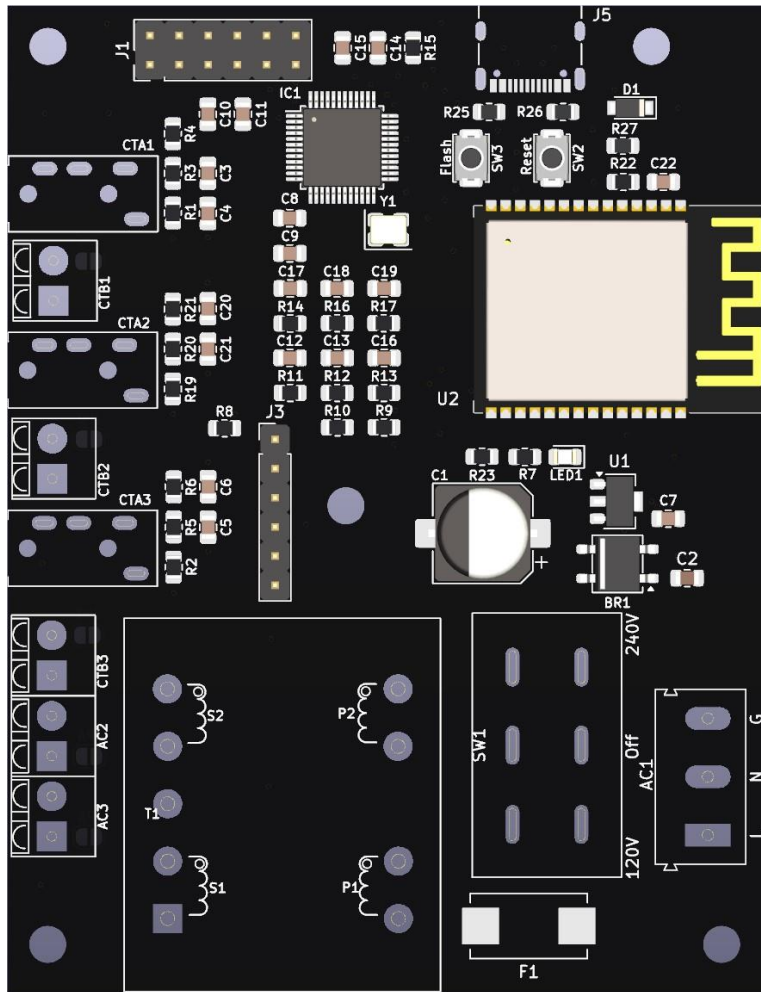


Gelidus Research 3 Phase Expandable Power Meter

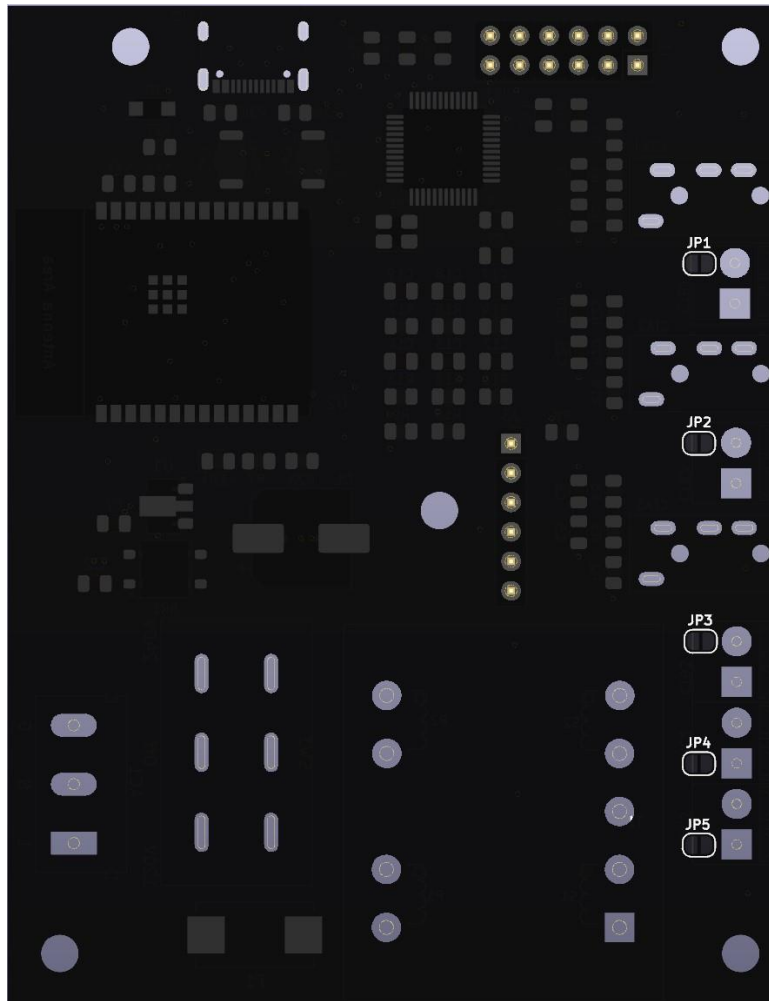
Hardware Reference Manual

MainBoard - Top



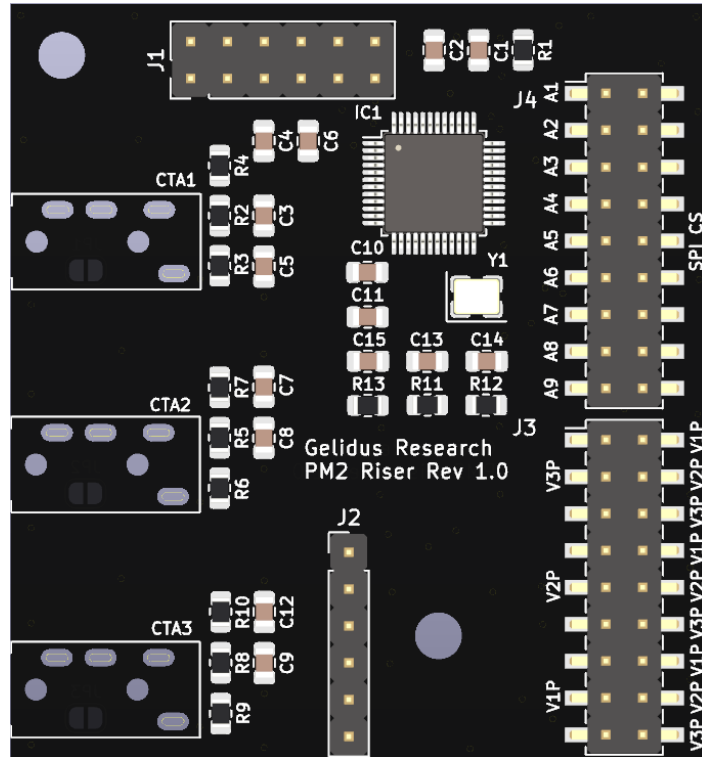
CTA1	Phase A Current Transformer 3.5mm Phono Jack – 22 Ohm load resistor (JP1 default bridged/enabled)
CTB1	Phase A Current Transformer Screw Terminal - 22 Ohm load resistor (JP1 default bridged/enabled)
CTA2	Phase B Current Transformer 3.5mm Phono Jack – 22 Ohm load resistor (JP2 default bridged/enabled)
CTB2	Phase B Current Transformer Screw Terminal – 22 Ohm load resistor (JP2 default bridged/enabled)
CTA3	Phase C Current Transformer 3.5mm Phono Jack – 22 Ohm load resistor (JP3 default bridged/enabled)
CTB3	Phase C Current Transformer Screw Terminal – 22 Ohm load resistor (JP3 default bridged/enabled)
F1	Fast Blow 0.5A 240VAC Fuse
AC1	AC 120-240 Supply and Phase A vRef Input
AC2	Phase B 6VAC vRef Input
AC3	Phase C 6VAC vRef Input
SW1	AC 120V/OFF/240V Select Switch
J1	Riser Board Chip Select and SPI PC4 Connector
J3	Riser Board v3.3/GND Phase A/B/C 6VAC vRef Connector
J5	USB-C Flashing and logging Connector

