

### Thermal Consideration

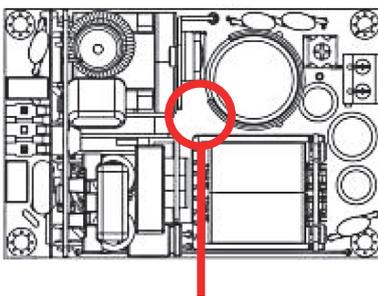
For reliable over temperature protection we are measuring the power supplies temperature continuously on the hottest spot. This part is called Temperature measure point. For some use cases it is important to know where exactly this Temperature measure point is located on the electronics.

Beside that it is important to know that temperature is assessed among different components in order to sense the maximum temperature value under different conditions.

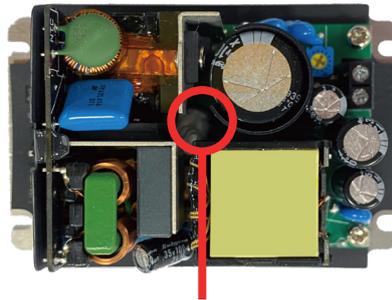
The mentioned Temperature measure point in this document is valid for the following series:

**TPI 180A-M / TPI 180-M / TPP 180A-M / TPP 180-M**

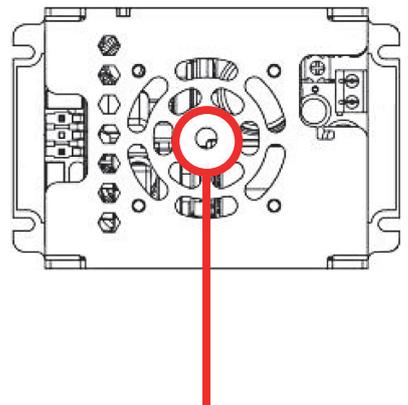
Note: The Temperature measure point for the encased versions is at the exact same spot as for the open frame version due to the same electronics inside.



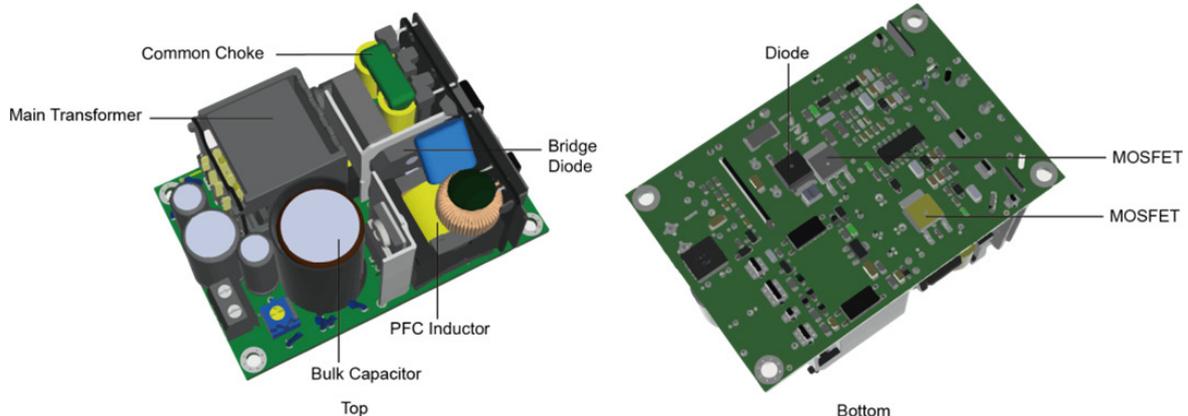
**TPI 180A-M & TPP 180A-M: Temperature measure point**



**TPI 180-M & TPP 180-M: Temperature measure point**  
(inside the casing, same position as open frame version)



### Max. temperature of key components

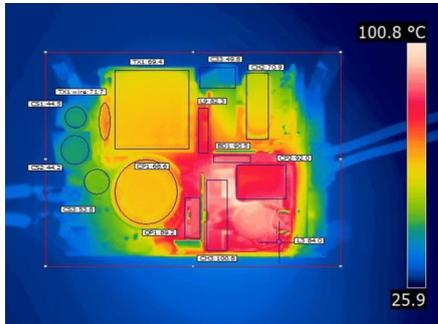


Component	Bridge Diode	Common Choke	PFC Inductor	MOSFET	Bulk Cap.	Diode	Main Transformer
Temp. limit [°C]	120	125	125	120	105	120	125

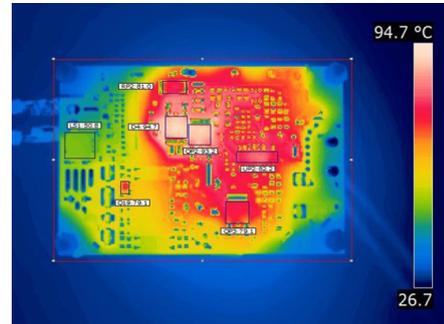
Note: - TPP 180-124A-M is chosen as a representative model in this document.

### Thermal cam images

115 Vin; Full Load; Natural Convection; Top View



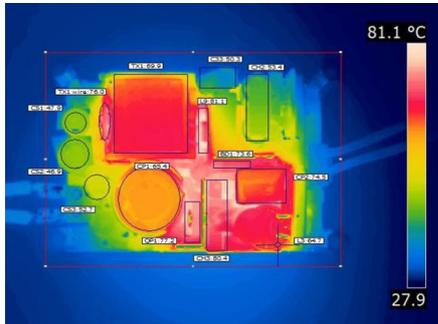
115 Vin; Full Load; Natural Convection; Bottom View



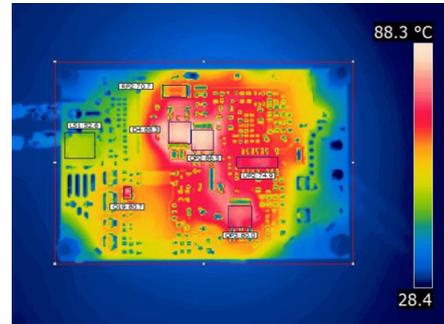
Component	T1 wire	T1 core	BD1	QP1	CS1	CS2	CS3	CP1	CH2	CH3
Temp. [°C]	71.7	69.4	90.5	89.2	44.5	44.2	53.6	68.6	70.9	100.8

Component	L9	L3	LS1	Q19	D4	QP2	QP3	UP2	RP2
Temp. [°C]	82.3	84	50.8	79.1	94.7	93.2	79.1	82.2	81

230 Vin; Full Load; Natural Convection; Top View



230 Vin; Full Load; Natural Convection; Bottom View



Component	T1 wire	T1 core	BD1	QP1	CS1	CS2	CS3	CP1	CH2	CH3
Temp. [°C]	76	69.9	73.6	77.2	47.9	46.9	52.7	65.4	53.4	80.4

Component	L9	L3	LS1	Q19	D4	QP2	QP3	UP2	RP2
Temp. [°C]	81.1	64.7	52.6	80.7	88.3	86.5	80	74.9	70.7