



**Intronics Power, Inc**  
ISO 9001: 2000

Innovation  
Dedication  
Quality



DC-DC Converters • AC/ DC Converters • CRT Corrections Devices • Isolation Amplifiers  
Function Modules • Custom Power Supplies • Analog Devices • Legacy Products  
[www.intronicspower.com](http://www.intronicspower.com)

# Innovation • Dedication

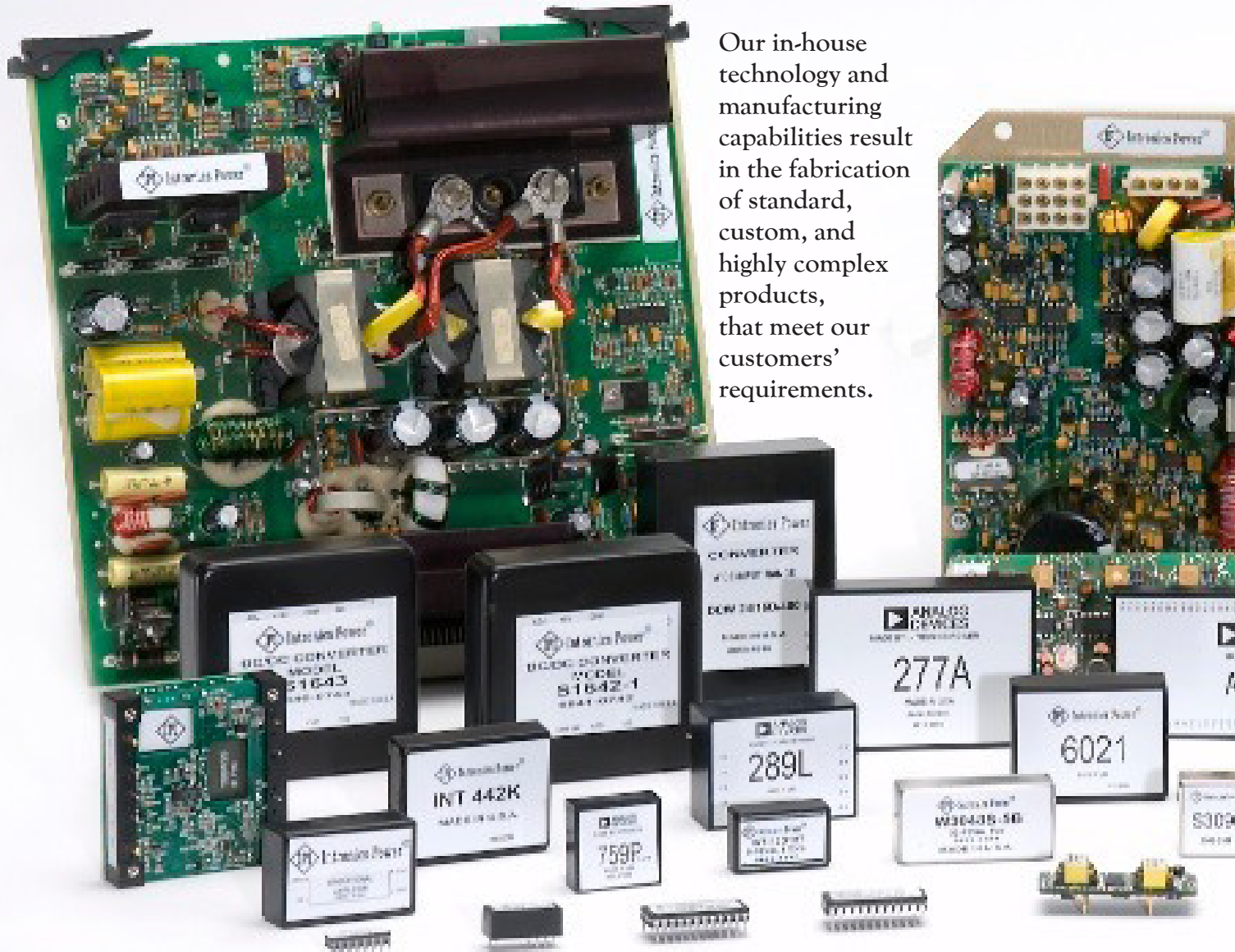
For almost 40 years, delivering products for demanding applications in:  
Computers and communication • Aerospace and defense • electric power

[www.intronics.com](http://www.intronics.com)



**S**ometimes you need a little bit more than just the ordinary off-the-shelf electronic component. Intronics Power, Inc, has the technology you are looking for. Now, you have the opportunity to get exactly what you want, when you want it.

*Our Internet site offers you the 24-hour convenience of online information and complete technical data sheets for your downloading ease. Plus, you can look through our product line and find the right product to meet your specifications.*



Our in-house technology and manufacturing capabilities result in the fabrication of standard, custom, and highly complex products, that meet our customers' requirements.

