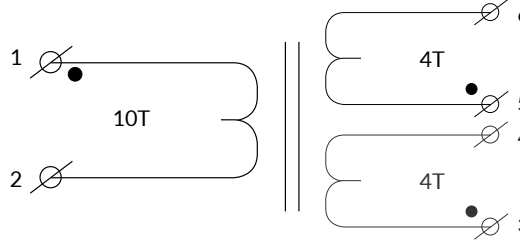
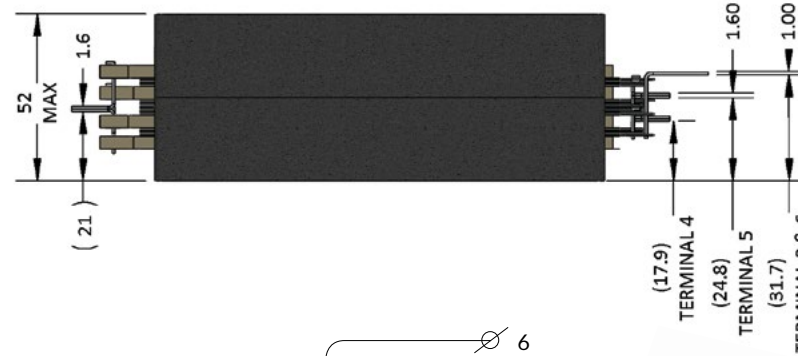
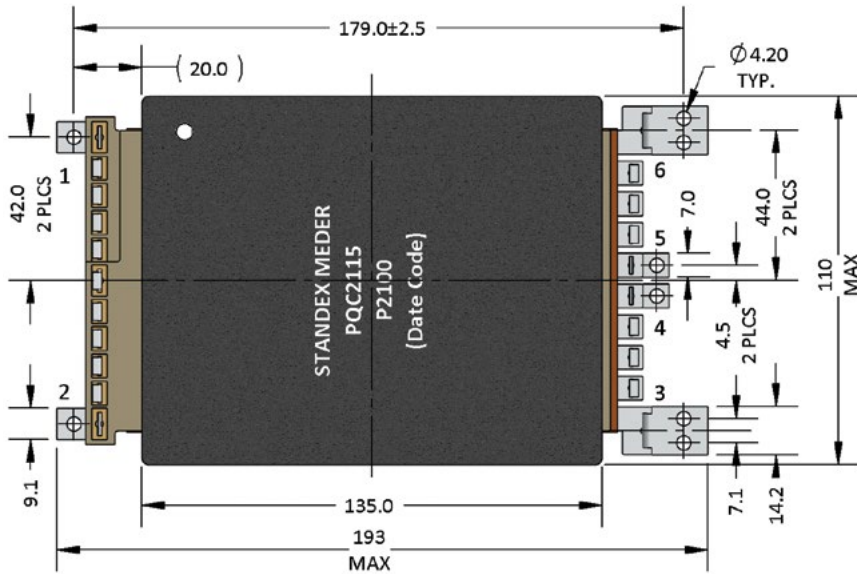
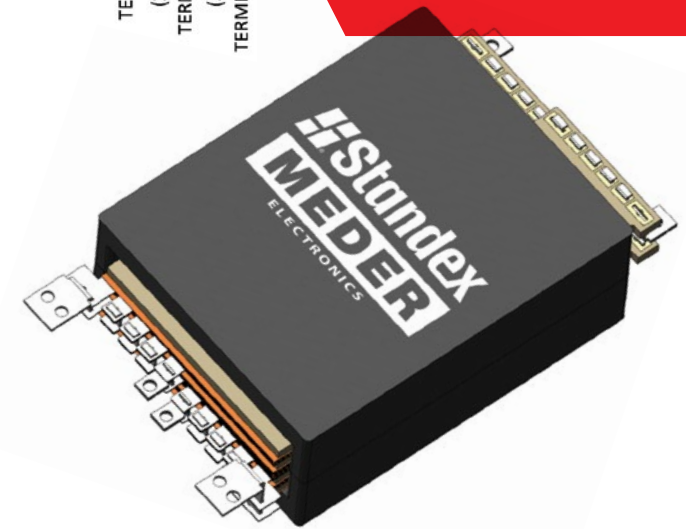


DESIGN GUIDE | Planar Transformers & Inductors



SIZE 2100
10kW-100kW
 DESIGN EXAMPLE



TRANSFORMER DESIGN | EXAMPLE - PQC2115

ELECTRICAL SPECIFICATIONS	Topology	LLC ZVS Converter
	Input Voltage	730-880VDC
	Output Voltage/Current After Rectification	60kW max. (400VDC/75A)
	Secondary Current Nom. Rms Half Sec. Current	19A RMS sinusoidal
	Turns Ratio - Np/Ns1/Ns2	10T/4T/4T
	Switching Frequency	80kHz (60-104kHz range)
	Duty Cycle At Vin=800V Vout=400V, Max.	99% after rectification
	Efficiency At Full Power (Calculated)	99.5% (150W losses)
	External Heatsink Temperature Max.	+65°C
	Ambient Temperature	+45°C

