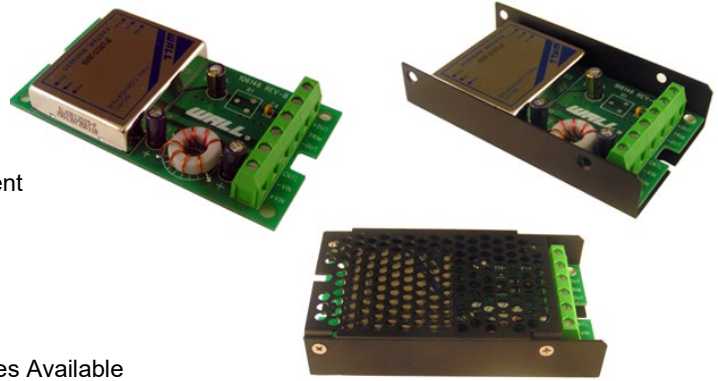


**FEATURES**

- 15 Watts Output Power
- Output Current up to 4A
- High Efficiency up to 88%
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 2:1 Wide Input Voltage Range
- ISO9001 Certified Manufacturing Facilities
- **Call Factory for More Output Power Options**
- Compliant to RoHS EU Directive 2002/95/EC
- Options: Positive Logic and Negative Logic Remote ON/OFF
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available

**APPLICATIONS**

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



**SPECIFICATIONS: CMDM Series**

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

**INPUT SPECIFICATIONS**

Input Voltage Range.....	12V nominal input .....	9 - 18 VDC
	24V nominal input .....	18 - 36 VDC
	48V nominal input .....	36 - 75 VDC
Input Surge Voltage (100ms max).....	12V input.....	36 VDC
	24V input.....	50 VDC
	48V input.....	100 VDC
Input Reflected Ripple Current (Note 2).....		20mA <sub>p-p</sub>
Start Up Time (nominal Vin and constant resistive load).....		20ms typ.
Remote ON/OFF (Option) (Note 7)		
(Positive Logic).....	DC-DC ON.....	Open or 3.5V < 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 3.5V < Vr < 12V
Input Current of Remote Control Pin (nominal Vin).....		-0.5mA ~ +1mA
Remote Off State Input Current (nominal Vin) .....		20mA

**OUTPUT SPECIFICATIONS**

Output Voltage .....	see table
Voltage Accuracy (nominal Vin and full load).....	±1%
Output Current .....	see table
Output Power .....	15 watts max.
Line Regulation (LL to HL at FL).....	±0.5%
Load Regulation (min load to full load) .....	±0.5%
Minimum Load (See Note 6) .....	see table
Ripple/Noise (20 MHz BW).....	50mV <sub>p-p</sub>
Temperature Coefficient.....	±0.02% / °C max.
Transient Response Recovery Time (25% load step).....	250us

**PROTECTION SPECIFICATIONS**

Over Voltage Protection .....	3.3V output.....	3.9V
(zener diode clamp)	5V output.....	6.2V
	12V output.....	15V
	15V output.....	18V
Over Load Protection (% of full load at nominal input) .....		150% max.
Short Circuit Protection. ....		Hiccup, automatic recovery

**GENERAL SPECIFICATIONS**

Efficiency .....	see table
Switching Frequency.....	500KHz typ.
Isolation Voltage (Input to Output).....	1600VDC min.
Isolation Resistance.....	10 <sup>9</sup> ohms min.
Isolation Capacitance.....	300pF max.

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature .....	-40°C ~ +85°C (with derating)
Storage Temperature .....	-55°C ~ +105°C
Maximum Case Temperature .....	100°C
Relative Humidity .....	5% to 95% RH
Thermal Impedance (Note 8)	
Natural Convection.....	12°C / Watt
Natural Convection with Heat-Sink .....	10°C / Watt
Thermal Shock.....	MIL-STD-810F
Vibration.....	10~55Hz, 10G, 30 minutes along X, Y, and Z
MTBF (See Note 1).....	2.041 x 10 <sup>6</sup> hours

**PHYSICAL SPECIFICATIONS**

Potting material of the DC/DC Converter.....	Epoxy (UL94-V0)
Shielding of the DC/DC Converter.....	six-sided
Weight .....	Approximately 6oz
Dimensions.....	4(L) x 2.2(W) x 0.81(H) inches

