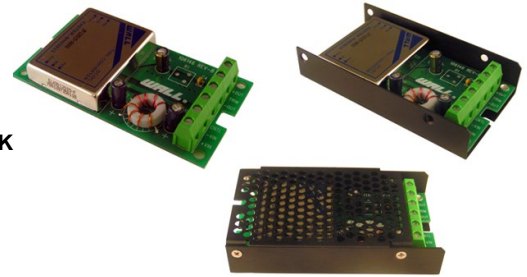


### FEATURES

- High Efficiency up to 88%
- RoHS Directive Compliant
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 40 Watts Maximum Output power
- 4:1 Ultra Wide Input Voltage Range
- **Call Factory for More Output Power Options**
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available



### SPECIFICATIONS: **CMDBW Series**

*All specifications apply @ 25°C ambient unless otherwise noted*

#### INPUT SPECIFICATIONS

Input Voltage Range.....	24V nominal input .....	9 - 36VDC
	48V nominal input .....	18 - 75VDC
Under Voltage Lockout		
24V nominal input.....	DC-DC ON .....	9 VDC
	DC-DC OFF .....	8 VDC
48V nominal input.....	DC-DC ON .....	18 VDC
	DC-DC OFF .....	16 VDC
Input Voltage Variation .....	dv/dt.....	5V/ms max (Complies with ETS300 132 part 4.4)
Input Surge Voltage (100ms max).....	24V input.....	50VDC
	48V input.....	100VDC
Input Reflected Ripple Current (nominal Vin and FL).....		20mA <sub>p-p</sub>
Start Up Time (nominal Vin and constant resistive load)		
Power Up.....		20ms max.
Remote ON/OFF .....		20ms max.
Remote ON/OFF (See Note 1)		
Positive Logic .....	DC-DC ON .....	Open or 3V < Vr < 12V
	DC-DC OFF .....	Short or 0V < Vr < 1.2V
Negative Logic .....	DC-DC ON .....	Short or 0V < Vr < 1.2V
	DC-DC OFF .....	Open or 3V < Vr < 12V
Remote Off Input Current (nominal Vin) .....		3mA

#### OUTPUT SPECIFICATIONS

Output Voltage .....	see table
Voltage Accuracy (nom Vin and full load).....	±1%
Voltage Adjustability .....	±10%
Output Current .....	see table
Output Power .....	40 watts max.
Line Regulation (LL to HL at FL).....	±0.2%
Load Regulation (min. load to 100% load).....	±0.5%
Minimum Load.....	see table
Ripple/Noise (See Note 4).....	see table
Transient Response Recovery Time.....	250us (25% load step change)

#### PROTECTION SPECIFICATIONS

Over Voltage Protection .....	3.3V Output .....	3.9V	
	(Zener diode clamp)	5V Output .....	6.2V
		12V Output .....	15V
		15V Output .....	18V
		±12V Output .....	±15V
	±15V Output .....	±18V	
Over Load Protection (% of FL at nominal input).....		150% max.	
Short Circuit Protection .....		Hiccup, automatic recovery	
Over Temperature Protection .....		110°C typ.	

#### GENERAL SPECIFICATIONS

Efficiency .....	see table
Switching Frequency.....	300KHz typ.
Isolation Voltage	
Input to Output .....	1600VDC min.
Input to Case.....	1600VDC min.
Output to Case .....	1600VDC min.
Isolation Resistance .....	10 <sup>9</sup> ohms min.
Isolation Capacitance.....	1500pF max.

#### ENVIRONMENTAL SPECIFICATIONS

Operating Ambient Temperature .....	-40°C to +55°C (without derating)	
	+55°C to +105°C (with derating)	
Storage Temperature .....	-55°C ~ +125°C	
Maximum Case Temperature .....	+105°C	
Relative Humidity .....	5% to 95% RH	
Temperature Coefficient.....	±0.02% / °C max.	
Thermal Impedance (See Note 3)		
Without Heat-Sink .....	9.2°C / Watt	
With Heat-Sink .....	7.6°C/Watt	
Thermal Shock.....	MIL-STD-810D	
Vibration.....	10~55Hz, 10G, 30 minutes along X, Y, and Z	
MTBF (See Note 2).....	Bellcore TR-NWT-000332..... 1.105 x 10 <sup>6</sup> hrs	
	MIL-STD-217F .....	1.511 x 10 <sup>5</sup> hrs

