automatic Mode are used to read the barcode and then copy the data to the tag automatically.

In normal case the barcode ID will be read from the FOUP label. After that the ID will be written to the RF tag at the FOUP. Then one or more pages of the tag will be locked and the ID will be stored on a file on the CF card.

6 TECHNICAL DATA

Operation temperature	0°C to 50°C / 32°F to 122°F
Stock temperature	-25°C to 70°C / -13°F to 158°F
Ethernet Connector	RJ-45
CF-Card	min. 32MB
Voltage	18 … 30 VDC
Current typ. / max.	400 mA / 600 mA (24V)
Wight (without BCR)	7.100 g

RF Reader:

Transmitter frequency	134.2 kHz
Max. transmitting level in 3m distance	104 dBµV/m
Typ. period of charging impulse	50ms
Max. repeat of reading	4/s
Max. repeat of programming	2/s
Fuse type TR5	500mA (T)
Voltage	13 .. 24 VDC
Reading/writing impulse	160 mA (24V)

Barcode Reader (integrated):

Voltage	5VDC
Laser power	max. 1,5mW
Laser Class	2
Sampling Mode	Raster
Sampling Rate	500 / s
Voltage	5 VDC
Current	max. 330 mA
Wight	130 g

Display (Graphic Device):

Pixels (Blue Line)	240 x 128
Touch Panel Fields	10 x 6
Voltage	5 VDC
Current	700 mA

Version	Änderungen	Datum	Autor
0.1		26.05.03	RW