MainBoard - Bottom

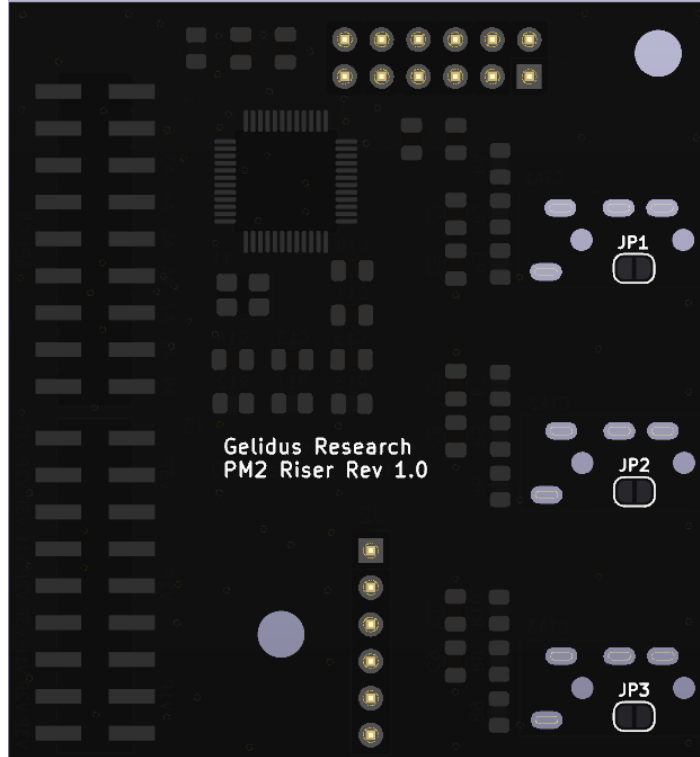


JP1	Phase A Current Transformer 22 Ohm load resistor (JP1 default bridged/enabled)
JP2	Phase B Current Transformer 22 Ohm load resistor (JP2 default bridged/enabled)
JP3	Phase C Current Transformer 22 Ohm load resistor (JP3 default bridged/enabled)
JP4	Phase B AC 6V Reference Screw Terminal Input – (JP5 default bridged to internal AC 6V Ref)
JP5	Phase C AC 6V Reference Screw Terminal Input – (JP5 default bridged to internal AC 6V Ref)