# Application • Quality

demanding industrial customers around the world  
power utilities • transportation • industrial automation • medical devices

[intronicspower.com](http://www.intronicspower.com)



*From the day we opened our doors almost 40 years ago, our customers have demanded the most exacting specifications, dependability and customization.*

*Today, as an ISO 9001 registered company, Intronics Power, Inc. is in the forefront of supplying hard-to-find and custom-designed power converters, DC/DC and AC/DC converters, analog function modules, CRT correction devices and legacy products. Whether it's one watt or 500 watts, custom specifications or military standards, we stand ready to meet the challenges of today's marketplace.*

***Please visit our Internet site at  
[www.intronicspower.com](http://www.intronicspower.com),  
review our catalog, or call us at  
(781) 551-5500.***

Our specialties are highly specific, custom applications as well as legacy products and the ability to meet industry standard specifications.





**Intronics  
Power®**

C o n v e r t e r s

A m p l i f i e r s

F u n c t i o n M o d u l e s



[www.intronics.com](http://www.intronics.com)

Your  
Search  
Is Over.

# S10 SERIES DC/DC MODULES

## Applications

- Servers, Switches and Data Storage
- Wireless Communications
- Distributed Power Architecture
- Semiconductor Test Equipment
- Networking Gear
- Data Communications
- Telecommunications
- Industrial / Medical

The S10 Family of high efficiency non-isolated DC/DC converters offer power levels of up to 50 Watt, which exceeds that of other industry-standard SIPs with the same package, while also providing ultra-wide input voltage range for 3.3Vin and 5Vin. These converters provide versatility without sacrificing the board space. All models feature an input filter and regulated outputs. The open-frame construction facilitates maximum power delivered with the highest efficiency of up to 94%. All converters combine creative design practices with highly derated power devices to achieve very high reliability, high performance and low cost solution to systems designers.

## PRELIMINARY

### Specifications & Features Summary

- Industry Standard SIP Pinout
- High Efficiency to 94%
- 300KHz Switching Frequency
- 3.3, 5 & 12VDC Input Range
- Over Temperature Protection
- Continuous Short Circuit Protection
- Remote ON/OFF



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	SIZE
				NO LOAD	FULL LOAD		
S10-SS1.2	3.0 - 5.5VDC	1.2 VDC	10 A	60 mA	2824mA	85	SIP
S10-SS1.5	3.0 - 5.5VDC	1.5 VDC	10 A	60 mA	3448mA	87	SIP
S10-SS1.8	3.0 - 5.5VDC	1.8 VDC	10 A	60 mA	4045mA	89	SIP
S10-SS2.5	3.0 - 5.5VDC	2.5 VDC	10 A	70 mA	5435mA	92	SIP
S10-SS3.3	4.5 - 5.5VDC	3.3 VDC	10 A	70 mA	7021mA	94	SIP
S10-12S1.2	10.8 - 13.2VDC	1.2 VDC	10 A	50 mA	1176mA	85	SIP
S10-12S1.5	10.8 - 13.2VDC	1.5 VDC	10 A	50 mA	1453mA	86	SIP
S10-12S1.8	10.8 - 13.2VDC	1.8 VDC	10 A	50 mA	1724mA	87	SIP
S10-12S2.5	10.8 - 13.2VDC	2.5 VDC	10 A	50 mA	2148mA	91	SIP
S10-12S3.3	10.8 - 13.2VDC	3.3 VDC	10 A	60 mA	2957mA	93	SIP
S10-12S5	10.8 - 13.2VDC	5 VDC	10 A	80 mA	4432mA	94	SIP

INPUT SPECIFICATIONS :	
Input Voltage Range:	5V - 3.0 - 5.5V 5V - 4.5 - 5.5V 12V - 10.8 - 13.2V

Positive Logic Remote on/off Control :	
Module ON.....	Open Circuit or <0.4VDC
Module OFF.....	>+2.8VDC to Vin

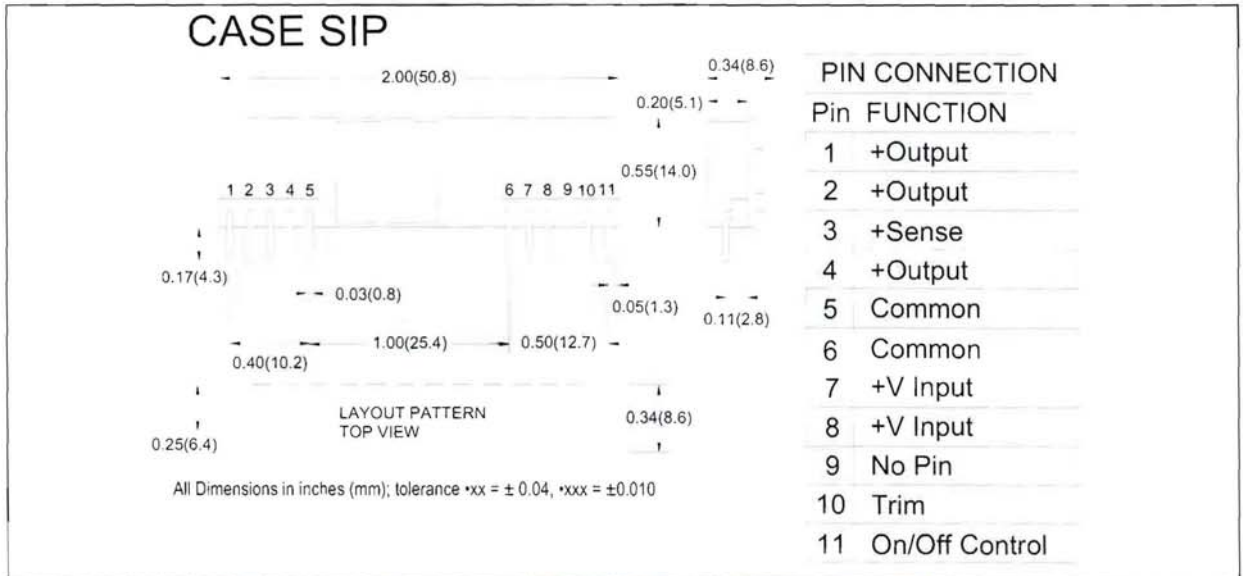
OUTPUT SPECIFICATIONS :	
Voltage Accuracy.....	±1.0% max.
Transient Response :25% Step Load Change.....	<200u sec.
Ripple and Noise, 20MHz BW Note3.....	20mV rms max. 75mV pk-pk max.
Temperature Coefficient.....	±0.03%/C max.
Short Circuit Protection.....	Continuous
Line Regulation, Note1.....	±0.2% max.
Load Regulation, Note2.....	±0.5% max.
External Trim Adj. Range.....	±10%

