



Embedded **POWER**

*AC-DC and DC-DC
Power Conversion Solutions*



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Artesyn Embedded Technologies is a global leader in the design and manufacture of highly reliable power conversion solutions for a wide range of industries including communications, computing, medical, aerospace and industrial automation.



Artesyn is one of the world's largest and most successful power supply companies and embraces the well-known Astec brand. The company's extensive standard ac-dc product portfolio covers a power range of 3 watts to 5 kilowatts and includes open-frame and enclosed models, highly configurable modular power supplies, rack-mounting bulk front end units, DIN rail power supplies, external power adapters and power supplies for LED lighting. Many of these products are available in medically approved versions and a large number of the higher power models feature extensive built-in intelligence.

Widely acknowledged as an industry leader in distributed power applications, Artesyn produces an exceptionally wide range of dc-dc power conversion products. These include isolated dc-dc converters, covering industry-standard sixteenth- to full-brick form factors and power ratings from 6 watts to 800 watts, and three application-optimized families of non-isolated dc-dc converters. The company also produces non-isolated memory power and voltage regulator modules (VRMs) for processors.

For more than 40 years, customers have trusted Artesyn to help them accelerate time-to-market and shift development efforts to the deployment of new, value-add features and services that build market share.

Local Support

Our regional sales offices are ready to provide expert local applications and sales support. In addition, an extensive network of manufacturers' representatives and distributors bring our products to you. Please call for locations of sales offices near you or visit our website at Artesyn.com/power.

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Embedded Power Selector Guide





For more information and a complete overview of Embedded Power products and services go to www.Artesyn.com/power



Accelerate, Improve and Enhance the Capabilities of Your Next System Design

A History of Innovation

At Artesyn Embedded Technologies, our engineers have been designing and developing power supply products for over 40 years. Our products have helped pave the way for advancements in numerous applications in the communications, industrial, computing, data storage and healthcare markets.

When developing products, time is money. Every step in the process that you can eliminate, speed up, or make more effective accelerates your time-to-market and lowers your R&D costs. Major advantages of partnering with Artesyn include:

- Broadest power supply product lines
- Highly versatile power supplies
- Modified standards and value-add services
- Low energy consumption
- Eco-friendly products
- Space-efficient power
- Reliability & quality
- Worldwide distributor network
- Vast knowledge, experience & expertise

Power for the Next Generation

Many of our products incorporate powerful programming, monitoring and self-testing software providing system engineers with critical data to manage power consumption. High efficiency, green design and manufacturing technologies, and innovative demand and supply replenishment systems collectively deliver key business efficiencies and new design capabilities.

Artesyn can help take your new product design or redevelopment efforts to the next level with a shorter time-to-profit, higher reliability and greater scalability. Artesyn benefits include:

- **Shorter Time-to-Market** – our latest programmable power solutions and our modular, medium/high power μ MP and iMP series provide you with shorter time-to-market and offer faster test and qualification than traditional analog power solutions. Our modified standards and value-add services also provide turn-key solutions for the best application match to help accelerate time-to-market without compromising quality.
- **Higher Reliability** – moving from inflexible fixed-output analog power supplies to programmable power solutions enables our engineers to more extensively test and document our products to ensure they meet or exceed your reliability requirements. And we provide a wide range of on-line environmental, EMC compliance and safety certification to help speed your product design process.
- **Greater Scalability** – many of our latest power solutions are scalable, programmable and plug-compatible with our earlier-generation products, enabling you to quickly address changes or enhancements to your systems. You can now satisfy most changes in power requirements simply by reprogramming the power supply – and if your needs change radically, you can easily swap to a more capable solution. This inherent scalability eliminates redesign costs, reduces testing time and provides you with greater design flexibility.

Artesyn utilizes the following design methodologies and techniques to ensure that our power supplies meet the rigorous quality and reliability requirements of the communications, industrial, computing, data storage and healthcare markets.

Power Supply Design Controls

Reliability Models and Predictions

- A prediction of design reliability in terms of Mean Time Between Failures (MTBF) using Telecordia, Bellcore or MIL-HDBK-217F
- Not intended as a measure of expected field performance, but for design trade-off analysis and review of part stress derating performance

Failure Modes and Effect Analysis

- An analytical technique to identify and review failure modes, their causes, mechanisms and effects
- Provides a formal risk assessment to reduce field failures at the customer site

Component Selection

- Database warehouse of all component information
- Design engineers can only select components rigorously approved from suppliers that have undergone strict qualification and auditing process

Derating Analysis

- Intended to reduce the failure rate of components

Design for Manufacturability

- Design rules regarding manufacturability

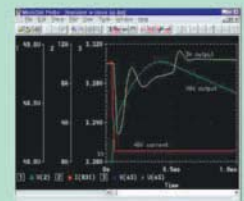
Simulation Analysis – Computer-Aided Engineering Tools

- Thermal Simulation
- Circuit Simulation
- EMI Field Simulation
- Detailed Mechanical Design
- PCB Layout and Tracking
- Structural Simulation

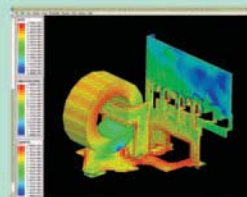
Artesyn Computer-Aided Engineering Tools



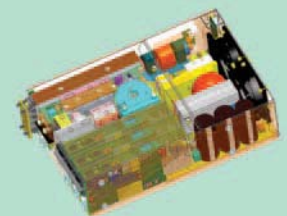
Thermal Simulation



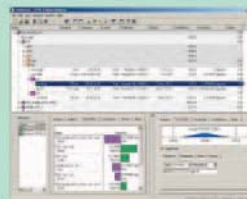
Circuit Simulation



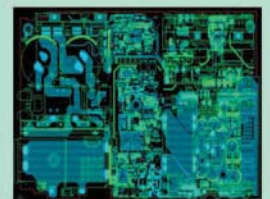
EMI Field Simulation



Detailed Mechanical Design



PCB Layout and Tracking



Structural Simulation

For additional information go to
www.Artesyn.com/power

AC-DC Power Supplies

Artesyn Embedded Technologies is widely acknowledged as an industry leader and produces an exceptionally wide range of AC-DC power conversion products.



Low Power

Open frame/enclosed 1-4 outputs

20-500 Watts

Special Features

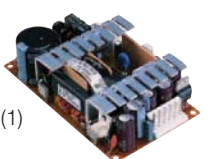
All models feature:

- Industry standard footprints
- Wide-range AC input
- Full power to 50 °C
- High demonstrated MTBF
- Overvoltage protection
- Overload protection
- Built-in EMI filtering
- Extensive safety approvals
- Derated operation to 70 °C

Many models feature:

- EN61000-3-2 compliance
- Supervisory outputs (5 V/12 V)
- Wide-adjust floating 4th output
- Single wire current share
- Medical approvals
- Remote sense
- Adjustable outputs
- Power fail
- Wide-adjust on single output models
- Derated operation to 80 °C



Output Power		Output				Size W x L x H (mm)	Model	
[Forced Air]	Free Air	V1	V2	V3	V4			
[40 W]  (1)	25 W	LP20 Series						
		5 V @ 5 A [8 A]*				3" x 5" x 1.2"		LPS22
		12 V @ 2.1 A [3.3 A]*				(76.2 x 127 x 30.5)		LPS23
		15 V @ 1.7 A [2.7]*						LPS24
		24 V @ 1.1 A [1.8 A]*						LPS25
		5 V @ 3 A [4 A]		12 V @ 1.5 A [2 A]	-12 V @ 0.5 A [0.7 A]		LPT22	
		5 V @ 4 A [5 A]		12 V @ 0.5 A [0.7 A]	-12 V @ 0.5 A [0.7 A]		LPT23	
		5 V @ 3 A [4 A]		12 V @ 1.5 A [2 A]	-5 V @ 0.5 A [0.7 A]		LPT24	
		5 V @ 3 A [4 A]		15 V @ 1.5 A [2 A]	-15 V @ 0.5 A [0.7 A]		LPT25	
[40 W]  (1)	25 W	NPS20-M Series						
		5 V @ 5 A [8 A]*				2" x 4" x 1"		NPS22-M
		12 V @ 2.1 A [3.3 A]*				(50.8 x 101.6 x 25.4)		NPS23-M
		15 V @ 1.7 A [2.7 A]*						NPS24-M
		24 V @ 1 A [1.8 A]*						NPS25-M
		48 V @ 0.5 A [0.84 A]*						NPS28-M
[47 W]  (1)	Enclosed	LCT43-E						
		5 V @ 4 A [7 A]		12 V @ 1 A [1.2 A]	-12 V @ 0.5 A [0.5 A]		3.2" x 6.2" x 1.5" (81.3 x 157.5 x 38.1)	LCT43-E
[50 W]  (1)	40 W	NLP40 Series						
		3.3 V @ 9 A*				2.5" x 4.25" x 1.15"		NLP40-76S3J
		12 V @ 4 A*				(63.5 x 108 x 29.2)		NLP40-7612J
		5 V @ 9 A*						NLP40-7605J
		12 V @ 4 A*						NLP40-7612J
		15 V @ 3.3 A*						NLP40-7615J
		24 V @ 2 A*						NLP40-7624J
		48 V @ 1 A*						NLP40-7617J
		5 V @ 4.5 A		12 V @ 3 A				NLP40-7629J
		12 V @ 2.1 A		-12 V @ 2.1 A				NLP40-7627J
		3.3 V @ 4.5 A		12 V @ 3 A		-12 V @ 0.5 A		NLP40-76T366J
		5 V @ 4.5 A		12 V @ 3 A		-12 V @ 0.5 A		NLP40-7608J
		5 V @ 4.5 A		15 V @ 2 A		-15 V @ 0.5 A		NLP40-7610J

Options:

[] Rating with 30 CFM of air

(1) Optional cover/enclosure

* Floating output

Output Power		Output				Size W x L x H (mm)	Model
[Forced Air]	Free Air	V1	V2	V3	V4		
[55 W]	40 W	LP40 Series					
 (1)		3.3 V @ 8 A [11 A]*				3" x 5" x 1.2"	LPS41
		5 V @ 8 A [11 A]*				(76.2 x 127 x 30.5)	LPS42
		12 V @ 3.3 A [4.5 A]*					LPS43
		15 V @ 2.6 A [3.6 A]*					LPS44
		24 V @ 1.6 A [2.3 A]*					LPS45
		48 V @ 0.9 A [1.2 A]*					LPS48
		3.3 V @ 4 A [7 A]	5 V @ 1.5 A [2 A]	+12 V @ 0.5 A [0.7 A]			LPT41
		5 V @ 4 A [5 A]	12 V @ 2 A [2.5 A]	-12 V @ 0.5 A [0.7 A]			LPT42
		5 V @ 6 A [8 A]	12 V @ 0.5 A [0.7 A]	-12 V @ 0.5 A [0.7 A]			LPT43
		5 V @ 4 A [5 A]	12 V @ 2 A [2.5 A]	-5 V @ 0.5 A [0.7 A]			LPT44
		5 V @ 4 A [5 A]	15 V @ 2 A [2.5 A]	-15 V @ 0.5 A [0.7 A]			LPT45
		5 V @ 4 A [5 A]	24 V @ 1 A [1.5 A]	+12 V @ 0.5 A [0.7 A]			LPT46
		5 V @ 4 A [5 A]	24 V @ 1 A [1.5 A]	-12 V @ 0.5 A [0.7 A]			LPT47
	[55 W]	45 W	NPT40-M Series				
 (1)		5 V @ 5 A [8 A]	12 V @ 2.5 A [3 A]	-12 V @ 0.5 A [0.7 A]		2" x 4" x 1"	NPT42-M
		5 V @ 5 A [8 A]	15 V @ 2 A [2.4 A]	-15 V @ 0.5 A [0.7 A]		(50.8 x101.6 x 25.4)	NPT43-M
		5 V @ 5 A [8 A]	24 V @ 1 A [1.5 A]	12 V @ 0.5 A [0.7 A]			NPT44-M
[60 W]	45 W	NPS40-M Series					
 (1)		5 V @ 8 A [11 A]*				2" x 4" x 1"	NPS42-M
		12 V @ 3.75 A [5 A]*				(50.8 x101.6 x 25.4)	NPS43-M
		15 V @ 3 A [4 A]*					NPS44-M
		24 V @ 1.9 A [2.5 A]*					NPS45-M
		48 V @ 0.94 A [1.25 A]*					NPS48-M
[55 W]	55 W	LP50 Series					
 (1)		3.3 V @ 8 A	5 V @ 3 A	12 V @ 0.5 A		2" x 4" x 1.3"	LPT51
		5 V @ 8 A	12 V @ 3 A	-12 V @ 0.5 A		(50.8 x 101.6 x 33)	LPT52
		5 V @ 8 A	15 V @ 2.4 A	-15 V @ 0.5 A			LPT53
		5 V @ 8 A	24 V @ 1.5 A	12 V @ 0.5 A			LPT54
[60 W]	60 W	5 V @ 11 A*					LPS52
 (1)		5 V @ 11 A*					LPS52 (-I)
		12 V @ 5 A*					LPS53
		12 V @ 5 A*					LPS53 (-I)
		15 V @ 4 A*					LPS54
		24 V @ 2.5 A*					LPS55
		48 V @ 1.25 A*					LPS58
[60 W]	60 W	NPS60-M Series					
 (1)		5 V @ 11 A*				2" x 4" x 1"	NPS62-M
		12 V @ 5 A*				(50.8 x 101.6 x 25.4)	NPS63-M
		15 V @ 4 A*					NPS64-M
		24 V @ 2.5 A*					NPS65-M

Options:

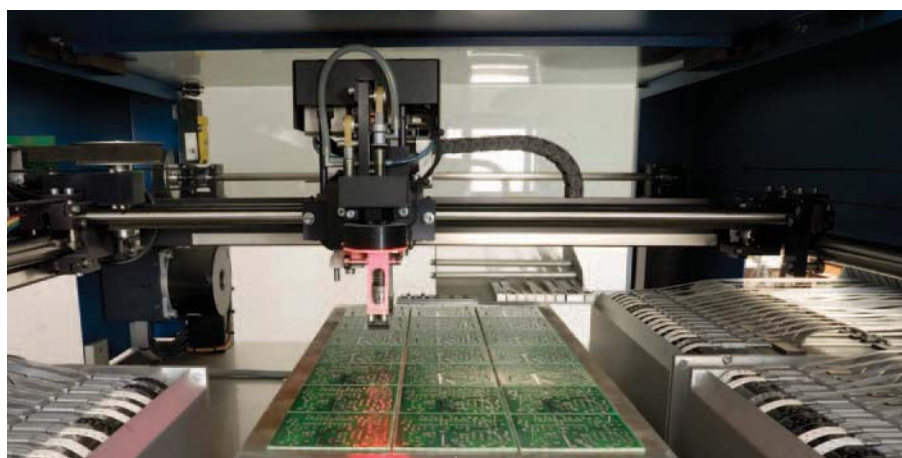
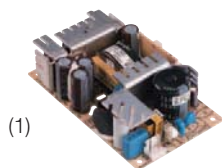
[] Rating with 30 CFM of air

