



Size:  
2.0 x 1.0 x 0.4 inches  
50.8 x 25.4 x 10.2 mm

**APPLICATIONS**

- Battery Operated Equipment
- Telecom
- Industry Control Systems
- Wireless Networks
- Measurement Equipment

**FEATURES**

- Single and Dual Outputs
- Up to 12 Watts Output Power
- Remote On/Off Control
- 1500VDC I/O Isolation
- High Efficiency up to 87%
- Lead Free Design, RoHS Compliant
- Free Air Convection
- 4:1 Input Voltage Ranges: 9-36VDC and 18-75VDC
- Shielded Metal Case with Insulated Base-plate
- -40°C to +85°C Operating Temperature Range
- Industry Standard 2.0" x 1.0" x 0.4" DIP Package
- Short Circuit, Over Voltage, and Over Load Protection
- Custom Designs Available

**DESCRIPTION**

The DCBUB12 series of isolated DC/DC power converters provides up to 12 Watts of continuous output power in a 2.0" x 1.0" x 0.4" shielded metal case. This series consists of single and dual output models with 4:1 input voltage ranges of 9-36VDC and 18-75VDC. Some features include high efficiency up to 87%, 1500VDC I/O isolation, remote on/off control, and -40°C to +85°C operating temperature range. The DCBUB12 series is RoHS compliant and has short circuit, over load, and over voltage protection. These converters are best suited for use in battery operated equipment, measurement equipment, telecom, wireless networks, industry control systems, and anywhere where isolated, tightly regulated voltages and compact size are required.

**MODEL SELECTION TABLE**

**SINGLE OUTPUT MODELS**

Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Output Power	Efficiency	Maximum Capacitive Load
			Min Load <sup>(1)</sup>	Full Load	No Load	Full Load			
DCBUB12-24S33	24 VDC (9 – 36 VDC)	3.3 VDC	203mA	2400mA	5.4mA	438mA	8W	80%	8260µF
DCBUB12-24S05		5 VDC	73mA	2000mA	6.3mA	543mA	10W	81%	8800µF
DCBUB12-24S12		12 VDC	0mA	1000mA	14.2mA	615mA	12W	85%	530µF
DCBUB12-24S15		15 VDC	18mA	800mA	9.1mA	613mA	12W	86%	347µF
DCBUB12-48S33	48 VDC (18 – 75 VDC)	3.3 VDC	243mA	2400mA	3.6mA	221mA	8W	80%	10550µF
DCBUB12-48S05		5 VDC	89mA	2000mA	5.6mA	269mA	10W	81%	13720µF
DCBUB12-48S12		12 VDC	33mA	1000mA	6.6mA	303mA	12W	87%	730µF
DCBUB12-48S15		15 VDC	18mA	800mA	5.6mA	303mA	12W	87%	330µF

**DUAL OUTPUT MODELS**

Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Output Power	Efficiency	Maximum Capacitive Load
			Min Load <sup>(1)</sup>	Full Load	No Load	Full Load			
DCBUB12-24D05	24 VDC (9 – 36 VDC)	±5 VDC	33mA	±1000mA	7.5mA	531mA	10W	83%	±1800µF
DCBUB12-24D12		±12 VDC	13mA	±500mA	13.4mA	606mA	12W	87%	±200µF
DCBUB12-24D15		±15 VDC	9mA	±400mA	9.9mA	612mA	12W	86%	±147µF
DCBUB12-48D05	48 VDC (18 – 75 VDC)	±5 VDC	33mA	±1000mA	5.3mA	261mA	10W	84%	±2600µF
DCBUB12-48D12		±12 VDC	18mA	±500mA	7mA	302mA	12W	87%	±270µF
DCBUB12-48D15		±15 VDC	9mA	±400mA	6.2mA	304mA	12W	86%	±147µF

