



key features

- high power package
- wide input range
- 4 input voltage ranges
- water washable
- trim and enable pins
- remote sense pins
- 500 VDC isolation
- short circuit protection

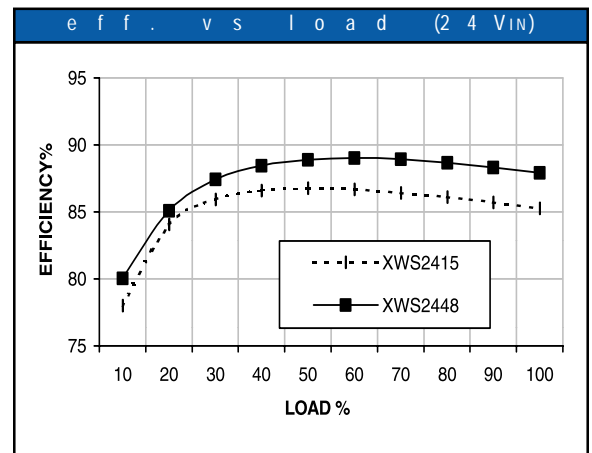
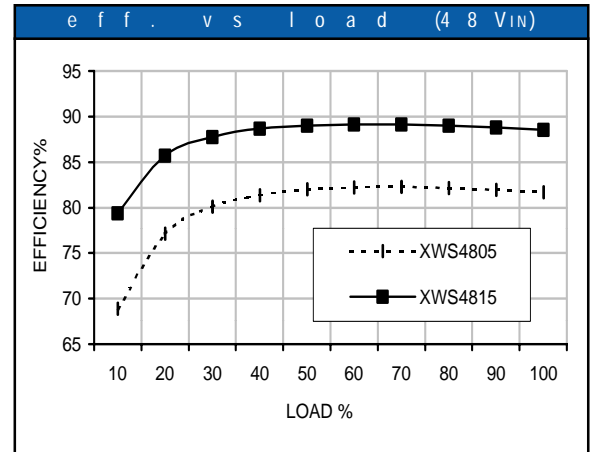
The XWS series are high powered DC to DC converters that cover a wide range of industrial, as well as general, applications. Available input voltages include 12V, 24V, 48V, and 60V, output voltages are available from 5V to 24V. The XWS features remote sense leads for accurate point of load regulation, and has short circuit and over current protection. For dual and triple output high power solutions, see IPD's XWD and XWT series of converters.

technical specifications

input	
voltage range	10 - 20 VDC
12 VDC nominal	18 - 36 VDC
24 VDC nominal	36 - 72 VDC
48 VDC nominal	20 - 60 VDC
40 VDC nominal (wide input)	20% lin max
input ripple current	100% lin max
reverse input current	

output	
setpoint accuracy	±1%
line regulation $V_{in} \text{ min.} - V_{in} \text{ max.}, I_{out} \text{ rated}$	±0.2% V_o
load regulation $I_{out} \text{ min.} - I_{out} \text{ max.}, V_{in} \text{ nom.}$	±1% V_o
minimum output current	10%
dynamic regulation, loadstep	25% I_o
Pk deviation	4% V_o
settling time	500 μ S
voltage trim range	±10%
current limit threshold range, % I_o rated	110% - 130%
short circuit protection	continuous
OVP	all models

general	
turn-on time	10 ms
remote shutdown	TTL and CMOS compatible, positive logic
switching frequency	200 KHz
isolation	
input - output	500 VDC
temperature coefficient	±0.02%/°C
case temperature	
operating range	-25 to +85°C††
storage range	-40 to +125°C
thermal shutdown range	105 to 115°C
humidity max, non-condensing	95%
vibration, 3 axes, 5 min each	5 g, 10 - 55Hz
MTBF† (Bellcore TR-NWT-000332)	consult factory
safety	consult factory
weight (approx.)	15.4 oz.



notes

† MTBF predictions may vary slightly from model to model.
 †† industrial temp range available

Specifications typically at 25°C, normal line, and full load - unless otherwise stated.
 Specifications subject to change without notice.