(1) Optional cover/enclosure

* Floating output

(-I) Industrial version -40 °C up to 80 °C (derated)

Output Power		Output				Size W x L x H (mm)	Model
[Forced Air]	Free Air	V1	V2	V3	V4		
[75 W]	65 W	NLP65 Series					
 (1)		5 V @ 12 A*				3" x 5" x 1.26"	NLP65-7605J
		5 V @ 12 A*				(76.2 x 127 x 32)	NLP65-9605J ^{(5)(G)}
		12 V @ 6.5 A*					NLP65-7612J ^(G)
		12 V @ 6.5 A*					NLP65-9612J ^{(5)(G)}
		24 V @ 3.5 A*					NLP65-7624J ^(G)
		24 V @ 3.5 A*					NLP65-9624J ^{(5)(G)}
		5 V @ 8 A	12 V @ 3 A				NLP65-7629J
		5 V @ 8 A	12 V @ 3 A				NLP65-9629J ^{(5)(G)}
		5 V @ 8 A	24 V @ 2 A	+12 V @ 1.0 A			NLP65-3322J
		5 V @ 8 A	12 V @ 3 A	-12 V @ 0.8 A			NLP65-7608J ^(G)
		5 V @ 8 A	12 V @ 3 A	-12 V @ 0.8 A			NLP65-9608J ^{(5)(E, G)}
		5 V @ 8 A	15 V @ 2.5 A	-15 V @ 0.8 A			NLP65-7610GJ
		5 V @ 8 A	15 V @ 2.5 A	-15 V @ 0.8 A			NLP65-9610J ^{(5)(G)}
		5 V @ 8 A	24 V @ 2 A				NLP65-7620J
		5 V @ 8 A	24 V @ 2 A				NLP65-9620J ^{(5)(G)}
	[80 W]	60 W	LP60 Series				
 (1)		3.3 V @ 12 A [16 A]*				3" x 5" x 1.65"	LPS61
		5 V @ 12 A [16 A]*				(76.2 x 127 x 41.9)	LPS62
		12 V @ 5 A [6.7 A]*					LPS63
		15 V @ 4 A [5.3 A]*					LPS64
		24 V @ 2.5 A [3.3 A]*					LPS65
		48 V @ 1.3 A [1.7 A]*					LPS68
		3.3 V @ 5 A [8.5 A]	5 V @ 2.5 A [3 A]	+12 V @ 0.5 A [1 A]			LPT61
		5 V @ 7 A [8 A]	12 V @ 3 A [3.5 A]	-12 V @ 0.7 A [1 A]			LPT62
		5 V @ 7 A [8 A]	15 V @ 2.8 A [3.3 A]	-15 V @ 0.7 A [1 A]			LPT63
		5 V @ 7 A [8 A]	12 V @ 3 A [3.5 A]	-5 V @ 0.7 A [1 A]			LPT64
		5 V @ 7 A [8 A]	24 V @ 1.5 A [2 A]	+12 V @ 0.7 A [1 A]			LPT65



Options:

- (E) To order an enclosed version of the NLP65-9608J, add suffix 'EJ' to the end of the model number, e.g., NLP65-9608EJ. The enclosed version includes: IEC connector, on/off switch, wire harness output connector and fitted cover.
- (G) A safety earth ground pin and ground choke are available as an option. To order, please add the suffix 'GJ' to the end of the model number e.g. NLP65-9612GJ.

[] Rating with 30 CFM of air

(1) Optional cover/enclosure

* Floating output

(5) These modules feature harmonic current correction to EN61000-3-2

Output Power		Output				Size W x L x H (mm)	Model
[Forced Air]	Free Air	V1	V2	V3	V4		
[130 W]  (1)	80 W	LPT100-M Series				2" x 4" x 1.28" (50.8 x 101.6 x 32.7)	
		3.3 V @ 13 A [18 A]	5 V @ 5 A [9 A]	12 V @ 1 A [2.3 A]			
		5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	-12 V @ 1 A [2 A]			
		5 V @ 13 A [18 A]	15 V @ 4 A [7.2 A]	-15 V @ 1 A [1.5 A]			
		5 V @ 13 A [18 A]	24 V @ 1.5 A [3 A]	12 V @ 1 A [2.3 A]			
[145 W]  (1)	80 W	LP140 Series				4" x 7" x 1.5" (101.6 x 177.8 x 38.1)	LPQ142
		5 V @ 12 A [25 A] (3.3-5 V)	12 V @ 5 A [6 A]	-12 V @ 1 A [1.5 A] (-12-15 V)	±3.3-25 V @ 1.5 A [4.5 A]*		
[150 W]  (1)	100 W	TLP150 Series				3" x 5" x 1.25" (76.2 x 127 x 31.75)	
		12 V @ 12.5 A*					
		24 V @ 6.3 A*					
		36 V @ 4.2 A*					
		48 V @ 3.2 A*					
[150 W]  (1)	100 W	LPS100-M Series				2" x 4" x 1.29" (50.8 x 101.6 x 33)	
		5 V @ 16 A [24 A]*					
		12 V @ 8.3 A [12.5 A]*					
		15 V @ 6.7 A [10 A]*					
		24 V @ 4.2 A [6.3 A]*					
		48 V @ 2.1 A [3.1 A]*					
		54 V @ 1.85 A [2.8 A]*					
[175 W]  (1)	110 W	LP170 Series				4.25" x 8.5" x 1.5" (108 x 215.9 x 38.1)	
		5 V @ 22 A [35 A]* (2.5-6 V)					
		12 V @ 9.1 A [15 A]* (6-12 V)					
		15 V @ 7.3 A [12 A]* (12-24 V)					
		24 V @ 4.5 A [7.5 A]* (24-54 V)					
		5 V @ 15 A [30 A] (3.3-5.5 V)	12 V @ 6 A [8 A]	-12 V @ 0.2 A [3 A] (-12-15 V)	±3.3-25 V @ 2 A [5 A]*		
		5 V @ 10 A [24 A] (3.3-5.5 V)	12 V @ 6 A [8 A]	-12 V @ 1.2 A [3 A] (-12-15 V)	5 V @ 10 A [24 A]* (3.3-5 V)		
[200 W]  (1)	100 W	LPQ200-M Series				3" x 5" x 1.32" (76.2 x 127 x 33.6)	
		3.3 V @ 13 A [18 A]	5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	-12 V @ 1 A [2 A]		
		5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	24 V @ 1.5 A [3 A]	-12 V @ 1 A [2 A]		
[250 W]  (1)	125 W	LPS200-M Series				3" x 5" x 1.32" (76.2 x 127 x 33.6)	
		5 V @ 20 A [40 A]*					
		12 V @ 10.3 A [20.8 A]*					
		15 V @ 8.3 A [16.6 A]*					
		24 V @ 5.2 A [10.4 A]*					
		48 V @ 2.6 A [5.2 A]*					

Options:

[] Rating with 30 CFM of air

(1) Optional cover/enclosure

* Floating output

Output Power		Output				Size W x L x H (mm)	Model
[Forced Air]	Free Air	V1	V2	V3	V4		
[250 W]  (1)	175 W	NLP250 Series					
		12 V @ 21 A*				4" x 7" x 1.5"	NLP250R-96S12J
		24 V @ 10.5 A*				(101.6 x 177.8 x 38.1)	NLP250R-96S24J
		48 V @ 5.3 A*					NLP250R-96S48J
		NLP250 – DC (-48 Vdc Input)					
		12 V @ 14.6 A [21 A]				4" x 7" x 1.5" (101.6 x 177.8 x 38.1)	NLP250N-48S12J
[250 W]  (3), (4)		LP250 Series					
		5 V (3-6 V) @ [50 A]*				5" x 9" x 2"	LPS252-C
		12 V (6-12 V) @ [21 A]*				(127 x 228.6 x 50.8)	LPS253-C
		15 V (12-24 V) @ [16.7 A]*					LPS254-C
		24 V (24-48 V) @ [10.4 A]*					LPS255-C
		5 V @ [35 A]	12 V @ [10 A]	-12 V @ [6 A]	±5-25 V @ [6 A]*		LPQ252-C
		5 V @ [35 A]	15 V @ [10 A]	-15 V @ [6 A]	±5-25 V @ [6 A]*		LPQ253-C
[350 W]  (3), (4)		LP350 Series					
		5 V (3-6 V) @ [70 A]*				5" x 9" x 2.5"	LPS352-C
		12 V (6-12 V) @ [29.2 A]*				(127 x 228.6 x 63.5)	LPS353-C
		15 V (12-24 V) @ [23.3 A]*					LPS354-C
		24 V (24-48 V) @ [14.6 A]*					LPS355-C
		5 V @ [50 A]	12 V @ [12 A]	-12 V @ [6 A]	±3.3-24 V @ [6 A]*		LPQ352-C
		5 V @ [50 A]	15 V @ [12 A]	-15 V @ [6 A]	±3.3-24 V @ [6 A]*		LPQ353-C
[360 W]  (3), (4)	240 W	LPS360-M Series					
		12 V @ 20 A [30 A]*				3" x 5" x 1.3"	LPS363-M
		15 V @ 16 A [24 A]*				(76.2 x 127 x 33)	LPS364-M
		24 V @ 10 A [15 A]*					LPS365-M
		48 V @ 5 A [7.5 A]*					LPS368-M
[350 W]  (3), (4)	200 W	NTS350 Series					
		12 V @ 16.6 A [29.2 A]*				4" x 7" x 1.5"	NTS353
		24 V @ 8.3 A [14.6 A]*				(101.6 x 177.8 x 38)	NTS355
		48 V @ 4.2 A [7.3 A]*					NTS358
		54 V @ 3.7 A [6.5 A]*					NTS359
[500 W]  (3), (4)	200 W	NTS500 Series					
		12 V @ 16.6 A [41.7 A]*				4" x 7" x 1.5"	NTS503
		24 V @ 8.3 A [20.8 A]*				(101.6 x 177.8 x 38)	NTS505
		18 V @ 11.1 A [27.7 A]*					NTS506
		48 V @ 4.2 A [10.4 A]*					NTS508

Options:

[] Rating with 30 CFM of air

(1) Optional cover/enclosure

(3) Optional top fan cover (see datasheet for increased dimensions)

(4) Optional end fan cover (see datasheet for increased dimensions)

* Floating output

LCC250

Convection/conduction
mounting

250 Watts

Total Power: 250 Watts
of Outputs: Single
Output: 12 V, 24 V, 48 V

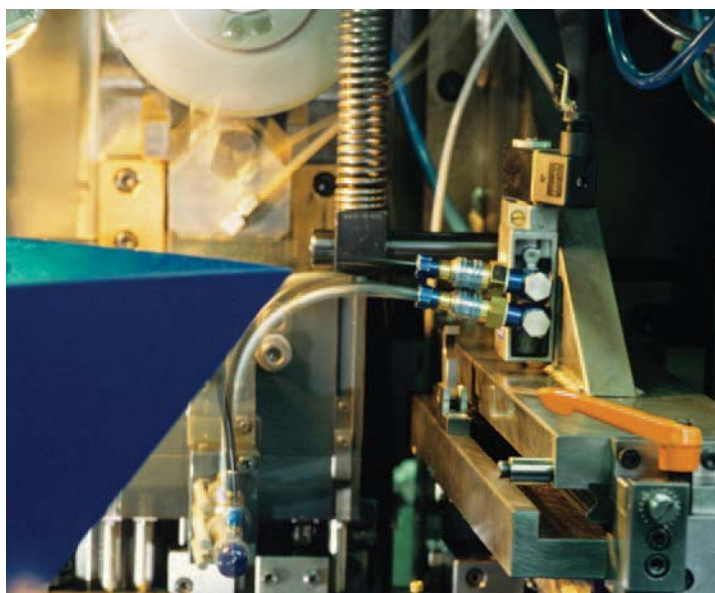


Special Features

- Wide operating temperature range suited for both outdoor and indoor applications
- 250 W fanless power supply with zero derating up to 85 °C baseplate
- IP64 rated enclosure
- Conduction or convection mounting
- Differential remote sense
- Output adjust
- Output On/Off (Positive or negative logic user selectable)

Electrical Specifications

Input	
Input range	90-264 Vac (Operating) 115/230 Vac (Nominal)
Frequency	47-63 Hz
Input fusing	Internal fuse on both L and N lines
Inrush current	50 A
Power factor	>0.92 full load
Harmonics	Meets EN61000-3-2; MIL-STD-461E: CE101; CE102; CS101; CS104
Input current	3.4 A @ 90 Vac full load
Hold up time	16 ms minimum at 115 Vac; 100% load
Efficiency	230 Vac; 100% load 12 V - 89% typical 24 V - 91% typical 48 V - 91.5% typical
Leakage current	<275 µA at 230 Vac



Environmental Specifications

Operating temperature	Suffix 4P (conduction): -40 °C to +85 °C baseplate temperature Suffix 7P (convection): -40 °C to +85 °C ambient temperature
Storage temperature	-40 °C to 85 °C
Humidity	10% to 100% (condensing & non-condensing)
Altitude	Operating: 13,000 feet Non-operating: 50,000 feet
Shock	IEC 68-2-27
Vibration	IEC 68-2-6 / IEC 721-3-2
Ingress protection	IP64 rated
MTBF (calculated)	>780,000 hours at 100% load; Low line; Telcordia SR332

Compliance

EMI Class B
EN61000 Immunity

Safety

UL + CSA	60950-1 ANSI ES60601-1 3rd Ed.
TÜV	60950-1 60601-1 61347-1; 2-13
China	CCC ³
CB Scheme	IEC 60950-1 IEC 61347-1; 2-13 IEC 60601-1

Electrical Specifications

Output		
Output rating	12 V @ 20.83 A 24 V @ 10.4 A 48 V @ 5.2 A	—
Set point	±0.2%	Factory set point
Total regulation range	±2%	Line/load/temperature
Rated load	250 W maximum	—
Minimum load	0 A Load	No loss of regulation
Capacitive load	0-330 μ F/amp	—
Constant output voltage adjustment range	12 V: +10/-10% 24 V: +14.6/-15% 48 V: +15%/-15%	Adjust via VR2
Constant output current adjustment range	+0/-50%	Adjust via VR1 CC mode supported from Vo nominal down to 80% Vo
Output ripple and noise	1%	See Note 1
Transient response	±5% Vo max transient; recovery <500 μ s max	50% load step @ 1 A/ μ s Step load verified at: 50% to 100% load; 90-264 Vac input; capacitive load from 0 to 330 μ F/Amp
Remote sense	Capable of stable offset of ±0.5 Vdc at output cable termination	+SENSE (red wire); -SENSE (black wire)
Output On/Off	Remote on/off referenced to secondary side. Positive or negative logic user selectable via CN2. Factory default is positive logic.	On/off (orange wire); on/off return (white wire)
Overload protection (OCP)	<150% Io	Autorecovery
Overvoltage protection (OVP)	110% to 135% Vo	Latching mode; requires input AC recycle
Overtemp protection (OTP)	—	Autorecovery; hiccup mode
Output isolation	4000 Vac Input to Output 1500 Vac Input to Ground 500 Vac Output to Ground	—

Ordering Information

Model Number	Output	Adjustment Range	Output Current		Output Ripple P/P ¹	Combined Line/Load Regulation
			Min	Max		
LCC250-12U-4P	12 V	±10%	0 A	20.8 A	1%	±2%
LCC250-12U-4PE	12 V	±10%	0 A	20.8 A	1%	±2%
LCC250-12U-7P	12 V	±10%	0 A	20.8 A	1%	±2%
LCC250-12U-7PE	12 V	±10%	0 A	20.8 A	1%	±2%
LCC250-24U-4P	24 V	+14.6/-15%	0 A	10.4 A	1%	±2%
LCC250-24U-4PE	24 V	+14.6/-15%	0 A	10.4 A	1%	±2%
LCC250-24U-7P	24 V	+14.6/-15%	0 A	10.4 A	1%	±2%
LCC250-24U-7PE	24 V	+14.6/-15%	0 A	10.4 A	1%	±2%
LCC250-48U-4P	48 V	±15%	0 A	5.2 A	1%	±2%
LCC250-48U-4PE	48 V	±15%	0 A	5.2 A	1%	±2%
LCC250-48U-7P	48 V	±15%	0 A	5.2 A	1%	±2%
LCC250-48U-7PE	48 V	±15%	0 A	5.2 A	1%	±2%

1. Output ripple measured at the end of the output cable terminated with 10 μ F tantalum capacitor in parallel with 0.1 μ F ceramic capacitor.

