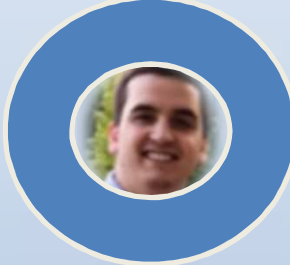


EE-595

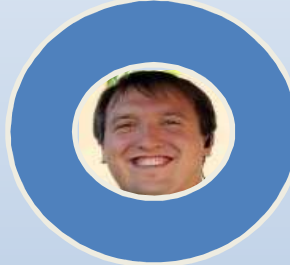
Power Quality Meter

Team 4

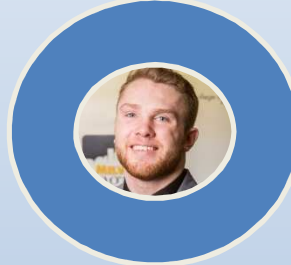
Sam Wolak



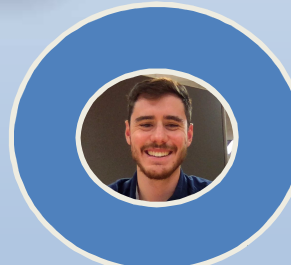
Deane Page



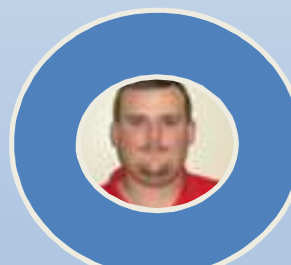
Mike Ballo



Dan Strohfeltd



Tony Remsza



Product Description

Purpose of Product:

- Single-phase power meter capable of measuring AC/DC voltage and current, power, apparent power, THD%, crest factor, and power factor

Features:

- Voltage sensor input
- Non invasive current input
- Display and User inputs
- Control using Raspberry Pi model
- Ethernet interface module

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Key Requirements

Cost

Selling Price: \$2,000.00
Component Costs: \$750.00
Assembly and test Costs: \$250.00

Environment

Product is to be used indoors mainly as an industry tool
Operating Temperature Range: 0°C - 50°C

Power Inputs

120 V

Major Functions/Quantities Measured & Displayed

RMS voltages and currents to accuracy of $\pm 1\%$
THD range of 00.00-99.99 with accuracy of $\pm 3\%$
Crest factor to accuracy of $\pm 5\%$
Voltage sags/swells to accuracy of $\pm 2\%$
Scope display with 8 bit resolution
Max sample rate of 25 MS/s

Advanced Block Diagram

