

iModCon CAN isolated

Documentation version 0.9

This document applies to iModCon CAN isolated V1R1.

Introduction

The iModCon CAN isolated is a peripheral board, which can be connected to the iMod CAN connector of Keith & Koep baseboards (i.e. i-PAN T7, i-PAN T10).

It converts the single ended 3V3-level CAN1_TX & CAN1_RX signals of the iMod CAN interface to a differential, galvanic isolated CAN bus signal.

The CAN2_TX & CAN2_RX signals are routed to a second iMod CAN connectors CAN1_TX & CAN1_RX pins. This allows to connect two iModCon CAN boards to a single iMod CAN connector.

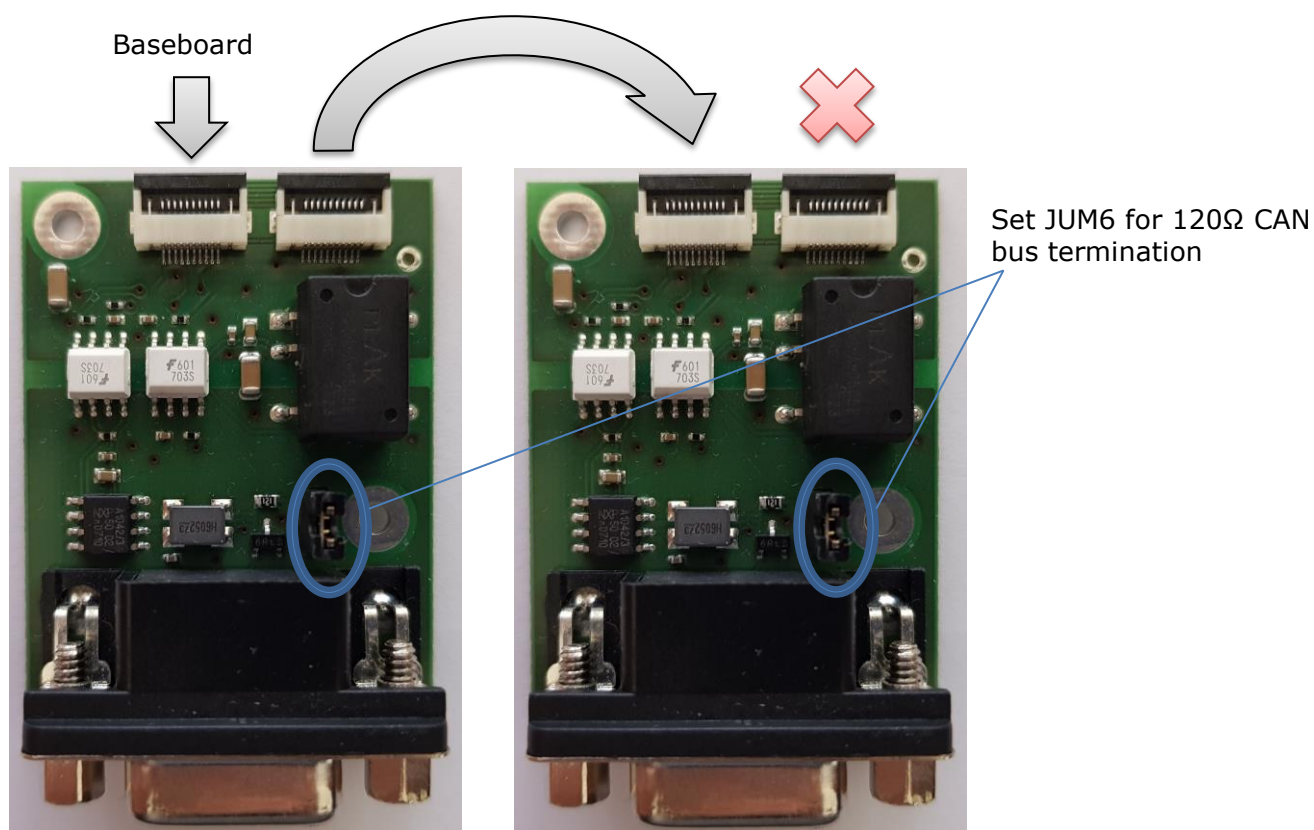


Figure: A maximum of two iMod CAN boards can be connected to a single iMod CAN connector.

