Poly-phase energy metering evaluation board with current transformers based on the STPM33, STPM34 and STM8S903

Features

- 0.2% accuracy poly-phase meter evaluation board
- $V_{\text{nom}}(\text{RMS}) = 140$ to $300$ V,
- $I_{\text{nom}} / I_{\text{max}}(\text{RMS}) = 5/100$ A,
- $f_{\text{lin}} = 50/60$ Hz ± 10%
- USB isolated connector to PC GUI
- Power supply 3.3 V through USB connector
- SPI/UART connector for STPM33/34 direct access
- SWIM connector for firmware upgrade
- SPI/UART connector for expansion to external MCU
- 2x LEDs on board for active-reactive power
- IEC61000 standard compliant
- RoHS compliant

Description

The STPM33, STPM34 poly-phase evaluation board is a Class 0.2, single-phase or poly-phase meter with current transformer sensors for power line systems of $V_{\text{nom}} = 140$ to $300$ V$_{\text{RMS}}$,
- $I_{\text{nom}} / I_{\text{max}}(\text{RMS}) = 5/100$ A$_{\text{RMS}}$,
- $f_{\text{lin}} = 50/60$ Hz ± 10%
- $T_{\text{amb}} = -40$ to $+85$ °C.

Measured data from the STPM33 and STPM34 are read by the STM8S903 device for 3-phase energy and power calculations and the active/reactive cumulative LED signals generation.

To display all measurements, the board can be interfaced with PC running evaluation software through an isolated USB port, which provides also the 3.3 V power supply.

The board has also SPI/UART pins available to be interfaced to an external microcontroller for further application development.
# Revision history

## Table 1. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Changes</th>
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<tbody>
<tr>
<td>03-Nov-2014</td>
<td>1</td>
<td>Initial release.</td>
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