GENERAL SPECIFICATIONS :	
Efficiency.....	See Table
Isolation Voltage.....	Non-isolation
Operating Ambient Temperature Range.....	-40°C to +71°C
Derating, Above 71°C.....	Linearly to Zero Power at +100°C
Storage Temperature Range.....	-40°C to +120°C
Dimensions.....	2 x 0.55 x 0.34 inches (50.8 x 14.07 x 8.6 mm)
Cass Material.....	Non-potted With Open Frame Type

**NOTE :**  
1. Measured From High Line to Low Line  
2. Measured From Full Load to Zero Load  
3. The output noise is measured with 10uF tantalum capacitor and 1uF ceramic capacitor across output.

Typical at Ta= +25°C under nominal input voltages of 3.3V, 5V and 12VDC, unless noted. The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.

**Consult factory for hundreds of other available input/output voltage configurations.**



Intronics, Inc. 1400 Providence Highway, Building 2, Norwood, MA 02062-5015 • Phone: 1-800-367-0004, 1-781-551-5500 • Fax: 1-781-551-5555 Rev. A

# W7 SERIES DC/DC MODULES

## Applications

- Servers, Switches and Data Storage
- Wireless Communications
- Distributed Power Architecture
- Semiconductor Test Equipment
- Networking Gear
- Data Communications
- Telecommunications
- Industrial / Medical

The W7 Family of high efficiency DC/DC converters offer power levels of up to 7 Watt, which exceeds that of other sub-bricks with the same package, while also providing Surface Mount Processable construction. With a wide input voltage range and single and multi-outputs, these converters provide versatility without sacrificing the board space. All models feature an input filter, continuous short circuit protection and regulated outputs. The fully enclosed, encapsulated construction facilitates maximum power delivered with the highest efficiency of up to 83%. All converters combine creative design practices with highly derated power devices to achieve very high reliability, high performance and low cost solution to systems designers.

## Specifications & Features Summary

- No minimum load required
- Regulated Outputs
- -25°C to +71°C ambient operation
- Continuous Short-circuit protection
- 1500V, 10MΩ input-to-output isolation
- PI Input Filter
- Voltage Accuracy ± 2%
- 2:1 Input Range
- 5-sided metal shield
- 270 – 330KHz Switching Frequency
- Input Undervoltage Lockout
- Output Overvoltage Protection
- Output Current Limiting
- No airflow or heatsink required
- Delivers up to 7.5W in 1"x1.25"x0.45" package with Industry-Standard SMD Pinouts
- THROUGH-HOLE PACKAGES AVAILABLE (add suffix 'T' to the part number)