**NOTES**

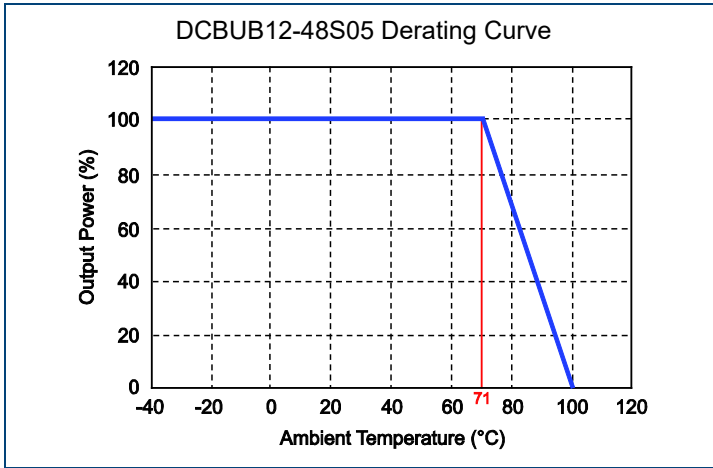
1. Output current under this value will not damage these devices; however, they may not meet all listed specifications.  
*\*Due to advances in technology, specifications subject to change without notice.*

**TECHNICAL SPECIFICATIONS: DCBUB12 SERIES**

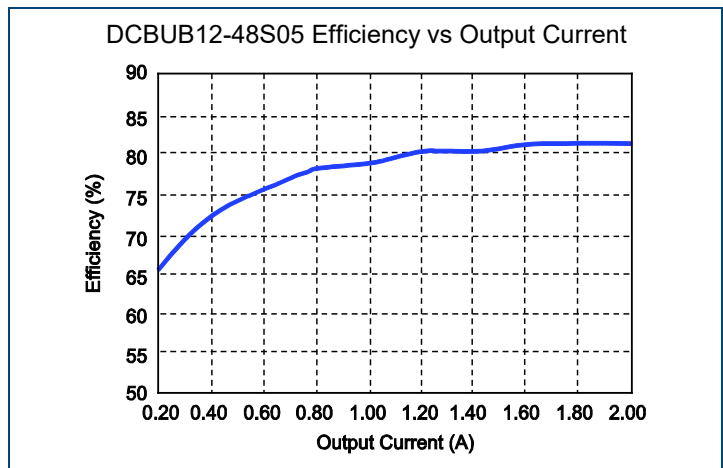
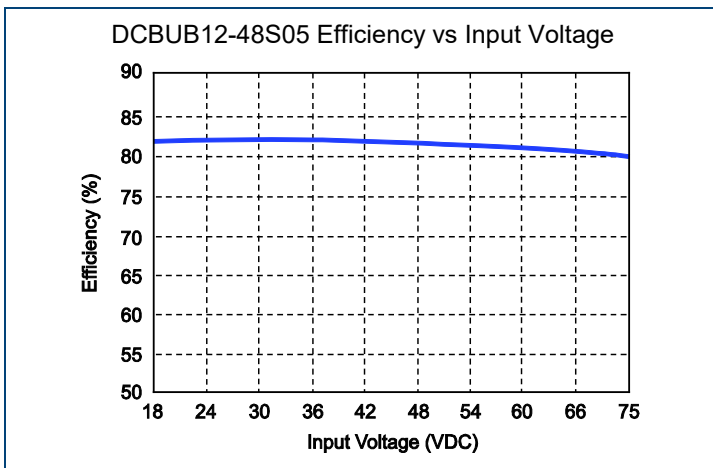
All specifications are based on 25°C, nominal input voltage, and maximum output current unless otherwise noted.  
 We reserve the right to change specifications based on technological advances.

