**XP Power**

1W

DC-DC converters

The IW series is housed in a SIP8 or DIP16 PCB mount plastic case. Featuring a 2:1 input voltage range of 4.5 to 9VDC, 9 to 18VDC, 18 to 36VDC or 36 to 72VDC with regulated single outputs of 3.3, 5, 9, 12, 15 & 24VDC

The 1W IW series has 1kVDC isolation (optional 3kV) between input and output, short circuit protection is standard. Remote On/Off can be specified as an option on SIP versions. The operating temperature range is from -40°C to +100°C, with derating above +85°C.
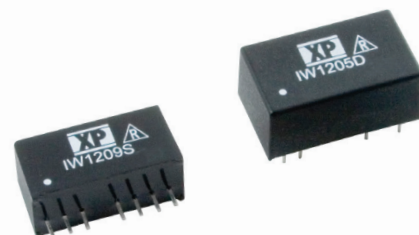
Features

▶ Regulated single outputs

▶ 2:1 input range

▶ Single outputs 3.3 to 24VDC

▶ SIP8 or DIP16 package

▶ 1.0kVDC isolation, 3.0kVDC option

▶ Continuous short circuit protection

▶ Remote On/Off option (SIP models)

▶ -40°C to +100°C operating temperature

▶ Full load to +85°C

▶ 3 year warranty

Applications

Robotics

Instrumentation

Technology

Industrial

Process control
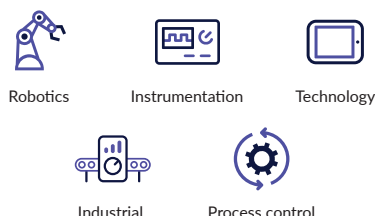
Dimensions

See mechanical details

More resources

Click the link or scan the code

⟶ **xppower.com**

Models & ratings

Model number[1-4]	Input voltage	No load input current	Output voltage[3]	Output current[6,7]	Maximum capacitive load [5]	Efficiency
IW0503SA		15 mA	3.3VDC	303mA	3300µF	67%
IW0505SA		15 mA	5.0VDC	200mA	3300µF	67%
IW0509SA	4.5-9.0VDC	40 mA	9.0VDC	111mA	470µF	70%
IW0512SA		55 mA	12.0VDC	83mA	470µF	70%
IW0515SA		55 mA	15.0VDC	67mA	470µF	70%
IW0524SA		70 mA	24.0 VDC	42mA	220µF	68%

Notes:

1. For dual inline package replace 'S' in model number with 'D'.
2. For optional 3kV isolation add suffix '-H' to the model number.
3. For dual output delete suffix 'A' & split output current equally between rails.
4. For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5VDC via 1kΩ current limiting resistor and diode turns output off.
5. Output capacitor of 100µF required to meet quoted ripple & noise.
6. Minimum load of 25% required to meet quoted specifications.
7. Operation at no load will not damage the converter but it may not meet all specifications.

Models & ratings

Model number[1-4]	Input voltage	No load input current	Output voltage[3]	Output current[6,7]	Maximum capacitive load [5]	Efficiency
IW1203SA	9.0-18.0VDC	15mA	3.3VDC	303mA	3300µF	70%
IW1205SA		15mA	5.0VDC	200mA	3300µF	72%
IW1209SA		15mA	9.0VDC	111mA	470µF	77%
IW1212SA		15mA	12.0VDC	83mA	470µF	77%
IW1215SA		15mA	15.0VDC	67mA	470µF	77%
IW1224SA		15mA	24.0VDC	42mA	220µF	73%
IW2403SA	18.0-36.0VDC	8mA	3.3VDC	303mA	3300µF	70%
IW2405SA		8mA	5.0VDC	200mA	3300µF	72%
IW2409SA		8mA	9.0VDC	111mA	470µF	75%
IW2412SA		8mA	12.0VDC	83mA	470µF	75%
IW2415SA		8mA	15.0VDC	67mA	470µF	75%
IW2424SA		8mA	24.0VDC	42mA	220µF	75%
IW4803SA	36.0-72.0VDC	6mA	3.3VDC	303mA	3300µF	66%
IW4805SA		6mA	5.0VDC	200mA	3300µF	68%
IW4809SA		6mA	9.0VDC	111mA	470µF	70%
IW4812SA		6mA	12.0VDC	83mA	470µF	70%
IW4815SA		6mA	15.0VDC	67mA	470µF	70%
IW4824SA		6mA	24.0VDC	42mA	220µF	68%

