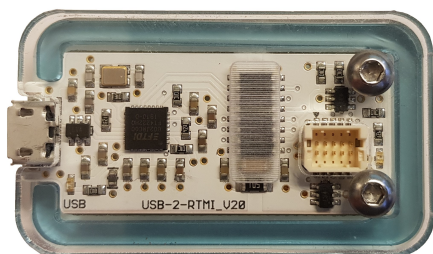# USB-2-RTMI_V20 Description

Document Revision V2.01 • 2021-Aug-06
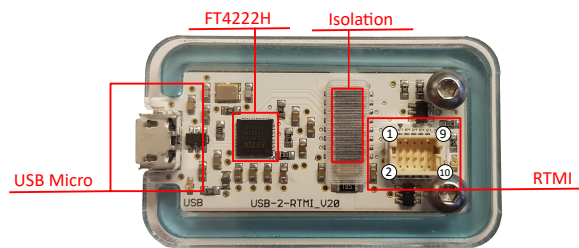
USB-2-RTMI_V20 top view

Description

This USB-2-RTMI_V20 offers USB interface conversion for the Real-Time Monitoring Interface of the TMC4671-LA FOC controller IC. The interface converter is based on the FTDI FT4222H USB High-Speed to SPI bridge. It is USB bus powered and offers basic ESD protection. Please note that the V20 version includes galvanic isolation between USB and RTMI connector. This will work with the series version TMC4671-LA FOC controller IC and -ES2 (generation 2) but, not with first version / samples -ES. The USB-2-RTMI_V20 offers the same tiny 10pin connector with same pin assignment for the RTMI interface that can be found on the TMC4671-LA line of evaluation boards. Connection cables are included, also (have not changed for V20).
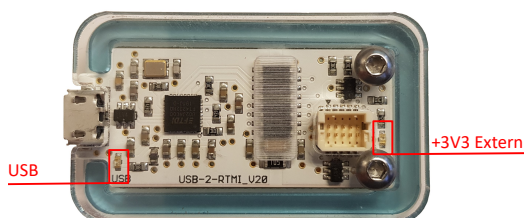
Connectors

Pin	Signal	Pin	Signal
1	+3V3_Extern	2	GPIO0
3	/CS	4	GPIO1
5	SCK	6	GND
7	MOSI	8	GND
9	MISO	10	GND

Table 1: RTMI connector pin assignment

LEDs

LED	Description
VBUS	USB power (+5V) available, USB connected
+3V3_Extern	+3V3 available via RTMI connector from target board

Table 2: LED description

Order code

Order Code	Description	Size (LxWxH)
USB-2-RTMI	USB adapter (USB Micro) for the Real-Time-Monitoring interface (RTMI) of the TMC4671-LA FOC controller with isolation Including cable loom for USB-2-RTMI: • 1x cable loom for RTMI connector (cable length 150mm, 10pin Hirose DF20 female connectors at both ends • 1x USB Micro cable	50mm x 30mm x 12mm (with enclosure)

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Driver Installation

For installation of drivers for the USB-2-RTMI please follow these steps:

1. Download D2XX drivers from FT4222 homepage.

2. Download LibFT4222 Windows Libary.

3. Connect USB-2-RTMI to your PC.

4. Open device manager -> USB controller-> FT4222H Interface A.
   Update drivers by using new drivers from D2XX ZIP file.

5. Copy LibFT4222.dll from LibFT4222-v1.4.1.zip into folder C:/WINDOWS/SysWOW64.