Annex acc. to FCC Title 47 CFR Part 15
relating to
terra Fernwirktechnik GmbH
FA12 DSS-TX

Annex no. 5
User Manual
Functional Description

Title 47 - Telecommunication
Part 15 - Radio Frequency Devices
Subpart C – Intentional Radiators
Measurement Procedure:
ANSI C63.4-2014
ANSI C63.10-2013

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User manual/ Functional description of the test equipment (EUT)

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Radio remote control FA12

FA12 Near Field transmitter - FA12 DSS TX

User manual

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Product images

Abbildung 1: FA12 Near-field transmitter (FA12 DSS-TX)

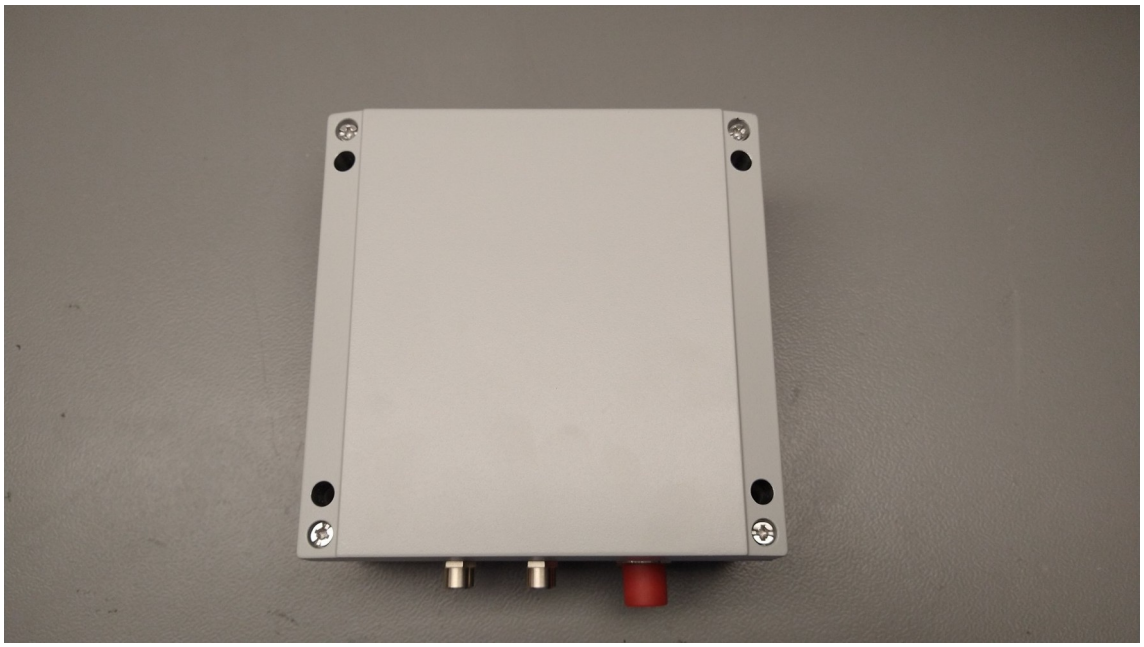

Abbildung 2: FA12 Near-field transmitter (FA12 DSS-TX) top view

Product images

Abbildung 3: LF Near-field transmitting antennas

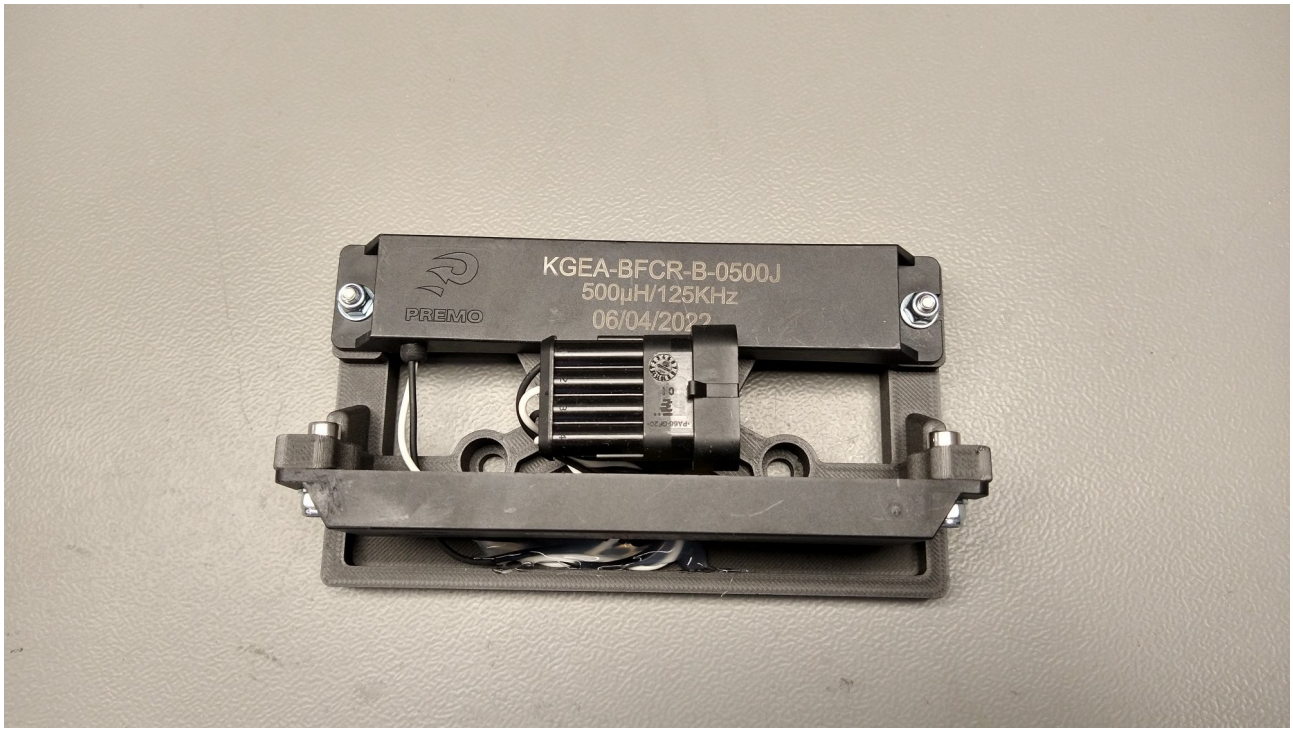

Abbildung 4: Near-field transmitting antennas (top view)

System function and purpose

The FA12 near-field transmitter (FA12 DSS-TX) generates a low-frequency measurable magnetic field via two antennas within a radius of approx. 5 m. The presence and field strength of the magnetic field can be evaluated by a further module for distance measurement.

The FA12 DSS-TX is part of the radio remote control system FA12. An operational descripton can be found in the annex „20240710_FA12_USA_CN_CERT_MANUAL_OP_DESCRIPTION.pdf“

The FA12 DSS-TX is typically mounted on a machine. For example, on a trench roller. The FA12 DSS-TX generates a LF 125kHz signal. The near-field signal can be detected within a radius of approx. 5 m around the machine. The signal is transmitted over two LF near-field transmitting antennas from the machine to the operator. Each of the two LF near-field transmitting antenna blocks contains both a transmitting and a receiving antenna. The receiving antenna is used for fault detection. The antenna blocks are also mounted on the machine. Their signal is picked up and evaluated by the near-field receiver integrated in the operators remote control transmitter. The near-field field strength can be used by the remote control transmitter to determine the distance between the machine and the operator. Depending on the distance, the remote control transmitter can perform certain actions.

The FA12 DSS-TX and the antenna blocks are shown above.

