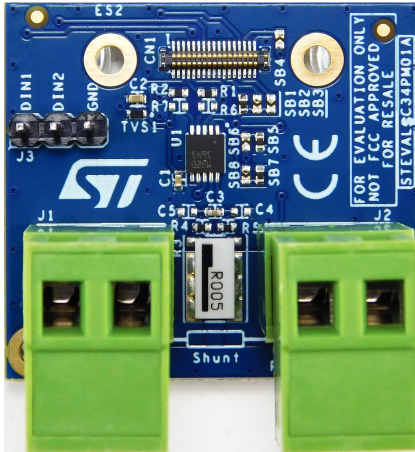


TSC1641, 16-bit, high precision current and power monitor expansion kit



Features

- The kit includes:
 - STEVAL-C34PM01 expansion board with TSC1641 and 34 pins board-to-fpc connector
 - A 34-pin flex cable
- Ideal plug-in for the [STEVAL-STWINBX1](#) evaluation board
- TSC1641 high-precision current, voltage, power, and temperature monitoring analog front-end (AFE)
- 16 bit dual channel for current, voltage, and power monitoring
- Temperature monitoring
- Simple digital connection with I²C up to 1 MHz and compatible with MIPI I3C up to 12.5 MHz
- From 128 μs to 32.768 ms total conversion time
- 2.7 to 3.6 V power supply
- Alert signals generated in case of over/under voltage, over/under current, overpower or over temperature
- Load voltage sensing from 0 to 60 V
- 3.3 V power supply input

Description

The [STEVAL-C34KPM1](#) evaluation kit allows the user to evaluate the performance of the [TSC1641](#), 16-bit, high precision current and power monitor with an MIPI I3C/I²C interface.

The board can measure: voltage up to 60 V, a load current up to 10 A delivered power, and temperature based on the dual channel power monitor.

The current measurement can be high-side, low-side and bidirectional. Analog filters can be implemented on the board.

This expansion kit is compatible with the [STWIN.box \(STEVAL-STWINBX1\)](#), and it is supported by the high speed datalogger function pack ([FP-SNS-DATALOG2](#)).

Product summary	
TSC1641, 16-bit, high precision current and power monitor expansion kit	STEVAL-C34KPM1
STM32Cube function pack for high speed datalogging and ultrasound processing	FP-SNS-DATALOG2
60 V, 16-bit high-precision power monitor with I ² C and MIPI I3C interface	TSC1641
STWIN.box - SensorTile Wireless Industrial Node Development Kit	STEVAL-STWINBX1
Applications	Factory automation Industrial sensors

