

FEATURES

- UL60950-1 Licensed
- 15 Watts Output Power
- Output Current up to 3A
- High Efficiency up to 82%
- Fixed Switching Frequency
- Six-Sided Continuous Shielding
- 4:1 Ultra Wide Input Voltage Range
- Standard 2.0 x 1.6 x 0.4 Inch Package
- ISO9001 Certified Manufacturing Facilities
- Compliant to RoHS EU Directive 2002/95/EC

APPLICATIONS

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



SPECIFICATIONS: YFW15 Ultra Wide 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
Input Filter	.....	Pi Type
Input Surge Voltage (100ms max)	.....24V input	50VDC
	48V input	100VDC
Input Reflected Ripple Current (nominal Vin and full load)	.....	20mA _{p-p}
Start Up Time (nominal Vin and constant resistive load)	.....	20ms typ.
Remote ON/OFF (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 ~ +0.5mA
Remote Off 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	.....	15 watts max.
Line Regulation (LL to HL at FL)	.....	±0.2%
Load Regulation (min load to full load)	..... Single	±0.5%
	Dual.....	±1%
Cross Regulation (Dual) (Asymmetrical load 25% / 100% FL)	.....	±5%
Minimum Load (Note 6)	.....	see table
Ripple/Noise (20 MHz BW)	.....	75mV _{p-p}
Temperature Coefficient	.....	±0.02% / °C max.
Transient Response Recovery Time (25% load step)	.....	250µs

GENERAL SPECIFICATIONS

Efficiency	.....	see table
Switching Frequency	.....	270KHz typ.
Isolation Voltage (Input to Output)	.....	1600VDC min.
Isolation Resistance	.....	10 ⁹ ohms min.

PROTECTION SPECIFICATIONS

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

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	.....	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 (Note 1)	.....	2.041 X 10 ⁶ hrs

PHYSICAL SPECIFICATIONS

Weight	.....	48g (1.69 oz)
Dimensions	.....	2.0 x 1.6 x 0.40 inches (50.8 x 40.6 x 10.2 mm)
Case Material	.....	Nickel-coated copper
Base Material	.....	Non-conductive black plastic
Potting material	.....	Epoxy (UL94-V0)
Shielding	.....	six-sided

SAFETY & EMC

Safety Standard Pending	.....	UL60950-1
EM	.....EN55022.....	Class A
ESD	.....EN61000-4-2.....	Air ± 8KV
		Contact ± 6KV
Isolation Capacitance	.....	300pF max.



Wall Industries, Inc.

Rev C

YFW15 Ultra Wide Series
Single and Dual Output
15 Watt DC/DC Converter
4:1 Wide Input Voltage Range

Radiated Immunity.....EN61000-4-3..... 10V/m Perf. Criteria
A
Fast Transient.....EN61000-4-4..... ±2KV Perf. Criteria
B

Surge (See Note 9).....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

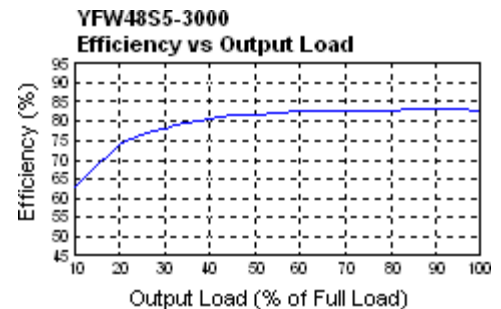
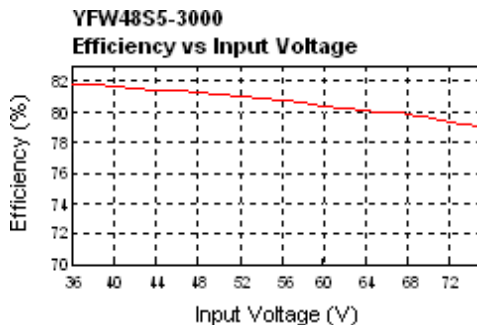
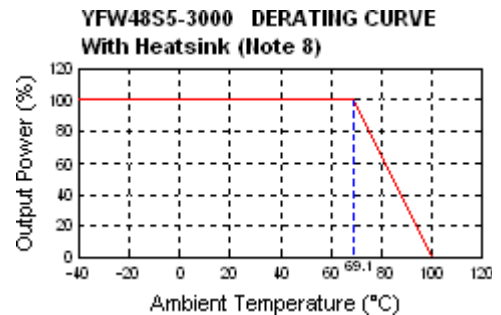
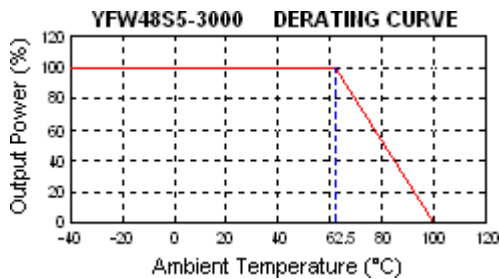
MODEL SELECTION GUIDE