2 Electrical Pin-Information

- PI: Power Input
- PO: Power Output

- DI: Digital Input
- DO: Digital Output
- DIO: Digital Input/Output



J2: DSUB9 Connector

PIN	Name	Type	Description
1			n.c.
2	CAN_L	DIO	LOW-level CAN bus line
3	CAN_GND	P	isolated GND
4			n.c.
5			n.c.
6			n.c.
7	CAN_H	DIO	HIGH-level CAN bus line
8			n.c.
9	VCC_ISO	PO	isolated +5V power output

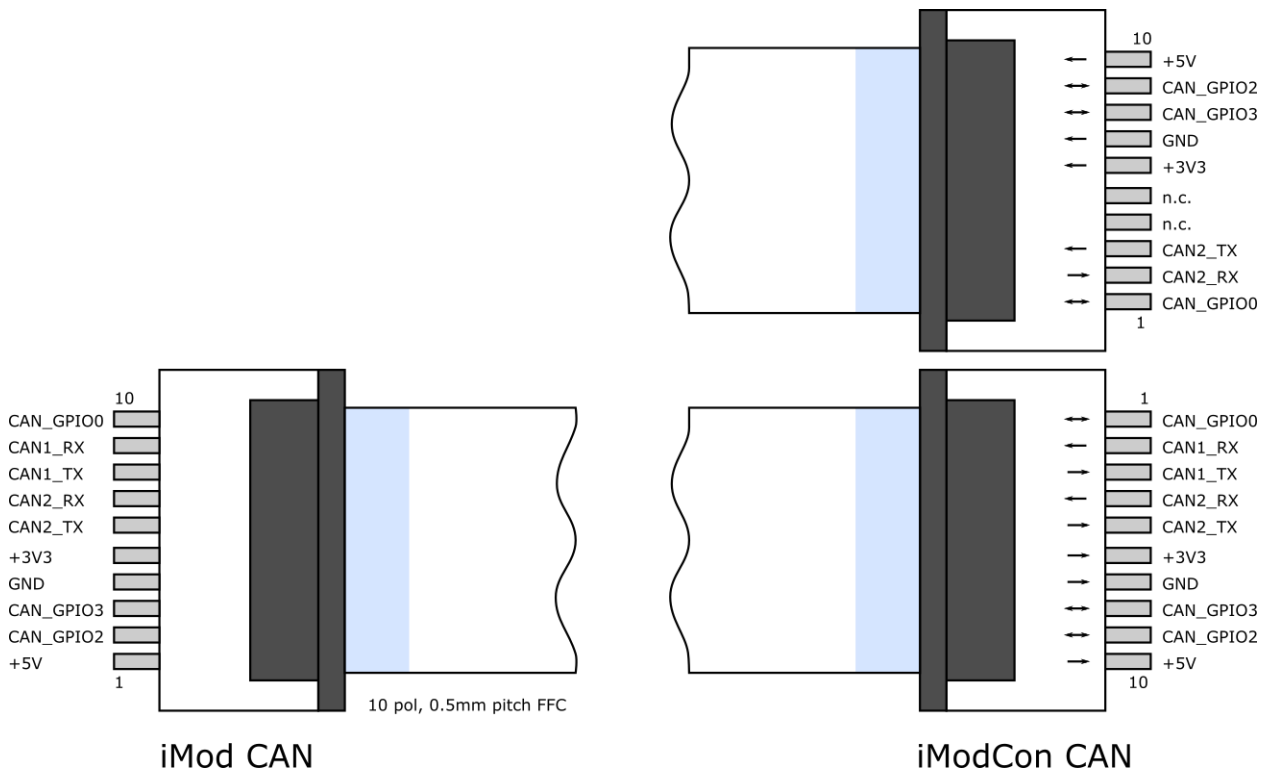


Figure 2-1: iMod CAN Standard (left); Connector pinning of iModCon CAN (right)