2. Additional external capacitance required to meet the indicated Output Ripple Limits. Please check the Technical Reference Notes.

3. China CCC approval applies to part numbers with "-xxE" suffixes only.

LCC600

Convection/conduction
mounting

600 Watts

NEW!



Total Power: 600 Watts
of Outputs: Single
Output: 12, 24, 28, 36, 48 V

Special Features

- Baseplate cooled
- -40 to 85 °C operating baseplate temperature
- No derating up to 85 °C baseplate temperature
- Adjustable output
- 10.6 watts per cubic inch
- Differential remote sense
- EMI Class B
- With +5V standby @ 1.5A
- Full DSP controlled
- Optional IP64 ("-4P" suffix) variant
- Optional 277 VAC nominal input ("H" suffix) variant
- Active Ishare
- PMBus
- Industrial/Medical safety

Electrical Specifications

Input	
Input range	90-264 VAC (U version) 180-305 VAC (H version)
Frequency	50/60/440 Hz (Agency Approval 47-63 Hz)
Input fusing	12.5 A RMS on both input lines
Inrush current	< 25 A peak
Power factor	0.99 typical, meets EN61000-3-2
Harmonics	Meets IEC 1000-3-2 requirements
Input current	8 A RMS max at 100 VAC
Hold up time	20 ms (main O/P @ 230 Vac)
Efficiency	See datasheet
Isolation	PRI-SEC 4000 VAC SEC-GND 1500 VAC

Environmental Specifications

Operating Temperature	-40 to 85 °C baseplate
Humidity	10% to 95%
Altitude	15,000 feet operating
Shock	MIL-STD-810F 516.5 Procedure I, VI
Vibration	MIL-STD-810F 514.5 CAT 4, 10
IP Rating	Optional IP64 rated enclosure ("-4P" suffix)
MTBF	See datasheet

Safety

UL + CSA	60950-1 / 60601-1 3rd Ed
TUV	60950-1 / 60601-1
China	CCC
CB Scheme	60950-1 / 60601-1 Certs

Ordering Information

Model Number*	Input	Vout	Output Current		Standby Output	Combined Line/ Load Regulation	Output Ripple
			Min	Max			
LCC600-28U-9P	90 - 264	28	0	21.4	5 V @ 1.5 A	2%	1%
LCC600-48U-9P	90 - 264	48	0	12.5	5 V @ 1.5 A	2%	1%
LCC600-36U-9P	90 - 264	36	0	16.7	5 V @ 1.5 A	2%	1%
LCC600-12U-9P	90 - 264	12	0	50.0	5 V @ 1.5 A	2%	1%

* Change "U" to "H" for 277 VAC input (180-305 VAC range)

* Change "9" to "4" for IP64 rated enclosure with fly leads

* Please contact factory for products' availability

Low Power

External power adapters

3-100 Watts

Special Features

All models feature:

- Wide-range AC input
- High demonstrated MTBF
- Overload protection
- Extensive safety approvals

Many models feature:

- EN61000-3-2 compliance
- Medical approvals
- Thermal protection
- Energy Star/ErP

AC Input:

- Wallmount
 - U.S. – 2-prong
 - China – 2-prong
 - Europe – 2-prong
 - United Kingdom – 3-prong
 - Australia – 2-prong
 - Korea – 2-prong
 - Japan – 2-prong
 - Interchangeable
- Freestanding
 - IEC320 2-pin (C14) & (C6)
 - IEC320 2-pin (C8)

DC Output:

- Single output
 - 2.5 mm barrel plug
 - 2.1 mm right angle plug



Output Power

3 W



	V1	V2	V3	Size W x L x H (mm)	Model
DCH3 Series – USB					
5 V @ 0.55 A				1.03" x 2.28" x 1.81" (26.1 x 58 x 46)	DCH3-050US-0001 DCH3-050US-0002
5 V @ 0.55 A				1.03" x 2.28" x 1.80" (26.1 x 58 x 45.8)	DCH3-050EU-0005 DCH3-050EU-0006
5 V @ 0.55 A				2.02" x 2.28" x 0.91" (51.2 x 57.8 x 23)	DCH3-050UK-0005 DCH3-050UK-0006
5 V @ 0.55 A				1.07" x 2.66" x 1.81" (27.2 x 67.2 x 46)	DCH3-050US-0004
5 V @ 0.55 A				1.07" x 2.66" x 1.81" (27.2 x 67.2 x 46)	DCH3-050US-0005
5 V @ 0.55 A				2.02" x 2.64" x 0.97" (51.2 x 67 x 24.5)	DCH3-050US-0006

5 W



DCH5 Series					
5 V @ 1 A				1" x 1.4" x 1.88" (25.5 x 35.5 x 47.9)	DCH5-050US
5 V @ 1 A				1" x 1.4" x 1.88" (25.5 x 35.5 x 47.9)	DCH5-050EU
5 V @ 1 A				1.74" x 1.95" x 2.19" (44.2 x 49.53 x 55.62)	DCH5-050UK
5 V @ 1 A				1" x 1.4" x 1.88" (25.5 x 35.5 x 47.9)	DCH5-050AU

Output Power	V1	V2	V3	Size W x L x H (mm)	Model
12 W 	DA12-M Series				
	5 V @ 2 A			1.10" x 2.36" x 2.14" (28 x 60 x 54.3)	DA12-050AU-M
	12 V @ 1 A				DA12-120AU-M
	5 V @ 2 A			1.10" x 2.36" x 2.48" (28 x 60 x 63.1)	DA12-050EU-M
	12 V @ 1 A				DA12-120EU-M
	5 V @ 2 A			1.98" x 2.36" x 1.90" (50.2 x 60 x 48.3)	DA12-050UK-M
	12 V @ 1 A				DA12-120UK-M
	5 V @ 2 A			1.10" x 2.36" x 1.99" (28 x 60 x 50.6)	DA12-050US-M
	12 V @ 1 A				DA12-120US-M
	5 V @ 2 A			1.1" x 2.36" x 2.06" (28 x 60 x 52.3)	DA12-050MP-M ⁽¹⁾
	5 V @ 2 A				DA12-050MP-M2.1 ⁽²⁾
	12 V @ 1 A			1.10" x 2.36" x 2.14" (28 x 60 x 54.3)	DA12-120MP-M ⁽¹⁾
	12 V @ 1 A				DA12-120MP-M2.1 ⁽²⁾
18 W 	DA18-M Series				
	12 V @ 1.5 A			1.1" x 2.36" x 2.14" (28 x 60 x 54.3)	DA18-120AU-M
	15 V @ 1.2 A				DA18-150AU-M
	12 V @ 1.5 A			1.1" x 2.36" x 2.48" (28 x 60 x 63.1)	DA18-120EU-M
	15 V @ 1.2 A				DA18-150EU-M
	12 V @ 1.5 A			1.98" x 2.36" x 1.90" (50.2 x 60 x 48.3)	DA18-120UK-M
	15 V @ 1.2 A				DA18-150UK-M
	12 V @ 1.5 A			1.1" x 2.36" x 1.99" (28 x 60 x 50.6)	DA18-120US-M
	15 V @ 1.2 A				DA18-150US-M
	12 V @ 1.5 A			1.1" x 2.36" x 2.06" (28 x 60 x 52.3)	DA18-120MP-M ⁽¹⁾
	12 V @ 1.5 A				DA18-120MP-M2.1 ⁽²⁾
	15 V @ 1.2 A				DA18-150MP-M ⁽¹⁾
	12 V @ 1.2 A				DA18-150MP-M2.1 ⁽²⁾
24 W 	AD24				
	12 V @ 2 A			1.89" x 4.13" x 1.3" (48 x 105 x 33)	AD2412N3L

Options:

(1) Interchangeable AC plug - must be purchased separately.

(2) 2.1 mm x 5.5 mm barrel plug

Output Power	V1	V2	V3	Size W x L x H (mm)	Model
40 W 	DP40 Series				
	9 V @ 4.4 A			2.4" x 4.88" x 1.55"	DP4009N2M
	9 V @ 4.4 A			(61 x 124 x 39.5)	DP4009N3M
	12 V @ 3.33 A				DP4012N2M
	12 V @ 3.33 A				DP4012N3M
	15 V @ 2.67 A				DP4015N2M
	15 V @ 2.67 A				DP4015N3M
	18 V @ 2.22 A				DP4018N2M
	18 V @ 2.22 A				DP4018N3M
	24 V @ 1.67 A				DP4024N2M
	24 V @ 1.67 A				DP4024N3M
	48 V @ 0.84 A				DP4048N2M
	48 V @ 0.84 A				DP4048N3M
60 W 	DPS50 Series				
	5 V @ 6 A			2.39" x 5.24" x 1.62"	DPS52
	12 V @ 5 A			(60.7 x 133 x 41.15)	DPS53
	15 V @ 4 A				DPS54
	24 V @ 2.5 A				DPS55
	48 V @ 1.25 A				DPS58
100 W 	AD100				
	48 V @ 2.08 A			2.56" x 6.14" x 1.44" (65 x 156 x 37.2)	AD10048P3L-001



Healthcare AC–DC Power Supplies

Up to 4920 Watts

Artesyn Embedded Technologies produces a wide range of AC–DC power supplies certified for use in medical equipment requiring lower safety ground leakage and higher isolation. The power supplies listed below are designed for use in non-patient critical applications: bio-life science, medical, dental, imaging and laboratory applications such as immunoassay and in-vitro diagnostics machines, ultrasound and mass analyzers. All these power supplies are high efficiency switch-mode designs, and feature medical safety approval to EN60601-1.

Special Features

All models feature:

- Industry standard footprints
- Wide-range AC input
- Remote sense
- Adjustable outputs
- Power fail
- Full power to 50 °C
- High demonstrated MTBF
- Overvoltage protection
- Overload protection
- Built-in EMI filtering
- Medical approvals
- Extensive safety approvals
- Derated operation to 70 °C

Many models feature:

- EN61000-3-2 compliance
- Supervisory outputs (5 V/12 V)
- Wide-adjust floating 4th output
- Single wire current share
- Wide-adjust on single output models
- Voltage monitor/data logging
- Real-time parametric adjustment & control

Output Power		Output				control	
Forced Air	Free Air	V1	V2	V3	V4	Size W x L x H (mm)	Model
[40 W]	25 W	NPS20-M Series					
	(1)	5 V @ 5 A [8 A]*				2" x 4" x 1"	NPS22-M
		12 V @ 2.1 A [3.3 A]*				(50.8 x 101.6 x 25.4)	NPS23-M
		15 V @ 1.7 A [2.7 A]*					NPS24-M
		24 V @ 1 A [1.8 A]*					NPS25-M
		48 V @ 0.52 A [0.84 A]*					NPS28-M
[55 W]	40 W	LP40-M Series					
	(1)	5 V @ 8 A [11 A]*				3" x 5" x 1.2"	LPS42-M
		12 V @ 3.3 A [4.5 A]*				(76.2 x 127 x 30.5)	LPS43-M
		15 V @ 2.6 A [3.6 A]*					LPS44-M
		24 V @ 1.6 A [2.3 A]*					LPS45-M
		5 V @ 4 A [5 A]	12 V @ 2 A [2.5 A]	-12 V @ 0.5 A [0.7 A]			LPT42-M
		5 V @ 4 A [5 A]	15 V @ 2 A [2.5 A]	-15 V @ 0.5 A [0.7 A]		LPT45-M	
[60 W]	45 W	NPS40-M Series					
	(1)	5 V @ 8 A [11 A]*				2" x 4" x 1"	NPS42-M
		12 V @ 3.75 A [5 A]*				(50.8 x 101.6 x 25.4)	NPS43-M
		15 V @ 3 A [4 A]*					NPS44-M
		24 V @ 1.9 A [2.5 A]*					NPS45-M
		48 V @ 0.94 A [1.25 A]*					NPS48-M
[55 W]	45 W	NPT40-M Series					
	(1)	5 V @ 5 A [8 A]	12 V @ 2.5 A [3 A]	-12 V @ 0.5 A [0.7 A]			NPT42-M
		5 V @ 5 A [8 A]	15 V @ 2 A [2.4 A]	-15 V @ 0.5 A [0.7 A]			NPT43-M
		5 V @ 5 A [8 A]	24 V @ 1 A [1.5 A]	12 V @ 0.5 A [0.7 A]			NPT44-M
[55 W]	55 W	LP50-M Series					
	(1)	3.3 V @ 8 A	5 V @ 3 A	12 V @ 0.5 A		2" x 4" x 1.3"	LPT51-M
		5 V @ 8 A	12 V @ 3 A	-12 V @ 0.5 A		(50.8 x 101.6 x 33)	LPT52-M
		5 V @ 8 A	15 V @ 2.4 A	-15 V @ 0.5 A			LPT53-M
		5 V @ 8 A	24 V @ 1.5 A	12 V @ 0.5 A			LPT54-M