Notes:

1. For dual inline package replace 'S' in model number with 'D'.
2. For optional 3kV isolation add suffix '-H' to the model number.
3. For dual output delete suffix 'A' & split output current equally between rails.
4. For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5VDC via 1kΩ current limiting resistor and diode turns output off.
5. Output capacitor of 100µF required to meet quoted ripple & noise.
6. Minimum load of 25% required to meet quoted specifications.
7. Operation at no load will not damage the converter but it may not meet all specifications.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	See models and ratings table				
Input reflected ripple current		35		mA pk-pk	12µH inductor, 5Hz to 20MHz
Input reverse voltage protection	None				
Input filter	Capacitor				
Input surge		12		VDC	5VDC models, for 100ms
		24			12VDC models, for 100ms
		40			24VDC models, for 100ms
		80			48VDC models, for 100ms

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Minimum load	0			%	Operation at no load will not damage unit but it may not meet all specifications.
Line regulation			±0.5	%	
Load regulation			±1.0	%	Operation at no load will not damage the converter but it may not meet all specifications.
Setpoint accuracy			±2	%	
Ripple & noise		80		mV pk-pk	20MHz bandwidth, minimum load of 25% required to meet quoted specifications.
Short circuit protection	Continuous with auto recovery (foldback)				
Cross regulation		±5		%	Dual outputs
Temperature coefficient		0.02		%/°C	
Remote on /off	Optional on SIP package model, For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5VDC via 1kΩ current limiting resistor and diode turns output off				

IW series

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models & ratings table				
Isolation voltage		1000		VDC	Optional 3000VDC
Isolation resistance		10^9		Ω	
Isolation capacitance		60		pF	
Switching frequency	100		650	kHz	
Mean time between failure		>1.66		Mhrs	MIL-HDBK-217F, +25°C GB

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+100	°C	Derate from 100% load at +85°C to 0% load at +100°C
Storage temperature	-40		+125	°C	
Case temperature			+100	°C	
Cooling	Convection cooled				

Safety approvals

Certification	Standard	Notes & conditions
UL	UL62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

SIP package
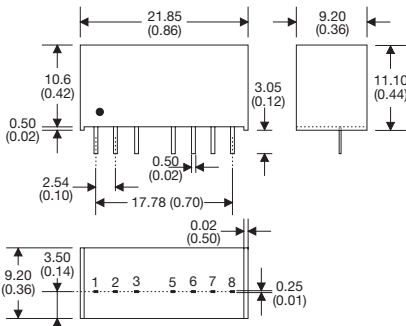
Pin connection		
Pin	Single	Dual
1	-V Input	-V Input
2	+V Input	+V Input
3	Opt. ROF*	Opt. ROF**
5	N.P. / N.C.	N.C.
6	+V Output	+V Output
7	-V Output	-V Output
8	NC	Common

*When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Pin.
**When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Connection.

DIP package
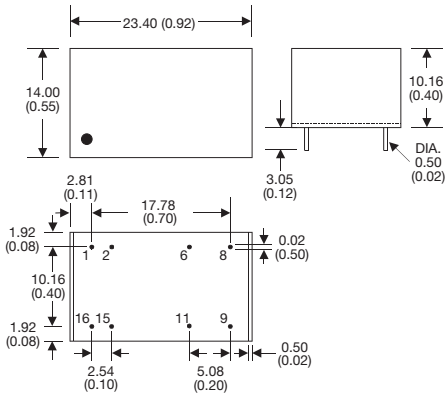
Pin connection		
Pin	Single	Dual
1	-V Input	-V Input
2	-V Input	-V Input
6	NC	Common
8	NC	-V Output
9	+V Output	+V Output
11	-V Output	Common
15	+V Input	+V Input
16	+V Input	+V Input

Notes:

1. Pin pitch tolerance: ±0.35 (±0.014), Case tolerance: ±0.5 (±0.02)

2. Weight: SIP: 4.0g (0.009lbs), DIP: 6.0g (0.013lbs)