

BU150

DC Buffer Unit 12V 24V 48V 72V 500W 0.3s



The **BU150U** is a microprocessor controlled buffer unit rated 20A usable in 12V, 24V, 48V and 72V systems. The **BU150U** monitors the voltage coming from a DC power supply and in case of failure a capacitor bank is used to keep the output regulated for at least 300ms at full load.

■ Main Features

- J High efficiency and extremely compact size
- J Wide voltage range: 12...85Vdc
- J Self tracking DC BUS voltage
- J > 150 Joules energy storage
- J Compact size
- J Reliable topology, based on standard electrolytic capacitors
- J Dry contacts for status signalling and opto-isolated input for INHIBIT
- J Digital Power regulation
- J Multiple protections, integrated safety circuit that disconnects the capacitor bank in case of internal failure
- J Can boost the peak power of the DC supply
- J Parallelable for power and backup time increase

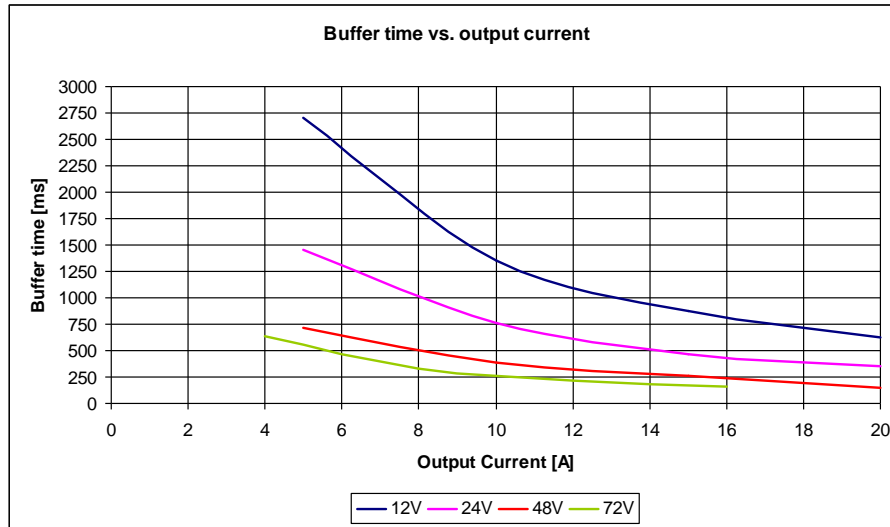
TECHNICAL DATA

Model type	BU150U	
OUTPUT DATA		
Unom Voltage	Vin - 1V (12/24/48/72Vdc - 1V)	
Continuous current	20A @ ≤ 48V 16A @ > 48V	
Backup duration	600ms / 12V @ 20A 300ms / 24V @ 20A 130ms / 48V @ 20A 140ms / 72V @ 16A	
Ripple & Noise ¹	≤ 250mVpp	
Protections	<ul style="list-style-type: none"> ▪ Overload - active ▪ Short circuit - one shot ▪ Overvoltage - active 	
Status Signals	<ul style="list-style-type: none"> ▪ Voltage level by amber LEDs ▪ STATUS - CHARGING / READY by Bi-color LED ▪ BACKUP - dry contact (NO, 24Vdc / 1A) ▪ READY - dry contact (NO, 24Vdc / 1A) ▪ INHIBIT - remote ON/OFF input 	
INPUT DATA		
Input DC rated voltage	Nominal: 12/24/48/72Vdc (UL certified) Range: Auto detection (12...85Vdc)	
Input DC rated current	20A max. @ ≤ 48V 16A max. @ > 48V	
Charging time	< 40s voltage dependent (see chart on Fig.1)	
GENERAL DATA		
Operating modes	<ul style="list-style-type: none"> ▪ AUTO: senses the input voltage and supplies the load when the voltage drops ▪ MANUAL: fixed output voltage (12/24/48/72Vdc) user settable by front key 	
Control	Digital by CPU	
Operating temperature ²	- 40°C...+ 70°C (UL certified up to 70°C)	
Storage temperature	- 40°C...+ 80°C	
Humidity	5...95% r.H. non condensing	
Life time expectation	191'963h (21.9 years) at 25°C ambient full load	
Cooling	Natural convection	
Protection Class	<ul style="list-style-type: none"> ▪ Class I 	
DC BUS / ground isolation	0.75kVdc	
Safety Standards	<ul style="list-style-type: none"> ▪ UL508 (certified E356563) ▪ EN60950 (reference) 	
EMC Emission	<ul style="list-style-type: none"> ▪ EN55011 (CISPR11) Class A ▪ EN55022 (CISPR22) Class A 	
EMC Immunity	<ul style="list-style-type: none"> ▪ EN61000-4-2 Level 3 ▪ EN61000-4-3 Level 3 ▪ EN61000-4-4 Level 3 ▪ EN61000-4-5 Level 1 	
Protection degree	<ul style="list-style-type: none"> ▪ EN60529 IP20 	
Vibration sinusoidal	<ul style="list-style-type: none"> ▪ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z) 	
Shock	<ul style="list-style-type: none"> ▪ IEC 60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total) 	
Connection terminals	2.5mm ² , screw type pluggable (24...12AWG)	
Case material	Aluminum	
Weight	0.90kg	
Size (W x H x D)	63.0 x 140.0 x 117.0mm	
<p>1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor. 2) Start-up type tested: - 40°C, possible at nominal voltage with load deration.</p> <p>Notes: - Technical parameters are typical, measured in laboratory environment at 25°C and 24Vdc at nominal values, after minimum 5 minutes of operation. - Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details. - Data may change without prior notice in order to improve the product.</p>		