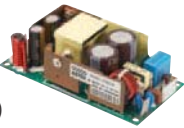
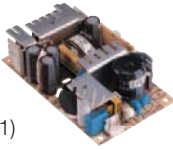
Options:

[] Rating with 30 CFM of air

(1) Optional cover/enclosure

* Floating output



Output Power [Forced Air]	Free Air	Output				Size W x L x H (mm)	Model
		V1	V2	V3	V4		
[60 W]  (1)	60 W	5 V @ 11 A*					LPS52-M
		12 V @ 5 A*					LPS53-M
		15 V @ 4 A*					LPS54-M
		24 V @ 2.5 A*					LPS55-M
		48 V @ 1.25 A*					LPS58-M
[60 W]  (1)	60 W	NPS60-M Series					
		5 V @ 11 A*				2" x 4" x 1"	NPS62-M
		12 V @ 5 A*				(50.8 x 101.6 x 25.6)	NPS63-M
		15 V @ 4 A*					NPS64-M
		24 V @ 2.5 A*					NPS65-M
[75 W]  (1)	65 W	NLP65 Series					
		12 V @ 6.5 A*				3" x 5" x 1.26"	NLP65-9912J ⁽⁵⁾
		15 V @ 5.3 A*				(76.2 x 27 x 32)	NLP65-9915J ⁽⁵⁾
		24 V @ 3.5 A*					NLP65-9924J ⁽⁵⁾
		5 V @ 8 A	12 V @ 3 A				NLP65-9929J ⁽⁵⁾
		5 V @ 8 A	24 V @ 2 A				NLP65-9920J ⁽⁵⁾
		5 V @ 8 A	12 V @ 3 A	-12 V @ 1 A			NLP65-9908J ⁽⁵⁾
[80 W]  (1)	60 W	LP60-M Series					
		12 V @ 5 A [6.7 A]*				3" x 5" x 1.65"	LPS63-M
		15 V @ 4 A [5.3 A]*				(76.2 x 127 x 41.9)	LPS64-M
		24 V @ 2.5 A [3.3 A]*					LPS65-M
		5 V @ 7 A [8 A]	12 V @ 3 A [3.5 A]	-12 V @ 0.7 A [1 A]			LPT62-M
		5 V @ 7 A [8 A]	15 V @ 2.8 A [3.3 A]	-15 V @ 0.7 A [1 A]			LPT63-M
[130 W]  (1)	80 W	LPT100-M Series					
		3.3 V @ 13 A [18 A]	5 V @ 5 A [9 A]	12 V @ 1 A [2.3 A]		2" x 4" x 1.28"	LPT101-M
		5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	-12 V @ 1 A [2 A]		(50.8 x 101.6 x 32.7)	LPT102-M
		5 V @ 13 A [18 A]	15 V @ 4 A [7.2 A]	-15 V @ 1 A [1.5 A]			LPT103-M
		5 V @ 13 A [18 A]	24 V @ 1.5 A [3 A]	12 V @ 1 A [2.3 A]			LPT104-M
[150 W]  (1)	100 W	LPS100-M Series					
		5 V @ 16 A [24 A]*				2" x 4" x 1.29"	LPS102-M
		12 V @ 8.3 A [12.5 A]*				(50.8 x 101.6 x 33)	LPS103-M
		15 V @ 6.7 A [10 A]*					LPS104-M
		24 V @ 4.2 A [6.3 A]*					LPS105-M
		48 V @ 2.1 A [3.1 A]*					LPS108-M
[150 W]  (1)	100 W	TLP150 Series					
		12 V @ 12.5 A*				3" x 5" x 1.25"	TLP150N-99S12J ^F
		24 V @ 6.3 A*				(177.8 x 101.6 x 31.75)	TLP150N-99S24J ^F
[175 W]  (1)	110 W	LP170-M Series					
		5 V @ 22 A [35 A]* (2.5-6 V)				4.25" x 8.5" x 1.5"	LPS172-M
		12 V @ 9.1 A [15 A]* (6-12 V)				(108 x 215.9 x 38.1)	LPS173-M
		15 V @ 7.3 A [12 A]* (12-24 V)					LPS174-M
		24 V @ 4.5 A [7.5 A]* (24-54 V)					LPS175-M

Options:

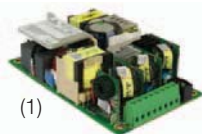
F Replace the 'J' at the end of the model number with 'FJ' when the optional standby output and/or remote ON/OFF control is required e.g., TLP150N-99S12FJ

[] Rating with 30 CFM of air

(1) Optional cover/enclosure (see datasheet for increased dimensions)

(5) These models feature harmonic current correction to EN61000-3-2

* Floating output

Output Power		Output				Size W x L x H (mm)	Model	
[Forced Air]	Free Air	V1	V2	V3	V4			
[200 W]  (1)	100 W	LPQ200-M Series						
		3.3 V @ 13 A [18 A]	5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	-12 V @ 1 A [2 A]	3" x 5" x 1.32"	LPQ201-M	
		5 V @ 13 A [18 A]	12 V @ 5 A [9 A]	24 V @ 1.5 A [3 A]	-12 V @ 1 A [2 A]	(76.2 x 127 x 33.6)	LPQ202-M	
[250 W]  (1)	125 W	LPS200-M Series						
		5 V @ 20 A [40 A]*					3" x 5" x 1.32"	LPS202-M
		12 V @ 10.3 A [20.8 A]*					(76.2 x 127 x 33.6)	LPS203-M
		15 V @ 8.3A [16.6 A]*						LPS204-M
		24 V @ 5.2 A [10.4 A]*						LPS205-M
		48 V @ 2.6 A [5.2 A]*						LPS208-M
[250 W]  (1)	175 W	NLP250 Series						
		12 V @ 21 A*					4" x 7" x 1.5"	NLP250N-99S12J
		24 V @ 10.5 A*					(101.6 x 177.8 x 38.1)	NLP250N-99S24J
[360 W] NEW! 	240 W	LPS360-M Series						
		12 V @ 20 A [30 A]*					3" x 5" x 1.3"	LPS363-M
		15 V @ 16 A [24 A]*					(76.2 x 127 x 33)	LPS364-M
		24 V @ 10 A [15 A]*						LPS365-M
		48 V @ 5 A [7.5 A]*						LPS368-M
[250 W] NEW! 	250 W	LCC250 Series						
		12 V @ 20.8 A					4" x 7" x 1.1"	See LCC250 section
		24 V @ 10.4 A					(101.6 x 177.8 x 28)	
		48 V @ 5.2 A						
[600 W] 	600 W	LCC600-M Series						
		12 V @ 50.0 A					4" x 9" x 1.57"	See LCC600 section
		24 V @ 25.0 A					(101.6 x 228.6 x 40)	
		28 V @ 21.4 A						
		48 V @ 12.5 A						
[500 W]  (4), (5)	200 W	NTS500-M Series						
		12 V @ 16.6 A [41.7 A]*					4" x 7" x 1.5"	NTS503-M
		24 V @ 8.3 A [20.8 A]*					(101.6 x 177.8 x 38.1)	NTS505-M
		48 V @ 4.2 A [10.4 A]*						NTS508-M
[300 W] NEW! 		LCM300 Bulk Front End						
		12-60 V	Single outputs				1.61" x 4.0" x 7.0" (4.09 x 101.6 x 177.8)	See LCM300 section
[600 W] NEW! 		LCM600 Bulk Front End						
		3.3-60 V	Single outputs				4.5" x 7.5" x 2.4" (114.3 x 190.5 x 62)	See LCM600 section

Options:

(1) Optional cover/enclosure

(4) Optional top fan covers (see datasheet for increased dimensions)

* Floating output

(5) Optional end fan cover (see datasheet for increased dimensions)

Output Power	Output				Size W x L x H (mm)	Model	
[Forced Air]	Free Air	V1	V2	V3			V4
[1500 W]							
							
12-60 V		Single outputs			2.5" x 5.2" x 10.0" (63.5 x 132.1 x 254)	See LCM1500 section	
Up to 1200 W							
							
0.9-60 V		1-12 outputs	(Fully Configurable)		3.5" x 10.11" x 1.57" (88.9 x 256.9 x 40)	See μMP section	
Up to 1500 W							
							
2-60 V		1-21 outputs	Fully configurable and intelligent		5" x 10" x 2.5" (127 x 254 x 63.5)	See iMP section	
1500-4920 W							
							
2-60 V		1-42 outputs	Fully configurable and intelligent		5" x 11" x 5" (127 x 279.4 x 127)	See iVS section	



Output Power	V1	V2	V3	Size W x L x H (mm)	Model
12 W 	DA12-M Series				
	5 V @ 2 A			1.10" x 2.36" x 2.14" (28 x 60 x 54.3)	DA12-050AU-M
	12 V @ 1 A				DA12-120AU-M
	5 V @ 2 A			1.10" x 2.36" x 2.48" (28 x 60 x 63.1)	DA12-050EU-M
	12 V @ 1 A				DA12-120EU-M
	5 V @ 2 A			1.98" x 2.36" x 1.90" (50.2 x 60 x 48.3)	DA12-050UK-M
	12 V @ 1 A				DA12-120UK-M
	5 V @ 2 A			1.10" x 2.36" x 1.99" (28 x 60 x 50.6)	DA12-050US-M
	12 V @ 1 A				DA12-120US-M
	5 V @ 2 A			1.1" x 2.36" x 2.06" (28 x 60 x 52.3)	DA12-050MP-M ⁽¹⁾
	5 V @ 2 A				DA12-050MP-M2.1 ⁽²⁾
	12 V @ 1 A			1.10" x 2.36" x 2.14" (28 x 60 x 54.3)	DA12-120MP-M ⁽¹⁾
	12 V @ 1 A				DA12-120MP-M2.1 ⁽²⁾
18 W 	DA18-M Series				
	12 V @ 1.5 A			1.1" x 2.36" x 2.14" (28 x 60 x 54.3)	DA18-120AU-M
	15 V @ 1.2 A				DA18-150AU-M
	12 V @ 1.5 A			1.1" x 2.36" x 2.48" (28 x 60 x 63.1)	DA18-120EU-M
	15 V @ 1.2 A				DA18-150EU-M
	12 V @ 1.5 A			1.98" x 2.36" x 1.90" (50.2 x 60 x 48.3)	DA18-120UK-M
	15 V @ 1.2 A				DA18-150UK-M
	12 V @ 1.5 A			1.1" x 2.36" x 1.99" (28 x 60 x 50.6)	DA18-120US-M
	15 V @ 1.2 A				DA18-150US-M
	12 V @ 1.5 A			1.1" x 2.36" x 2.06" (28 x 60 x 52.3)	DA18-120MP-M ⁽¹⁾
	12 V @ 1.5 A				DA18-120MP-M2.1 ⁽²⁾
	15 V @ 1.2 A				DA18-150MP-M ⁽¹⁾
	12 V @ 1.2 A				DA18-150MP-M2.1 ⁽²⁾
40 W 	DP40 Series				
	9 V @ 4.4 A			2.4" x 4.88" x 1.55"	DP4009N2M
	9 V @ 4.4 A			(61 x 124 x 39.5)	DP4009N3M
	12 V @ 3.33 A				DP4012N2M
	12 V @ 3.33 A				DP4012N3M
	15 V @ 2.67 A				DP4015N2M
	15 V @ 2.67 A				DP4015N3M
	18 V @ 2.22 A				DP4018N2M
	18 V @ 2.22 A				DP4018N3M
	24 V @ 1.67 A				DP4024N2M
	24 V @ 1.67 A				DP4024N3M
	48 V @ 0.84 A				DP4048N2M
	48 V @ 0.84 A				DP4048N3M
60 W 	DPS50-M Medical				
	5 V @ 6 A			2.39" x 5.24" x 1.62"	DPS52-M
	12 V @ 5 A			(60.7 x 133 x 41.15)	DPS53-M
	15 V @ 4 A				DPS54-M
	24 V @ 2.5 A				DPS55-M
	48 V @ 1.25 A				DPS58-M

Options:

(1) Interchangeable AC plug - must be purchased separately.

(2) 2.1 mm x 5.5 mm barrel plug

LED Lighting Drivers

Up to 150 Watts



Special Features

- Constant current and constant voltage operation
- Flexible dimming options
- Free-air rated—no forced air necessary for cooling
- 5 year warranty (except LDS25)

Compliance

- Includes Class 2 outputs
- Includes IP20, IP64 and IP67 water protection
- CISPR 15/FCC Part 15 EMI performance
- Class C harmonics
- >0.9 power factor

Safety

EN	61347-2-13
UL	8750
CSA	C22.2 No. 107.1
CE	Mark

Electrical Specifications

Input	
Input range	90-264 Vac (U models); 90-305 Vac (H models)
Input frequency	47-63 Hz
Input fusing	Internally fused
Output	
Constant current	Capable of operating in constant current mode to directly drive LEDs and have optional adjustable current levels*
Constant voltage	Designed to operate in constant voltage mode over a specified range to power external LED drivers*
Control and Protection	
Current limit	Adjustable*
Protection	Short Circuit/Overvoltage/Overtemperature

* Refer to data sheet for detailed information.

Ordering Information

Model Number	Input Voltage Range	Rated Output Voltage	Rated Output Current	Dimming Interface	IP Rating
LDS25-36-H03U	90-305 Vac	36 Vdc	700 mA dc	1-10 V	IP20
LDS25-36-H03F	90-305 Vac	36 Vdc	700 mA dc	1-10 V	Open-frame
LDS70-12-U00	90-264 Vac	12 Vdc	5.0 Adc	None	IP67
LDS70-12-H03	90-305 Vac	12 Vdc	5.0 Adc	1-10 V	IP67
LDS70-58-U00	90-264 Vac	58 Vdc	1.2 Adc	None	IP67
LDS70-58-U01	90-264 Vac	58 Vdc	1.2 Adc	2-level & DIP switch	IP64
LDS70-58-H03	90-305 Vac	58 Vdc	1.2 Adc	1-10 V	IP67
LDS70-58-H04	90-305 Vac	58 Vdc	1.2 Adc	Programmable ⁽¹⁾	IP67
LDS100-24-U00	90-264 Vac	24 Vdc	4.1 Adc	None	IP67
LDS100-24-U04	90-264 Vac	24 Vdc	4.1 Adc	Programmable ⁽¹⁾	IP67
LDS100-24-H00	90-305 Vac	24 Vdc	4.1 Adc	None	IP67
LDS100-24-H03	90-305 Vac	24 Vdc	4.1 Adc	1-10 V	IP67
LDS100-24-H04	90-305 Vac	24 Vdc	4.1 Adc	Programmable ⁽¹⁾	IP67
LDS100-31-H03	90-305 Vac	31 Vdc	3.16 Adc	1-10 V	IP67
LDS100-31-H04	90-305 Vac	31 Vdc	3.16 Adc	Programmable ⁽¹⁾	IP67
LDS100-48-H03	90-305 Vac	48 Vdc	2.1 Adc	Programmable ⁽¹⁾	IP67
LDS150-1400-H03	90-305 Vac	107 Vdc	1400 mAdc	1-10 V	IP67
LDS150-1400-H03C	90-305 Vac	107 Vdc	1400 mAdc	1-10 V	IP67

Notes: 1. The Dimming Interface on these highly-flexible models can be programmed via a Graphical User-Interface. The options include 0-10V, 1-10V and Bi-Level dimming. Maximum and minimum current levels and threshold levels are also programmable.

