

easyTOUCH
I²C /USB CoF Adapter
12044533

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1 Introduction

This adapter provides access to I²C and USB interfaces to Data Modul Chip on Flex (CoF) touch modules. Microchip as well as Ilitek sensor can be used with this adapter. Please note that not all CoF tails have both interfaces available. Please check the sensor specification for the tail pinout.

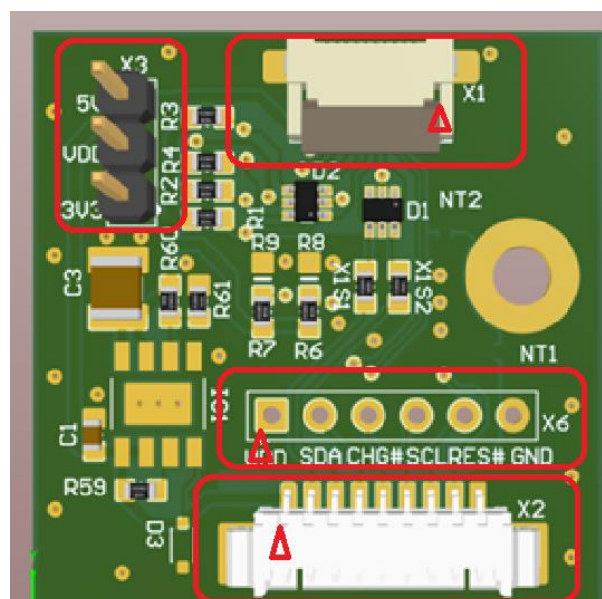
Four connectors are available on the adaptor:

- X1: Connector to sensor tail (matches Data Modul 10pin standard CoF Golden Finger)
- X2: USB connector (matches Data Modul Standard 9 pin USB cable TP72241)
- X3: supply power selection; for details please refer to chapter 2.4.
- X6(not assembled): interface to I²C signals

2 Modul Specification

2.1 Mechanical features

| | |
|-----------------------|-------------------------------|
| Size | 30 x 30 mm |
| Height | 12.0 mm (with Jumper) |
| Operating temperature | -20 to +75 °C |
| Storage temperature | -25 to +85 °C |
| Temperature slew rate | 10 °C /minute (max.) |
| Relative humidity | 95 % at 60 °C no condensation |
| RoHS compliant | Yes |



3 Connector Pin Definition

3.1 Connector X1 – Sensor Connector

3.1.1 Pin definition for a mXT640T based sensor

| Pin | Name | Description | Remarks |
|-----|-------------------|-----------------------------------|--|
| 1 | GND | - | |
| 2 | I ² CM | I ² C Mode select | For details, please refer to IC data sheet. |
| 3 | ADDSEL | I ² C Address select | Preset to GND. For details, please refer to IC date sheet. |
| 4 | DBG_DAT | Debug data | |
| 5 | DBG_CLK | Debug Clock | |
| 6 | RST# | Rest, Low active | |
| 7 | SCL | I ² C clock signal | |
| 8 | SDA | I ² C data signal | |
| 9 | CHG# | I ² C Interrupt signal | |
| 10 | VDD | Power supply | Jumper on X3 needs to be set to 3V3 |

3.1.2 Pin definition for a mXT2952T2 based Sensor

| Pin | Name | Description | Remarks |
|-----|-------------------|---|--|
| 1 | GND | - | |
| 2 | I ² CM | I ² C Mode select | Preset to 1. For detail please refer to IC date sheet |
| 3 | COMMSEL | I ² C/USB mode select | Preset to 1. For detail please refer to IC date sheet |
| 4 | DP_ADDSEL | USB D+ or I ² C Address select | The I ² C Address this pin is preset to VDD. For detail please refer to IC date sheet |
| 5 | DM | USB D- | |
| 6 | RST# | Rest, Low active | |
| 7 | SCL | I ² C clock signal | |
| 8 | SDA | I ² C data signal | |
| 9 | CHG# | I ² C Interrupt signal | |
| 10 | VDD | Power supply | Jumper on X3 needs to be set to 3V3 |

3.1.3 Pin definition for Ilitek based Sensors

| Pin | Name | Description | Remarks |
|-----|------|----------------------|---|
| 1 | GND | - | |
| 2 | NC | - | |
| 3 | NC | - | |
| 4 | DP | USB D+ | |
| 5 | DM | USB D- | |
| 6 | RST# | Reset, Low active | |
| 7 | SCL | I2C clock signal | |
| 8 | SDA | I2C data signal | |
| 9 | INT | I2C Interrupt signal | For details please refer to IC data sheet |
| 10 | VDD | Power supply | |

3.2 Connector X2 – USB connector

| Pin | Name | Description | Remarks |
|-----|-----------|-----------------------------------|--|
| 1 | USB 5V | Power Input | |
| 2 | D- | USB D- | |
| 3 | D+ | USB D+ | |
| 4 | SDA | I ² C data signal | |
| 5 | CHG# | I ² C interrupt signal | |
| 6 | SCL | I ² C clock signal | |
| 7 | RES# | Reset, Low active | |
| 8 | COMMSSEL* | USB mode select | Preset to VDD. For details please refer to IC data sheet |
| 9 | GND | - | |

* Only when IC support this signal.

3.3 Connector X6 – I²C Header

| Pin | Name | Description | Remarks |
|-----|------|-----------------------------------|--|
| 1 | VDD | Power/Power input | VDD pin of the I2C header is directly hardwired to the power supply pin for the CoF (pin10 of connector X1). |
| 2 | SDA | I ² C Data signal | |
| 3 | CHG# | I ² C interrupt signal | |
| 4 | SCL | I ² C clock signal | |
| 5 | RST# | Reset, Low active | |
| 6 | GND | - | |

3.4 Connector X3 – Power Supply Selection

With Connector X3, the power supply for the touch sensor can be selected. Setting the jumper to “5V” will supply the CoF directly from pin 1 of X2 (USB Connector). Setting the jumper to 3.3V will supply the CoF with 3.3V from the LDO. The input of the LDO is connected to pin 1 of X2 (USB Connector).

Please note the VDD pin of the I2C header is directly hardwired to the power supply pin for the CoF (pin10 of connector X1).

For further details on the power supply of individual CoF sensors, please see the sensor specification.

6 Revision History

| Revision | Date | Author | Changes |
|----------|------------|------------|-----------------|
| 000 | 2022-04-25 | T. Golling | initial version |
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