Riser Board



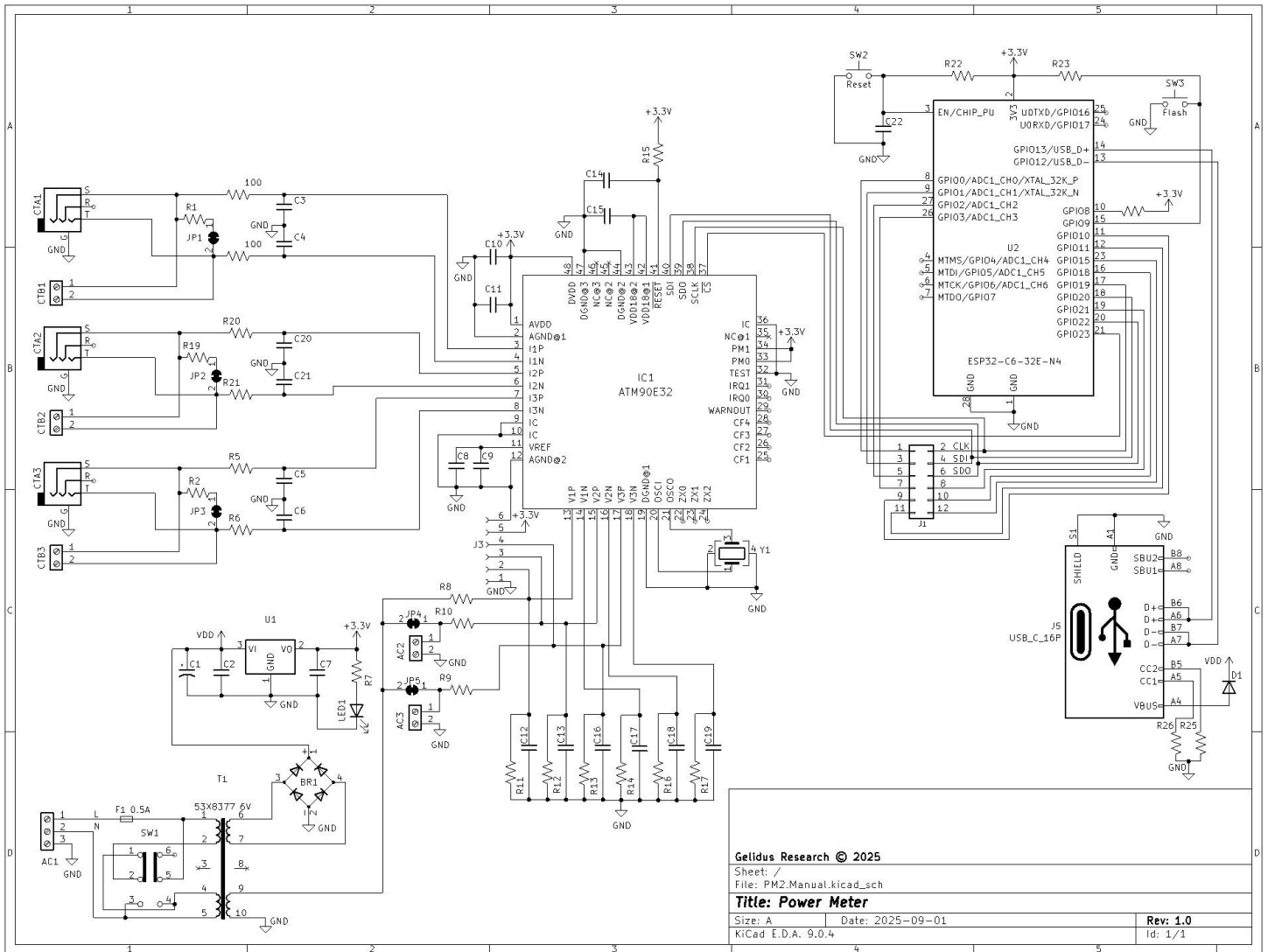
J1	Stacking Riser Board Chip Select and SPI PC4 Connector
J4 – A1	Riser ATM90E32 Chip Select on GPIO0
J4 – A2	Riser ATM90E32 Chip Select on GPIO1
J4 – A3	Riser ATM90E32 Chip Select on GPIO2
J4 – A4	Riser ATM90E32 Chip Select on GPIO3
J4 – A5	Riser ATM90E32 Chip Select on GPIO10
J4 – A6	Riser ATM90E32 Chip Select on GPIO11
J4 – A7	Riser ATM90E32 Chip Select on GPIO15
J4 – A8	Riser ATM90E32 Chip Select on GPIO18
J4 – A9	Riser ATM90E32 Chip Select on GPIO21
CTA1	3.5mm Phono – Phase A
CTA2	3.5mm Phono – Phase B
CTA3	3.5mm Phono – Phase C
J2	Stacking Riser Phase voltage references and VCC/VSS Power Supply Connector
J3	Phase vRef selects – connects Main Board vRefs Phase A (V1P), B (V2P), C (V3P) to one of inputs V1, 2, 3P
	Caution: Do not connect V1, 2, 3 to the same ATM90E32 input e.g. V1P to V2P and V2P to V2P
	Defaults: V1P – V1P, V2P – V2P, V3P – V3P



JP1	Phase A Current Transformer on board 22 Ohm load resistor (JP1 default bridged/enabled)
JP2	Phase B Current Transformer on board 22 Ohm load resistor (JP2 default bridged/enabled)
JP3	Phase C Current Transformer on board 22 Ohm load resistor (JP3 default bridged/enabled)
	For CT's that include a load resistor the JP1, 2, 3 jumper must be cut open, TVS based CT's are recommended for safety reasons. All the CT's we carry are TVS based.

Schematics

Main Board



Riser Board