Model Number	Vin Range	Output		Input Current		Eff (%)	Regulation Line/Load	Startup delay Typ (ms)	Overshoot Typ (%)	Rise time Typ (ms)	Hold Time Typ (us)	Recovery Typ (us)	Dynamic Response	Output Ripple/Noise
		Voltage	Current	No Load	Full Load									
W7-12S5	9-18Vdc	5VDC	1500mA	25mA	801mA	78	±0.2/1.1%	0.4	5	0.2	100	300	2%	50mVp-p
W7-12S12		12VDC	825mA	25mA	762mA	82	±0.2/0.2%	2.2	2	2	100	300	2%	50mVp-p
W7-12S15		15VDC	500mA	25mA	762mA	82	±0.2/0.1%	2.5	2	2.3	100	300	2%	50mVp-p
W7-12D5		±5VDC	±750mA	30mA	791mA	79	±0.2/0.5%	1.7	4	1.5	100	300	2%	60mVp-p
W7-12D12		±12VDC	±310mA	30mA	753mA	83	±0.2/0.1%	5	2	4.5	100	300	2%	60mVp-p
W7-12D15	±15VDC	±250mA	30mA	753mA	83	±0.2/0.1%	10	2	6	100	300	2%	60mVp-p	
W7-12S3.3	18-36Vdc	3.3VDC	1500mA	25mA	557mA	74	±0.2/1.1%	0.5	10	0.4	100	300	2%	50mVp-p
W7-24S5		5VDC	1500mA	20mA	396mA	79	±0.2/1.1%	15	5	0.2	100	300	2%	50mVp-p
W7-24S12		12VDC	625mA	20mA	381mA	82	±0.2/0.2%	20	2	2	100	300	2%	50mVp-p
W7-24S15		15VDC	500mA	20mA	381mA	82	±0.2/0.1%	20	2	2.3	100	300	2%	50mVp-p
W7-24D5		±5VDC	±750mA	25mA	386mA	81	±0.2/0.5%	20	4	1.5	100	300	2%	60mVp-p
W7-24D12	±12VDC	±310mA	25mA	377mA	83	±0.2/0.1%	20	2	4.5	100	300	2%	60mVp-p	
W7-24D15	±15VDC	±250mA	25mA	377mA	83	±0.2/0.1%	25	2	6	100	300	2%	60mVp-p	
W7-24S3.3	36-72Vdc	3.3VDC	1500mA	20mA	271mA	76	±0.2/1.1%	20	10	0.4	100	300	2%	50mVp-p
W7-48S5		5VDC	1500mA	10mA	195mA	60	±0.2/1.1%	15	5	0.2	200	300	2%	50mVp-p
W7-48S12		12VDC	625mA	10mA	190mA	82	±0.2/0.2%	20	2	2	200	300	2%	50mVp-p
W7-48S15		15VDC	500mA	10mA	190mA	82	±0.2/0.1%	20	2	2.3	200	300	2%	50mVp-p
W7-48D5		±5VDC	±750mA	15mA	193mA	81	±0.2/0.5%	20	4	1.5	200	300	2%	60mVp-p
W7-48D12	±12VDC	±310mA	15mA	188mA	83	±0.2/0.1%	20	2	4.5	200	300	2%	60mVp-p	
W7-48D15	±15VDC	±250mA	15mA	188mA	83	±0.2/0.1%	25	2	6	200	300	2%	60mVp-p	
W7-48S3.3	3.3VDC	1500mA	10mA	136mA	76	±0.2/1.1%	20	10	0.4	200	300	2%	50mVp-p	

Typical at Ta = +25 °C under nominal input voltages of 12V, 24V and 48VDC, unless noted. The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.

Consult factory for hundreds of other available input/output voltage configurations.

### Single Output Typical Connection

### Dual Output Typical Connections

### Recommended Land Pattern

### Through-Hole Mechanical Drawing

### Recommended Reflow Profile

### Derating Curve

All Dimensions in inches (mm), tolerance xxx = ± 0.02, xxx = ± 0.010  
Pin size is 0.020" (0.5mm) DIA or 0.020" x 0.014"

Intronics, Inc. 1400 Providence Highway, Building 2, Norwood, MA 02062-5015 • Phone: 1-800-367-0004, 1-781-551-5500 • Fax: 1-781-551-5555 Rev. A

Visit [intronics.com](http://intronics.com) for thousands of additional products!

# W15 & W25 SERIES DC/DC MODULES

## Applications

- Servers, Switches and Data Storage
- Wireless Communications
- Distributed Power Architecture
- Semiconductor Test Equipment
- Networking Gear
- Data Communications
- Telecommunications
- Industrial / Medical

The W15 and W25 Families of high efficiency DC/DC converters offer power levels of up to 15 & 25 Watt, respectively, which exceeds that of other bricks with the same Industry-Standard Pinouts, while providing much smaller footprints. With a wide input voltage range and single and multi-outputs, ranging from 1.5 to 12 Volts, these converters provide versatility without sacrificing the board space. All models feature an input filter, input undervoltage lockout, output current limiting and short circuit protection. The fully enclosed, encapsulated construction aluminum heat spreader design achieves very efficient heat transfer with no hot spots. The use of patented design concepts facilitates maximum power delivered with the highest efficiency of up to 90%. All converters combine creative design practices with highly derated power devices to achieve very high reliability, high performance and low cost solution to systems designers.