Abbildung 5:FA12 DSS-TX as a typical application on a trench roller

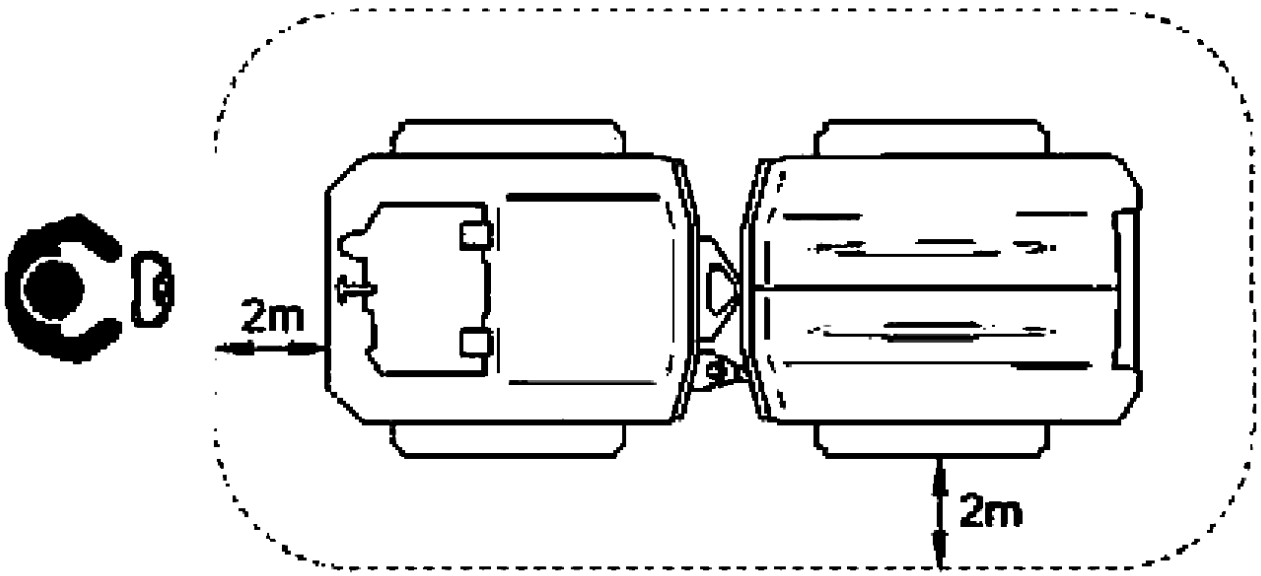

Abbildung 6:FA12 DSS-TX in use as a part of a distance warning device

Technical Data

FA12 Near-field transmitter (FA12 DSS-TX)

Supply voltage: 10,8V – 15,6V DC

Power consumption: max. 1,5A; typ. 0,2A bei 12,6V

Temperature range: -20°C bis 60°C

Interfaces: CAN; proprietary user layer protocol

Operating frequency: 125kHz

Modulation: AM

Antennas: 2x 125kHz magnetic field antennas can be connected via M8 sensor cable

FA12 Near-field antennas

Manufacturer: Premo

Website: https://www.grupopremo.com/de/

Antenna model: KGEA-BFCR-B-0500J

Datesheet: See annex „Datenblatt KGEA-BFCR-B-0500J.pdf“ and „KGEA_H_FIELD.pdf“

Compliance Statement

Note: This user manual is not intended for the end user. The FA12 DSS-TX is not sold separately from the trench roller. The user instruction for the FA12 remote control system will be provided by the OEM.

Compliance Statement FCC (Part 15.19) for USA

FA12 nearfield transmitter (FA12 DSS-TX)
Model: FA12 DSS-TX
FCC ID: 2BG52-FA12DSSTX
IC: 32673-FA12DSSTX

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.

Warning (Part 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 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.

Radio frequency radiation exposure information:
This equipment complies with FCC radiation exposure limits sets forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.
This transceiver (LMD-401) must not be co-located or operating in conjunction with any other antenne or transmitter.

Compliance Statement IC (Section 8.4 of RSS-GEN) for Canada

FA12 nearfield transmitter (FA12 DSS-TX)
Model: FA12 DSS-TX
FCC ID: 2BG52-FA12DSSTX
IC: 32673-FA12DSSTX

In ADDITION to the FCC compliance statement:

(See: https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/devices-and-equipment/radio-equipment-standards/radio-standards-specifications-rss/rss-gen-general-requirements-compliance-radio-apparatus#s8.4)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(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.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé.
Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.
Ce transmetteur ne doit pas etre place au meme endroit ou utilise simultanement avec un autre transmetteur ou antenne.