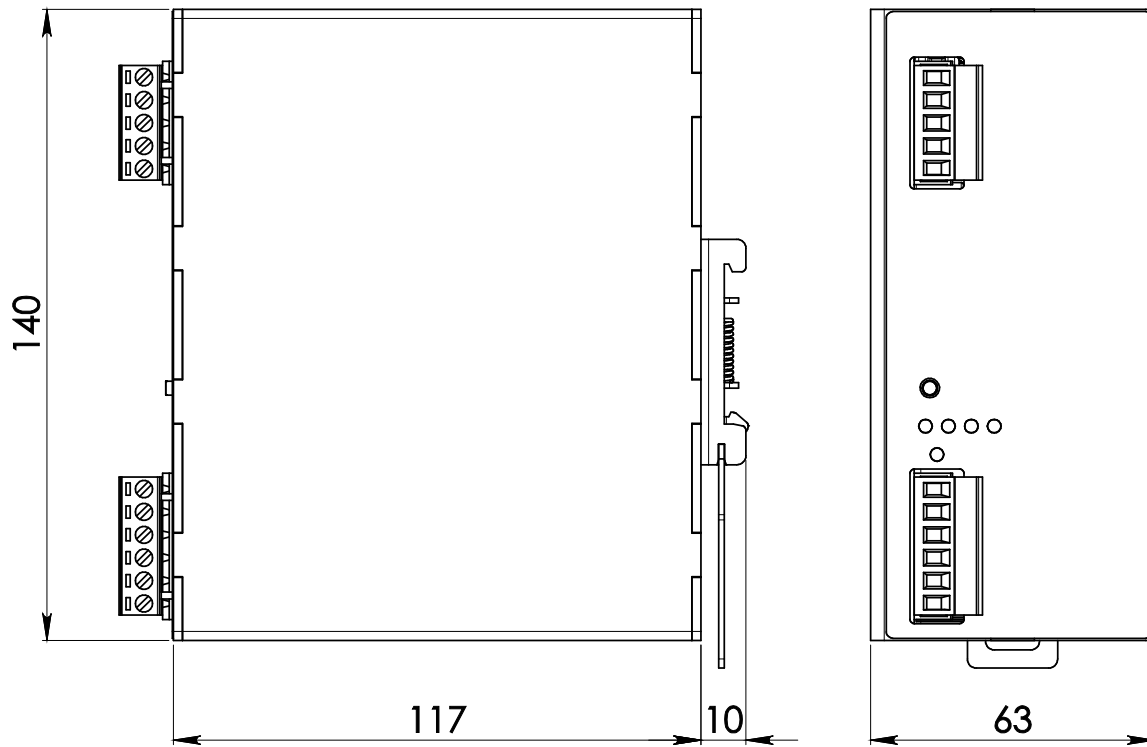
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Fig.1



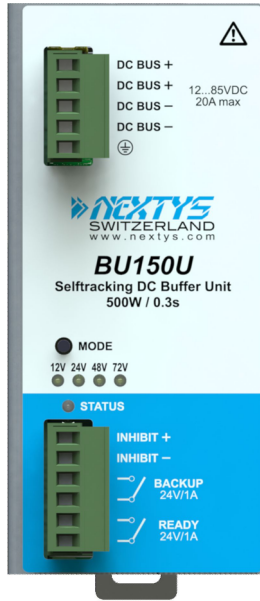
DIMENSIONS



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CONNECTION



DC BUS Connection:

- DC BUS + = wired in parallel on (+) positive DC BUS
- DC BUS - = wired in parallel on (-) negative DC BUS
- | = Earth ground

Signalling:

- INHIBIT = used to disable the buffering function (+/-)
- BACKUP = dry contact close while BU150U is delivering power COM / NO
- READY = dry contact close when the internal capacitors are charged at least at ½ of their maximal energy and the INHIBIT input is inactive COM / NO