



Size: 1.25in x 0.80in x 0.40 in  
(31.75mm x 20.32mm x 10.16mm)

**OPTIONS**

- Input Voltage
- Output Quantity
- Output Voltage

**APPLICATIONS**

- Wireless Network
- Telecom/Datacom
- Industry Control System
- Measurement Equipment
- Semiconductor Equipment

**FEATURES**

- 4:1 Ultra Wide Input Range
- Output Power Up to 5 Watts
- Ultra Low Ripple and Noise
- CE Marked
- RoHS II & REACH Compliant
- Low Standby Power
- Standard 1.25" x 0.80" x 0.40" Package
- Built-In EN55022 Class B Filter
- Six Side Shielding
- 1600VDC Input to Output Isolation
- Safety Meets UL60950-1, EN60950-1, and IEC60950-1
- Over Voltage, Over Load, and Short Circuit Protection

**DESCRIPTION**

The LANC-LN series of DC DC converters provides up to 5 watts of output power in a compact 1.25" x 0.80" x 0.40" package. This series consists of single and dual output models with a 4:1 ultra wide input range. Each model in this series has over voltage, over load, and short circuit protection and is compliant to RoHS and REACH. This series has ultra-low ripple and noise as well as low standby power. The safety of this series meets UL60950-1, EN60950-1, and IEC60950-1. Please call factory for order details.

**MODEL SELECTION TABLE**

Single Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current @ Full Load	Ripple & Noise	No Load Input Current	Output Power	Maximum Capacitive Load	Efficiency
LANC24S3P3W-LN	24VDC (9~36VDC)	3.3VDC	1515mA	10mVp-p	6mA	Up to 5W	2200µF	81%
LANC24S05W-LN		5VDC	1000mA		6mA		1000µF	83%
LANC24S12W-LN		12VDC	416mA		9mA		220µF	88%
LANC24S15W-LN		15VDC	333mA		10mA		150µF	88%
LANC24S24W-LN		24VDC	208mA		10mA		100µF	89%
LANC48S3P3W-LN	48VDC (18~75VDC)	3.3VDC	1515mA	10mVp-p	4mA	Up to 5W	2200µF	80%
LANC48S05W-LN		5VDC	1000mA		4mA		1000µF	83%
LANC48S12W-LN		12VDC	416mA		4mA		220µF	86%
LANC48S15W-LN		15VDC	333mA		4mA		150µF	87%
LANC48S24W-LN		24VDC	208mA		6mA		100µF	88%

**MODEL SELECTION TABLE**

Dual Output Models

Model Number	Input Voltage Range	Output Voltage	Output Current	Ripple & Noise	No Load Input Current	Output Power	Maximum Capacitive Load	Efficiency
LANC24D05W-LN	24VDC (9~36VDC)	±5VDC	±500mA	10mVp-p	6mA	Up to 5W	±680µF	84%
LANC24D12W-LN		±12VDC	±208mA		9mA		±150µF	85%
LANC24D15W-LN		±15VDC	±166mA		10mA		±150µF	86%
LANC24D24W-LN		±24VDC	±104mA		10mA		±100µF	87%
LANC24DS05W-LN		Vout1: 5VDC	500mA		6mA		680µF	84%
		Vout2: 5VDC	500mA				680µF	
LANC24DS12W-LN		Vout1: 12VDC	208mA		9mA		150µF	85%
		Vout2: 12VDC	208mA				150µF	
LANC24DS15W-LN		Vout1: 15VDC	166mA		10mA		150µF	86%
		Vout2: 15VDC	166mA				150µF	
LANC24DS24W-LN	Vout1: 24VDC	104mA	10mA	100µF	86%			
	Vout2: 24VDC	104mA		100µF				
LANC48D05W-LN	48VDC (18~75VDC)	±5VDC	±500mA	10mVp-p	6mA	Up to 5W	±680µF	83%
LANC48D12W-LN		±12VDC	±208mA		4mA		±150µF	85%
LANC48D15W-LN		±15VDC	±166mA		5mA		±150µF	86%
LANC48D24W-LN		±24VDC	±104mA		6mA		±100µF	87%
LANC48DS05W-LN		Vout1: 5VDC	500mA		6mA		680µF	83%
		Vout2: 5VDC	500mA				680µF	
LANC48DS12W-LN		Vout1: 12VDC	208mA		4mA		150µF	85%
		Vout2: 12VDC	208mA				150µF	
LANC48DS15W-LN		Vout1: 15VDC	166mA		5mA		150µF	86%
		Vout2: 15VDC	166mA				150µF	
LANC48DS24W-LN	Vout1: 24VDC	104mA	6mA	100µF	86%			
	Vout2: 24VDC	104mA		100µF				