## Specifications & Features Summary

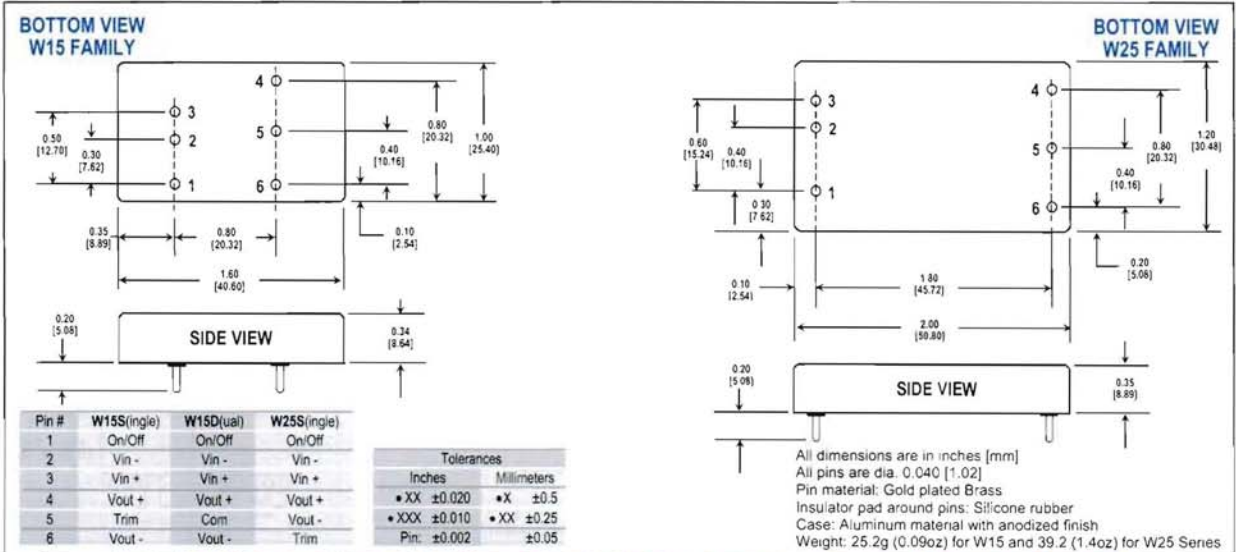
- No minimum load required
- On/Off pin control
- -40°C to +85 °C ambient operation
- Output adjustment +/-10% range
- 1500V, 10M<sub>Ω</sub> input-to-output isolation
- Output overcurrent protection
- Input Under voltage protection
- Synchronous rectification topology
- No airflow or heatsink required
- MTBF of up to 5,000,000 hours @ 50°C (Bellcore)
- Over Temperature & Over Voltage protection (W25 Series)
- Enclosed construction with heat spreader for low temperature rise
- Enclosed six-sided metal shield construction for low EMI/RFI
- Meets Basic Insulation requirements of EN60950
- UL 60950 recognized, TUV EN60950 and CSA C22.2 No. 60950-00 Certified
- Meets conducted limits of FCC Class B and CEI IEC61204-3 Class B with external filter
- Delivers up to 15W in 1"x1.6" format and up to 25W in 1.2" x 2" package with Industry-Standard Pinouts



Model	Input Voltage Range (Vin)	In No Load	I in Full Load	Output Voltage (Vo)	Output Current (Io) A	Eff (Typ) %	Case	Pinout	Regulation Line/Load (%)	Ripple / Noise Typ (mVp-p)	Output Current at 40°C (Amps)			Output Current at 60°C (Amps)			Output Current at 80°C (Amps)		
											Free Air	200 LFM	300 LFM	Free Air	200 LFM	300 LFM	Free Air	200 LFM	300 LFM
W15-48S1.5	36 - 75	0.030	0.250	1.5	8	86	W15	W15S	±0.3 / ±0.5	50	6	6	6	6	6	6	3.7	4.8	5.7
W25-48S1.5	36 - 75	0.030	0.300	1.5	8	86	W25	W25S	±0.3 / ±0.5	50	8	8	8	8	8	8	4.7	6.2	7.8
W15-48S1.8	36 - 75	0.030	0.260	1.8	6	87	W15	W15S	±0.3 / ±0.5	50	6	6	6	6	6	6	2.5	4.2	5.2
W25-48S1.8	36 - 75	0.030	0.350	1.8	8	87	W25	W25S	±0.3 / ±0.5	50	8	8	8	8	8	8	4.2	5.8	6.4
W15-48S2.5	36 - 75	0.027	0.290	2.5	5	87	W15	W15S	±0.3 / ±0.5	50	4.5	4.5	4.5	4.5	4.5	4.5	1.7	2.8	4.1
W25-48S2.5	36 - 75	0.027	0.420	2.5	7	87	W25	W25S	±0.3 / ±0.5	50	7	7	7	6.5	7	7	3.8	4.9	5.8
W15-48S3.3	36 - 75	0.027	0.360	3.3	4.5	88	W15	W15S	±0.3 / ±0.5	50	4.5	4.5	4.5	4.5	4.5	4.5	1.8	2.9	4.1
W25-48S3.3	36 - 75	0.027	0.550	3.3	7	88	W25	W25S	±0.3 / ±0.5	50	7	7	7	5.8	7	7	3.1	4.1	5.5
W15-48S5	36 - 75	0.025	0.350	5	3	90	W15	W15S	±0.3 / ±0.5	50	3	3	3	3	3	3	0.5	0.5	1.7
W25-48S5	36 - 75	0.025	0.580	5	5	90	W25	W25S	±0.3 / ±0.5	50	5	5	5	4.6	5	5	0.3	1.8	3.8
W15-48S12	36 - 75	0.025	0.350	12	1.25	90	W15	W15S	±0.3 / ±0.5	50	1.3	1.3	1.3	1.3	1.3	1.3	0.5	0.5	0.7
W15-48D12	36 - 75	0.025	0.350	±12	±0.625	90	W15	W15D	±0.3 / ±0.5	50	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.4

Typical at Ta= +25 °C under nominal line voltage and 75% load conditions, unless noted. Thermal derating for vertical orientation, Vin=54V. The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.

Consult factory for hundreds of other available input/output voltage configurations.



