Wall Industries, Inc.

Rev. B

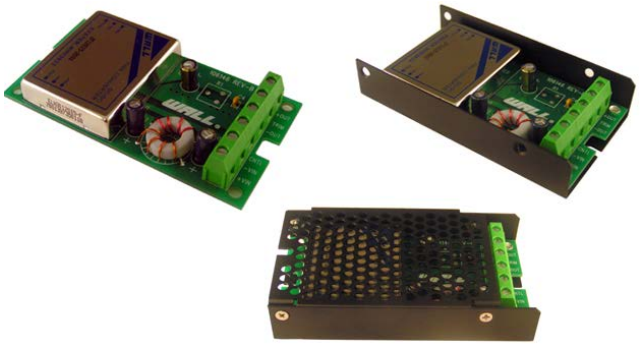
CMYF/CMYFW Series
20 Watt Single Output
Chassis Mount DC/DC Converter
2:1 and 4:1 Wide Input Voltage Range

FEATURES

- Single Output
- 20 Watts Output Power
- High Efficiency up to 87%
- Fixed Switching Frequency
- Six-Sided Continuous Shield
- 2:1 and 4:1 Wide Input Voltage Range
- ISO9001 Certified Manufacturing Facilities
- Call Factory for More Output Power Options
- Compliant to RoHS EU Directive 2002/95/EC
- UL60950-1, EN60950-1, and IEC60950-1 Licensed
- CE Mark meets 2006/95/EC, 93/68/EEC, and 89/336 EEC
- Chassis Mount Options: Open Frame, U Channel, and Enclosed Types Available

APPLICATIONS

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



SPECIFICATIONS: *CMYF/YFW Series*

All specifications apply @ 25°C ambient unless otherwise noted

INPUT SPECIFICATIONS

Input Voltage Range
- CMYF: 12V nominal input ..... 9-18VDC; 24V nominal input ..... 18-36VDC; 48V nominal input 36-75VDC
- CMYFW: 24V nominal input ..... 9-36VDC; 48V nominal input 18-75VDC

Input Surge Voltage (100ms max) ..... 12V input ..... 36VDC; 24V input ..... 50VDC; 48V input 100VDC

Input Reflected Ripple Current (nominal Vin and full load) 25mAp-p

Start Up Time (nominal Vin and constant resistive load) ..... 20ms typ.

Remote ON/OFF (See Note 7)
(Positive Logic) ..... DC-DC ON ..... Open or 3.5V < Vr < 12V; DC-DC OFF ..... Short or 0V < Vr < 1.2V

Input Current of Remote Control Pin (nominal Vin) ..... -0.5mA ~ 1.0mA

Remote Off State Input Current (nominal Vin) 20mA

OUTPUT SPECIFICATIONS

Output Voltage ..... see table

Voltage Accuracy (nominal Vin and full load) ..... ±1%

Voltage Adjustability ..... ±10%

Output Current ..... see table

Output Power ..... 20 watts max.

Line Regulation (LL to HL at FL) ..... ±0.2%

Load Regulation (no load to full load) ..... ±0.5%

Minimum Load (See Note 6) ..... see table

Ripple/Noise (20 MHz BW) 75mVp-p

Transient Response Recovery Time 250us
(25% load step)

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 ..... 300KHz typ.

Isolation Voltage (Input to Output) ..... 1600VDC min.

Isolation Resistance ..... 10^9 ohms min.

Isolation Capacitance ..... 300pF 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 8)
Natural Convection ..... 10°C / Watt
Natural Convection with Heat-Sink ..... 8.24°C/Watt

Thermal Shock MIL-STD-810F

Vibration ..... 10~55Hz, 10G, 30 minutes along X, Y, and Z

MTBF (See Note 1) ..... 1.928 x 10^6 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(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 Contact	± 8KV ± 6KV	..... Perf. Criteria B
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

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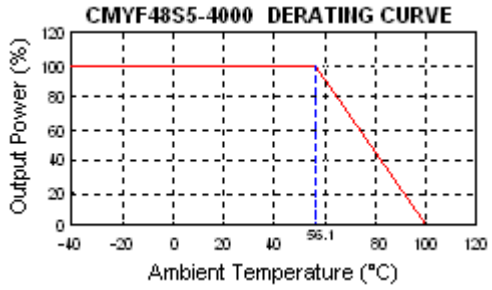
OUTPUT VOLTAGE / CURRENT RATING CHART

