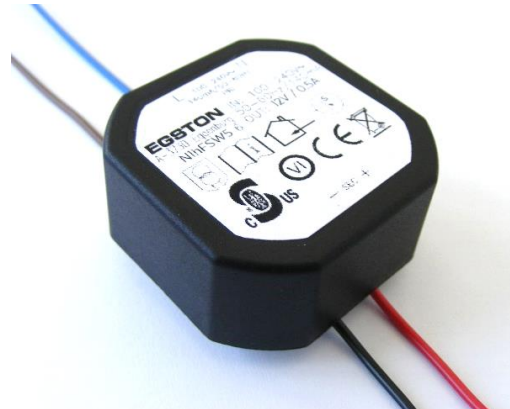


N1hxSW5 6

6W FLUSH MOUNT POWER SUPPLY

Our range of encapsulated 6W power supplies offers the perfect solution if your application demands extended service life and protection from harsh environments.

The compact shape is designed to be out of sight, fitting comfortably inside a wall mount installation box. Alternatively the power supply can be fixed to any surface. Polyurethane potting resin protects the electronic components from mechanical stress and water ingress.



Features

- Fully encapsulated
- MTBF can be done on customer request
- Ultra low standby losses
- High Efficiency
- Protection class II
- Various connection options
- Thermally protected and short circuit proof
- Premium quality Japanese brand capacitors
- Manufacturing according to ISO 9001
- Designed in Austria

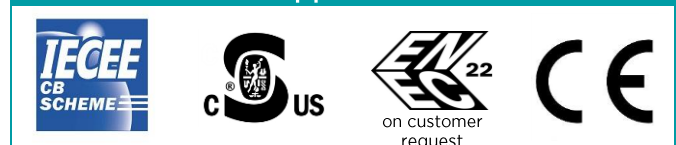
Test standards

EN 55014-1 EN 55014-2 EN 55032 EN 55024 EN 55011	General EMC standards
EN 61000-3-2 EN 61000-3-3 EN 61000-6-1	
EN 62368-1 UL 62368-1	
EN 60335-1 EN 61558-2-16 EN 61558-1	Household devices

Specification

Output Power	6	W
Output Voltage	5 - 24	V
Output current	1.2 - 0.25	A
Universal input voltage	90 - 264	V
Operating temperature	-20 - 70	°C
Efficiency	typ. 81	%
Standby Power	typ. 53	mW
Efficiency level	VI	
Insulation of output	SELV	
Leakage current	max. 100	µA

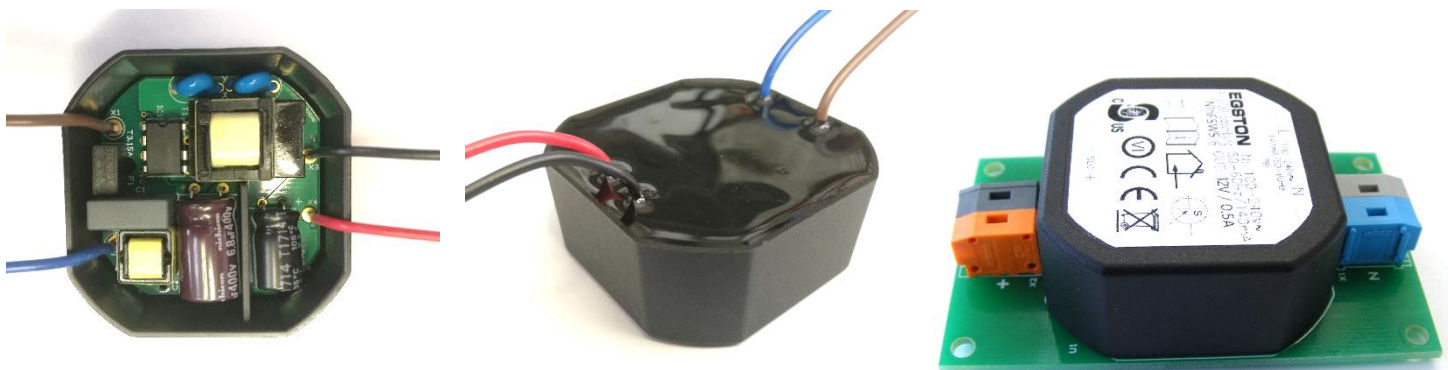
Approvals



Connections

Fixed wire leads	N1hFSW5 6_LV6
PCB mount pins	N1hPSW5 6_LV6
Terminal Clamps (PCB with N1hPSW5 6_LV6 Power Supply)	N1hKSW5 6_LV6