For complete product specifications, technical reference notes and available product options, go to www.Artesyn.com/power

MicroMP Series

Cost-efficient, configurable power supply with market-leading density and efficiency

Up to 1800 Watts with New Product Enhancements

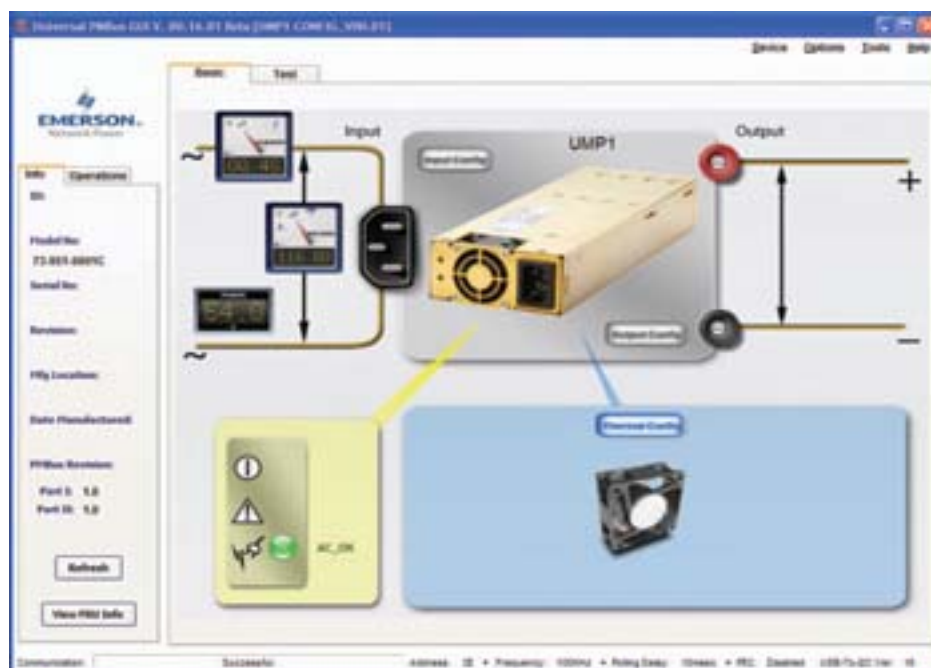
NEW!

Total Power: Up to 1800 Watts
Input Voltage: 85-264 Vac
120-300 Vdc
of Outputs: Up to 12



Special Features

- Optional conformal coating
- Industrial temp range (-40 °C to 70 °C)
- Industrial shock/vibration (>50 G's)
- Low cost
- Low leakage (< 300 μ A)
- New 1000W module
- PMBus
- High efficiency
- Low profile 1U size
- Multi output
- Current limit selectable - constant current or foldback
- High power density
 - μ MP4: 10.8 W/cu-in
 - μ MP1: 15.1 W/cu-in
 - μ MP16: 22.9 W/cu-in
- Intelligent fan (speed control/fault status)
- Low Acoustic Noise
- Downloadable GUI from website
- μ P controlled PFC input with active inrush protection
- No preload required
- IEC or terminal block input (on selected models)



Electrical Specifications

Input	
Input range	85-264 Vac 120-350 Vdc (limited to 300 Vdc in medical apps)
Frequency	47-440 Hz
Inrush current	40 A peak max. (soft start)
Efficiency	Up to 91% @ full case load
Power factor	0.99 typ. meets EN61000-3-2 (n/a @ 440 Hz)
Turn-on time	AC on 2 sec for μ MP10/16 and 1.5 sec for μ MP04, inhibit/enable 250 ms typical
EMI filter	CISPR 22/EN55022 Level "B"
Leakage current	300 μ A max. @ 240 Vac; 47-63 Hz
Radiated EMI	CISPR 22/EN55022 Level "B"
Warranty	Two years

Electrical Specifications

Output	
Factory set point accuracy	±1%
Margining	±3-7% nominal analog (single output module only)
Overall regulation	0.4% or 30 mV whichever is greater
Ripple	RMS: 0.1% or 10 mV, whichever is greater Pk-Pk: 1.0% or 50 mV, whichever is greater Bandwidth limited to 20 MHz
Dynamic response	<±5% or 250 mV, with 50% step load
Recovery time	To within 1% in <300 µs
Reverse voltage protection	100% of rated output current
Thermal protection (OTP)	All outputs disabled when internal temp exceeds safe operating range.
Remote sense	Up to 0.5 V total drop (not available on triple output module)
Single wire parallel	Current share to within 5% of total rated current
DC OK	±5% of nominal
Minimum load	Not required; signal is open collector
Housekeeping standby	5 Vdc @ 2.0 A max. present whenever AC input is applied
Module inhibit	Logic - output on with low or open. Different logic options available
Output/Output isolation	>1 Megohm, 500 V

Environmental Specifications

Operating temperature	-40 °C to 70 °C ambient. Derate each output 2.5% per degree from 50 °C to 70 °C. (-20 °C start up) Meets full spec after 1/2 load. 10 min warm-up
Storage temp	-40 °C to 85 °C
Electromagnetic susceptibility	Designed to meet EN61000-4; -3, -6, -11 Level 3, Level 4 for -2, -4, -5
Humidity	Operating; non-condensing 10% to 95% RH
Vibration	MIL-STD-810E
MTBF demonstrated	>350,000 hours at full load, one µMP04 case + two modules, Telcordia SR-332 calculated MTBF
Altitude:	Up to 10k feet; derate linear to 50% from 10k-30k feet

Safety

UL	UL60950/UL60601-1
CSA	CSA22.2 No. 234 Level 5
VDE	EN60950/EN60601-1
BABT	Compliance to EN60950/EN60601 BS7002
CB	Certificate and report
CE	Mark to LVD
CCC	Approved

Voltage Codes

NEW!

Module Output Voltage Code		Single Output One Slot 240 Watts Max	Single Output Three Slots 1000 Watts Max	Dual Output One Slot 96 Watts	
Module Identification		S2	SK*	I	
Code	Volts	Output Current V1	Output Power V1	Output Current V1 V2	
A	2.0	40.0	-	NA	
B	2.2	40.0	-	NA	
C	3.0	40.0	-	NA	
D	3.3	40.0	-	4.0	4.0
E	5.0	36.0	-	4.0	4.0
F	5.2	34.0	-	4.0	4.0
G	5.5	32.0	-	4.0	4.0
H	6.0	30.0	84.0	4.0	4.0
I	8.0	25.0	84.0	4.0	4.0
J	10.0	24.0	84.0	4.0	4.0
K	11.0	22.0	84.0	4.0	4.0
L	12.0	20.0	84.0	4.0	4.0
M	14.0	17.0	71.4	4.0	4.0
N	15.0	16.0	66.7	4.0	4.0
O	18.0	13.0	42.0	4.0	4.0
P	20.0	12.0	42.0	4.0	4.0
Q	24.0	10.0	42.0	4.0	4.0
R	28.0	8.6	35.7	3.4	3.4
S	30.0	8.0	33.3	3.4	3.4
T	33.0	7.0	21.0	NA	
U	36.0	6.7	21.0	NA	
V	42.0	5.7	21.0	NA	
W	48.0	5.0	21.0	NA	
X	54.0	4.4	18.5	NA	
Y	60.0	4.0	16.7	NA	

* Note: Contact factory for availability

Ordering Information

Case Size	Module/Voltage	Case Option Codes	Software Code	Hardware Code
µMPXY	S2E - S1L - DER - ILL	00	A	###
Case Size (inch) 1-Phase Input where X = 04 = 1.57" x 3.5" x 10.0"; 400W - 600W 4 Slots 10 = 1.57" x 5.0" x 10.0"; 1000W-1200W, 6 Slots 16 = 1.57" x 5.0" x 10.0"; 1200W-1600W, 6 Slots Input Type where Y = T = Terminal Block C = IEC Connector C14	Module Codes S2 = 200 W Single O/P (1 slot) SX = 1000 W Single O/P (3 slot) I = 96W Dual O/P ISO GND (1 Slot) Voltage Codes: See Voltage Code Table	Case Option Codes First digit 0 - K = Parallel Code Second digit 0 = No Options 1 = Reverse Air 2 = Not Used 3 = Global Enable 5 = Opt 1 + Opt 3	Factory assigned for modified standards	Factory assigned for modified standards

MP Series

Modular power supply for optimum flexibility

Up to 1200 Watts

Total Power: Up to 1200 Watts
 Input Voltage: 85-264 Vac
 120-350 Vdc
 # of Outputs: Up to 21



MP1



MP6



MP4

Special Features

- Low cost
- Current share on all outputs with ratings of 10 A or greater
- Remote sense on all outputs with ratings greater than 2 A
- Overload protection on all outputs
- Voltage adjustment on all outputs
- Margining on all single output modules
- Input OK signal and status indicator LED
- Global DC OK signal and status indicator LED
- Global and individual module inhibits/enable
- Forced air cooling or customer provided air option
- Isolated 1 A 5 V bias voltage
- Power factor correction
- EN61000-3-2 harmonic distortion compliance
- CISPR 22, EN55022 Curve B conducted/ radiated EMI
- European CE Mark requirements
- Optional VME timing and system DC OK module
- Low leakage option
- EN61000 immunity standards
- Standard modification flexibility (see datasheet on Artesyn.com/Power)

Special Purpose Modules

- Battery charger module
- Extended hold-up module
- High voltage module (non-isolated)
- OR-ing diode module



Electrical Specifications

Input		
Input voltage	85-264 Vac	120-350 Vdc
Frequency	47-440 Hz	
Inrush current	40 A peak maximum (soft start)	
Efficiency	70-80% typ. @ full case load	
Power factor	0.99 typ. meets EN61000-3-2 (N/A @ 440 Hz)	
Turn-on time	AC on 1.5 second typical Inhibit/enable 150 ms typical	
EMI filter standard	CISPR 22 EN55022 Level "B"	
EMI filter (low leakage option)	CISPR 22 EN55022 Level "A"	
Leakage current standard	2.0 mA maximum @ 240 Vac	
Leakage current (low leakage option)	300 µA maximum @ 240 Vac	
Radiated EMI	CISPR 22 EN55022 Level "B"	
Holdover storage	20 ms minimum (independent of input Vac)	
AC OK	>5 ms early warning minimum before outputs lose regulation Full cycle ride thru (50 Hz)	
Harmonic distortion	Meets EN61000-3-2	
Isolation	Meets EN60950	
Global inhibit/enable	TTL, Logic "1" and Logic "0"; configurable	
Input fuse (internal)	MP4: 10 A; MP6: 15 A; MP8: 20 A; MP1: 20 A	
Warranty	Two years	

Output

Adjustment range	±10% minimum all outputs
Margining	±4-6% nominal ¹
Overall regulation	0.4% or 20 mV maximum (36 W modules 4% maximum)
Ripple	RMS: 0.1% or 10 mV, whichever is greater; Pk-Pk: 1.0% or 50 mV, whichever is greater; bandwidth limited to 20 MHz
Dynamic response	<2% or 100 mV, with 25% load step
Recovery time	To within 1% in <300 µs second
Overcurrent protection	Single, main of dual output module 105-120% of rated output current
Short-circuit protection	Protected for continuous short-circuit Recovery is automatic upon removal of short
Overvoltage protection (measured at sense connection)	Single output modules
Reverse voltage protection	100% of rated output current
Thermal protection	All outputs disabled when internal temp exceeds safe operating range. > 5 ms warning (AC OK signal) before shutdown
Remote sense	Up to 0.5 V total drop (not available on triple output module)
Single wire parallel	Current share to within 2% of total rated current ²
DC OK	-2% to -8% of nominal for any monitored output ²
Minimum load	Not required on single or triple output modules. 10% required on main of dual output modules ³
Housekeeping standby	5 Vdc @1.0 A maximum present whenever AC input is applied (optional 2.0 A available)
Module inhibit	TTL, isolated, singles and dual (both outputs) only
Switching frequency	250 kHz
Output/output isolation	>1 Megohm
VME signal option board	POR signal & quad external DC OK

Environmental Specifications

Operating temperature	-20 °C to 50 °C (start @ 0 °C) (derate each output linearly to 50% at 70 °C) (-20 °C to 40 °C max. with rear air option)
Shock/Vibration	MIL-HDBK 810E
Humidity	95% non-condensing
Storage temperature	-40 °C to 85 °C
Temperature coefficient	0.02% per °C
Cooling:	Internal DC fan or customer provided air (option)

Safety

UL	UL1950
CSA	CSA22.2 No. 234 Level 5
IEC	IEC950, Class 1
VDE	EN60950-1
BABT	Compliance to EN 60950, BS 7002
CB	Certificate and report
CE	Mark

Notes:

1. Single output modules only
2. Single and main of dual output modules only
3. Contact factory for optional preload if required

Ordering Information

Sample below is 1200 W case with 12 V @ 50 A; 5 V @ 60 A; 24 V @ 8.5 A; 12 V @ 10 A; 12 V @ 4 A; extended hold-up with no options.