Model Number	Input Range	Output Voltage	Output Current		Output (2) Ripple & Noise	Input Current		Efficiency (4)	Capacitor(5) Load max
			Min. load	Full load		No load (3)	Full load (2)		
YFW24S5-3000	24 VDC (9-36 VDC)	5 VDC	210mA	3000mA	75mVp-p	20mA	822mA	80%	6800µF
YFW24S12-1250		12 VDC	100mA	1250mA	75mVp-p	10mA	801mA	82%	890µF
YFW24S15-1000		15 VDC	80mA	1000mA	75mVp-p	20mA	801mA	82%	570µF
YFW24D5-1500		± 5 VDC	± 105mA	± 1500mA	75mVp-p	20mA	822mA	80%	± 1700µF
YFW24D12-625		± 12 VDC	± 50mA	± 625mA	75mVp-p	20mA	801mA	82%	± 300µF
YFW24D15-500		± 15 VDC	± 40mA	± 500mA	75mVp-p	20mA	801mA	82%	± 200µF
YFW48S5-3000	48VDC (18-75 VDC)	5 VDC	210mA	3000mA	75mVp-p	15mA	411mA	80%	6800µF
YFW48S12-1250		12 VDC	100mA	1250mA	75mVp-p	15mA	401mA	82%	890µF
YFW48S15-1000		15 VDC	80mA	1000mA	75mVp-p	10mA	401mA	82%	570µF
YFW48D5-1500		± 5 VDC	± 105mA	± 1500mA	75mVp-p	10mA	411mA	80%	± 1700µF
YFW48D12-625		± 12 VDC	± 50mA	± 625mA	75mVp-p	20mA	401mA	82%	± 300µF
YFW48D15-500		± 15 VDC	± 40mA	± 500mA	75mVp-p	15mA	401mA	82%	± 200µF

NOTES

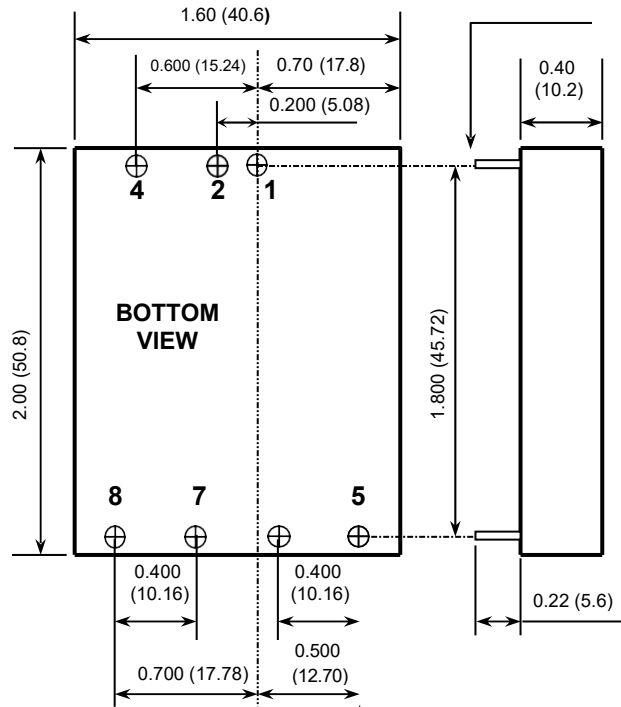
- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
- Maximum value at nominal input voltage and full load.
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The output requires a minimum loading to maintain specified regulations. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
- The ON/OFF control pin voltage is reference to -Vin.
- Heat-sink is optional, please contact factory for ordering details.
- An external filter capacitor is required if the module has to meet EN61000-4-5. The filter capacitor suggested is Nippon chemi-con KY Series, 220µF/100V, ESR 48mΩ.