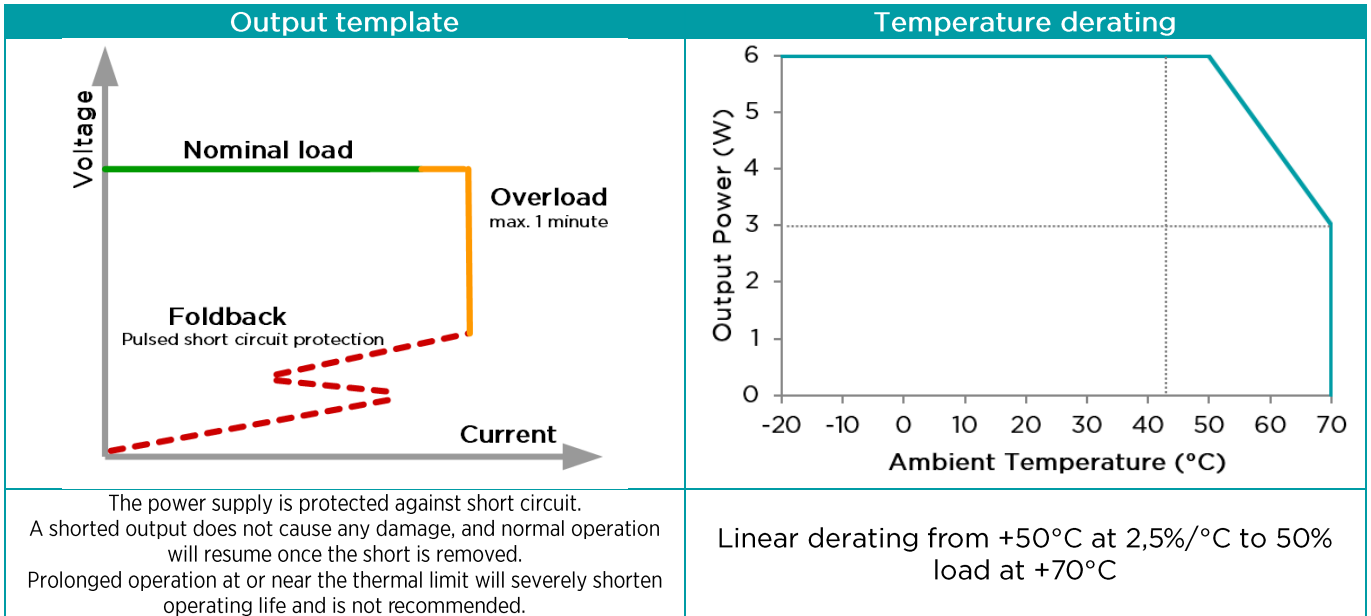
Ordering code



Parameter	Symbol	Min	Typ.	Max	Unit	Test Cond.
Specifications are subject to change without any notice.						
Input Voltage	U_{IN}	90		264	V_{AC}	
	Operation above the specified maximum input voltage may cause damage. Below the minimum input voltage the unit does not meet the specification.					
Input Current	I_{IN}	6	70	175	mA	
Input Frequency	f_{IN}	47	50	63	Hz	
Efficiency	η		81		%	at full load
Stand-by power	P_{stb}		53	75	mW	without load
International efficiency mark		VI				
Output Power	P_{out}			6	W	
Output Voltage	U_{out}	5	5, 12, 24	24	V_{DC}	
	output voltage can be selected on request in the range of 5V - 24V					
Output voltage tolerance	$\Delta U_{out PCB}$			5	%	at PCB
Ripple Voltage	$U_{r rms}$			140	mV_{rms}	25°C ambient
Output Current	I_{out}			$6W/U_{out}$	A	
Max. Overload current	$I_{out overload}$		140		% of I_{out}	$U_{IN} = 264V$ $U_{IN} = 160V$ $U_{IN} = 90V$
			140			
			120			
Isolation	Galvanic isolation with safety extra low voltage (SELV) output					
Dielectric Strength		4,0			kV_{AC}	50Hz sinusoidal waveform
Leakage current	I_{LK}			100	μA	
Internal Fuse	I_F		3.15		A	input L
	Approved for direct connection to 16A (20A) mains circuit.					
Operating Temperature	T_{OP}	-20		70	°C	free convection derating >50°C
Thermal protection	The power supply is thermally protected against overload. Prolonged operation at or near the thermal limit will severely shorten operating life and is not recommended.					
Storage Temperature	T_{ST}	-30	25	80	°C	
Humidity				95	%	non condensing
Altitude				3000	m	Operating
Atmospheric Pressure		70		106	kPa	
Single component failure	A single component failure does not cause any damage to persons or ambient (fire, explosions, etc).					

