IU series

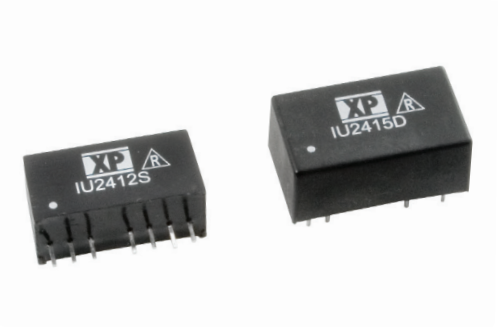
XP Power

2W

DC-DC converters

The IU 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 and dual outputs ±3.3, ±5, ±9, ±12, ±15 or ±24VDC.

The 2W IU series has 1kVDC isolation (optional 3kV) between input and output, continuous 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 +85°C.



Features

- Regulated single & dual outputs
- 2:1 input range
- Single outputs 3.3 to 24VDC
- Dual outputs ±3.3 to ±24VDC
- SIP8 or DIP16 package
- 1.0kVDC isolation, 3.0kVDC option
- Continuous short circuit protection
- Remote On/Off option on SIP8 models
- -40°C to +85°C operating temperature
- 3 year warranty

Applications

Robotics, Instrumentation, Technology, Industrial, Process control

Dimensions

See mechanical details

More resources

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Models & ratings

Model number(1-5)	Input voltage	No load input current	Output voltage(3)	Output current	Efficiency	Maximum capacitive load
IU0503SA	4.5-9.0VDC	15mA	3.3VDC	500mA	67%	3300µF
IU0505SA		15mA	5.0VDC	400mA	70%	3300µF
IU0509SA		30mA	9.0VDC	222mA	72%	470µF
IU0512SA		30mA	12.0VDC	167mA	72%	470µF
IU0515SA		30mA	15.0VDC	133mA	73%	470µF
IU0524SA		60mA	24.0VDC	83mA	75%	220µF

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Notes:

1. For dual inline package replace 'S' in model number with 'D'.
2. For optional 3kVDC 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 1 kΩ 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 load regulation & ripple & noise specifications.
7. Operation at no load will not damage device but may not meet all specifications.

Models & ratings

Model number[1]	Input voltage	No load input current[2]	Output voltage	Output current	Efficiency	Maximum capacitive load
IU1203SA	9.0-18.0VDC	15mA	3.3VDC	500mA	67%	3300µF
IU1205SA		15mA	5.0VDC	400mA	77%	3300µF
IU1209SA		15mA	9.0VDC	222mA	78%	470µF
IU1212SA		15mA	12.0VDC	167mA	80%	470µF
IU1215SA		15mA	15.0VDC	133mA	78%	470µF
IU1224SA		15mA	24.0VDC	83mA	80%	220µF
IU2403SA	18.0-36.0VDC	8mA	3.3VDC	500mA	70%	3300µF
IU2405SA		8mA	5.0VDC	400mA	77%	3300µF
IU2409SA		8mA	9.0VDC	222mA	80%	470µF
IU2412SA		8mA	12.0VDC	167mA	80%	470µF
IU2415SA		8mA	15.0VDC	133mA	80%	470µF
IU2424SA		8mA	24.0VDC	83mA	80%	220µF
IU4803SA	36.0-72.0VDC	6mA	3.3VDC	500mA	71%	3300µF
IU4805SA		6mA	5.0VDC	400mA	74%	3300µF
IU4809SA		6mA	9.0VDC	222mA	78%	470µF
IU4812SA		6mA	12.0VDC	167mA	78%	470µF
IU4815SA		6mA	15.0VDC	133mA	78%	470µF
IU4824SA		6mA	24.0VDC	83mA	80%	220µF

Notes:

1. For dual inline package replace 'S' in model number with 'D'.
2. For optional 3kVDC 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 1 kΩ 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 load regulation & ripple & noise specifications.
7. Operation at no load will not damage device but 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 and 47µF capacitor, 5Hz to 20MHz
Input filter	Capacitor				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Minimum load	0			%	No minimum load required. Operation at no load will not damage device but may not meet all specifications.
Line regulation			±0.5	%	
Load regulation			±1		25-100% load change, Operation at no load will not damage device but may not meet all specifications.
Setpoint accuracy			±2	%	
Ripple & noise		80		mV pk-pk	20MHz bandwidth, minimum load of 25% required to meet load regulation & ripple & noise specifications.
Short circuit protection	Continuous with auto recover (foldback)				
Cross regulation		±5		%	Dual output models.
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 5V via 1kΩ current limiting resistor and diode turns output off.				

IU series

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models & ratings table				
Isolation voltage		1000		VDC	Optional 3000VDC. for optional 3kVDC isolation add suffix '-H' to the model number.
Isolation resistance		10^9		Ω	
Isolation capacitance		60		pF	
Switching frequency	100		650	kHz	
Mean time between failure		>1.61		Mhrs	MIL-HDBK-217F, +25°C GB

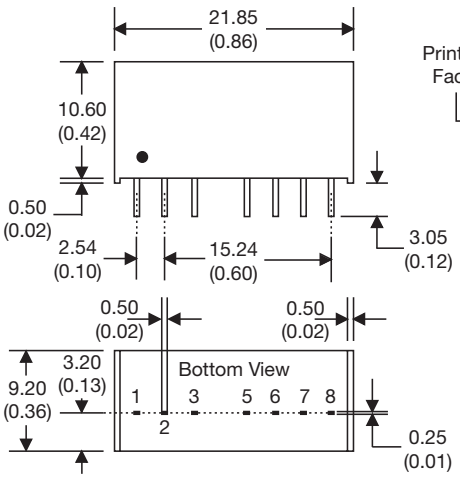
Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+85	°C	
Storage temperature	-40		+125	°C	
Case temperature			+100	°C	
Cooling	Convection cooled				

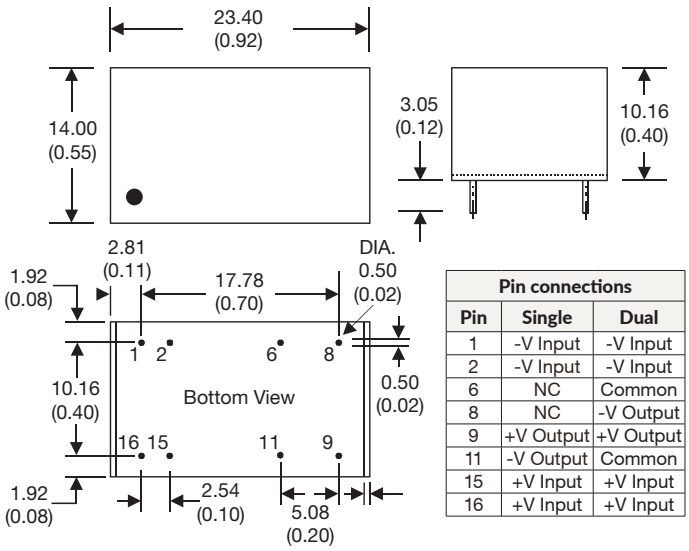
Safety approvals

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

Mechanical details



Pin connections		
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



Pin connections		
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)