J1: iModCon CAN Connector (to baseboard)

PIN	Name	Type	I/O-Voltage	Description
1	CAN_GPIO0	DIO	+3.3V	Generic GPIO, only connected to J305.
2	CAN1_RX	DO	+3V3	single ended receive output 1
3	CAN1_TX	DI	+3V3	single ended transmit input 1
4	CAN2_RX	DO	+3V3	single ended receive output 2, only connected to J305.
5	CAN2_TX	DI	+3V3	single ended transmit input 2, only connected to J305.
6	+3V3	PI		power-supply
7	GND	PI		power-supply
8	CAN_GPIO3	DIO	+3V3	Generic GPIO, only connected to J305.
9	CAN_GPIO2	DIO	+3V3	Generic GPIO, only connected to J305.
10	+5V	PI		power-supply

Connector: 687110149022 by Wuerth

J305: iMod CAN Connector (to next iModCon CAN board)

PIN	Name	Type	I/O-Voltage	Description
1	+5V	PO		power-supply
2	CAN_GPIO2	DIO	+3V3	Generic GPIO
3	CAN_GPIO3	DIO	+3V3	Generic GPIO
4	GND	PO		power-supply
5	+3V3	PO		power-supply
6				n.c.
7				n.c.
8	CAN2_TX	DO	+3V3	single ended transmit output 2
9	CAN2_RX	DI	+3V3	single ended receive input 2
10	CAN_GPIO0	DIO	+3V3	Generic GPIO

Connector: 687110149022 by Wuerth

3 Specifications

3.1 Absolute Maximum Ratings & Operating Conditions

For electrical specification please view datasheets of:

U11,U13: HCPL0601V

U15: NXP TJA1042T/3

U18: PEAK PSD-0505S

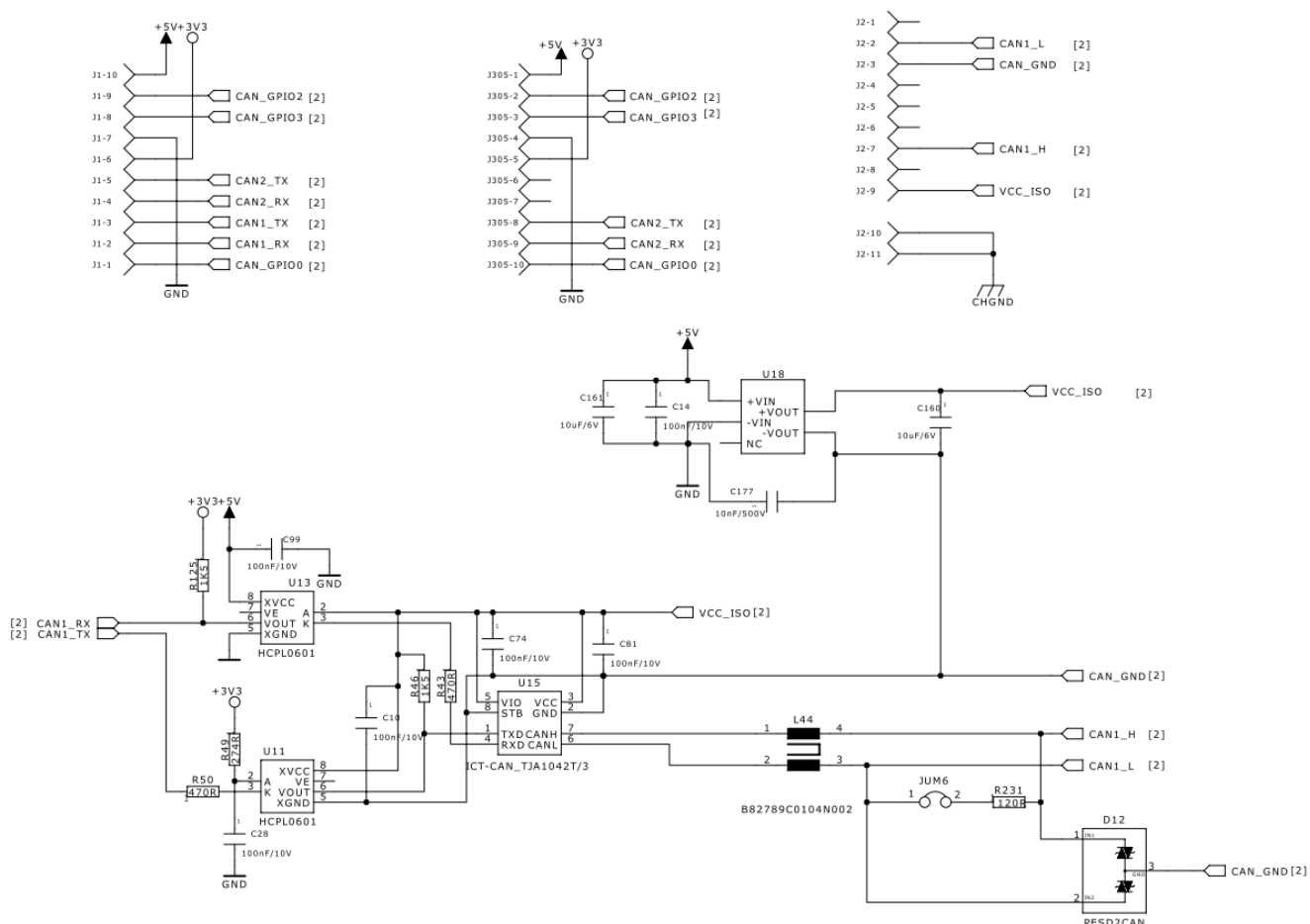


Figure 3-1: Schematic of iModCon CAN isolated.

3.2 Mechanical Specification

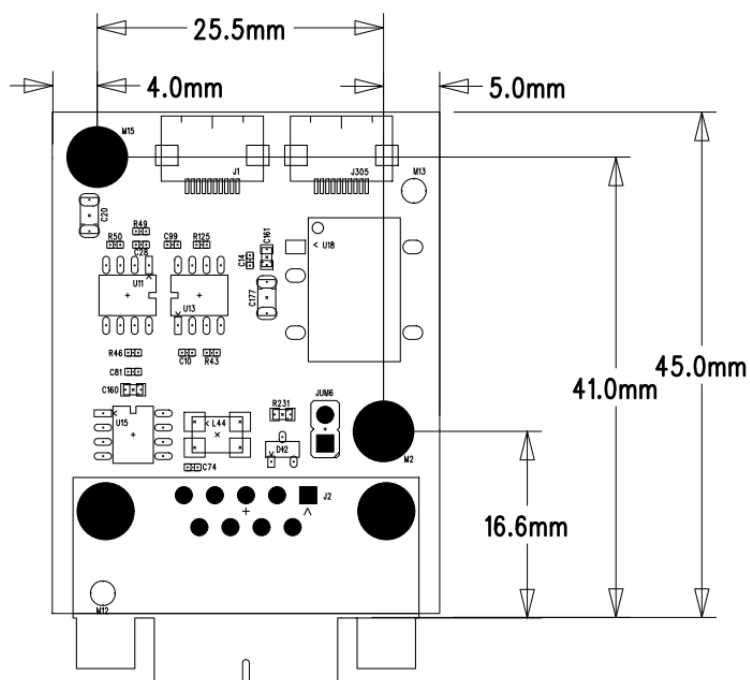


Figure 3-2: Top-View on iModCon CAN isolated.

4 Ordercodes for iModCon CAN isolated

41 900.CANMI.001: iModCon CAN isolated incl. 125mm FFC cable.

6 Document History

Rev.	Date	Author	Changes
0.9	18.04.2018	SH	Initial Version.