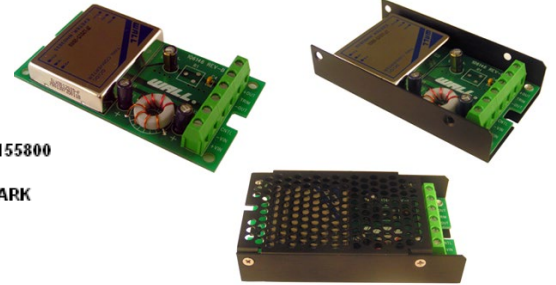


**FEATURES**

- Output Current up to 6A
- High Efficiency up to 90%
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 2:1 Wide Input Voltage Range
- International Safety Standard Approval
- **Call Factory for More Output Power Options**
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available



**SPECIFICATIONS: CMZF Series**

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

**INPUT SPECIFICATIONS**

Input Voltage Range .....	12V nominal Input .....	9 - 18VDC
	24V nominal input .....	18 - 36VDC
	48V nominal input .....	36 - 75VDC
Under Voltage Lockout		
12VDC input .....	DC-DC ON .....	9VDC
	DC-DC OFF .....	8VDC
24VDC input .....	DC-DC ON .....	17.8VDC
	DC-DC OFF .....	16VDC
48VDC input .....	DC-DC ON .....	36VDC
	DC-DC OFF .....	33VDC
Input Voltage Variation .....	dv/dt .....	5V/ms max.
	(Complies with ETS300 132 part 4.4)	
Input Surge Voltage (100ms max) .....	12V input .....	36VDC
	24V input .....	50VDC
	48V input .....	100VDC
Input Reflected Ripple Current (nominal Vin and full load) .....		30mA <sub>p-p</sub>
Start Up Time (nominal Vin and constant resistive load)		
Power Up .....		25ms typ.
Remote ON/OFF .....		25ms typ.
Remote ON/OFF (See Note 1)		
(Positive Logic) .....	DC-DC ON .....	Open or 3.5V < Vr < 12V
	DC-DC OFF .....	Short or 0V < Vr < 1.2V
Remote Off Input Current (nominal Vin) .....		2.5mA

**OUTPUT SPECIFICATIONS**

Output Voltage .....	see table
Voltage Accuracy (nominal Vin and full load) .....	±1%
Voltage Adjustability .....	±10%
Output Current .....	see table
Output Power .....	30 watts max.
Line Regulation (LL to HL at FL) .....	±0.2%
Load Regulation (10% to 100% FL) .....	±0.5%
Minimum Load .....	0%
Ripple/Noise (20 MHz BW) .....	see table
Transient Response Recovery Time (25% load step change) .....	300us

**PROTECTION SPECIFICATIONS**

Over Voltage Protection .....	1.5V Output .....	3.9V
(Zener diode clamp)	1.8V Output .....	3.9V
	2.5V Output .....	3.9V
	3.3V Output .....	3.9V
	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
Over Temperature Protection .....		115°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 .....	1000pF max.

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature .....	-40°C to +85°C (with derating)
Storage Temperature .....	-55°C ~ +105°C
Maximum Case Temperature .....	+100°C
Relative Humidity (non-condensing) .....	5% to 95% RH
Temperature Coefficient .....	±0.02% / °C max.
Thermal Impedance (See Note 3)	
Natural Convection .....	10°C / Watt
Natural Convection with Heat-Sink .....	8.24°C/Watt
Thermal Shock .....	MIL-STD-810D
Vibration .....	10~55Hz, 10G, 30 minutes along X, Y, and Z
MTBF (See Note 2) .....	1.535 x 10 <sup>6</sup> hrs

**PHYSICAL SPECIFICATIONS**

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

**SAFETY & EMC**

Approvals and Standards .....	IEC60950-1, UL60950-1 (See Note 8), 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*

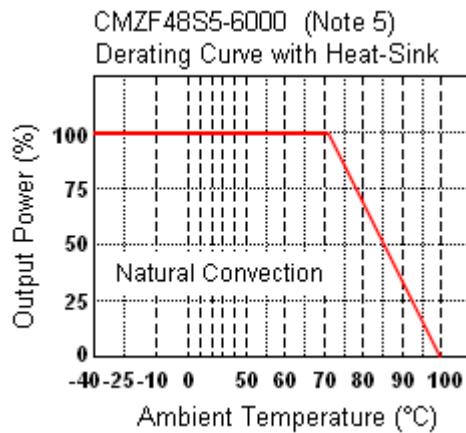
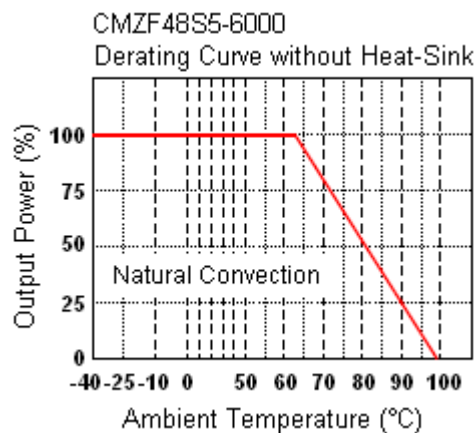
**OUTPUT VOLTAGE / CURRENT RATING CHART**