models

V _{IN} (volts)	V _{IN} range (volts)	I _{IN} max.* (amps)	V _{OUT} (volts)	I _{OUT} rated (amps)	ripple & noise pk-pk (mV)	efficiency typ.**	model
12	10 - 20	13.9	5	20	50	79%	XWS1205
12	10 - 20	16.9	12	10.4	120	81%	XWS1212
12	10 - 20	16.7	15	8.3	150	82%	XWS1215
12	10 - 20	15.7	24	5	240	84%	XWS1224
24	18 - 36	10.9	5	30	50	84%	XWS2405
24	18 - 36	12.9	12	15	120	85%	XWS2412
24	18 - 36	12.8	15	12	150	86%	XWS2415
24	18 - 36	13.6	24	8	240	86%	XWS2424
48	36 - 72	5.5	5	30	50	82%	XWS4805
48	36 - 72	6.5	12	15	120	85%	XWS4812
48	36 - 72	6.5	15	12	150	85%	XWS4815
48	36 - 72	6.8	24	8	240	86%	XWS4824
40	20 - 60	10.3	5	30	50	80%	XWS6005
40	20 - 60	12.4	12	15	120	80%	XWS6012
40	20 - 60	12.2	15	12	150	81%	XWS6015
40	20 - 60	12.9	24	8	240	82%	XWS6024

* max input current at a minimum input voltage, maximum rated output power

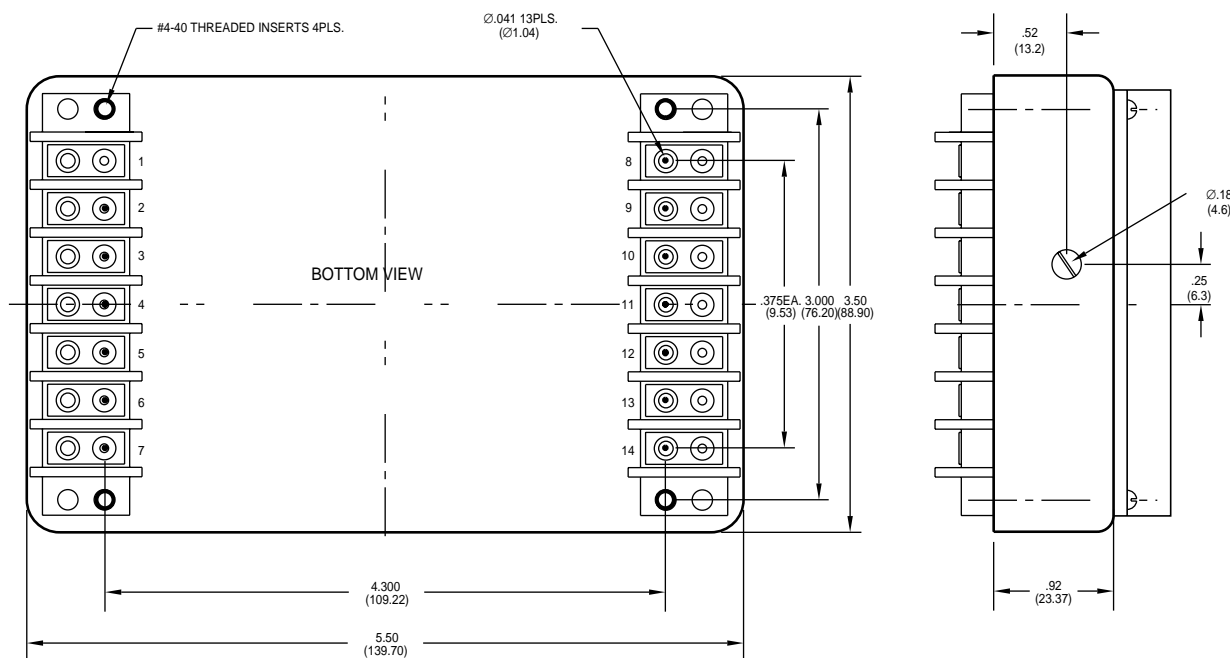
** at nominal V_{IN}, rated output.

specifications are subject to change without notice.

for terminal strip add suffix -TS to part number

for heatsink add suffix -HS to part number

mechanical drawing



thermal impedance	
natural convection	2.5 C/W
100 LFM	2.1 C/W
200 LFM	1.7 C/W
300 LFM	1.3 C/W
400 LFM	1.1 C/W

Thermal impedance data is dependant on many environmental factors. The exact thermal performance should be validated for specific application.

pin	function
1	no pin
2	-V _{IN}
3	-V _{IN}
4	+V _{IN}
5	+V _{IN}
6	enable
7	case
8	-V _{OUT}
9	-V _{OUT}
10	+V _{OUT}
11	+V _{OUT}
12	- sense
13	trim
14	+ sense

tolerances (unless otherwise specified)	
Inches	(Millimeters)
.XX ± .040	.X ± 1.0
.XXX ± .010	.XX ± .25
Pin:	
± .002	± .05