#### PHYSICAL SPECIFICATIONS

Potting material of the DC/DC Converter.....	Epoxy (UL94-V0)
Shielding of the DC/DC Converter.....	six – sided
Weight .....	Approximately 7 oz
Dimensions .....	4.00(L) x 2.25(W) x 0.81(H) inches

#### SAFETY & EMC SPECIFICATIONS

Approvals and Standards .....	IEC60950-1, UL60950-1 (See Note 10), EN60950-1	
Conducted Emissions .....	EN55022..... Class A	
Radiated Emissions .....	EN55022..... Class A	
ESD .....	EN61000-4-2 .....	Perf. Criteria B
Radiated Immunity.....	EN61000-4-3 .....	Perf. Criteria A
Fast Transient.....	EN61000-4-4 .....	Perf. Criteria B
Surge .....	EN61000-4-5 .....	Perf. Criteria B
Conducted Immunity .....	EN61000-4-6 .....	Perf. Criteria A

*Due to advances in technology, specifications subject to change without notice*

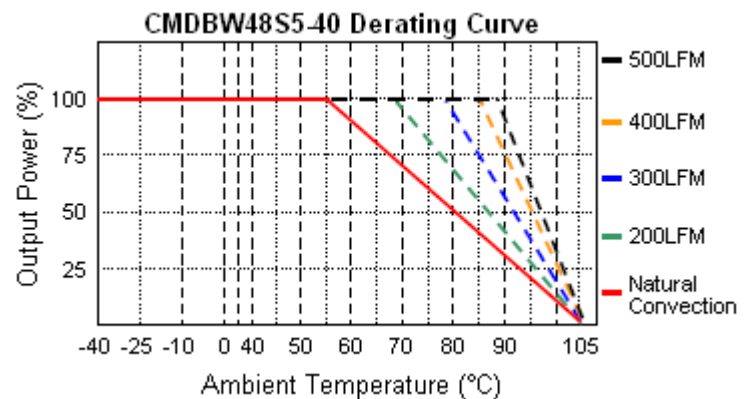
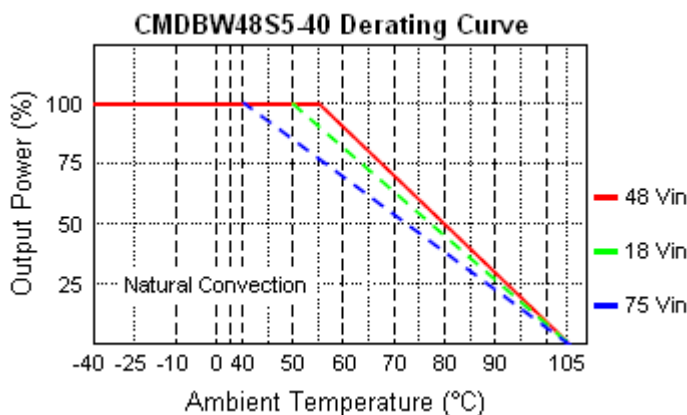
**OUTPUT VOLTAGE / CURRENT RATING CHART**

Model Number	Input Range	Output Voltage	Output Current		Output <sup>(6)</sup> Ripple & Noise	Input Current		Eff. <sup>(9)</sup>	Max Capacitive Load <sup>(10)</sup>
			Min. Load	Full Load		No load <sup>(7)</sup>	Full Load <sup>(8)</sup>		
CMDBW24S3.3-33	24VDC (9 – 36 VDC)	3.3 VDC	0mA	10,000mA	50mVp-p	80mA	1677mA	86%	25,750µF
CMDBW24S5-40		5 VDC	0mA	8000mA	50mVp-p	100mA	1984mA	88%	13,600µF
CMDBW24S12-40		12 VDC	0mA	3333mA	75mVp-p	100mA	1984mA	88%	2360µF
CMDBW24S15-40		15 VDC	0mA	2666mA	75mVp-p	110mA	1984mA	88%	1510µF
CMDBW48S3.3-33	48VDC (18 – 75 VDC)	3.3 VDC	0mA	10,000mA	50mVp-p	50mA	838mA	86%	25,750µF
CMDBW48S5-40		5 VDC	0mA	8000mA	50mVp-p	50mA	992mA	88%	13,600µF
CMDBW48S12-40		12 VDC	0mA	3333mA	75mVp-p	70mA	992mA	88%	2360µF
CMDBW48S15-40		15 VDC	0mA	2666mA	75mVp-p	70mA	992mA	88%	1510µF