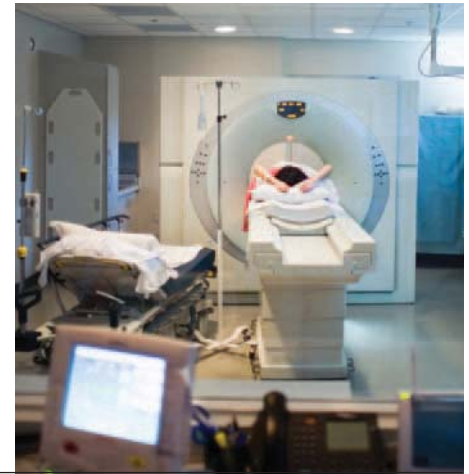
Case Size	Module/Voltage(s) First - Module Code Second - Voltage Code	Add-on Modules Requires 1 slot each	Case Option Codes	Hardware Code
MP1	3L - 2E - 1Q - 4LL	HUP	00	###
Case Size (mm) 4 = 2.5" x 5" x 10"; 400-600 W, 5 Slots (63.5 x 127 x 254) 6 = 2.5" x 5" x 11"; 600-800 W, 5 Slots (63.5 x 127 x 279.4) 1 = 2.5" x 8" x 11"; 1000-1200 W, 7 Slots (63.5 x 203.2 x 279.4)	Module Codes Module/Voltage/Option Codes Module Codes: (None) = 36 W Triple O/P (1 slot) 1 = 210 W Single O/P (1 slot) 2 = 360 W Single O/P (2 slot) 3 = 750 W Single O/P (3 slot) 4 = 144 W Dual O/P (1 slot) 5 - 9 = Future Voltage Codes: See Output Module Voltage/ Current table	Add-on Modules HUP = Hold up module VME = VME POR signal and isolated DC	Case Option Codes First Digit 0 - 9 = parallel code (See MP parallel codes table on following page) Second Digit Standard Options 0 = no options 1 = rear air exhaust 3 = global enable 5 = option package (options 1 & 3) M = low leakage N = low leakage plus option 1 P = low leakage plus option 3 R = low leakage plus option 5	Factory assigned for modifications

Intelligent MP Series

*Intelligent modular power supply
for optimum flexibility*

Up to 1500 Watts

Total Power: Up to 1500 Watts
Input Voltage: 85-264 Vac
120-300 Vdc
of Outputs: Up to 21



Special Features

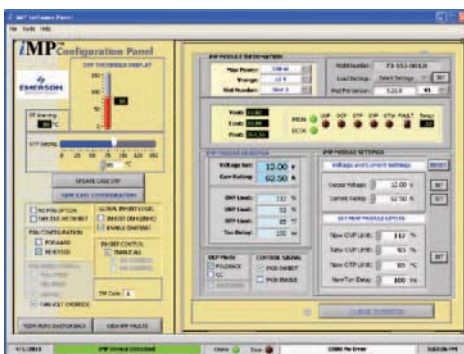
- **Medical EN60601-1 approval**
- Intelligent I²C control
- Voltage adjustment on all outputs (Manual or I²C)
- Configurable input and output (case and module) OK signals and indicators
- Configurable inhibit/enable
- Configurable output UP/DOWN sequencing
- Configurable current limit (foldback or constant current)
- High power density (8.8 W/cu-in)
- Intelligent fan (speed control/fault status)
- Downloadable GUI from website
- Customer provided air option
- μ P controlled PFC input with active inrush protection
- I²C monitor of voltage, current and temp
- Programmable voltage, current limit, inhibit/enable through I²C
- Optional extended hold-up module (SEMI F47 compliance)
- CAN BUS and RS-485 interface option
- Low leakage (<300 μ A)
- Increased power density to 50% over standard MP
- Backward compatibility with standard MP
- External switching frequency sync input
- Optional conformal coating
- Industrial temp range (-40 °C to 70 °C)
- No preload required
- Industrial shock/vibration (>50 G's)



Electrical Specifications

Input

Input range	85-264 Vac 120-350 Vdc (limited to 300 Vdc in medical applications)
Frequency	47-440 Hz
Inrush current	40 A peak max. (soft start)
Efficiency	Up to 85% @ full case load
Power factor	0.99 typ. meets EN61000-3-2 (n/a @ 440 Hz)
Turn-on time	AC on 2 sec typ., inhibit/enable 150 ms typical Programmable delay; 50 ms internal turn-on delay (Dual Output only)
EMI filter	CISPR 22/EN55022 Level "B"
Leakage current	300 μ A max. @ 240 Vac; 47-63 Hz
Radiated EMI	CISPR 22/EN55022 Level "B"
Holdover storage	20 ms minimum (independent of input Vac) additional 34 ms holdover storage with optional HUP module (SEMI F47 compatible)
AC OK	>5 ms early warning min. before outputs lose regulation Full cycle ride thru (50 Hz) (N/A on iMP4 > 750 W @ 90 Vac)
Harmonic distortion	Meets EN61000-3-2
Isolation	Meets EN60950 and EN60601
Global Inhibit/Enable	TTL, Logic "1" and Logic "0"; configurable
Input fuse (internal)	iMP4: 16 A; iMP8: 20 A; iMP1: 25 A (both lines fused)
Warranty	Two years



The iMP software is designed to make the iMP Power Supply Unit (PSU) accessible to the user. It is intended to provide information gathered from the PSU and interactive controls to the basic capabilities of iMP power supply. To download go to: www.artesyn.com/power/impsoftware

Output

Adjustment range*	±10% minimum all outputs (manual) (full module adjustment range using I ² C)
Margining	±4-6% nominal analog (single output module only)
Overall regulation	0.4% or 20 mV max. (1500 W modules 1% max. 36 W modules 4% max.)
Ripple	RMS: 0.1% or 10 mV, whichever is greater Pk-Pk: 1.0% or 50 mV, whichever is greater Bandwidth limited to 20 MHz
Dynamic response	<2% or 100 mV, with 25% load step
Recovery time	To within 1% in <300 µs
Overcurrent protection**	Configurable through I ² C (calibration required). Single output module and main output of the dual output module 105-120% of rated output current. Aux output of dual output module 105-140% of rated output current
Short-circuit protection	Protected for continuous short-circuit Recovery is automatic upon removal of short
Overvoltage protection*	Configurable through I ² C - Single output module 2-5.5 V 122-134%; 6-60 V 110-120% - Dual output module 2-6 V 122-134%; 8-28 V 110-120% - Triple output module
Reverse voltage protection	100% of rated output current
Thermal protection* (OTP and OTW)	Configurable through I ² C All outputs disabled when internal temp exceeds safe operating range. > 5 ms warning (AC OK signal) before shutdown
Remote sense	Up to 0.5 V total drop (not available on triple output module)
Single wire parallel	Current share to within 2% of total rated current
DC OK*	±5% of nominal. Configurable through I ² C
Minimum load	Not required
Housekeeping standby	5 Vdc @ 1.0 A max. present whenever AC input is applied (Optional 2.0 A available)
Module inhibit*	Configured and controlled through I ² C
Switching frequency	250 kHz accepts external sync signal
Output/Output isolation	>1 Megohm, 500 V

* Can be controlled via I²C** Controlled via I²C but requires load calibration**Environmental Specifications**

Operating temperature	-40 °C to 70 °C ambient. Derate each output 2.5% per degree from 50 °C to 70 °C. (-20 °C start up)
Storage temperature	-40 °C to 85 °C
Electromagnetic susceptibility	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
Humidity	Operating; non-condensing 10% to 95% RH
Vibration	IEC68-2-6 to the levels of IEC721-3-2
MTBF demonstrated	>550,000 hours at full load, 220 Vac and 25 °C ambient conditions

Safety

UL	UL60950/UL2601
CSA	CSA22.2 No. 234 Level 5
VDE	EN60950/EN60601-1
BABT	Compliance to EN60950/ EN60601 BS7002
CB	Certificate and report
CE	Mark to LVD

Output Module Line-up

Module Code	1	2	3	5	4	
Module Type	Single	Single	Single	Single	Dual	Triple
Max output power	210 W	360 W	750 W	1500 W	144 W	36 W
Max output current	35 A	60 A	150 A	300 A	10 A	2 A
Output voltages available*	2-60 V	2-60 V	2-60 V	2-60 V	6-15, 24-28; 6-15; 6-15; 6-15; 2-6; 2-6, 2-6; 24-28, 24-28; 24-28; 2-6	8-15, 8-15, 2-6; 8-15, 8-15, 8-15; 8-15, 8-15, 18-28; 8-15, 18-28, 2-6
Standard voltage increments	25	25	25	18	16	18
Remote sense	Yes	Yes	Yes	Yes	Yes	No
Remote margin*	Yes	Yes	Yes	Yes	No	No
V-Program - I ² C Control*	Yes	Yes	Yes	Yes	Yes	No
Active Current Share	Yes	Yes	Yes	Yes	Yes	No
Module Inhibit - I ² C Control*	Yes	Yes	Yes	Yes	Yes	Yes
Module Inhibit - Analog	Yes	Yes	Yes	Yes	No	No
Overvoltage/Overcurrent protection*	Yes	Yes	Yes	Yes	Yes	Yes
Minimum load required	No	No	No	No	No	No
Slots occupied in any iMP case	1	2	3	4	1	1

* Programmable

Output Module Voltage/Current

Voltage	Voltage Code	Single Output Module Code				Dual Output**		Triple Output			I ² C Adjustment Ranges***
		1	2	3	5+	V1	V2	—	—	—	
2 V	A	35 A	60 A	150 A	—	10 A	10 A	—	—	2 A	1.8-2.2
2.2 V	B	35 A	60 A	150 A	—	10 A	10 A	—	—	2 A	2.0-2.4
3 V	C	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	2.7-3.3
3.3 V	D	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	3.0-3.6
5 V	E	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	4.5-5.5
5.2 V	F	35 A	60 A	144 A	288 A	10 A	10 A	—	—	2 A	4.7-5.7
5.5 V	G	34 A	58 A	136 A	273 A	10 A	10 A	—	—	2 A	5.0-6.1
6 V	H	23 A	42 A	97.5 A	250 A	10 A*	10 A*	—	—	2 A	5.4-6.6
8 V	I	20 A	36 A	84.4 A	140 A	10 A	4 A	1 A	1 A	1 A	7.2-8.8
10 V	J	18 A	32 A	75 A	140 A	10 A	4 A	1 A	1 A	1 A	9.0-11.0
11 V	K	17 A	31 A	68 A	136.3 A	10 A	4 A	1 A	1 A	1 A	9.9-12.1
12 V	L	17 A	30 A	62.5 A	125 A	10 A	4 A	1 A	1 A	1 A	10.8-13.2
14 V	M	14 A	21 A	53.5 A	107 A	9 A	4 A	1 A	1 A	1 A	12.6-15.4
15 V	N	14 A	20 A	50 A	100 A	8 A	4 A	1 A	1 A	1 A	13.5-16.5
18 V	O	11 A	19 A	41.6 A	83.3 A	—	—	—	0.5 A	0.5 A	16.2-19.8
20 V	P	10.5 A	18 A	37.5 A	75 A	—	—	—	0.5 A	0.5 A	18.0-22.0
24 V	Q	8.5 A	15 A	30 A	62.5 A	4 A	2 A	—	0.5 A	0.5 A	21.6-26.4
28 V	R	6.7 A	11 A	26.8 A	53.5 A	3 A	2 A	—	0.5 A	0.5 A	25.2-30.8
30 V	S	6.5 A	11 A	25 A	50 A	—	—	—	—	—	27.0-33.0
33 V	T	6.2 A	10.9 A	22.7 A	35.8 A	—	—	—	—	—	29.7-36.3
36 V	U	5.8 A	10 A	20.8 A	35.8 A	—	—	—	—	—	32.4-39.6
42 V	V	4.2 A	7.5 A	16 A	35.7 A	—	—	—	—	—	37.8-46.2
48 V	W	4 A	7.5 A	15.6 A	31.2 A	—	—	—	—	—	43.2-52.8
54 V	X	3.7 A	6 A	13.9 A	27.7 A	—	—	—	—	—	48.6-59.4
60 V	Y	3.5 A	6 A	12.5 A	25 A	—	—	—	—	—	54.0-66.0
Consult Factory											
Special	Z	35 A	60 A	150 A	—	—	10 A	—	—	—	2.3-2.6
Special	Z	35 A	60 A	150 A	—	—	10 A	—	—	—	3.7-4.4
Special	Z	20 A	36 A	80 A	140 A	—	8 A	—	—	—	6.7-7.1

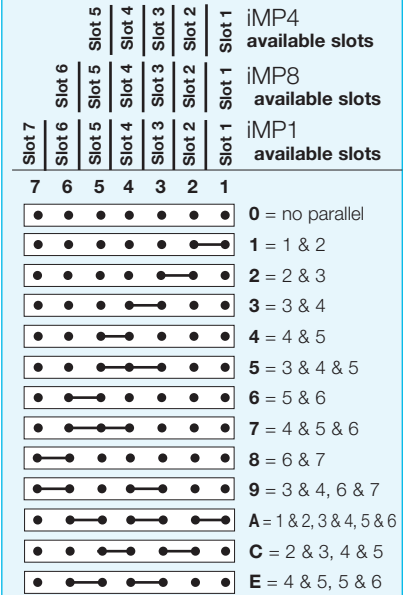
* Note: Contact factory for extended range down to 6 V.

** Total output power on dual module must not exceed 144 W.

*** For single output modules only.

+ Applicable for iMP1 only.

Parallel Codes



Increments of current not shown can be achieved by paralleling modules (add currents of each module selected).

Ordering Information

Sample below is 1500 W case with 12 V @ 62.5 A; 5 V @ 60 A; 24 V @ 8.5 A; 12 V @ 10 A; 12 V @ 4 A; with no options.

Case Size	Module/Voltage/Option Codes	Case Option Codes	Software Code	Hardware Code
iMP1*	3L0 - 2E2 - 1Q1 - 4LL0	00	A	###
Case Size (mm) 4 = 2.5" x 5" x 10"; 750-1100 W, 5 slots (63.5 x 127 x 254) 8 = 2.5" x 7" x 10"; 1000-1200 W, 6 slots (63.5 x 177.8 x 254) 1 = 2.5" x 8" x 11"; 1200-1500 W, 7 slots (63.5 x 203.2 x 279.4) *Note: Add "E" after iMP4 to denote IEC input option. e.g., iMP4E (Not available on iMP8 or iMP1)	Module Codes Module/voltage/option codes Module codes: (None) = 36 W triple O/P (1 slot) 1 = 210 W single O/P (1 slot) 2 = 360 W single O/P (2 slot) 3 = 750 W single O/P (3 slot) 4 = 144 W dual O/P (1 slot) 5 = 1500 W single O/P (4 slot) 6 - 9 = Future Voltage Codes: See Output Module Voltage/Current table above Option Codes: 0 = Standard 1 = Module enable 2 = Constant current 3 = 1 & 2 combined 4 = Set for use in standard (non-intelligent case) 5 = Shutdown mode for 1500 W 6 = 1 & 5 combined 7 - 9 = Future	Case Option Codes First digit 0 - 9 = parallel code (See Parallel Codes table above) Second digit 0 = No options 1 = Reverse air 3 = Global enable 4 = Fan idle w/inhibit 5 = Opt 1 + Opt 3 6 = Opt 1 + Opt 4 7 = Opt 3 + Opt 4 8 = Opt 1 + 3 + 4 9 = RS-485 73-544-002 C = 9 + 3 D = CANBUS 73-544-003 E = D + 3	Software code used for configuration change. "A" is standard	Factory assembled for hardware of firmware mods.