SPECIFICATIONS							
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	Typ	Max	Unit	
<b>INPUT SPECIFICATIONS</b>							
Input Voltage Range	24V Nominal Input		9	24	36	VDC	
	48V Nominal Input		18	48	75		
Start-Up Voltage	24V Nominal Input				9	VDC	
	48V Nominal Input				18		
Shutdown Voltage	24V Nominal Input			8.5		VDC	
	48V Nominal Input			16			
Input Surge Voltage	1 second, Max.	24V Nominal Input			50	VDC	
		48V Nominal Input			100		
Input Filter			Common Chock				
<b>OUTPUT SPECIFICATIONS</b>							
Output Voltage			See Table				
Voltage Accuracy			-1.0		+1.0	%	
Line Regulation	Low Line to High Line at Full Load	Single Output	-0.2		+0.2	%	
		Dual Output	-0.2		+0.2		
		Dual with Output Isolation	Vout 2(Main)	-0.2		+0.2	%
			Vout 1(Aux)	-0.1		+1.0	
Load Regulation	No Load to Full Load	Single Output	-0.5		+0.5	%	
		Dual Output	-1.0		+1.0		
	10% Full Load to Full Load	Dual with Output Isolation	Vout 2(Main)	-0.5		+0.5	
			Vout 1(Aux)	-1.0		+1.0	
Voltage Adjustability	Single Output		-10		+20	%	
	Dual Output		-10		+10		
	Dual Output Isolation		-10		+10		
Cross Regulation	Asymmetrical load 25%/100%/FL	Dual Output	-3.0		+3.0	%	
		5V Dual with Output Isolation	Vout 2(Main)	-0.5			+0.5
			Vout 1(Aux)	-6.0			+6.0
		Others	Vout 2(Main)	-0.5			+0.5
		Vout 1(Aux)	-4.0		+4.0		
Output Power			See Table				
Output Current			See Table				
Minimum Load	Dual with Output Isolation			10		%	
Maximum Capacitive Load			See Table				
Ripple & Noise (20MHz bandwidth)	Measured by 20MHz bandwidth			10	15	mVp-p	
	Measured by 20MHz bandwidth, with additional 10µF capacitor			5	10	mVp-p	
Transient Response Recovery Time	50% Load step change			250		µS	
Start-Up Time	Constant resistive load	Power Up		50	75	ms	
		Remote ON/OFF		50	75		
Temperature Coefficient			-0.02		+0.02	%/°C	
<b>REMOTE ON/OFF CONTROL <sup>(1)</sup></b>							
Positive Logic	DC-DC ON		Open or 3~12VDC				
	DC-DC OFF		Short or 0~1.2VDC				
Input Current of CTRL Pin			-0.5		1	mA	
Remote OFF Input Current				3		mA	
<b>PROTECTION</b>							
Short Circuit Protection			Continuous, Automatic Recovery				
Over Load Protection	% of Iout rated; Hiccup mode			170		%	
Over Voltage Protection	% of Vout(nom)			135		%	
<b>ENVIRONMENTAL SPECIFICATIONS</b>							
Operating Ambient Temperature	Without Derating		-40		+85	°C	
	With Derating		+85		+100		
Maximum Case Temperature					+105	°C	
Storage Case Temperature			-55		+125	°C	
Relative Humidity			5		95	%RH	
Thermal Impedance	Natural Convection			20		°C/W	
Thermal Shock			MIL-STD-810F				
Vibration			MIL-STD-810F				
MTBF	MIL-HDBK-217F, Full Load			4,446,000		Hours	