Reliability

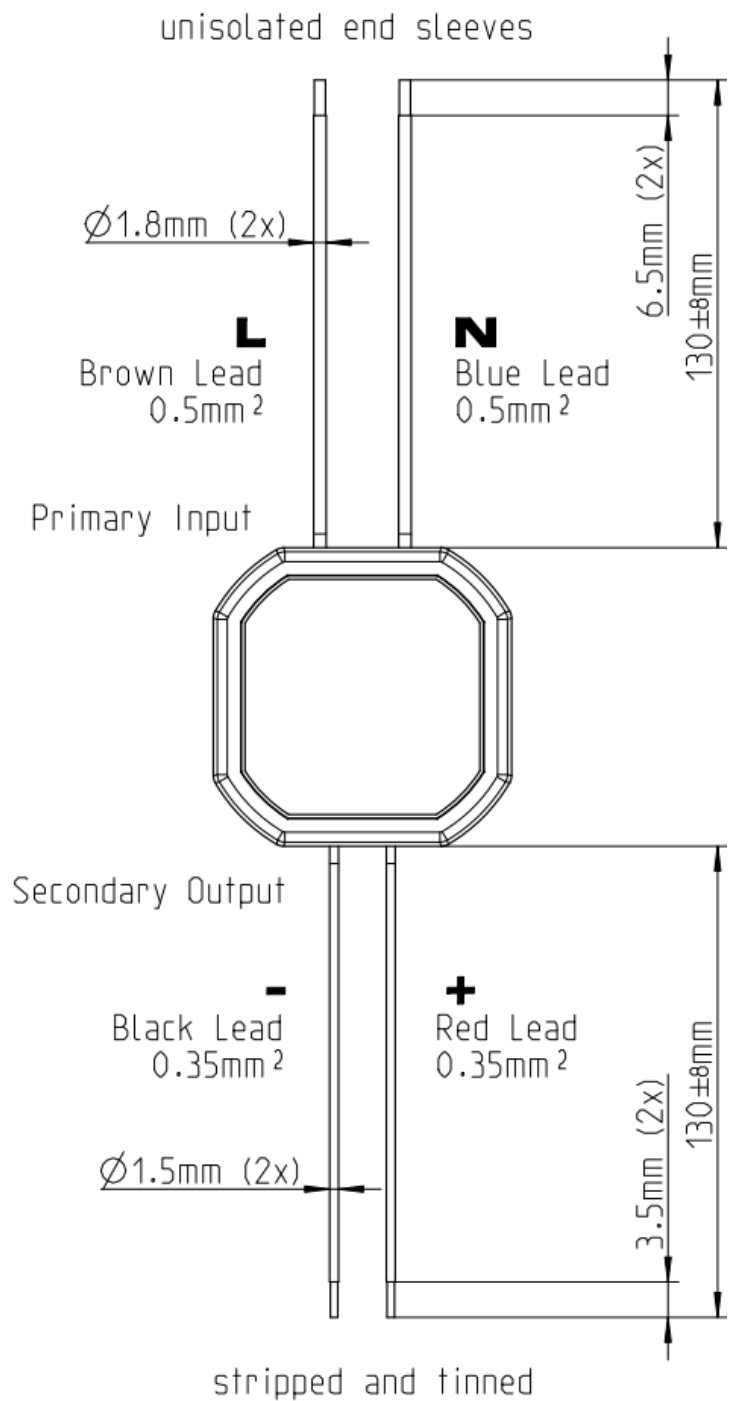
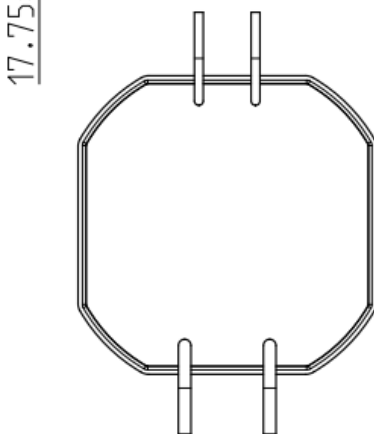
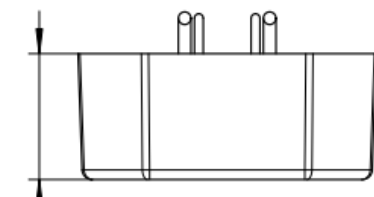
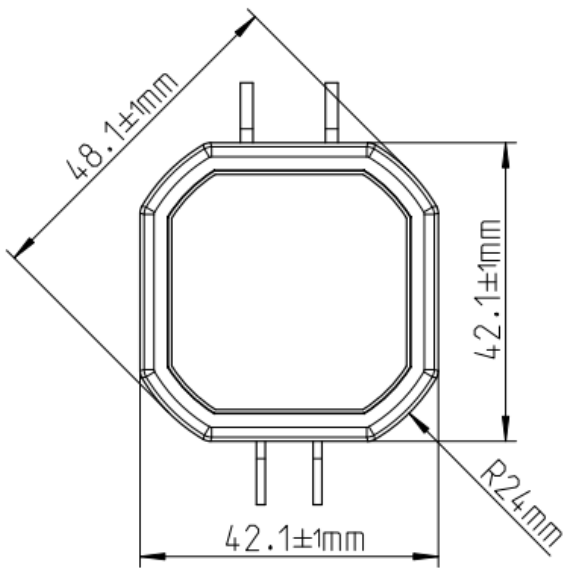
MTBF	can be done on request	at 50°C ambient
MTBF calculation according to standards	MIL-HDBK-217 F; - Notice 1; - Notice 2	
Maintainability	The power supply is not to be repaired	