Temp. Rise Hot Spot Ambient Max. (Transformer Clamped To Heatsink)	+45°C
Minimum Isolation Voltage	
Primary To Secondary	1750VAC
Primary And Secondary To Core	2000VAC
Primary Inductance, Np, Min.	39µH ±5%
Primary Resistance, Rdc, Np, Max.	3mOhm
Secondary Resistance, Rdc, Ns1 or Ns2, Max.	2mOhm
Leakage Inductance 1-2/Secondary Shorted, Typ.	0.5µH
Thermal Impedance - Hotspot External Heatsink	0.3°C/W
Weight (Approximate)	2000grams

- NOTES:**
- 1) INDUSTRY BEST FORM FACTOR TO POWER RATIO
 - 2) INHERENT ISOLATION DUE TO PCB WINDINGS
 - 3) UNIQUE TERMINATION OPTIONS AVAILABLE FOR CUSTOMIZATION
 - 4) MULTI LAYER PCB'S REDUCE AC LOSSES

HIGH POWER // 10kW-250kW

“Renewable Energy”

Size 900, 2100, and 4000 are ideally suited for high power applications with an optimal power range of 10kW-250kW. This size offers volumetric efficiency with low AC losses in a low profile, ultra compact package, as well as excellent repeatability and thermal management characteristics.

TYPICAL PACKAGE RATINGS - APPLICATION DEPENDENT

Optimum Power Range: 10kW - 250kW

Current Rating Max.: 500A (+30% for THT)

Optimum Frequency Range: 40 - 125kHz

Mounting Options:

Through-Hole (THT)

Topologies:

Full Bridge, Full Bridge (ZVS), Half Bridge,

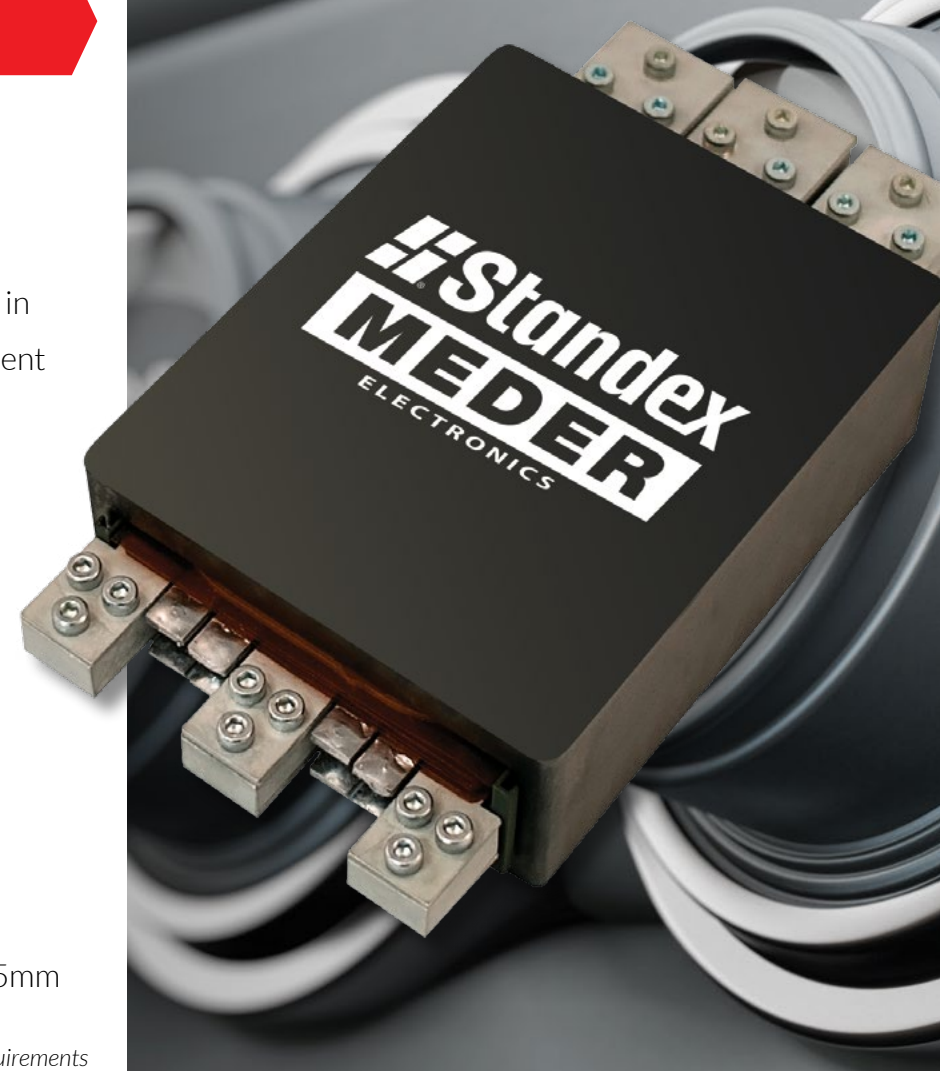
Half Bridge (ZVS), Push-Pull, Resonant

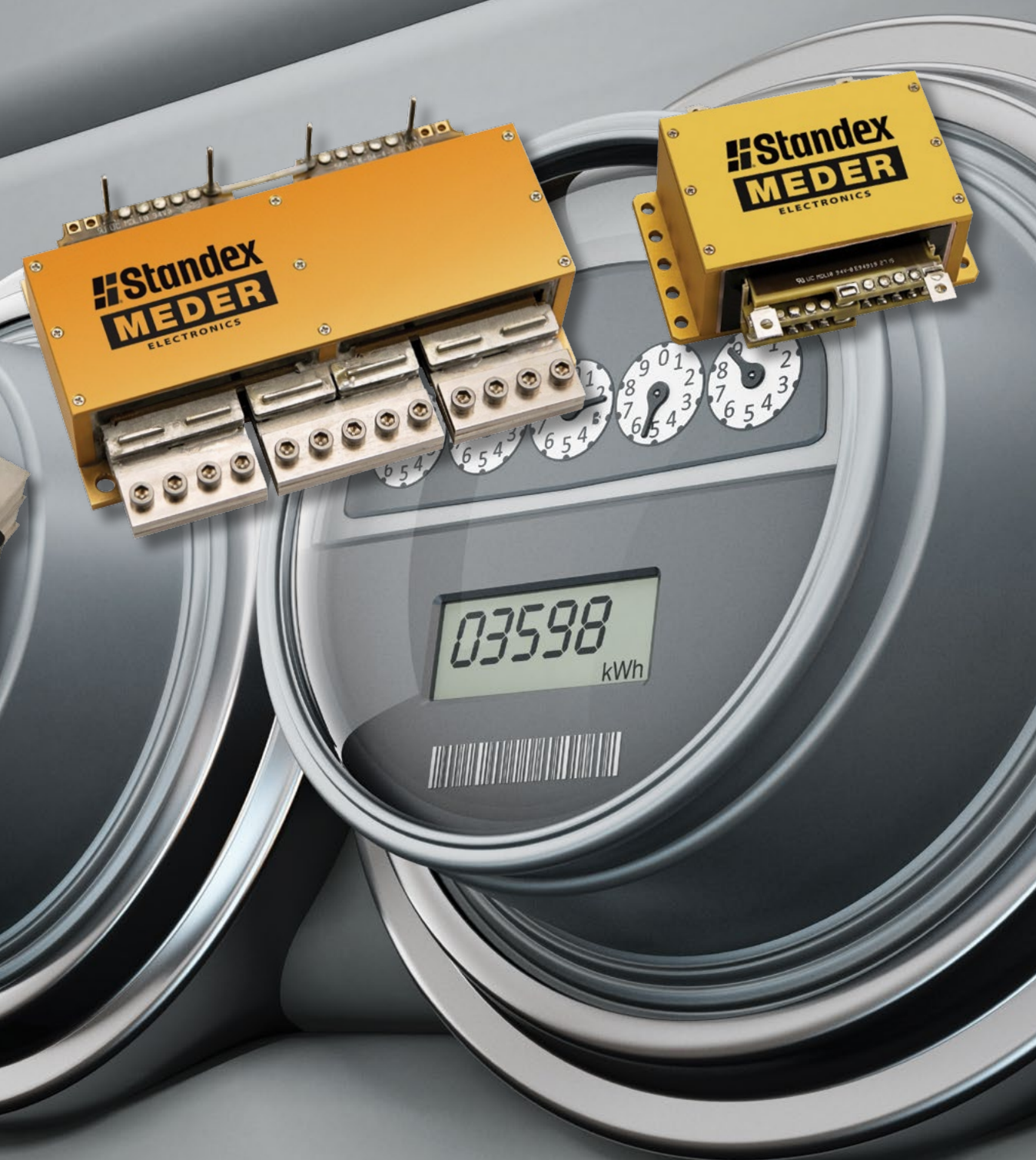
Typical Dimensions:

L	W	H
120-145mm	94-111mm	38-45mm

Length (L) May Vary Depending On Terminals

Height (H) Depending On Input & Output Requirements





APPLICATIONS

- Fast Charging
- Electric & Hybrid Transportation
- Renewable Energy - Wind & Photovoltaic Systems
- Aerospace & Military (high/repeat reliability)
- Welding, Lasers, & Test Equipment
- DC-DC Converters
- AC-DC resonant designs
- Switch Mode Power Supplies
- Distributed Isolated Power
- Grid Energy Storage

CUSTOMER CONFIGURATIONS

- Quick assembly often w/o start-up or tooling costs
- Soft switching, single or multiple outputs
- Wide switching frequency range
- Input/output voltages
- Optimized turns ratio
- Thermal solutions heat sinks, etc.
- Multiple terminal/termination options
- Value-added assemblies

That's **Standex** | Smart.