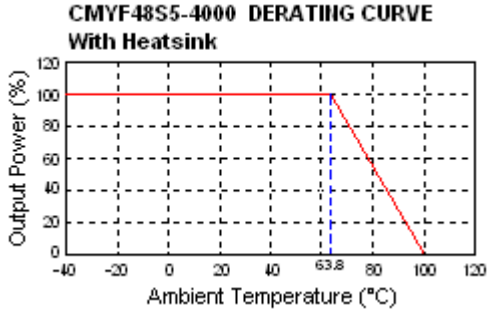
Model Number	Input Range	Output Voltage	Output Current		Output [4] Ripple & Noise	Input Current		Eff. [4]	Capacitor[5] Load max
			Min. load	Full load		No load [3]	Full load [2]		
CMYF12S33-4000	9 - 18 VDC	3.3 VDC	280mA	4000mA	75mVp-p	40mA	1507mA	77%	13000uF
CMYF12S5-4000		5 VDC	280mA	4000mA	75mVp-p	15mA	2193mA	80%	6800uF
CMYF12S12-1600		12 VDC	134mA	1670mA	75mVp-p	40mA	2110mA	83%	2200uF
CMYF12S15-1330		15 VDC	106mA	1330mA	75mVp-p	20mA	2083mA	84%	755uF
CMYF(W)24S33-4000	18 - 36 VDC (9 - 36 VDC)	3.3 VDC	280mA	4000mA	75mVp-p	10 (20)mA	733 (764mA)	79 (76) %	13000uF
CMYF(W)24S5-4000		5 VDC	280mA	4000mA	75mVp-p	10 (10)mA	1082 (1111mA)	81 (79) %	6800uF
CMYF(W)24S12-1600		12 VDC	134mA	1670mA	75mVp-p	10 (20)mA	1018 (1082mA)	86 (81) %	2200uF
CMYF(W)24S15-1330		15 VDC	106mA	1330mA	75mVp-p	15 (20)mA	1018 (1082mA)	86 (81) %	755uF
CMYF(W)48S33-4000	36 - 75 VDC (18 - 75 VDC)	3.3 VDC	280mA	4000mA	75mVp-p	10 (15)mA	367 (377mA)	79 (77) %	13000uF
CMYF(W)48S5-4000		5 VDC	280mA	4000mA	75mVp-p	10 (10)mA	543 (548mA)	82 (80) %	6800uF
CMYF(W)48S12-1600		12 VDC	134mA	1670mA	75mVp-p	15 (10)mA	509 (536mA)	86 (82) %	2200uF
CMYF(W)48S15-1330		15 VDC	106mA	1330mA	75mVp-p	25 (10)mA	506 (532mA)	86 (82) %	755uF

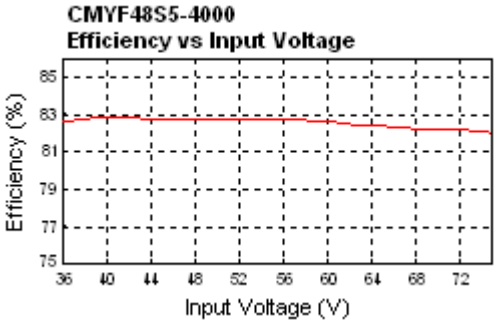
NOTES

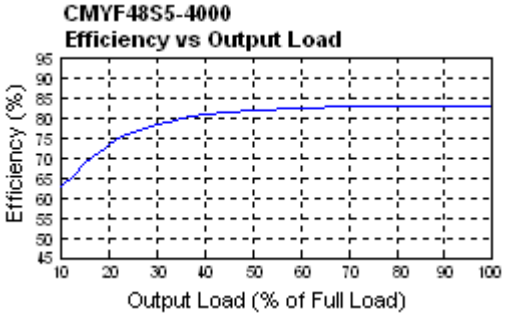
1. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC. (Ground fixed and controlled environment).
2. Maximum value at nominal input voltage and full load.
3. Typical value at nominal input voltage and no load.
4. Typical value at nominal input voltage and full load.
5. Test by minimum Vin and constant resistive load.
6. 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.
7. The ON/OFF control pin voltage is referenced to –Vin.
8. Heat sink is optional (for operation temperature range please see derating curve). Contact Factory for ordering details.
9. The CMYF Series is 2:1 wide input range of 18-36VDC and 36-75VDC; the CMYFW Series is 4:1 ultra wide input range of 9-36VDC and 18-75VDC.
10. 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]