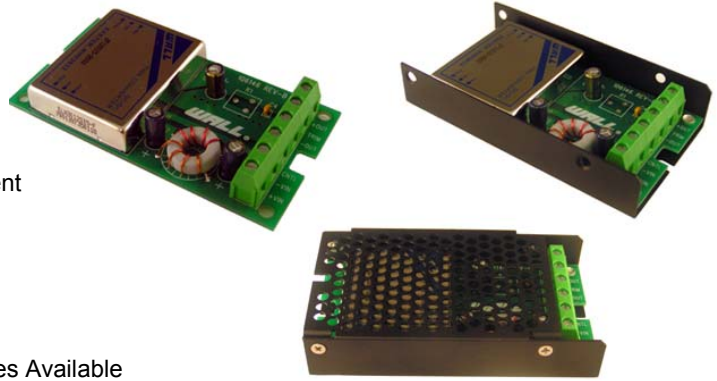


FEATURES

- 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 _{p-p}
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 _{p-p}
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 ⁹ 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 ⁶ 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, EN60950-1	
EMI	EN55022	Class A
ESD	EN61000-4-2	Air ± 8KV
		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

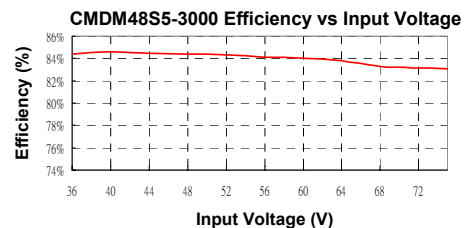
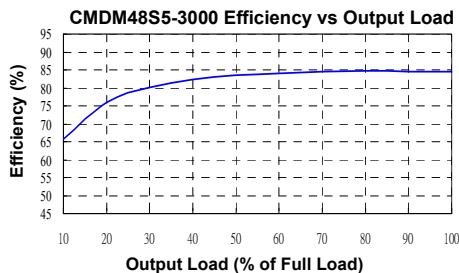
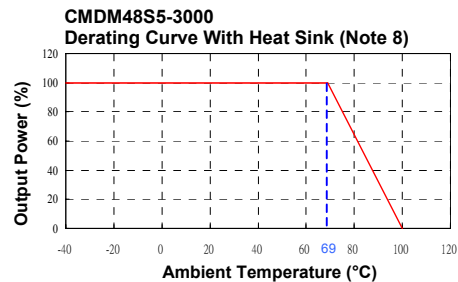
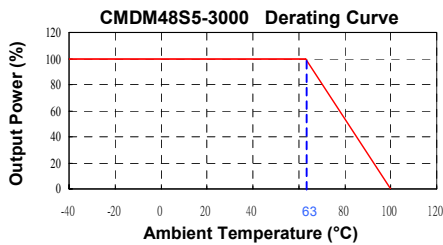
OUTPUT VOLTAGE / CURRENT RATING CHART

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.

DERATING CURVES & EFFICIENCY GRAPHS



MECHANICAL DRAWING

Unit: inches [mm]

