User Manual for:
SA3-D, SA3-F, SA3-I, SA3-DI
RFID Reader,
supplied by TMH (Toyota Material Handling),
manufactured by AES GmbH

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1. Introduction

Purpose

This user manual establishes the baseline instructions for the use of this device. Toyota may add or expand any instructions they see fit at its own discretion.

Audience

This manual is intended for trained and approved personnel only. And should be used for Toyota to created their own more detailed manual, customized for each truck model.

Safety Precautions

Follow all safety precautions outlined in the manual to prevent damage to the device, truck, and yourself.

This equipment design typically applies to commercial or industrial equipment expected to be installed in locations where only adults are normally present.

This equipment is not suitable for use in locations where children are likely to be present.

2. System Requirements and installation

For system requirements and installation instructions please refer to the Installation Manual.

3. Scope of usage

This product was created with the sole intent of being installed on Toyota trucks and to be used in conjunction with Toyota and/or AES GmbH developed software.

This product is intended to restrict access to truck ignition by providing an access system built on RFID-tags.

The SA3-D device is an RFID reader that will allow or deny truck ignition based on the provided credentials.

Approved credentials can be set on server **OR** be internally set on the SA3-D RFID reader.

The SA3-D device will automatically log off any approved driver after x minutes of inactivity.

4. Restrictions of usage

- Usage is limited to the approved scope above, however extra strict emphasis is placed on the restrictions below.

- This equipment design typically applies to commercial or industrial equipment expected to be installed in locations where only adults are normally present.

- This equipment is not suitable for use in locations where children are likely to be present.

- SA3-F RFID Reader is only compliant if no changes or modifications are made to the device.

- SA3-F RFID Reader is compliant with the requirement for RF exposure in US with 190 mm minimum separation distance between the user and/or bystander to the device

- SA3-F RFID Reader is compliant with the antenna is fixed to the product by manufacture and no other antenna is to be used

- 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..

> 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.

1. How to use the SA3 RFID Reader

The SA3 family consists of a number of RFID reader to be used "in the field". These devices feature CAN bus interface for easy system integration. The counterpart is a reader with USB interface. This device is used for tag family detection and system configuration. Application background is the categorization of RFID tags presented to the reader according to a criteria list. The minimal decision space is a binary red/green sorting. This information is provided to a host system for further processing. The evaluation of a tag-ID read by the reader can be done remotely on a server or in a stand-alone mode directly by the device itself. In the latter case the reader has to be trained by loading with a list of tags accepted. This is done by a dedicated RFID setup card. Up to 250 tag-ID's can be loaded.
RFID-cards and tags presented to the reader are identified based on the unique ID. A binary decision yes/no (accepted/not accepted) is made and signalized by the device' LED's or an external feedback system. The decision can be made in a stand-alone-mode by the device itself. In this case the device must be equipped with a list of tags to be accepted. These data are loaded into the device by RFID using a dedicated Setup-Card. The Setup-Card is a read/write RFIDtag with bigger memory. Up to 250 data sets can be stored. The alternative to the stand-alone-mode is the server mode. The list of tags to be accepted is stored at a remote server. Every tag-ID read out is forwarded to this server, evaluated and a response is sent back to the SA3 reader for user feedback. This traffic has to be managed by an additional control unit.

2. Troubleshooting

Common issues

Truck does not unlock.
- Check that RFID tag is approved.
- Ask admin to re-provision access in the system.

Reader not recognised.
- Check that your port is functioning.

Technical support
For further technical support please contact your internal TMH product specialist. Or your TMH account manager.