**SAFETY & EMC**

Approvals and Standards.....	IEC60950-1, UL60950-1 (See Note 10), EN60950-1	
EMI .....	EN55022 .....	Class A
ESD .....	EN61000-4-2.....	Air ± 8KV Perf. Criteria B
		Contact ± 6KV
Radiated Immunity.....	EN61000-4-3 .....	10V/m Perf. Criteria A
Fast Transient.....	EN61000-4-4 .....	±2KV Perf. Criteria B
Surge .....	EN61000-4-5 .....	±1KV Perf. Criteria B
Conducted Immunity ..	EN61000-4-6 .....	10 Vrms Perf. Criteria A

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

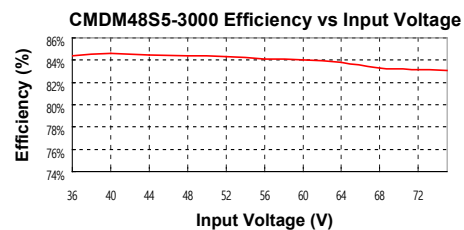
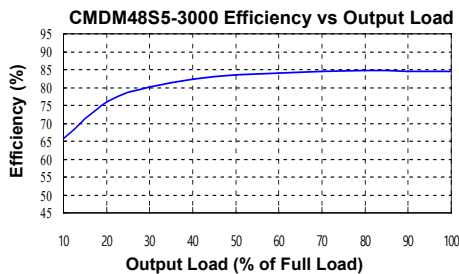
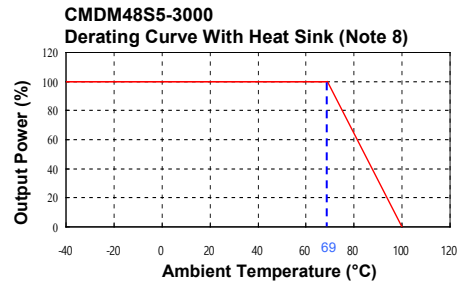
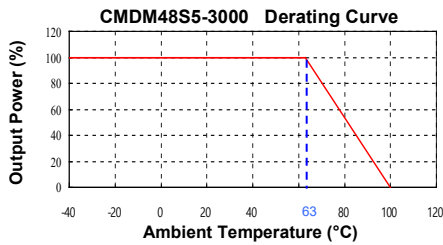
**OUTPUT VOLTAGE / CURRENT RATING CHART**

Model Number	Input Range	Output Voltage	Output Current		Output (4) Ripple & Noise	Input Current		Efficiency (4)	Capacitor(5) Load max
			Min. load	Full load		No load (3)	Full load (2)		
CMDM12S3.3-4000	12 VDC (9 - 18 VDC)	3.3 VDC	0mA	4000mA	50mVp-p	30mA	1467mA	79%	10200uF
CMDM12S5-3000		5 VDC	15mA	3000mA	50mVp-p	25mA	1603mA	82%	7050uF
CMDM12S12-1250		12 VDC	0mA	1250mA	50mVp-p	25mA	1524mA	86%	1035uF
CMDM12S15-1000		15 VDC	0mA	1000mA	50mVp-p	20mA	1524mA	86%	705uF
CMDM24S3.3-4000	24 VDC (18 - 36 VDC)	3.3 VDC	0mA	4000mA	50mVp-p	15mA	724mA	80%	10200uF
CMDM24S5-3000		5 VDC	15mA	3000mA	50mVp-p	10mA	781mA	84%	7050uF
CMDM24S12-1250		12 VDC	0mA	1250mA	50mVp-p	20mA	772mA	85%	1035uF
CMDM24S15-1000		15 VDC	10mA	1000mA	50mVp-p	15mA	772mA	85%	705uF
CMDM48S3.3-4000	48 VDC (36 - 75 VDC)	3.3 VDC	0mA	4000mA	50mVp-p	10mA	357mA	81%	10200uF
CMDM48S5-3000		5 VDC	0mA	3000mA	50mVp-p	20mA	396mA	83%	7050uF
CMDM48S12-1250		12 VDC	10mA	1250mA	50mVp-p	15mA	377mA	87%	1035uF
CMDM48S15-1000		15 VDC	0mA	1000mA	50mVp-p	15mA	381mA	86%	705uF