# Q & H SERIES DC/DC MODULES

## Applications

- Servers, Switches and Data Storage
- Wireless Communications
- Distributed Power Architecture
- Semiconductor Test Equipment
- Networking Gear
- Data Communications
- Telecommunications
- Industrial / Medical

The Q and H Families of high power, high density DC/DC converters offer power levels of up to 150 Watt in Industry-Standard Quarter-brick and Half-brick Pinouts. With a wide input voltage range and outputs, ranging from 1.5 to 24 Volts, these converters provide versatility without sacrificing the board space. All models feature an input filter, input undervoltage lockout, overtemperature protection, output current limiting and short circuit protection. Various packaging techniques offer versatility for multitude of applications and requirements. The use of patented design concepts facilitates maximum power delivered with the highest efficiency of up to 93%. All converters combine creative design practices with highly derated power devices to achieve very high reliability, high performance and low cost solution to systems designers.

## Specifications & Features Summary

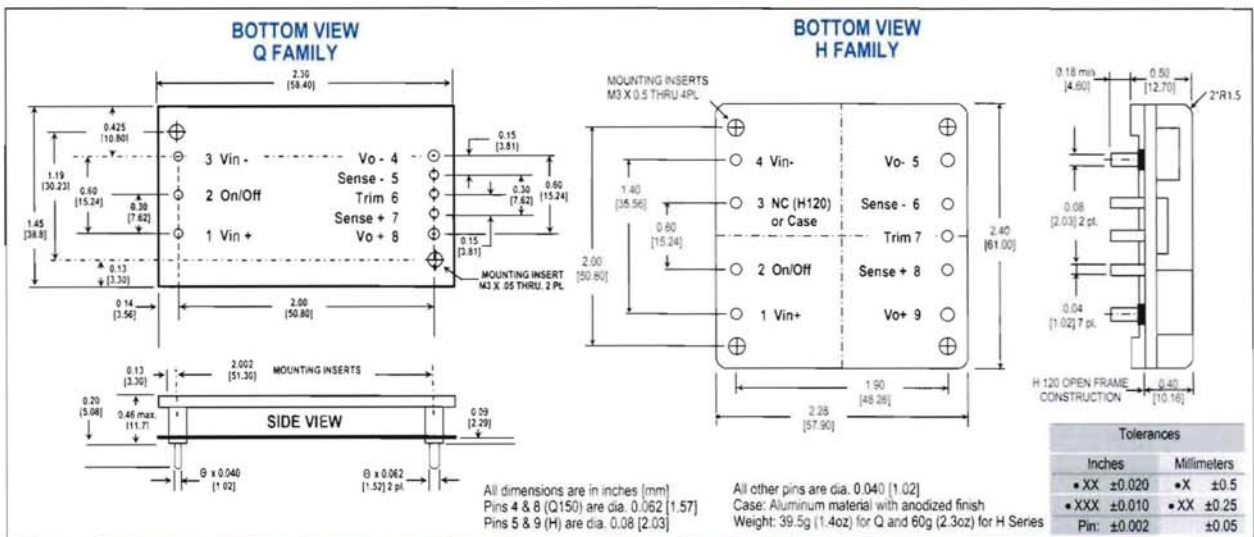
- No minimum load required
- -40°C to +85°C ambient operation
- Output adjustment +/-10% range
- 1500V, 10MΩ input-to-output isolation
- Unique Fiat Transformer Technology
- Complimentary Circuits
- Over Temperature protection
- Output remote sense feature
- Input undervoltage lockout
- Output current limit and short circuit protection
- High power density up to 90W/inch<sup>2</sup>
- MTBF of up to 1,600,000 hours @ 50°C (Bellcore)
- Remote On/Off pin control (Negative Logic available)
- Meets Basic Insulation requirements of EN60950 (Open Frame Q and H Families)
- UL 60950 recognized, TUV EN60950 and CSA C22.2 No. 60950-00 Certified (Approvals Pending)
- Meets conducted limits of FCC Class B and CEI IEC61204-3 Class B with external filter



