

Installation Documentation for FCC Approval

Autor / author: Winfried Briel

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Project and Version

Type of project: Electronics and Software
Project name: Control und display unit 2,7" with BLE-Gateway
Version: Rev 00

Purpose of this Document

The purpose of this document is to provide an installation description of the device requiring FCC approval. Authors should start out with the device's purpose and state the features needed. Short descriptions of how the features have been implemented shall be given using block diagrams to show how system components interact.

Table of Contents

List of Figures	1
1. Introduction.....	2
2. Purpose	2
3. Features	2
4. Installation for the components	2
5. List of control and display units with the BLE gateway	3
6. Labeling from the control and display unit	3
7. User Information acc. FCC 15.21	4
8. Statement for Class B digital device acc.to FCC 15.105	4
9. Statement acc. RSS Gen Issue 3, Sect. 7.1.3	4

List of Figures

Figure 1: components of the control and display unit	2
Figure 2: block diagram	3

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1. Introduction

The product developed is to make an existing device TheraTrainer tigo / mobi / bemo to connect with PC over Bluetooth low energy. - The TheraTrainer tigo / mobi / bemo is a medical device for improving the mobility of patient whose mobility is limited.

In the control and display unit (BAE) physical data like rpm, power and torque send by a radio interface (gateway) to the pc.

2. Purpose

The device shall support the therapist in his work. A connected therapy system can monitor the correct execution of an exercise and provide the patient with visual and audible feedback. Feedback from the host system serves the motivation of the patient.

3. Features

- Bluetooth 4.0 LE wireless connectivity (Nordic nRF51822 Cortex M-0 System on Chip)
- Single 2.4 GHz meandering antenna
- Externally powered by a 3,3 V / 100 mA external power supply from the control and display unit (BAE).
- Pcb electronic control und display unit

4. Installation for the components

Figure 1 shows all major components of the complete control und display unit.

The installation of the control and display unit inclusive the gateway (A005-525) was assembling by manufacturer medica Medizintechnik, and not from the end user.

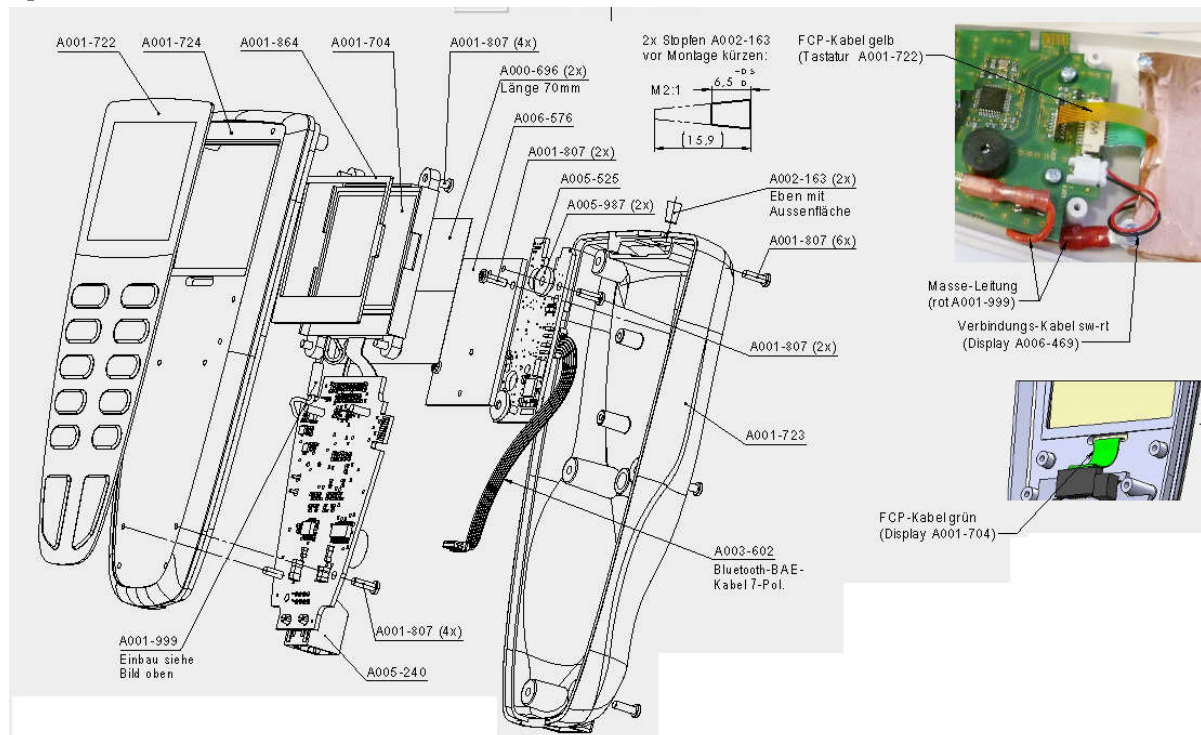


Figure 1 : components of the control and display unit

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5. List of control and display units with the BLE gateway

The control and display unit can be used in various devices from the manufacturer medica like TheraTrainer tigo, Thera-Trainer mobi and TheraTrainer bemo. The separate control and display units differ only in another foil keypad and firmware to the microcontroller of the electronic (A005-240).

The firmware in the microcontroller gateway (A005-525) is always the same version.

Host Marketing Name	articlenumber/ HVIN	FirmwareVersion	BLE gateway FirmwareVersion
Control and display unit 2,7" tigo wireless	A004-517	V4.0	V1.0
Control and display unit 2,7" mobi wireless	A006-172	V2.0	V1.0
Control and display unit 2,7" bemo wireless	A005-242	V1.0	V1.0

6. Labeling from the control and display unit



The PMN is on the label from the control and display unit case, see photo.

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7. User Information acc. FCC 15.21

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

8. Statement for Class B digital device acc.to FCC 15.105

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 or more 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.

9. Statement acc. RSS Gen Issue 3, Sect. 7.1.3

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.