

1W Convection cooled

DC-DC converters 

The IV series is housed in a SIP7 or DIP14 plastic case for PCB mounting.

Featuring a $\pm 10\%$ input voltage range for 5, 12 & 24VDC nominal inputs, offering both single and dual outputs, singles have 3.3, 5, 9, 12, 15 & 24VDC with duals having ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 & ± 24 VDC.

The 1W IV provides 3.0kVDC isolation between input and output as standard, with 4 & 6kVDC isolation versions also available as an option.

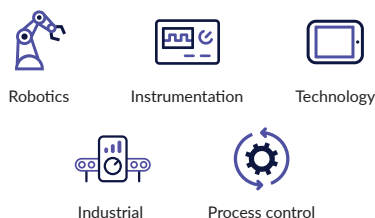
The operating temperature range is from -40°C to $+85^{\circ}\text{C}$, with no derating.



Features

- ▶ Unregulated single outputs
- ▶ $\pm 10\%$ input range
- ▶ Single outputs 3.3 to 24VDC
- ▶ Duals outputs ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 & ± 24 VDC.
- ▶ SIP7 or DIP14 package
- ▶ 3.0kVDC isolation, 4.0 & 6.0kVDC options
- ▶ -40°C to $+85^{\circ}\text{C}$ operating temperature
- ▶ 3 year warranty

Applications



Dimensions

See mechanical details

More resources

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Models & ratings

Model number ^(1,2)	Input voltage	No load input current	Output voltage ⁽³⁾	Output current	Efficiency
IV0303S	5.0VDC	30mA	3.3VDC	300mA	75%
IV0305S		30mA	5.0VDC	200mA	78%
IV0309S		30mA	9.0VDC	112mA	75%
IV0312S		30mA	12.0VDC	84mA	76%
IV0315S		30mA	15.0VDC	66mA	76%
IV0324S		30mA	24.0VDC	42mA	72%

Continued on page 2

Notes:

- For dual output, delete suffix 'A', and split current equally between rails.
- For DIP package, replace 'S' in part number with 'D'.
- Operation at no load will not damage unit but it may not meet all specifications.
- For 4000VDC Isolation, add suffix '-H4'. For 6000VDC Isolation, add suffix '-H6'.
- All dimensions in mm (inches)
- Pin pitch tolerance: ± 0.35 (± 0.014)
- Case tolerance: ± 0.5 (± 0.02)
- Weight: SIP 2.6g (0.006lbs), DIP 2.3g (0.005lbs)

Models & ratings

Model number ^(1,2)	Input voltage	No load input current	Output voltage ⁽³⁾	Output current	EfficiVncy
IV1203S	12.0VDC	20mA	3.3VDC	300mA	72%
IV1205S		20mA	5.0VDC	200mA	75%
IV1209S		20mA	9.0VDC	112mA	77%
IV1212S		20mA	12.0VDC	84mA	80%
IV1215S		20mA	15.0VDC	66mA	78%
IV1224S		20mA	24.0VDC	42mA	78%
IV2403S	24.0VDC	10mA	3.3VDC	300mA	72%
IV2405S		10mA	5.0VDC	200mA	75%
IV2409S		10mA	9.0VDC	112mA	77%
IV2412S		10mA	12.0VDC	84mA	80%
IV2415S		10mA	15.0VDC	66mA	78%
IV2424S		10mA	24.0VDC	42mA	80%

Notes:

1. For dual output, delete suffix 'A', and split current equally between rails

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3. Operation at no load will not damage unit but it may not meet all specifications

4. For 4000VDC Isolation, add suffix '-H4'. For 6000VDC Isolation, add suffix '-H6'
5. All dimensions in mm (inches)

6. Pin pitch tolerance: ±0.35 (±0.014)

7. Case tolerance: ±0.5 (±0.02)

8. Weight: SIP 2.6g (0.006lbs), DIP 2.3g (0.005lbs)

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range		±10		%	Nominal
Input reflected ripple current		20		mA pk-pk	12µH inductor, 5Hz to 20MHz
Input reverse voltage protection	None				
Input filter	Capacitor				

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		1.2/1		%	Δ Vin
Load regulation		±10		%	20-100% load change, 3.3VDC models ±20%, 15VDC model ±8%
Setpoint accuracy		±3		%	
Ripple & noise		75		mV pk-pk	20MHz bandwidth
Temperature coefficient		0.02		%/°C	
Maximum capacitive load		220		µF	Single output
		100			Dual output

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models & ratings table				
Isolation voltage	3000			VDC	For 4000VDC Isolation, add suffix '-H4'. For 6000VDC Isolation, add suffix '-H6'
Isolation resistance		10 ⁹		Ω	
Isolation capacitance		60		pF	
Switching frequency		80		kHz	Variable
Mean time between failVure		>1.1		Mhrs	MIL-HDBK-217F, +25°C GB

Environmental

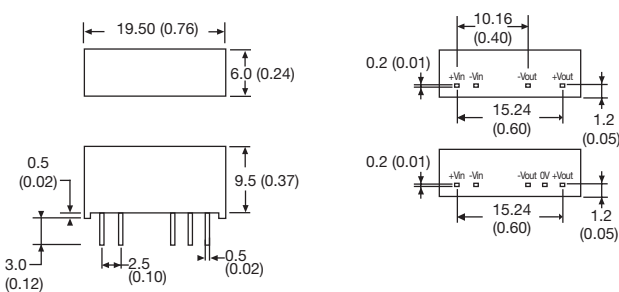
Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+85	°C	
Storage temperature	-40		+125	°C	
Case temperature			+100	°C	
Cooling	Convection cooled				

Safety approvals

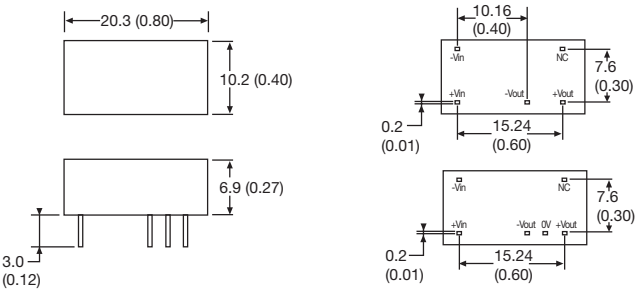
Certification	Standard	Notes & conditions
UL	UL60950-1 & CAN/CSA C22.2 No. 60950-1 UL62368-1 & CAN/CSA C22.2 No. 62368-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details

SIP package



DIP package



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