Approval Pending

Model	Input Voltage Range (Vin)	I in No Load	I in Full Load	Vo (V)	Io (A)	Eff Typ (%)	Case	Pinout	Regulation Line/Load (%)	Ripple/Noise Typ. (mVp-p)
Q150-48S1.5	36 - 75	0.100	1.80	1.5	45	85	Q150	QS	±0.2 / ±0.2	100
Q150-48S1.8	36 - 75	0.100	2.20	1.8	45	86	Q150	QS	±0.1 / ±0.1	100
Q150-48S2.5	36 - 75	0.100	2.80	2.5	40	87	Q150	QS	±0.1 / ±0.1	100
Q150-48S3.3	36 - 75	0.100	3.20	3.3	35	89	Q150	QS	±0.1 / ±0.1	100
Q150-48S5	36 - 75	0.100	4.00	5	30	91	Q150	QS	±0.1 / ±0.1	100
Q150-48S12	36 - 75	0.100	4.10	12	12	93	Q150	QS	±0.1 / ±0.1	100
H75-12S2.5	9 - 18	0.050	4.11	2.5	15.0	76	H	HS	±0.2 / ±0.2	75
H75-12S3.3	9 - 18	0.050	5.29	3.3	15.0	78	H	HS	±0.2 / ±0.2	75
H75-12S5	9 - 18	0.050	7.72	5	15.0	81	H	HS	±0.2 / ±0.2	75
H75-12S12	9 - 18	0.050	7.44	12	6.3	84	H	HS	±0.2 / ±0.2	100
H75-12S15	9 - 18	0.050	7.44	15	5.0	84	H	HS	±0.2 / ±0.2	100
H75-12S24	9 - 18	0.050	7.44	24	3.1	84	H	HS	±0.2 / ±0.2	240
H100-24S2.5	18 - 36	0.050	2.71	2.5	20.0	77	H	HS	±0.2 / ±0.2	50
H100-24S3.3	18 - 36	0.050	3.48	3.3	20.0	79	H	HS	±0.2 / ±0.2	50
H100-24S5	18 - 36	0.050	5.02	5	20.0	83	H	HS	±0.2 / ±0.2	50
H100-24S12	18 - 36	0.050	4.88	12	8.3	85	H	HS	±0.2 / ±0.2	100
H100-24S15	18 - 36	0.050	4.93	15	6.7	85	H	HS	±0.2 / ±0.2	100
H100-24S24	18 - 36	0.050	4.91	24	4.2	85	H	HS	±0.2 / ±0.2	100
H120-48S1.5	36 - 75	0.100	1.10	1.5	30.0	85	H120	HS	±1.0 / ±1.0	100
H120-48S1.8	36 - 75	0.100	1.30	1.8	30.0	86	H120	HS	±1.0 / ±1.0	100
H120-48S2.5	36 - 75	0.100	1.80	2.5	30.0	87	H120	HS	±1.0 / ±1.0	100
H120-48S3.3	36 - 75	0.100	3.10	3.3	40.0	87	H120	HS	±1.0 / ±1.0	100
H120-48S5	36 - 75	0.100	2.30	5	20.0	90	H120	HS	±1.0 / ±1.0	100
H120-48S12	36 - 75	0.100	2.20	12	10.0	92	H120	HS	±1.0 / ±1.0	100

NOTE: ADD SUFFIX "N" FOR NEGATIVE LOGIC VERSIONS. Typical at Ta = +25°C under nominal line voltage and 75% load conditions, unless noted. The information contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to specification sheet for performance characteristics and application guidelines.



Intronics, Inc. 1400 Providence Highway, Building 2, Norwood, MA 02062-5015 • Phone: 1-800-367-0004, 1-781-551-5500 • Fax: 1-781-551-5555 Rev. C



## Medical & Industrial Isolation Amplifiers

Isolated Power Output • Low Noise • UL Recognition • Synchronization  
 Wide Bandwidth • Programmable Gain

### IA175 Ultra-Linear Isolation Amplifier With External Sync Capability

- Fully compatible with 12-bit acquisition systems
- UL component recognized
- High linearity: 0.005% peak, typical
- High input/output isolation: 5000 VDC continuous, 3000 VAC RMS
- 1000:1 programmable gain
- Input voltage noise: 1uV RMS, 10Hz-1KHz
- 126 dB CMRR
- Low drift:  $\pm 0.01\%/^{\circ}\text{C}$  maximum
- Common mode input voltage: 5000 VDC
- Isolated power:  $\pm 14\text{VDC}$ ,  $\pm 15\text{mA}$
- Case Dimensions: 3.5 x 2.5 x .62"

### IA184 Low-Cost, High Linearity Isolation Amplifier With External Sync Capability

- Fully compatible with 10-bit acquisition systems
- UL component recognized
- Provision for external synchronization
- High linearity: 0.025% peak, typical
- Input/output isolation: 2500 VDC or VAC, continuous
- 1000:1 programmable gain
- Input voltage noise: 1uV RMS, 10Hz-1KHz
- 126 dB CMRR
- Isolated power:  $\pm 15\text{VDC}$ ,  $\pm 15\text{mA}$
- Case Dimensions: 1.5 x 1.5 x .62"

### IA284 Low Cost, High Linearity Isolation Amplifier

- Fully compatible with 10-bit acquisition systems
- UL component recognized
- High linearity: 0.025% peak, typical
- Input/output isolation: 2500 VDC or VAC continuous
- 10:1 programmable gain
- 100:1 programmable gain (optional)
- Input voltage noise: 10uV RMS, 10Hz-1KHz
- 126 dB CMRR
- Isolated power:  $\pm 15\text{VDC}$ ,  $\pm 15\text{mA}$
- Case Dimensions: 1.5 x 1.5 x .62"

### \* IA296/297 Ultra Low Noise True Instrumentation Medical Isolation Amplifier

- UL component recognized
- Provision for external synchronization
- High linearity: 0.1% peak, typical
- High input/output isolation: 5000 VDC continuous
- 10:1 fixed gain
- Input voltage noise:  $< 3\text{uV RMS}$ , 10Hz-1KHz
- 170 dB CMRR
- Failure of any internal component results in  $< 10\text{uA}$  bias current
- Isolated power:  $\pm 12\text{VDC}$ ,  $\pm 10\text{mA}$
- Case Dimensions: 3.5 x 2.5 x .62"
- \* IA296 Bandwidth 1KHz
- \* IA297 Bandwidth 10KHz