**SPECIFICATIONS**

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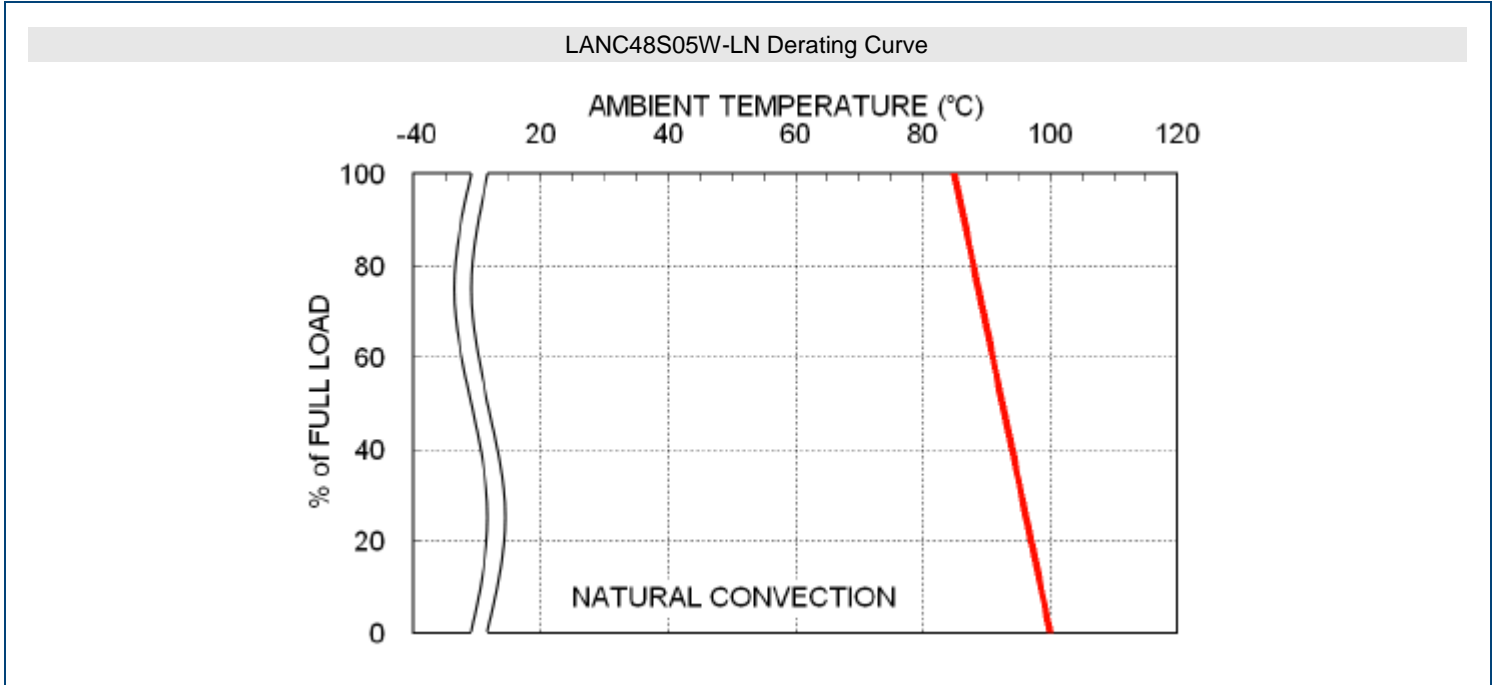
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
<b>GENERAL SPECIFICATIONS</b>						
Efficiency			See Table			
Switching Frequency				300		kHz
Isolation Voltage	1 Minute	Input to Output	1600			VDC
		Input (Output) to Case	1600			
		Vout 1 to Vout 2; Only Dual with Output Isolation Models	500			
Isolation Resistance	500VDC		1			GΩ
Isolation Capacitance					1200	pF
<b>PHYSICAL SPECIFICATIONS</b>						
Weight			0.52oz (14.8g)			
Dimensions (L x W x H)			1.25in x 0.80in x 0.40in (31.75mm x 20.32mm x 10.16mm)			
Case Material			Copper			
Base Material			FR4 PCB			
Potting Material			Epoxy (UL94 V-0)			
Shielding			Six-Sided			
<b>SAFETY &amp; EMC CHARACTERISTICS</b>						
Safety Approvals					UL60950-1 EN60950-1 IEC60905-1	
EMI <sup>(2)</sup>	EN55022				Class A, Class B	
ESD	EN61000-4-2	Air ±8kV and Contact ±6kV			Perf. Criteria A	
Radiated Immunity	EN61000-4-3	20 V/m			Perf. Criteria A	
Fast Transient <sup>(3)</sup>	EN61000-4-4	±2kV			Perf. Criteria A	
Surge <sup>(3)</sup>	EN61000-4-5	±2kV			Perf. Criteria A	
Conducted Immunity	EN61000-4-6	10 Vr.m.s			Perf. Criteria A	
Power Frequency Magnetic Field	EN61000-4-8	100 A/m continuous; 1000A/m 1 second			Perf. Criteria A	