Ordering Note:

- The cases and modules of both MP and iMP series can be interchanged to allow more flexibility. If intelligent modules are used with non-intelligent cases, a numeric code "4" is placed at the end of the module code (e.g., 4LL0 becomes 4LL4).
- USB to I²C module order code 73-769-001 or -002

Intelligent VS Series

*Intelligent modular power supply
for optimum flexibility*

Up to 4920 Watts

Total Power: Up to 4920 Watts
Input Voltage: 85-264 Vac
120-300 Vdc
of Outputs: Up to 24

iVS™



Special Features

- **Medical EN60601-1 approval**
- Intelligent I²C control
- Voltage adjustment on all outputs (manual or I²C)
- Configurable input and output OK signals and indicators
- Configurable inhibit/enable
- Configurable output UP/DOWN sequencing
- High power density (12 W/cu-in)
- Intelligent fan (speed control/fault status)
- μ P controlled PFC input with active Inrush protection
- I²C monitor of voltage, current and temp
- Programmable voltage, current limit, inhibit/enable through I²C
- CAN BUS and RS-485 interface option
- Optional extended hold-up module
- (SEMI F47 compliance)
- Increased power density to 150%
- Optional conformal coating
- Industrial temp range (-40 °C to 70 °C)
- Uses standard iMP modules
- Field upgradeable firmware
- RoHS compliant

Electrical Specifications

Input

Input range

iVS1 & iVS3:	90-264 Vac 1Ø: 120-300 Vdc
iVS6 & iVS8:	170-264 Vac 3Ø
iVS8H:	380/480 Vac 3Ø

Frequency 47-440 Hz

Inrush current 40 A peak maximum (soft start)

Efficiency Up to 85% @ full case load

Power factor 0.99 typ. meets EN61000-3-2

Turn-on time AC on 1.5 sec typical, inhibit/enable 150 ms typical. Programmable

EMI Filter CISPR 22/EN55022 Level "B"

Leakage current 300 μ A max. @ 240 Vac; 47-63 Hz

Radiated EMI CISPR 22/EN55022 Level "B"

Holdover storage 10 ms minimum (independent of input Vac) additional 20 ms holdover storage with optional HUP module (SEMI F47 compatible)

AC OK >5 ms early warning minutes before outputs lose regulation. Full cycle ride thru (50 Hz). Programmable

Harmonic distortion Meets EN61000-3-2

Isolation Meets EN60950 and EN60601

Global inhibit/enable TTL, Logic "1" and Logic "0"/configurable

Warranty Three years



210 W



360 W



750 W



1500 W

Single



144 W



36 W

Dual

Triple

Environmental Specifications

Output	
Adjustment range*	±10% minimum all outputs (manual) (full module adjustment range using I ² C)
Margining	±4-6% nominal analog (single output module only)
Overall regulation	0.4% or 20 mV max. (1500 W modules 1% max.)
Ripple	RMS: 0.1% or 10 mV, whichever is greater Pk-Pk: 1.0% or 50 mV, whichever is greater Bandwidth limited to 20 MHz
Dynamic response	<2% or 100 mV, with 25% load step
Recovery time	To within 1% in <300 µs
Overcurrent protection**	Configurable through I ² C. single output module and main output of the dual output module 105-120% of rated output current. Aux output of dual output module 105-140% of rated output current. Special programmable OCP delay on 1500 W module from 100 ms to 25.5 seconds with shutdown features
Short-circuit protection	Protected for continuous short-circuit Recovery is automatic upon removal of short (Shutdown mode on 1500 W module)
Overvoltage protection*	Configurable through I ² C – Single output module 2-5.5 V 122-134%; 6-60 V 110-120% – Dual output module 2-6 V 122-134%; 8-28 V 110-120% – Triple output module No overvoltage protection provided
Thermal protection*	Configurable through I ² C All outputs disabled when internal temp exceeds safe operating range. > 5 ms warning (AC OK signal) before shutdown
Remote sense	Up to 0.5 V total drop (not available on triple output module)
Single wire parallel	Current share to within 2% of total rated current
DC OK*	±5% of nominal. Configurable through I ² C
Minimum load	Not required
Housekeeping bias voltage	5 Vdc @1.0 A max. present whenever AC input is applied
Module inhibit*	Configured and controlled through I ² C
Output/Output isolation	>1 Megohm, 500 V

*Can be controlled via I²C** Controlled via I²C but requires load calibration

Operating temperature	-40 °C to 70 °C ambient. Derate each output 2.5% per degree from 50 °C to 70 °C. (-20 °C start up)
Storage temperature	-40 °C to 85 °C
Electromagnetic susceptibility	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
Humidity	Operating; non-condensing 10% to 95% RH
Vibration	IEC68-2-6 to the levels of IEC721-3-2
MTBF demonstrated	>550,000 hours at full load, 220 Vac and 25 °C ambient conditions

Safety

UL	UL60950/UL2601
CSA	CSA22.2 No. 234 Level 5
VDE	EN60950/EN60601-1
BABT	Compliance to EN60950/ EN60601 BS7002
CB	Certificate and report
CE	Mark to LVD

Output Module Line-up

Module Code	1	2	3	5	4	
Module Type	Single	Single	Single	Single	Dual	Triple
Max output power	210 W	360 W	750 W	1500 W	144 W	36 W
Max output current	35 A	60 A	150 A	300 A	10 A	2 A
Output voltages available*	2-60 V	2-60 V	2-60 V	2-60 V	6-15, 24-28; 6-15; 6-15; 6-15; 2-6; 2-6, 2-6; 24-28, 24-28; 24-28; 2-6	8-15, 8-15, 2-6; 8-15, 8-15, 8-15; 8-15, 8-15, 18-28; 8-15, 18-28, 2-6
Standard voltage increments	25	25	25	18	16	18
Remote sense	Yes	Yes	Yes	Yes	Yes	No
Remote margin*	Yes	Yes	Yes	Yes	No	No
V-Program - I ² C Control*	Yes	Yes	Yes	Yes	Yes	No
Active Current Share	Yes	Yes	Yes	Yes	Yes	No
Module Inhibit - I ² C Control*	Yes	Yes	Yes	Yes	Yes	Yes
Module Inhibit - Analog	Yes	Yes	Yes	Yes	No	No
Overvoltage/Overcurrent protection*	Yes	Yes	Yes	Yes	Yes	Yes
Minimum load required	No	No	No	No	No	No
Slots occupied in any iMP case	1	2	3	4	1	1

* Programmable



Output Module Voltage/Current

Voltage	Voltage Code	Single Output Module Code				Dual Output**		Triple Output			I ² C Adjustment Ranges***
		1	2	3	5	V1	V2				
2 V	A	35 A	60 A	150 A	—	10 A	10 A	—	—	2 A	1.8-2.2
2.2 V	B	35 A	60 A	150 A	—	10 A	10 A	—	—	2 A	2.0-2.4
3 V	C	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	2.7-3.3
3.3 V	D	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	3.0-3.6
5 V	E	35 A	60 A	150 A	300 A	10 A	10 A	—	—	2 A	4.5-5.5
5.2 V	F	35 A	60 A	144 A	288 A	10 A	10 A	—	—	2 A	4.7-5.7
5.5 V	G	34 A	58 A	136 A	273 A	10 A	10 A	—	—	2 A	5.0-6.1
6 V	H	23 A	42 A	97.5 A	250 A	10 A*	10 A*	—	—	2 A	5.4-6.6
8 V	I	20 A	36 A	84.4 A	140 A	10 A	4 A	1 A	1 A	1 A	7.2-8.8
10 V	J	18 A	32 A	75 A	140 A	10 A	4 A	1 A	1 A	1 A	9.0-11.0
11 V	K	17 A	31 A	68 A	136.3 A	10 A	4 A	1 A	1 A	1 A	9.9-12.1
12 V	L	17 A	30 A	62.5 A	125 A	10 A	4 A	1 A	1 A	1 A	10.8-13.2
14 V	M	14 A	21 A	53.5 A	107 A	9 A	4 A	1 A	1 A	1 A	12.6-15.4
15 V	N	14 A	20 A	50 A	100 A	8 A	4 A	1 A	1 A	1 A	13.5-16.5
18 V	O	11 A	19 A	41.6 A	83.3 A	—	—	—	0.5 A	0.5 A	16.2-19.8
20 V	P	10.5 A	18 A	37.5 A	75 A	—	—	—	0.5 A	0.5 A	18.0-22.0
24 V	Q	8.5 A	15 A	30 A	62.5 A	4 A	2 A	—	0.5 A	0.5 A	21.6-26.4
28 V	R	6.7 A	11 A	26.8 A	53.5 A	3 A	2 A	—	0.5 A	0.5 A	25.2-30.8
30 V	S	6.5 A	11 A	25 A	50 A	—	—	—	—	—	27.0-33.0
33 V	T	6.2 A	10.9 A	22.7 A	35.8 A	—	—	—	—	—	29.7-36.3
36 V	U	5.8 A	10 A	20.8 A	35.8 A	—	—	—	—	—	32.4-39.6
42 V	V	4.2 A	7.5 A	16 A	35.7 A	—	—	—	—	—	37.8-46.2
48 V	W	4 A	7.5 A	15.6 A	31.2 A	—	—	—	—	—	43.2-52.8
54 V	X	3.7 A	6 A	13.9 A	27.7 A	—	—	—	—	—	48.6-59.4
60 V	Y	3.5 A	6 A	12.5 A	25 A	—	—	—	—	—	54.0-66.0
Consult Factory											
Special	Z	35 A	60 A	150 A	—	—	10 A	—	—	—	2.3-2.6
Special	Z	35 A	60 A	150 A	—	—	10 A	—	—	—	3.7-4.4
Special	Z	20 A	36 A	80 A	140 A	—	8 A	—	—	—	6.7-7.1

* Note: Consult factory for extended range down to 6V.

** Total output power on dual model must not exceed 144 W.

*** For single output modules only.

Ordering Information

Sample below is 3210 W case with 12 V @ 125 A; 24 V @ 8.5 A; 5 V @ 60 A; 12 V @ 10 A and 12 V @ 4 A; with no options.

Case Size	Module/Voltage/Option Codes	Case Option Codes	Software Code	Hardware Code
iVS1	First - Module Code Second - Voltage Code Third - Option Code			
5L1 - 1Q1 - 2E0 - 4LLO	Module Codes Module/voltage/option codes Module Codes: (None) = 36 W triple O/P (1 slot) 1 = 210 W single O/P (1 slot) 2 = 360 W single O/P (2 slot) 3 = 750 W single O/P (3 slot) 5 = 1500 W single O/P (slot 4) 4 = 144 W dual O/P (1 slot) HUP = Extra 30mS hold-up (1 slot) Voltage Codes: See Output Module Voltage/Current table above Option Codes: 0 = Standard 1 = Module enable 2 = Constant current 3 = 1 & 2 combined 4 = Set for use in standard (non-intelligent case) 5 = Shutdown mode for 1500 W 6 = 1 & 5 combined 7-9 = Future	00 Case Option Codes First Digit 0 - 9 = Parallel code (See parallel codes table in datasheet) Second Digit 0 = No options 1 = Reverse air 2 = Not used 3 = Global enable 4 = Fan idle w/inhibit 5 = Opt 1 + Opt 3 6 = Opt 1 + Opt 4 7 = Opt 3 + Opt 4 8 = Opt 1 + 3 + 4 9 = RS485 73-544-001 B = USB 73-546-001 C = 9 + 3 D = CANBus 73-544-004 E = D + 3	A Software code used for configuration change. "A" is standard	### Factory assembled for hardware of firmware mods.
Case Size (mm) 1-Phase Input 1 = 5" x 5" x 11"; 1500-3210 W, 9 slots (127 x 127 x 279.4) 3 = 5" x 8" x 11"; 1800-4920 W, 14 slots (127 x 203.2 x 279.4) 3-Phase Input* 6 = 5" x 5" x 11"; 3120 W, 9 slots (127 x 127 x 279.4) 8 = 5" x 8" x 11"; 4920 W, 14 slots (127 x 203.2 x 279.4) *3-phase versions not medically approved				
Ordering Note: 1. USB to I ² C module order code 73-769-001				

LCM300

Bulk front end

300 Watts

Total Power: 300 W (350 W some models)
 # of Outputs: Single
 Output: 12 to 60 V
 Optional 5.0 V standby

NEW!



Special Features

- 300 W (350 W some models)
- Low Cost
- 1.61" x 4.0" x 7.0"
- 7.1 Watts Per Cubic Inch
- Industrial/Medical Safety
- -40 °C to 70 °C with derating
- Optional 5 V @ 2 A Housekeeping
- High Efficiency: 91% @ 230 VAC
- Variable speed "Smart Fans"
- DSP controlled
- PMBus Compliant
- Conformal coat option
- $\pm 20\%$ adjustment range
- Margin programming (300W and 600W models)
- OR-ing FET
- EMI Class B
- EN61000 Immunity
- RoHS 2
- Optional battery charging current profile

Electrical Specifications

Input	
Input range	90 - 264 Vac (Operating) (127-374 Vdc) 115/230 Vac (Nominal) TERMINAL BLOCK
Frequency	47 - 63 Hz, Nominal 50/60
Input fusing	Internal 8 A fuses, both lines fused
Inrush current	≤ 20 A peak, either hot or cold start
Power factor	0.98 typical, meets EN61000-3-2
Harmonics	Meets IEC 1000-3-2 requirements
Input current	5 Arms max input current, at 90 Vac
Hold up time	20 ms minimum for Main O/P, at full rated load
Efficiency	> 91% typical at full Load/230 Vac nominal
Leakage current	< 0.3 mA at 264 Vac
ON/OFF power switch	N/A
Power line transient	MOV directly after the fuse
Isolation	PRI-Chassis 2500 Vdc Basic PRI-SEC 4000 Vac Reinforced 2xMOPP SEC-Chassis 500 Vdc

Environmental Specifications

Operating temperature	-40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C
Storage temperature	-40 °C to +85 °C
Humidity	20 to 90%, non-condensing. Operating. conformal coat option available
Fan noise	< 45 dBA, 80% load at 40 °C; fan off when unit is inhibited
Altitude	Operating - 16,405 feet (3000m) Storage - 30,000 feet
Shock	MIL-STD-810F 516.5, Procedure I, VI. storage
Vibration	MIL-STD-810F 514.5, Cat. 4, 10. storage

Safety

UL	60950-1 508/1598/1433 60601-1 Ed 3
CSA	60950-1
VDE	60950-1 60601
China	CCC
CB Scheme	Report/Cert

Electrical Specifications

Output		
Output rating	See ordering information table below	90-264 Vac
Set point	±0.5%	90-264 Vac
Total regulation range	Main output ±2% 5 Vsb ±1%	Combined line/load/transient when measured at output terminal
Rated load	310 W maximum	Derate linear to 50% from 50 °C to 70 °C
Minimum load	Main output @ 0.0 A 5 Vsb @ 0.0 A	No loss of regulation
Output noise (PARD)	1% max p-p 50 mV max p-p	Main output 5 Vsb output Measured with a 0.1 µF ceramic and 10 µF tantalum capacitor on any output, 20 MHz
Output voltage overshoot	—	No overshoot/undershoot outside the regulation band during on or off cycle
Transient response	<300 µs	50% load step @ 1 A/µs Step load valid between 10% to 100% of output rating Recovery time to within 1% of set point at onset of transient
Max units in parallel	—	Up to 10
Short circuit protection	Protection against damage	Bounce mode
Remote sense	—	Compensation up to 500 mV
Output isolation	—	Standard per safety requirements
Forced load sharing	To within 10% of all shared outputs	Analog sharing control
Overload protection (OCP)	105% to 125% 120% to 170%	Main output 5 Vsb output. Constant current or hiccup mode (software selectable)
Overvoltage protection (OVP)	125% to 145% 110% to 125%	12 V output 5 Vsb output
Overtemp protection	10-15 °C above safe operating area	Both PFC and output converter monitored

Ordering Information

Model Number*	Output	Nominal Output Voltage Set Point	Set Point Tolerance	Adjustment Range	Current		Output Ripple P/P (0-50 °C)	Max Continuous Power	Combined Line/ Load Regulation
					Min	Max			
LCM300L	12 V	12 V	±0.5%	±0.5%	0 A	25 A	120 mV	310	2%
LCM300N	15 V	15 V	±0.5%	±0.5%	0 A	20 A	150 mV	310	2%
LCM300Q	24 V	24 V	±0.5%	±0.5%	0 A	12.5 A	240 mV	310	2%
LCM300U	36 V	36 V	±0.5%	±0.5%	0 A	8.4 A	360 mV	310	2%
LCM300W	48 V	48 V	±0.5%	±0.5%	0 A	6.3 A	480 mV	310	2%

* "-T" for terminal block instead of IEC input

* "-4" for 5 Vsb Option

* Please contact the factory for products availability

LCM600

Bulk front end

600 Watts

Total Power: 600 Watts
 # of Outputs: Single
 Output: 3.3-60 V
 Optional 5.0 V standby

NEW!