SPECIFICATION	TEST CONDITIONS		Min	Nom	Max	Unit
<b>INPUT SPECIFICATIONS</b>						
Input Voltage Range	24VDC nominal input models 48VDC nominal input models		9 18	24 48	36 75	VDC
Input Surge Voltage (100ms max)	24VDC nominal input models 48VDC nominal input models				50 100	VDC
Input Reflected Ripple Current	Nominal Vin and full load			186		mAp-p
Input Current			See Table			
Input Filter			Pi Type			
Remote On/Off	Converter ON Converter OFF		Open or 3.5V < Vr < 12V Short to -Vin (Pin 2) or 0V < Vr < 1.2V			
Sourcing Current of Remote Control Pin	Nominal Vin				0.2	mA
Idle Input Current (at Remote OFF State)	Nominal Vin				3	mA
<b>OUTPUT SPECIFICATIONS</b>						
Output Voltage			See Table			
Voltage Accuracy	Full load and nominal Vin		-1		+1	%
Output Current			See Table			
Minimum Load			See Table			
Maximum Capacitive Load			See Table			
Start-up Time	Nominal Vin and constant resistive load			350		ms
Line Regulation	LL to HL at full load		-0.5		+0.5	%
Load Regulation	Single output models	25% load to full load Balanced output	-0.5		+0.5	%
	Dual output models	Unbalanced load 25% to full load	-5		+5	
Output Power					12	W
Ripple & Noise	20MHz bandwidth				75	mVp-p
Temperature Coefficient					±0.02	%/°C
Transient Response Overshoot	di/dt=0.8A/µs				±5	% of Vo
Transient Response Settling Time	50% load step change			300		µs
<b>PROTECTION</b>						
Over Voltage Protection	3.3VDC output models 5VDC output models 12VDC output models 15VDC output models	Zener Diode Clamp			3.9 6.2 15 18	VDC
Short Circuit Protection			continuous, automatic recovery			
Over Load Protection	% of full load at nominal input			150		%
<b>GENERAL SPECIFICATIONS</b>						
Efficiency	Nominal input		See Table			
Isolation Voltage (Input to Output)	Input to Output		1500			VDC
Isolation Resistance (Input to Output)	500VDC		1			GΩ
Isolation Capacitance				220		pF
Switching Frequency				300		KHz
<b>ENVIRONMENTAL SPECIFICATIONS</b>						
Operating Temperature	With derating (see derating curve)		-40		+85	°C
Maximum Case Surface Temperature					+100	°C
Storage Temperature			-55		+105	°C
Relative Humidity			5		95	% RH
Cooling			Free air convection			
MTBF			1,960,000 hours			
<b>PHYSICAL SPECIFICATIONS</b>						
Case Material			Nickel-coated copper			
Base Material			Non-conductive black plastic			
Potting Material			Silicon rubber (UL94V-0)			
Weight			1.06oz (30g)			
Dimensions (L x W x H)			2.0 x 1.0 x 0.4 inches (50.8 x 25.4 x 10.2 mm)			