**NOTES**

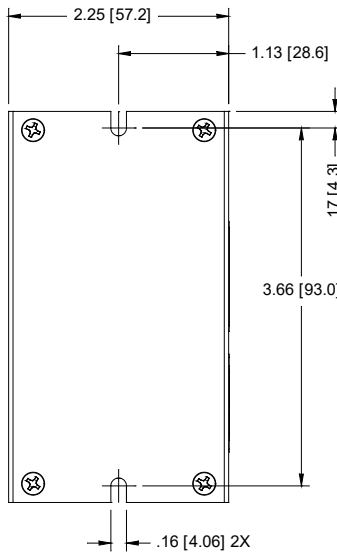
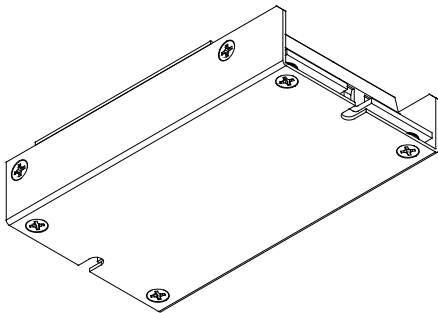
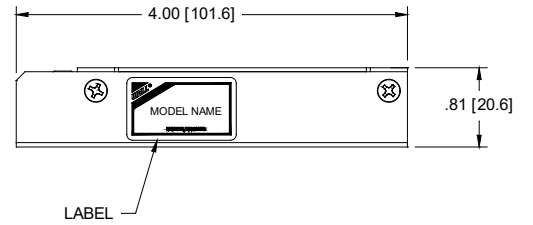
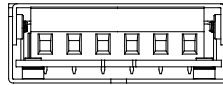
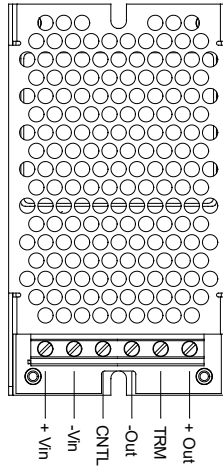
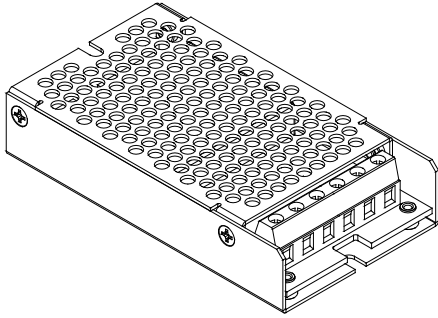
1. The ON/OFF control function: There are positive (standard) and negative logic (option). The pin voltage is referenced to negative input. To order negative logic ON/OFF control add the suffix "R" to the part number (Ex: CMDBW48S5-40R)
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment). MIL-STD-217F Notice2 @ Ta=25°C, Full Load (Ground, Benign, controlled environment).
3. Heat sink is optional. Please call factory for ordering details.
4. Output ripple & noise measured with a 0.1µF/50V MLCC.
5. Typical Value at nominal input voltage.
6. Maximum value at nominal input voltage and full load
7. Typical Value at nominal input voltage and full load.
8. Test by minimum Vin and constant resistive load.
9. Chassis Mount Options: No suffix for open frame, "U" suffix for U Channel, and "E" suffix for Enclosed type.
10. This product is Listed to applicable standards and requirements by UL.

**DERATING CURVES & EFFICIENCY GRAPHS**



**MECHANICAL DRAWING**

Unit: inches [mm]





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## 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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