1 Schematic diagrams

Figure 1. STEVAL-C34PM01 circuit schematic

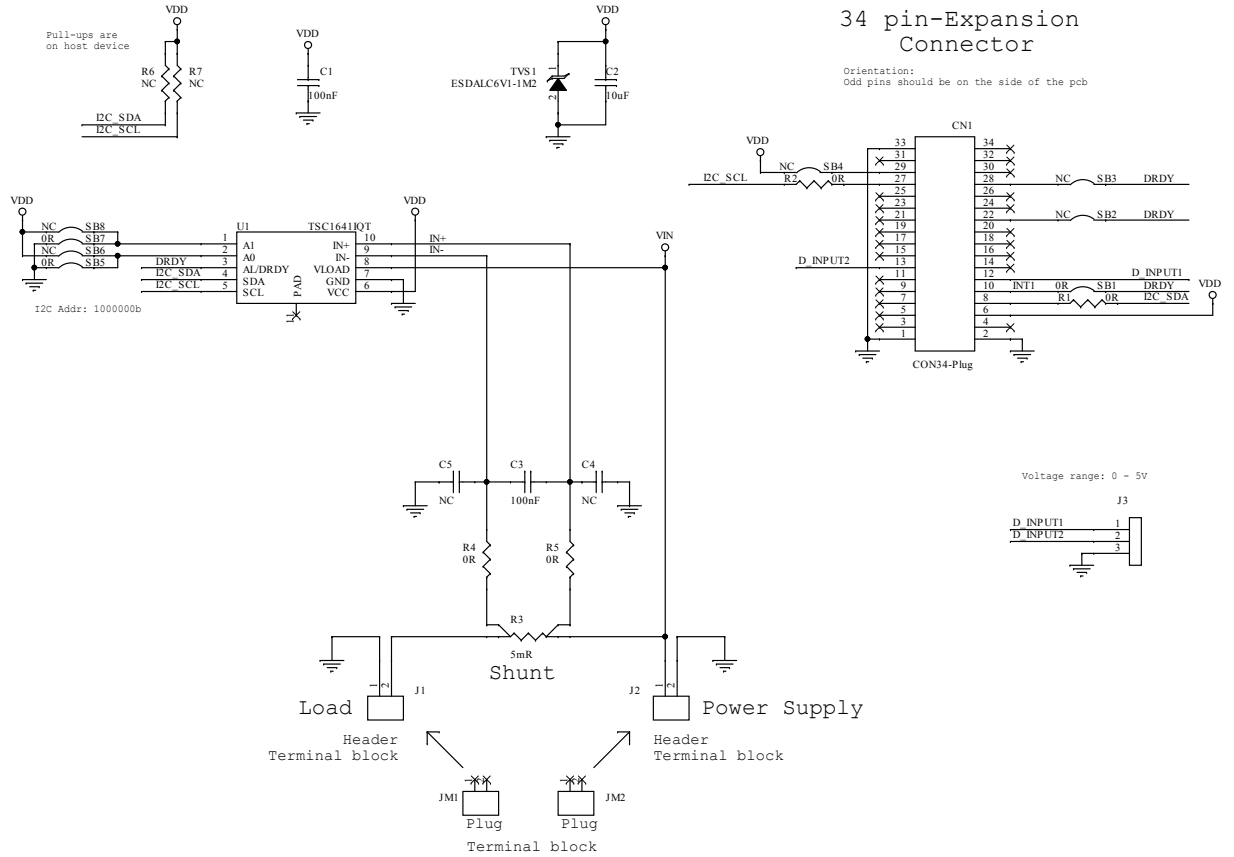
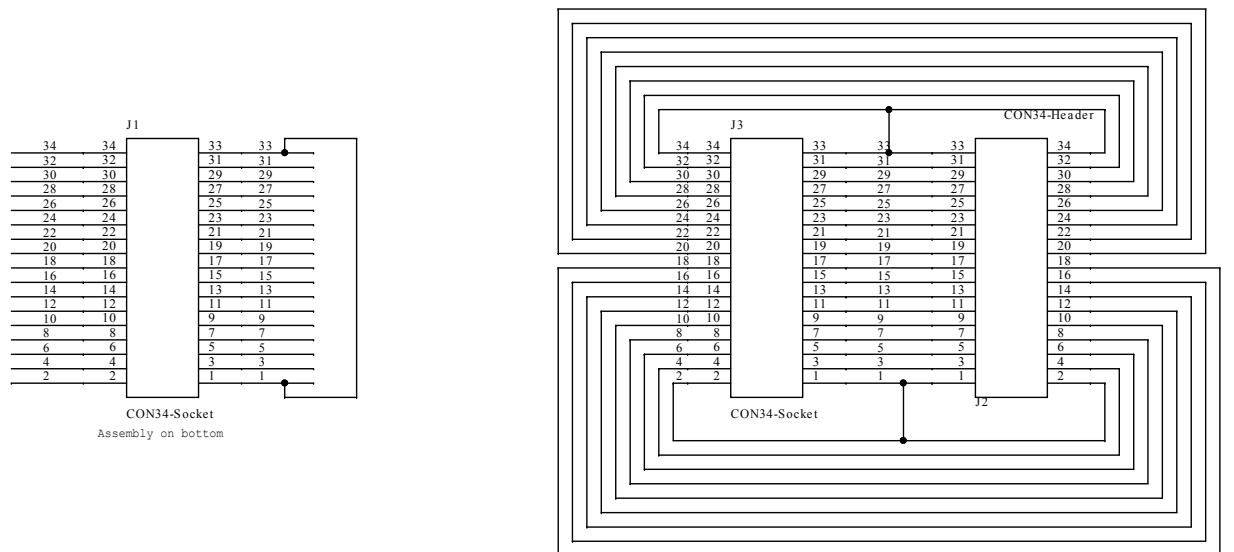


Figure 2. STEVAL-FLTCB02 circuit schematic



2 Kit versions

Table 1. STEVAL-C34KPM1 versions

PCB version	Schematic diagrams	Bill of materials
STEVAL\$C34KPM1A ⁽¹⁾	STEVAL\$C34KPM1A schematic diagrams	STEVAL\$C34KPM1A bill of materials

- This code identifies the STEVAL-C34KPM1 evaluation kit first version. The kit consists of the STEVAL-C34PM01 expansion board whose version is identified by the code STEVAL\$C34PM01A and the STEVAL-FLTCB02 flex cable whose version is identified by the code STEVAL\$FLTCB02A. The STEVAL\$C34PM01A code is printed on the expansion board PCB. The STEVAL\$FLTCB02A code is printed on the flex cable.*

Revision history

Table 2. Document revision history

Date	Revision	Changes
01-Aug-2024	1	Initial release.

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