**NOTES**

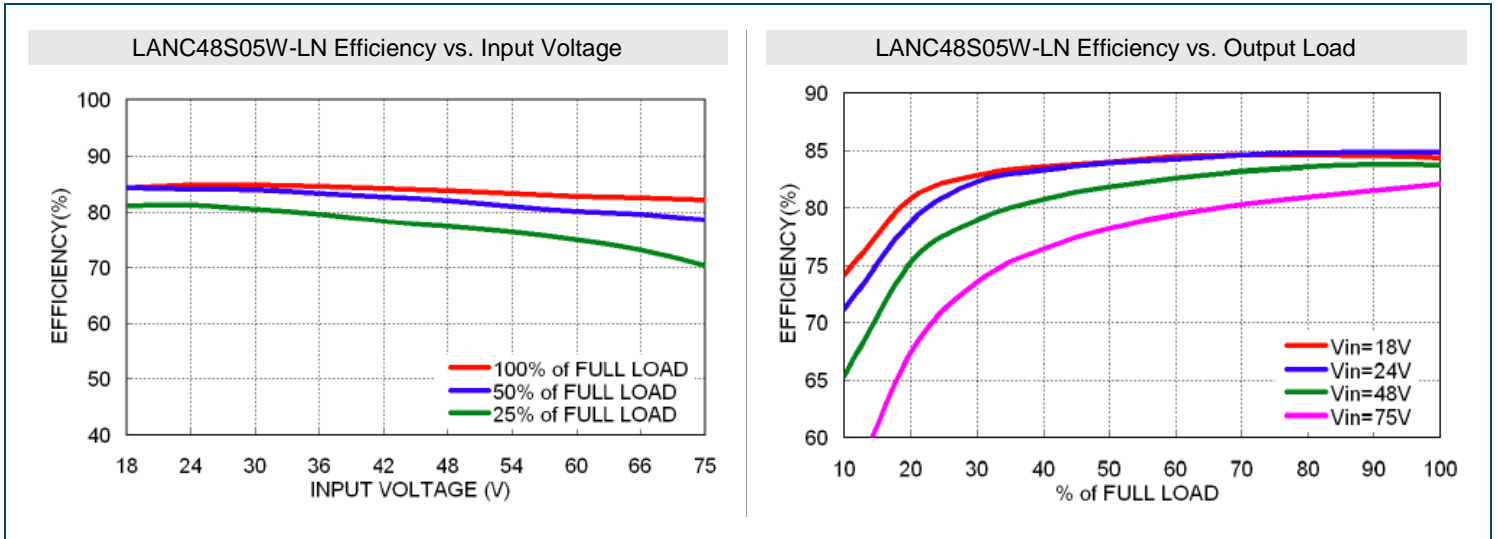
- (1) Remote ON/OFF referred to as -Vin pin
- (2) The standard modules meet EN55022 Class A without external components.  
The standard modules meet EN55022 Class B as follows:  
-LANC24xxxW-LN Models: Do not need any external components.  
-LANC48xxxW-LN Models: Connect two 4.7µF/100V MLCCs in parallel to input pins.
- (3) An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5.  
-LANC24xxxW-LN models are recommended to use an aluminum electrolytic capacitor (Nippon chemi-con KY series, 220µF/100V) and a TVS (SMDJ70A, 70V, 3000 Watt peak pulse power) to connect in parallel.  
-LANC48xxxW-LN Models are recommended to use an aluminum electrolytic capacitor (Nippon chemi-con KY series, 220µF/100V) and a TVS (SMDJ120A, 120V, 3000 Watt peak pulse power) to connect in parallel.