**NOTES**

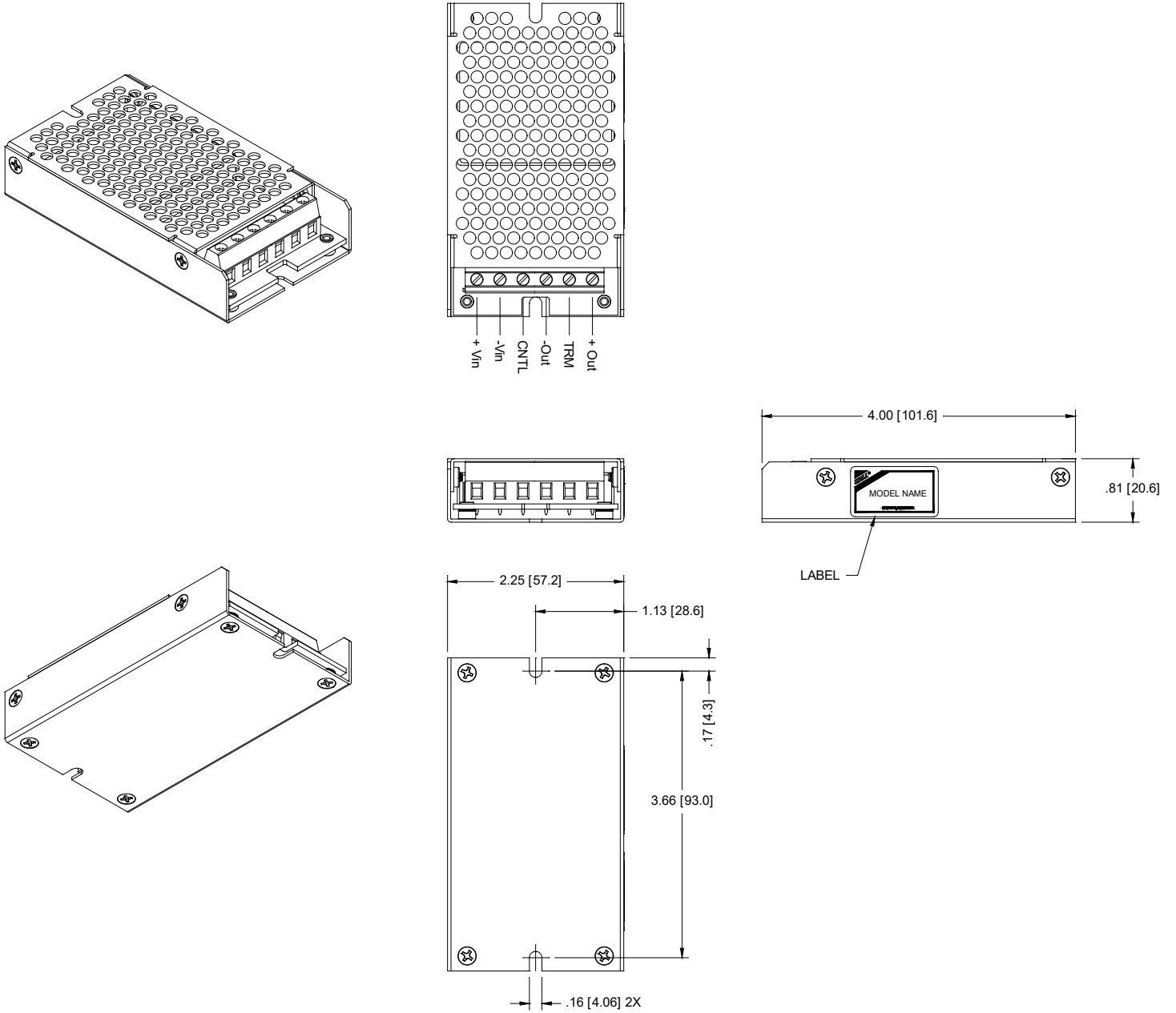
- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
- Maximum value at nominal input voltage and full load
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The output requires a minimum loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specifications.
- The ON/OFF control pin voltage is referenced to -Vin.  
To order positive logic ON/OFF control add the suffix P (Ex: CMDM48S5-3000P)  
To order negative logic ON/OFF control add the suffix R (Ex: CMDM48S5-3000R)
- Heat sink is optional, consult factory.
- Chassis Mount Options: No suffix for open frame, "U" suffix for U Channel, and "E" suffix for Enclosed type.
- This product is Listed to applicable standards and requirements by UL.

**DERATING CURVES & EFFICIENCY GRAPHS**



**MECHANICAL DRAWING**

Unit: inches [mm]



## 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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