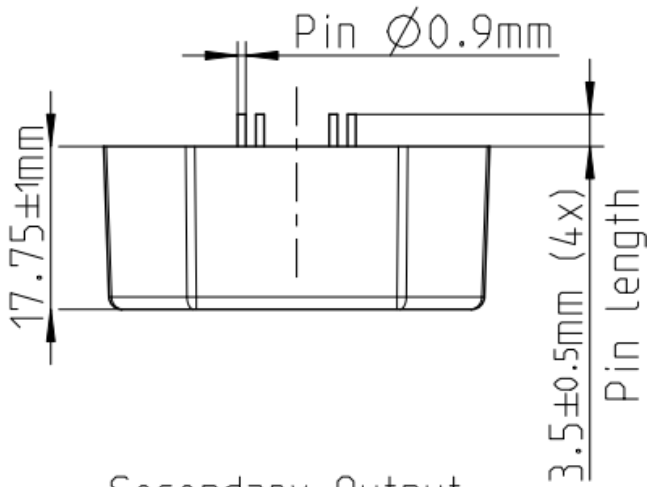
Laser marking	Marking plate symbol explanation	
Product name Input parameters Output parameters Safety instructions Date code CE marking Approval marks		Conformity with the relevant EU directives.
		ENEC is the high quality European Mark for electrical products that demonstrates compliance with European standards (EN). CAN BE DONE ON CUSTOMER REQUEST
		Safety transformer
		Switch mode power supply unit
		Energy Efficiency Level VI
		NRTL Canada / USA Mark issued by Curtis Straus.
	RoHS conform 	The power supply has to be disposed appropriately according the local regulations for Waste Electrical and Electronic Equipment.
		For indoor use only.
	Read instruction manual.	

Installation	
	The power supply must be installed in an environment that allows heat dissipation, do not enclose it in thermally insulating material.

