

# BI12T-Series

## 12W POWER SUPPLY

The BI family of AC/DC switch mode power supplies offers the best mix of cost efficiency and European quality standard. The standardized product is available in a variety of housings, secondary cables / plugs and options of customization.

### Features

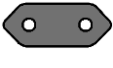



- Ultra low standby losses
- High Efficiency
- Protection class II
- Wide selection of output plugs
- Manufacturing according to ISO 9001
- Short circuit proof








### Options

- Customized product marking
- Different secondary cables / plugs available
- Housing modifications possible
- Additional country versions on request

Specification		
Output Power	12	W
Output Voltage	5 - 24	V
Output current	max 2,4	A
Universal input voltage	90 - 264	V
Operating temperature	0 - 35	°C
Efficiency	typ. 84	%
Standby Power	typ. 55	mW
Efficiency level	VI	
Insulation of output	SELV	
Leakage current	≤ 250	μA

Housing versions			
Wall plug-in interchangeable			
			
EU	UK	US	AUS
Secondary Connection Cable/Plug		USB Typ A port	

Approvals	
	
	
	

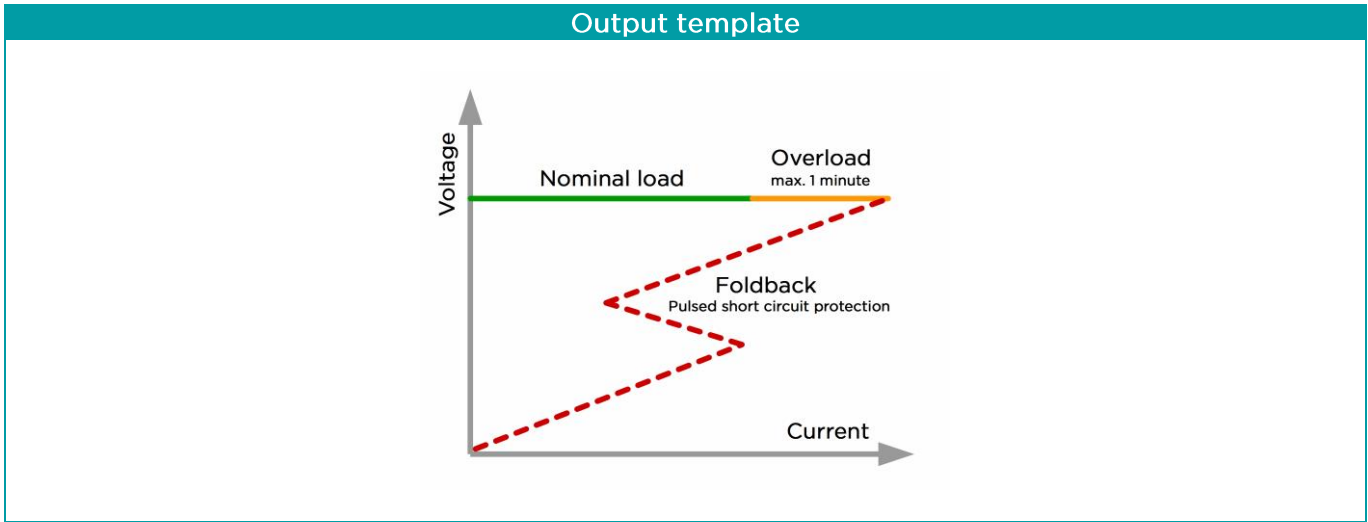
Test standards	
EN 55032 EN 55024 EN 55015 EN 61547 EN 61000-3-2 EN 61000-3-3	General EMC standards
EN 60950-1 UL 60950-1	Information technology equipment
EN 61347 UL 8750	LED driver



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	$I_{IN}$			500	mA	
Input Frequency	$f_{IN}$	47	50	63	Hz	
Efficiency	$\eta$		84		%	at full load
Stand-by power	$P_{stb}$	30	55	100	mW	without load
International efficiency mark		VI				
Output Power	$P_{out}$			12	W	
Output Voltage	$U_{out}$	5		24	$V_{DC}$	
Output voltage tolerance	$\Delta U_{out PCB}$			3	%	at PCB
Output voltage tolerance at end of standard cable	$\Delta U_{out cable}$			5	%	12-24V $U_{out}$ 1,5m/0,5mm <sup>2</sup>
Ripple Voltage	$U_{rms}$			200	mV <sub>rms</sub>	
Output Current	$I_{out}$			2,4	A	
Max. Overload current	$I_{out overload}$			220	% of $I_{out}$	
	Maximum 1 minute overload duration, followed by 15 minute cooldown period.					
Isolation	Galvanic isolation with safety extra low voltage (SELV) output					
Means of protection	SELV					
Dielectric Strength	Standard	3			kV <sub>AC</sub>	50Hz sinusoidal waveform
Leakage current	$I_{LK}$			250	$\mu A$	
Operating Temperature	$T_{OP}$	0		35	$^{\circ}C$	free convection
Thermal protection	A thermal shut down protects the power supply and the surroundings from hazardous temperatures. To reset the thermal protection unplug the unit and allow it to cool down.					
Storage Temperature	$T_{ST}$	-20	25	70	$^{\circ}C$	
Humidity				95	%	non condensing
Atmospheric Pressure		80		106	kPa	
Single component failure	A single component failure does not cause any damage to persons or ambient (fire, explosions, etc).					
Disconnecting device	Direct plug-in	The power supply itself is the disconnecting device				