Model Number	Input Voltage	Output Voltage	Output Current	Input Current <sup>(4)</sup>	Ripple & Noise	Efficiency <sup>(5)</sup> (Typ)	Max Capacitive Load <sup>(6)</sup>
CMZF12S1.5-6000	12 VDC (9 ~ 18VDC)	1.5 VDC	6000 mA	1014 mA	50mVp-p	78%	85,800µF
CMZF12S1.8-6000		1.8 VDC	6000 mA	1169 mA	50mVp-p	81%	65,000µF
CMZF12S2.5-6000		2.5 VDC	6000 mA	1582 mA	50mVp-p	83%	33,000µF
CMZF12S3.3-6000		3.3 VDC	6000 mA	2037 mA	50mVp-p	85%	19,500µF
CMZF12S5-6000		5 VDC	6000 mA	3012 mA	50mVp-p	87%	10,200µF
CMZF12S12-2500		12 VDC	2500 mA	2976 mA	75mVp-p	88%	3240µF
CMZF12S15-2000		15 VDC	2000 mA	2976 mA	75mVp-p	88%	1100µF
CMZF24S1.5-6000	24 VDC (18 ~ 36 VDC)	1.5 VDC	6000 mA	493 mA	50mVp-p	80%	85,800µF
CMZF24S1.8-6000		1.8 VDC	6000 mA	580 mA	50mVp-p	82%	65,000µF
CMZF24S2.5-6000		2.5 VDC	6000 mA	780 mA	50mVp-p	84%	33,000µF
CMZF24S3.3-6000		3.3 VDC	6000 mA	1010 mA	50mVp-p	86%	19,500µF
CMZF24S5-6000		5 VDC	6000 mA	1490 mA	50mVp-p	88%	10,200µF
CMZF24S12-2500		12 VDC	2500 mA	1470 mA	75mVp-p	89%	3240µF
CMZF24S15-2000		15 VDC	2000 mA	1470 mA	75mVp-p	89%	1100µF
CMZF48S1.5-6000	48 VDC (36 ~ 75 VDC)	1.5 VDC	6000 mA	244 mA	50mVp-p	81%	85,800µF
CMZF48S1.8-6000		1.8 VDC	6000 mA	290 mA	50mVp-p	83%	65,000µF
CMZF48S2.5-6000		2.5 VDC	6000 mA	390 mA	50mVp-p	85%	33,000µF
CMZF48S3.3-6000		3.3 VDC	6000 mA	500 mA	50mVp-p	87%	19,500µF
CMZF48S5-6000		5 VDC	6000 mA	740 mA	50mVp-p	89%	10,200µF
CMZF48S12-2500		12 VDC	2500 mA	730 mA	75mVp-p	90%	3240µF
CMZF48S15-2000		15 VDC	2000 mA	730 mA	75mVp-p	90%	1100µF

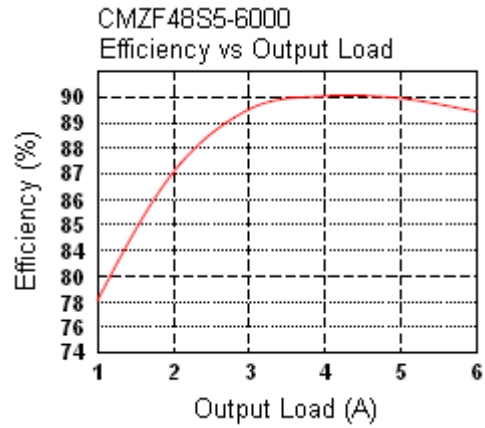
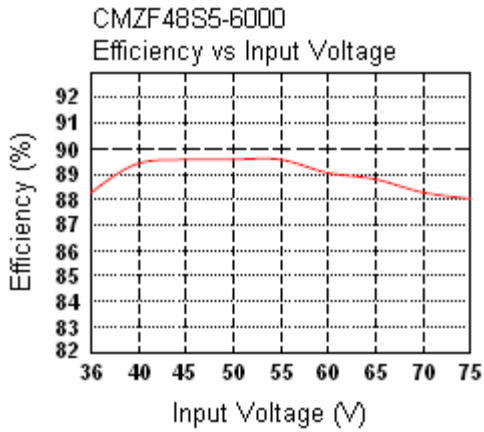
**NOTES**

1. The ON/OFF control pin is referenced to negative input.
2. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
3. Heat sink is optional. Please call factory for ordering details.
4. Maximum value at nominal input voltage and full load.
5. Typical value at nominal input voltage and full load
6. Test by minimum Vin and constant resistive load.
7. Chassis Mount Options: No suffix for open frame, "U" suffix for U Channel, and "E" suffix for Enclosed type.
8. This product is Listed to applicable standards and requirements by UL.