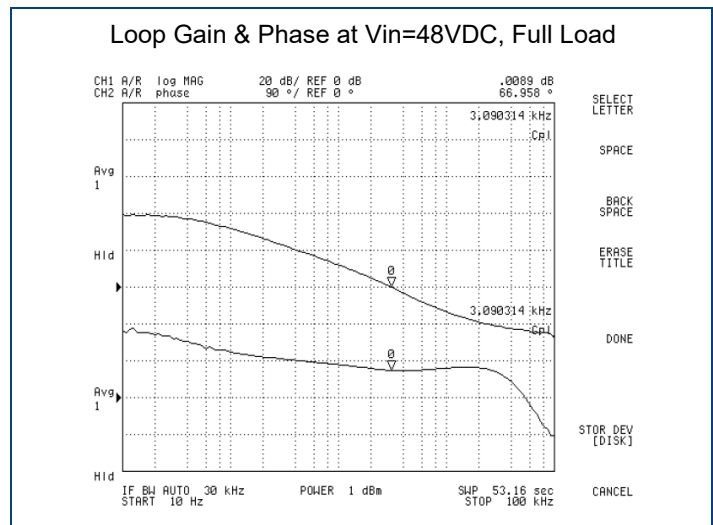
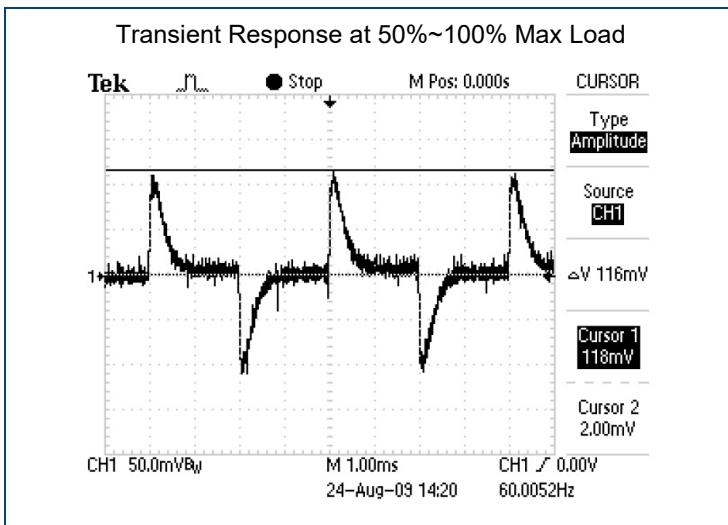
**DERATING**



**EFFICIENCY**

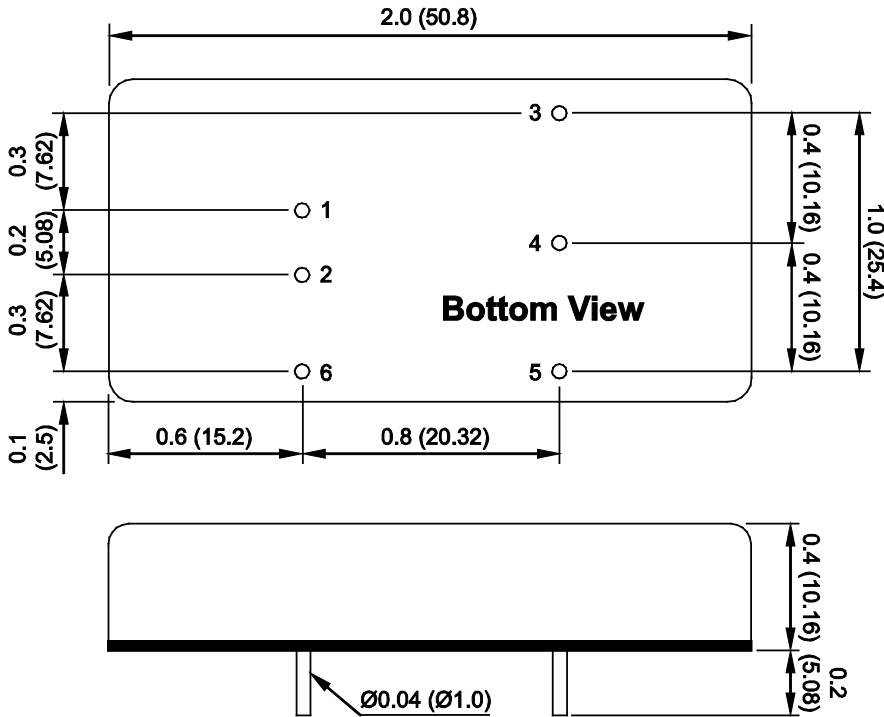


**CHARACTERISTICS**



**MECHANICAL DRAWING**

Unit: inches (mm)



PIN CONNECTIONS		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout
6	Remote On/Off (Optional)	Remote On/Off (Optional)

**NOTES**

1. Tolerance: ±0.02 (±0.5)
2. Case Material: nickel-coated copper
3. Base Material: non-conductive black plastic
4. Potting Material: silicon rubber (UL94V-0)
5. Weight: 1.06oz (30g)
6. All dimensions are for reference only

**COMPANY INFORMATION**

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

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