### IA294 Medical Isolation Amplifier

- Low noise, with active input reference and shield drives
- UL component recognized
- Provision for external synchronization
- High linearity: 0.1% peak, typical
- High input/output isolation: 5000 VDC continuous
- 10:1 fixed gain
- Input voltage noise: 5uV RMS, 10Hz-1KHz
- True instrumentation front-end
- Active shield drives
- Differential input protection for defibrillators: 6500 VDC
- Isolated power:  $\pm 15\text{VDC}$ ,  $\pm 15\text{mA}$
- Case Dimensions: 3.0 x 2.0 x .62"

## C 300 / 400 Series – Monolithic Wideband CRT Distortion Correction Device

### Features

- 16-pin ceramic dip (C300 series)
- 24-pin ceramic dip (C400 series)
- Minimum of external components required
- Easily adjusts for yoke errors
- Accuracy better than 0.1% max
- Bandwidth compatible with 10MHz systems
- Both geometry and focus available
- MIL 883 available
- Low cost



### Description

The Intronics C300/400 series are monolithic devices that accurately correct for geometric or focus distortion in CRT displays. The C300 (16-pin DIP) series provides wideband, accurate full face geometry or focus connection with few external components. These units connect between the horizontal and vertical inputs and their deflection amplifiers. Simple external adjustments provide for correction magnitude, horizontal/vertical keystone curvature symmetry. The C400 series (24-pin DIP) is a full Mil temp range,  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  device.

The principle of operation is based on circuitry which smoothly synthesizes a correction function that closely approximates the exact mathematical correction function.

See our internet site for complete details on specifications, transfer function, and mechanical dimensions.

### Applications (for vector displays only)

- Military displays  
 HUDS ATC  
 HDDS PPI
- Simulators  
 Beam penetration  
 Shadow mask
- Phototypesetting equipment
- Computer output microfilm displays
- Computer driver graphic displays
- Medical monitors
- CAD displays
- TV cameras and projection systems

## ANALOG FUNCTION MODULES

### Applications

- Medical Equipment - EEG, EKG, ECG, ENC
- Instrumentation
- Data Acquisition
- Industrial Process Controls

*These and other products are manufactured by Intronics under exclusive agreement with Analog Devices, Incorporated.*



### Amplifiers

The isolation amplifiers listed below are currently manufactured with the identical high-performance levels and wide bandwidth as when they were manufactured by Analog Devices. The operational amplifiers and log/antilog or log/ratio amplifiers, as well as the other listed parts, are now exclusively manufactured by Intronics to the exact Analog Devices specifications. Consult factory for associated accessories.

Type	Description
277 A/J/K	High CMV/CMR isolation Amp
284J	High-Performance, self-contained isolation Amp
286J	High CMV, High-performance, synchronized isolation Amp
289J/K/L	Precision, wide-bandwidth, synchronized isolation Amp
290A/292A	Multichannel isolation Amp
310J	Operational amplifier
755N	Log/antilog amplifier
755P	Log/antilog amplifier
757N	Log/antilog amplifier
757P	Log/antilog amplifier
759N	Log/antilog amplifier
759P	Log/antilog amplifier

### Data Converters

Converters, in addition to the amplifiers, conditioners, and sockets, contain the same manufacturing components and documentation as when they were manufactured by Analog Devices. Operating voltages, linearity, etc., are also identical. Consult factory for associated accessories.

2B20A/B	4-20mA voltage-to-current converter
2B22J/K/L	Isolated voltage-to-current converter
2B23J/K	Isolated voltage-to-current converter
451J/K/L	Frequency-to-voltage converter 10KHz
453J/K	Frequency-to-voltage converter 100KHz
460J	Voltage-to-frequency converter
ADC1130/1131	14 Bit A/D converter
ADC1140	16 Bit A/D converter
DAC1136/K	16 Bit D/A converter
DAC1146	18 Bit D/A converter
DAS1152/1153	14-15 Bit sampling, A/D converter
DAS1158/1159	16 Bit A/D converter

### Conditioners

2B31J/K/L	Strain gage/RTD conditioner
2B34J	Strain gage/RTD conditioner
2B50A	Isolated $T_c$ conditioner
2B54A/B	4-channel $T_c$ /mV conditioner
2B55A	4-channel $T_c$ /mV conditioner
2B56A	$T_c$ cold junction compensator

### Loop-Powered Isolator

2B24A/B	High accuracy/low cost
---------	------------------------

### Temperature Transmitters

2B52/2B53	2-wire thermocouple
2B58/2B59	Linearized RTD
2B57A-1	2-wire, low cost

### Real Time Interface Cards

RTI 1225/1226	Low-cost, std bus I/O
RTI 1260/1262	High performance std bus I/O
RTI 1280/1281 1282	CMOS std bus I/O

### Panel Meter

AD2026	Type AD2026-111 panel meter
--------	-----------------------------

---

**Innovation**

---

**Dedication**

---

**Quality**

---



**Intronics Power, Inc**  
*ISO 9001: 2000*

1400 Providence Highway, Building 2  
Norwood, Massachusetts 02062

Tel: (781) 551-5500 • Fax: (781) 551-5555 • Toll Free: (800) 367-0004

DC-DC Converters • AC/ DC Converters • CRT Corrections Devices • Isolation Amplifiers  
Function Modules • Custom Power Supplies • Analog Devices • Legacy Products

**[www.intronicspower.com](http://www.intronicspower.com)**