Ordering information and part number example						
BI12T	-	xxx	yyy	-	I	U
		Voltage	Current		Housing	Secondary connection
		in Volt after dividing by 10	in Ampere after dividing by 100		I Interchangeable plug	U USB Typ A port Blank Cable version

Reliability		
MTBF	60.000 h	at 25 $^{\circ}C$ ambient
Maintainability	The power supply is not to be repaired	



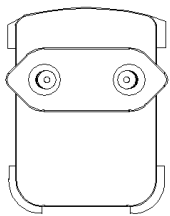
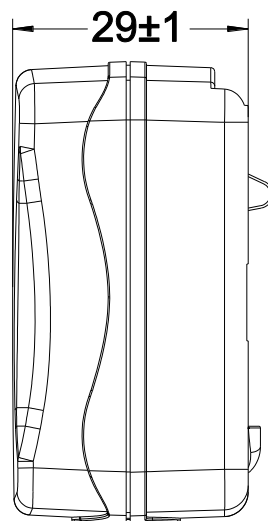
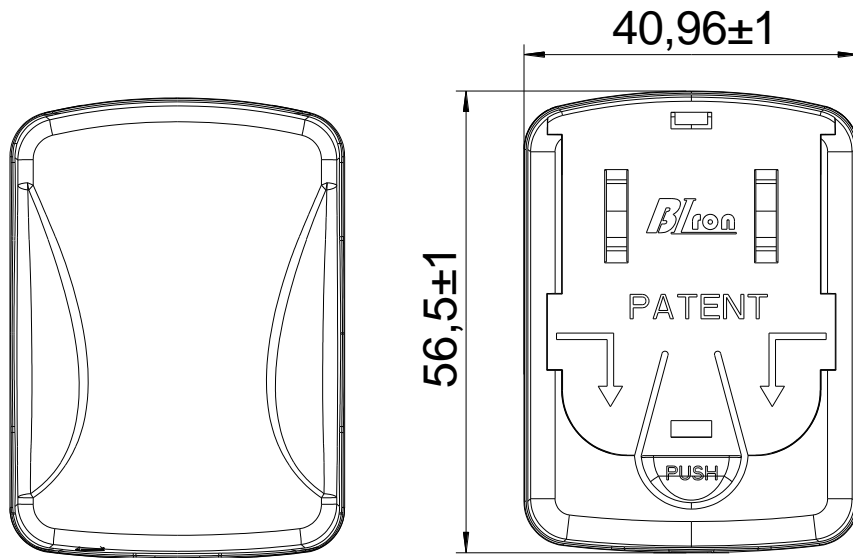
The power supply is protected against short circuit.  
A shorted output does not cause any damage, and normal operation will resume once the short is removed.

Marking	Marking plate symbol explanation	
		Conformity with the relevant EU directives.
		Certification Mark, indicating that the product meets the German product safety law.
		NRTL Canada / USA Mark issued by UL
Product name Input parameters Output parameters Safety instructions	RoHS conform 	The power supply has to be disposed appropriately according the local regulations for Waste Electrical and Electronic Equipment.
Date code of production CE marking Approval marks		For indoor use only.
		Read instruction manual.
		Approval mark for Australia
		Energy Efficiency Level VI
		FCC - EMC mark

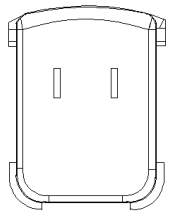
Certification overview	
Housing	Information Technology
Interchangeable Plug	

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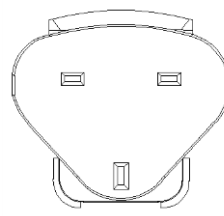
## Interchangeable Plug Housing



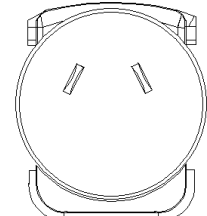
EU Plug  
according EN50075



US Plug  
according UL1310



UK Plug  
according BS1363



Australia Plug  
acc. AS/NZS 3112

## Packaging and weight

Information on request - depending on configuration of power supply and primary adapters

## Energy Efficiency

This power supply family fulfills Directive 2009/125/EC with Commission Regulation (EU) 2019/1782. The vales “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	2,4	1	0,5	A
Output power	12	12	12	W
Average active efficiency (100%/75%/50%/25%)	82,71	83,92	86,01	%
Efficiency at low load (10 %)	81,46	78,86	81,34	%
No-load power consumption	55	48	54	mW

Revision	Date	Author	Change
A	01.06.2018	Himmelmaier	First edition
B	05.02.2019	Mauritz	Standard EN60065 removed
C	18.02.2020	Mauritz	Energy Efficiency added

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