**CAUTION:** This power module is not internally fused. An input line fuse must always be used.

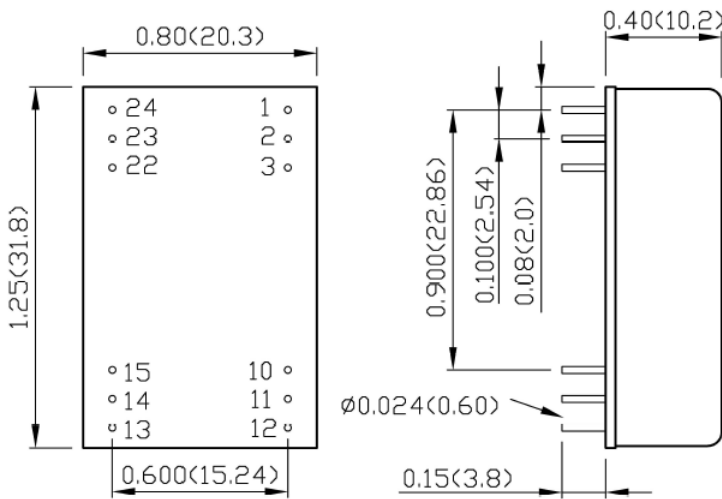
DERATING CURVES



EFFICIENCY GRAPHS



MECHANICAL DRAWINGS



BOTTOM VIEW

1. All dimensions in inch (mm)
2. Tolerance :x.xx±0.02 (x.x±0.5)  
              x.xxx±0.01 (x.xx±0.25)
3. Pin pitch tolerance ±0.01 (0.25)
4. Pin dimension tolerance ±0.004(0.1)

PIN CONNECTION

Single Output			
PIN	DEFINE	PIN	DEFINE
1	+Vin	24	-Vin
2	+Vin	23	-Vin
3	Case	22	Ctrl
10	No Pin	15	+Vout
11	No Pin	14	-Vout
12	Case	13	Trim

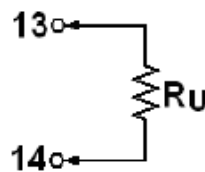
Dual Output			
PIN	DEFINE	PIN	DEFINE
1	+Vin	24	-Vin
2	+Vin	23	-Vin
3	Case	22	Ctrl
10	Com	15	Com
11	+Vout 1	14	-Vout 2
12	Case	13	Trim

Dual with Output Isolation			
PIN	DEFINE	PIN	DEFINE
1	+Vin	24	-Vin
2	+Vin	23	-Vin
3	Case	22	Ctrl
10	-Vout1 (Aux)	15	+Vout2(Main)
11	+Vout1(Aux)	14	-Vout2(Main)
12	Case	13	Trim

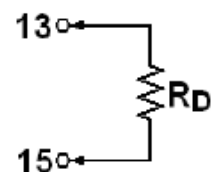
External Output Trimming  
Output can be externally trimmed by using the method show below:

Single and Dual Output Models

TRIM UP

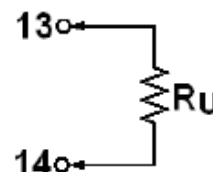


TRIM DOWN

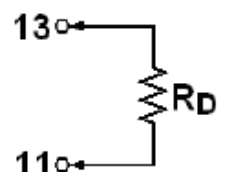


Dual with Output Isolation

TRIM UP



TRIM DOWN



MODEL NUMBER SETUP

LANC	24	-	S	24	W	-	LN	CS
Series Name	Input Voltage		Output Quantity	Output Voltage	Input Range			
	<b>24:</b> 9~36VDC <b>48:</b> 18~75VDC		<b>S:</b> Single	<b>3P3:</b> 3.3VDC <b>05:</b> 5VDC <b>12:</b> 12VDC <b>15:</b> 15VDC <b>24:</b> 24VDC	<b>4:1</b>		<b>LN:</b> Low Noise	<b>Blank:</b> With Pin3 <b>CS:</b> Without Pin 3
			<b>D:</b> Dual	<b>05:</b> ±5VDC <b>12:</b> ±12VDC <b>15:</b> ±15VDC <b>24:</b> ±24VDC				
			<b>DS:</b> Dual with Output Isolation	<b>05:</b> 5/5VDC <b>12:</b> 12/12VDC <b>15:</b> 15/15VDC <b>24:</b> 24/24VDC				

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 ISO9001-2008 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.

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