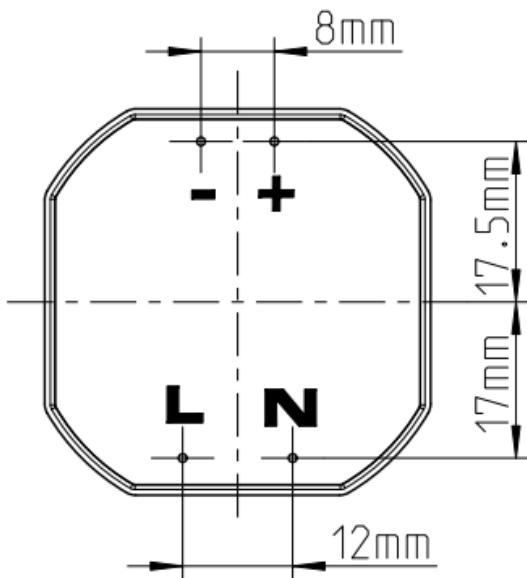
Cable - cable - N1hFSW5 6_LV6



Printed circuit board module - N1hPSW5 6_LV6

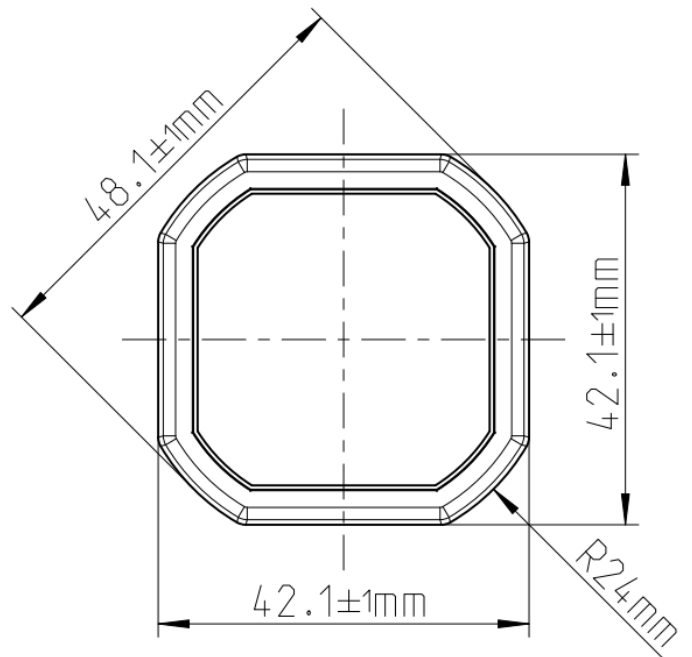


Secondary Output



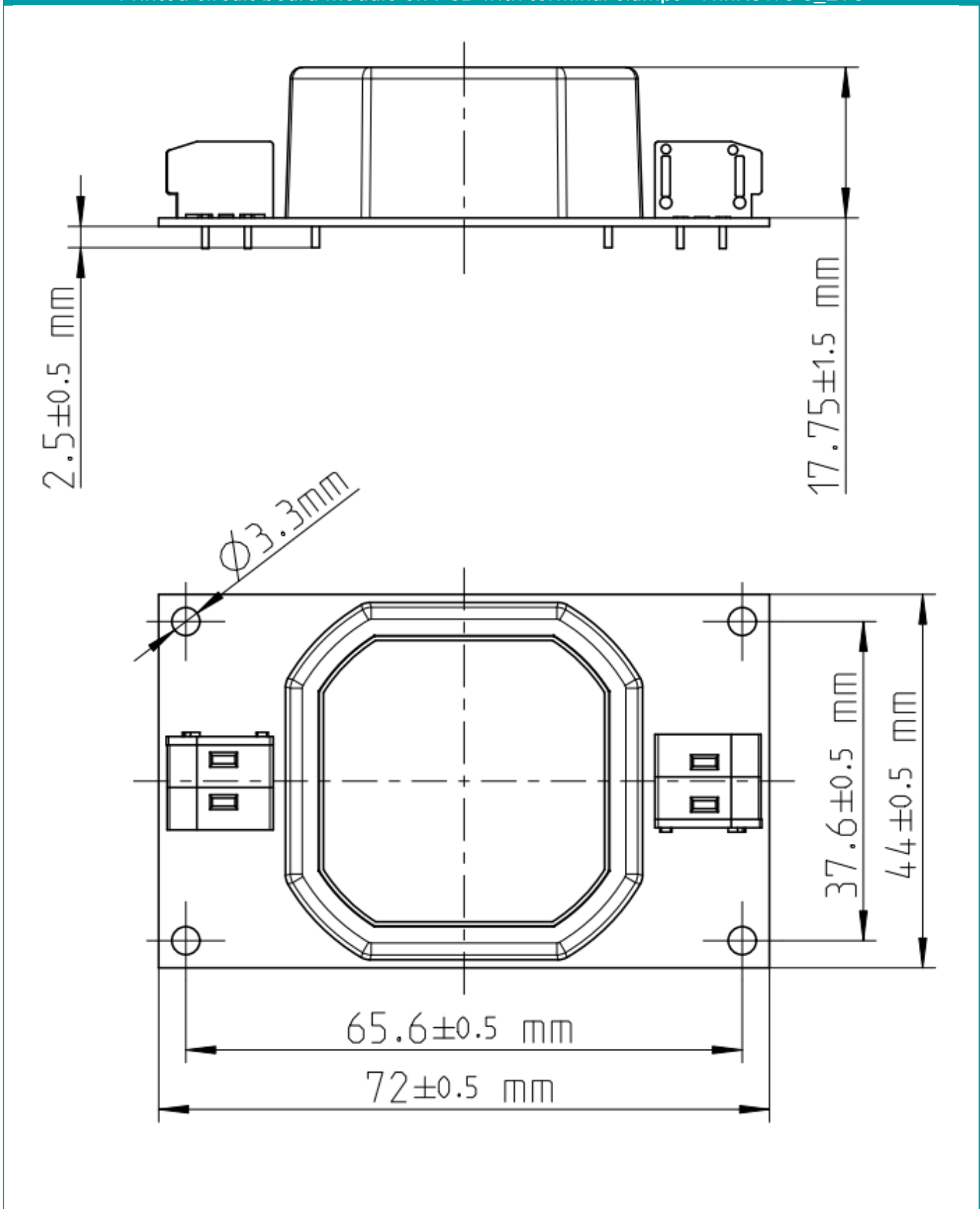
Primary Input

BOTTOM VIEW - Pinout



TOP VIEW - pins are on bottom side

Printed circuit board module on PCB with terminal clamps - N1hKSW5 6_LV6



Packaging and weight			
	pcs	kg	size (mm)
Single Carton	1	0,08	95x85x40
Packaging Case	50	4	427x196x165
Full EU-Pallet Layer, 10 Packaging cases	500	40	1200x800x165
1 Full Pallet (9 Layer)	4500	360	1200x800x1500

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The power supply uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The power supply is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Complies	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	
Immunity test		
Electrostatic discharge (ESD) IEC 61000-4-2		± 4 kV contact ± 8 kV air
Electrical fast transient/burst IEC 61000-4-4		± 2 kV (Mains input), 5/50ns, 5 kHz ± 2 kV (DC output), 5/50ns, 5 kHz
Surge IEC 61000-4-5		Line-Line: ± 0,5 kV, ± 1 kV Line-to-ground: ± 0,5 kV, ± 1 kV, ± 2 kV
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11		Test criterion C
Conducted RF IEC 61000-4-6		3 Vrms 150 kHz to 80 MHz, 80%AM (1kHz)
Radiated RF IEC 61000-4-3		3 V/m 80 MHz to 1 GHz 80%AM (1kHz)

Energy Efficiency

This power supply family fulfills Directive 2009/125/EC with Commission Regulation (EU) 2019/1782. The values "Average active efficiency", "Efficiency at low load" and "No-load power consumption" are typical measured values, measured at one representative sample at an input voltage of 230VAC.

Input specification		
Input Voltage	100-240	VAC
Input Frequency	50-60	Hz

Output specification				
Output voltage	5	12	24	VDC
Output current	1,2	0,5	0,25	A
Output power	6	6	6	W
Average active efficiency (100%/75%/50%/25%)	77,86	81,84	82,32	%
No-load power consumption	47	51	61	mW

Revision	Date	Author	Change
A	02.07.2019	Krimmel	First edition
B	11.09.2019	Krimmel	Maximum operating temperature to 70°C; Marking plate symbol explanation added
C	04.11.2019	Krimmel	add typical output voltage 5V, 12V and 24V
D	30.01.2020	Mauritz	Energy Efficiency added

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