DERATING CURVES & EFFICIENCY GRAPHS



MECHANICAL DRAWING

Unit: inches (mm)



1. All dimensions in Inches (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01 (0.25)

PIN CONNECTION		
PIN	SINGLE	DUAL
1	+INPUT	+INPUT
2	-INPUT	-INPUT
4	CTRL	CTRL
5	NO PIN	+OUTPUT
6	+OUTPUT	COMMON
7	-OUTPUT	-OUTPUT
8	TRIM	TRIM

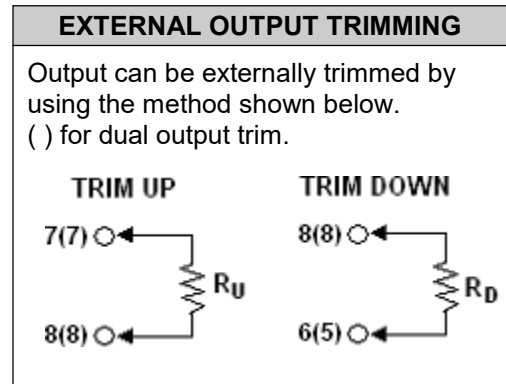
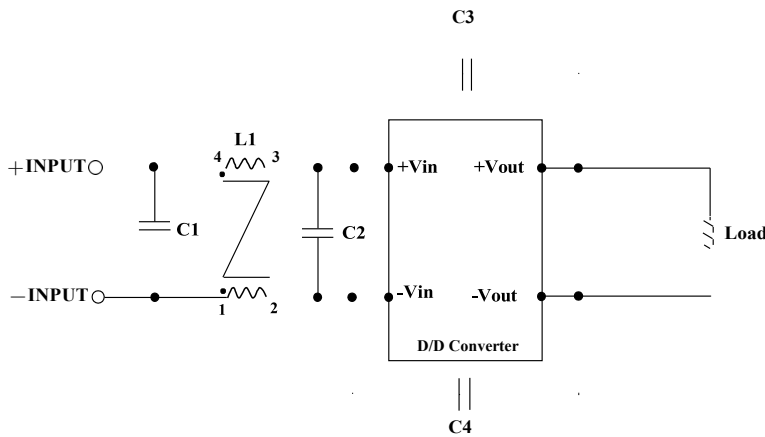


FIGURE 1

FIGURE

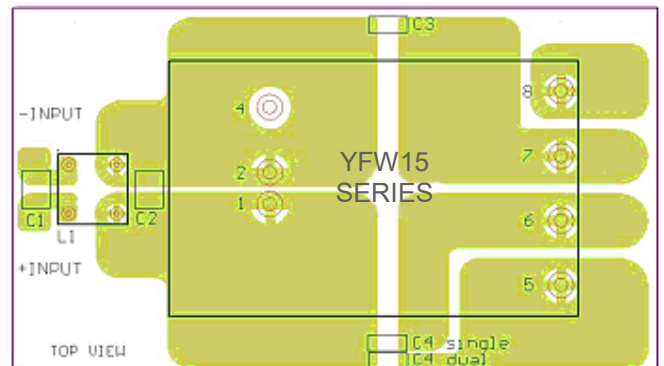
Recommended Filter for EN55022 Class B Compliance



The components used in the Figure 1 are as follows:

	C1	C2	C3	C4	L1
YFW24xxx-xxxx	6.8µF/50V	N/A	1000pF/2KV	1000pF/2KV	450µH Common Choke
YFW48xxx-xxxx	2.2µF/100V	2.2µF/100V	1000pF/2KV	1000pF/2KV	450µH Common Choke

Recommended EN55022 Class B Filter Circuit Layout





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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.

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