**DERATING CURVES**

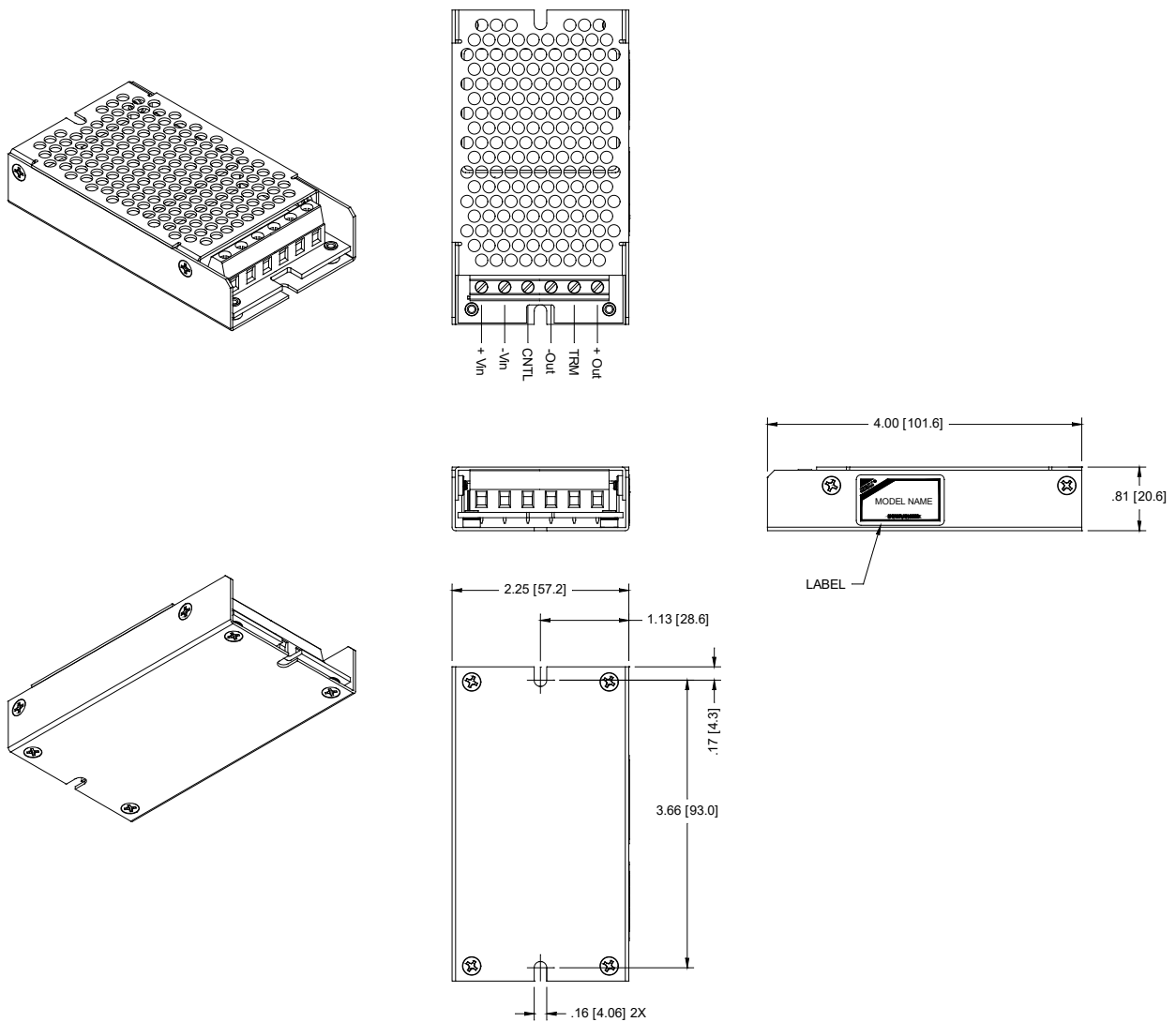


**EFFICIENCY GRAPHS**



**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: 2015 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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