Special Features

- 600 W output power
- Low cost
- 2.4" x 4.5" x 7.5"
- 7.41 W/cu-in
- 5 V SELV standby (housekeeping)
- Industrial/Medical safety
- -40 °C to 70 °C with derating
- 5 V housekeeping
- High efficiency: 89% typical
- Variable speed "Smart Fans"
- DSP controlled front end
- Conformal coat option
- ±20% adjustment range
- Margin programming
- OR-ing FET option
- Terminal block input option

Electrical Specifications

Input	
Input range	85-264 Vac (Operating) 115/230 Vac (Nominal) Input through standard IEC connector
Frequency	47-440 Hz, Nominal 50/60
Input fusing	Internal 10 A fuses, both lines fused
Inrush current	≤25 A peak, either hot or cold start
Power factor	0.99 typical, meets EN61000-3-2
Harmonics	Meets IEC 1000-3-2 requirements
Input current	8 A RMS max input current, at 100 Vac
Hold up time	20 ms minimum for Main O/P, at full rated load
Efficiency	>88% at full load
Leakage current	<0.3 mA at 264 Vac
ON/OFF power switch	N/A
Power line transient	MOV directly after the fuse



Environmental Specifications

Operating temperature	-40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C
Storage temperature	-40 °C to 85 °C
Humidity	20 to 90%, non-condensing. Operating. Conformal coat option available
Fan noise	<45 dBA, 80% load at 30 °C
Altitude	Operating: Up to 15,000 feet above sea level Storage: Up to 30,000 feet above sea level
Shock	MIL-STD-810F 516.5, Procedure I, VI. Storage
Vibration	MIL-STD-810F 514.5, Cat. 4, 10. Storage

Safety

UL	60950-1 508/1598/1433 60601-1
CSA	60950-1
VDE	60950-1 60601
China	CCC
CB Scheme	Report/Cert

Electrical Specifications

Output		
Output rating	See ordering information table below	85-264 Vac
Set point	±0.5%	85-264 Vac
Total regulation range	Main output ±2% 5 Vsb ±1%	Combined line/load/transient when measured at output terminal
Rated load	600 W maximum	Derate linear to 50% from 50 °C to 70 °C
Minimum load	Main output @ 0.0 A 5 Vsb @ 0.0 A	No loss of regulation
Output noise (PARD)	1% max p-p 50 mV max p-p	Main output 5 Vsb output Measured with a 0.1 µF ceramic and 10 µF tantalum capacitor on any output, 20 MHz
Output voltage overshoot	—	No overshoot/undershoot outside the regulation band during on or off cycle
Transient response	<300 µs	50% load step @ 1 A/µs Step load valid between 10% to 100% of output rating Recovery time to within 1% of set point at onset of transient
Max units in parallel	—	Up to 10
Short circuit protection	Protection against damage	Bounce mode
Remote sense	—	Compensation up to 500 mV
Output isolation	—	Standard per safety requirements
Forced load sharing	To within 10% of all shared outputs	Analog sharing control
Overload protection (OCP)	105% to 125% 120% to 170%	Main output 5 Vsb output. Constant current or bounce mode option through software
Overvoltage protection (OVP)	125% to 145% 110% to 125%	12 V output 5 Vsb output
Overtemp protection	10-15 °C above safe operating area	Both PFC and output converter monitored

Ordering Information

Model Number*	Output	Nominal Output Voltage Set Point	Set Point Tolerance	Adjustment Range	Current Min	Current Max	Output Ripple P/P (0-50 °C)	Combined Line/ Load Regulation
LCM600L	12 V	12 V	±0.5%	9.6–14.4 V	0 A	54 A	120 mV	2%
LCM600N	15 V	15 V	±0.5%	12.0–19.5 V	0 A	44 A	150 mV	2%
LCM600Q	24 V	24 V	±0.5%	19.2–28.8 V	0 A	27 A	240 mV	2%
LCM600U	36 V	36 V	±0.5%	28.8–43.2 V	0 A	16.7 A	360 mV	2%
LCM600W	48 V	48 V	±0.5%	38.4–57.6 V	0 A	14 A	480 mV	2%

* "-T" for terminal block instead of IEC input

* "-4" for 5 Vsb Option

* "-A" for new Aesthetics

LCM1500

Bulk front end

1500 Watts

Total Power: 1500 W
of Outputs: Single
Output: 12 to 60 V
Optional 5.0 V standby



Special Features

- 1500 W output power
- Low Cost
- 2.5" x 5.2" x 10.0"
- 12 Watts Per Cubic Inch
- Industrial/Medical safety
- -40 °C to 70 °C with derating
- Optional 5 V @ 2 A Housekeeping
- High Efficiency: 89% typical
- Variable speed "Smart Fans"
- DSP controlled
- Conformal coat option
- $\pm 10\%$ adjustment range
- Margin programming
- OR-ing FET
- Compliance
 - Change to EMI Class A
 - EN61000 Immunity
 - RoHS 2
 - PMBUS

Electrical Specifications

Input	
Input range	90 - 264 Vac (Operating) 115/230 Vac (Nominal) TERMINAL BLOCK
Frequency	47 - 440 Hz, Nominal 50/60
Input fusing	Internal 20 A fuses, both lines fused
Inrush current	≤ 25 A peak, either hot or cold start
Power factor	0.99 typical, meets EN61000-3-2
Harmonics	Meets IEC 1000-3-2 requirements
Input current	18 Arms max input current, at 100 Vac
Hold up time	20 ms minimum for Main O/P, at full rated load
Efficiency	> 91% typical at full Load/230 Vac nominal
Leakage current	< 0.3 mA at 264 Vac
ON/OFF power switch	N/A
Power line transient	MOV directly after the fuse
Isolation	PRI-Chassis 2500 Vdc Basic PRI-SEC 2500 Vdc Reinforced SEC-Chassis 500 Vdc

Environmental Specifications

Operating temperature	-40 °C to +70 °C, linear derating to 50% from 50 °C to 70 °C
Storage temperature	-40 °C to +85 °C
Humidity	20 to 90%, non-condensing. Operating. Conformal coat option available
Fan noise	< 45 dBA, 80% load at 30 °C
Altitude	Operating - 16,405 feet (3000m) Storage - 30,000 feet
Shock	MIL-STD-810F 516.5, Procedure I, VI. Storage
Vibration	MIL-STD-810F 514.5, Cat. 4, 10. Storage

Safety

UL	60950-1 508/1598/1433 60601-1 Ed 3
CSA	60950-1
VDE	60950-1 60601
CB Scheme	Report/Cert

Electrical Specifications

Output		
Output rating	See ordering information table below	90-264 Vac
Set point	±0.5%	90-264 Vac
Total regulation range	Main output ±2% 5 Vsb ±1%	Combined line/load/transient when measured at output terminal
Rated load	1500 W maximum	Derate linear to 50% from 50 °C to 70 °C
Minimum load	Main output @ 0.0 A 5 Vsb @ 0.0 A	No loss of regulation
Output noise (PARD)	1% max p-p 50 mV max p-p	Main output 5 Vsb output Measured with a 0.1 µF ceramic and 10 µF tantalum capacitor on any output, 20 MHz
Output voltage overshoot	—	No overshoot/undershoot outside the regulation band during on or off cycle
Transient response	<300 µs	50% load step @ 1 A/µs Step load valid between 10% to 100% of output rating Recovery time to within 1% of set point at onset of transient
Max units in parallel	—	Up to 10
Short circuit protection	Protection against damage	Bounce mode
Remote sense	—	Compensation up to 500 mV
Output isolation	—	Standard per safety requirements
Forced load sharing	To within 10% of all shared outputs	Analog sharing control
Overload protection (OCP)	105% to 125% 120% to 170%	Main output 5 Vsb output. Constant current or bounce mode option through software.
Overvoltage protection (OVP)	125% to 145% 110% to 125%	12 V output 5 Vsb output
Overtemp protection	10-15 °C above safe operating area	Both PFC and output converter monitored

Ordering Information

Model Number*	Output	Nominal Output Voltage Set Point	Set Point Tolerance	Adjustment Range	Current		Output Ripple P/P (0-50 °C)	Max Continuous Power	Combined Line/Load Regulation
					Min	Max			
LCM1500L	12 V	12 V	±0.5%	10.8–13.2 V	0 A	133 A	120 mV	1500	2%
LCM1500N	15 V	15 V	±0.5%	13.5–16.5 V	0 A	100 A	150 mV	1500	2%
LCM1500Q	24 V	24 V	±0.5%	21.6–26.4 V	0 A	67 A	240 mV	1500	2%
LCM1500R	28 V	28 V	±0.5%	25.2–30.8 V	0 A	53.6 A	280 mV	1500	2%
LCM1500U	36 V	36 V	±0.5%	32.4–39.6 V	0 A	43 A	360 mV	1500	2%
LCM1500W	48 V	48 V	±0.5%	43.2–52.8 V	0 A	33 A	480 mV	1500	2%

* *-T" for terminal block instead of IEC input

* *-4" for 5 Vsb Option

* Please contact the factory for products' availability

HPS & UFE

Distributed power bulk front end

3000-12000 Watts

Special Features

- EN61000-3-2 harmonic compliance
- Built-in EMI filter
- Low output ripple
- +5 V standby output
- Built-in cooling fans
- N + 1 redundant
- Overcurrent protection
- Overvoltage protection
- Overtemperature protection
- Built-in OR-ing diodes
- Active power factor correction



Voltage Availability

Model	HPS3000	UFE
Wattage	3000 W ³	2000 W ⁴
Input Voltage	90-140 Vac 180-264 Vac	90-265 Vac
Available Standard Output Voltages (order code)¹		
12 (L)		
24 (Q)		●
28 (R)		●
30 (S)		
48 (W)	●	●
54 (X)		●
60 (Y)		
Available Options	See Note 1	
Corresponding Rack	See Note 2	UFR6000J

Notes: 1 = Consult factory for other output voltages and options

2 = Comes with optional I²C interface

3 = 3000 W @ 180-264 Vac; 1500 W @ 90-140 Vac

4 = 2000 W @ 48 V; 1300 W @ 24 V

HPS3000 Electrical Specifications

Input	
Input range (operating)	180-264 Vac 90-140 Vac
Input range (nominal)	200 Vac 110 Vac
Frequency	43-63 Hz
Input fusing	Internal 25 A fuses (both lines fused)
Inrush current	≤40 A peak (either hot or cold start)
Power factor	0.97 typical (Meets EN61000-3-2)
Harmonics	Meets IEC 1000-3-2 requirements @ 50% load
Input current	19 A max input current
Holdup time	10 ms min @ full rated load
Leakage current	1.4 mA @ 240 Vac
Power line transient	MOV directly after the fuse

Environmental Specifications

HPS3000	
Operating temp.	-10 °C to 40 °C
Storage temp.	-40 °C to 85 °C
Cooling	External fans with Fan Fail and Fan Speed control
Humidity	Operating/Storage: 5-95% non-condensing
Altitude	Operating: Up to 10,000 feet above sea level Storage: Up to 30,000 feet above sea level
Vibration/Shock	Non-operational 5G Sine sweep from 5-500 Hz, dwelling at resonant frequencies for one hour each
RoHS compliant	Yes

Safety

UL	UL60950 (UL recognized)
NEMKO	EN60950
TÜV	EN60950
CE	Mark
CB	Report



HPR12K



Output

Output rating	48 V @ 62.0 A (180-264 Vac) 5 Vsb @ 3.0 A 48 V @ 29.4 A (90-140 Vac) 5 V @ 3 A
Set point	-4% to +17% through I ² C
Total regulation range	48 V $\pm$ 10%; 5 Vsb $\pm$ 4% (line/load/transient when measured at output connection)
Rated load	3000 W maximum @ 200 Vac Input 1500 W maximum @ 110 Vac Input (no derating over operating temperature range)
Minimum load	48 V @ 0.0 A; 5 Vsb @ 0.0 A with no loss of regulation
Output noise	480 mV max P-P for 48 V output 100 mV max P-P for 5 Vsb output Measured with a 0.1F Ceramic and 10 F Tantalum capacitor on any input
Output voltage overshoot	$\pm$ 5% maximum of nominal voltage setting
Transient response	5% maximum deviation (50% load step @ 1 A/us. Step load valid between 10-100% of output rating)
Max units in parallel	Up to 4 (total power in 1U 19" rack is 12 KW)
Short circuit protection	120-130% of rated output (output to return)
Forced load sharing	Within 10% of all shared outputs (digital sharing control)
Overcurrent protection (OCP)	120-130% for 48 V output 100-125% for 5 Vsb output
Overvoltage protection (OVP)	110-120% for 48 V output 110-125% for 5 Vsb output
Overtemperature protection	10 °C to 15 °C above safe operating area. (Both PFC and output converter monitored. 5 Vsb will operate under overtemperature condition. Built-in hysteresis.)

Rack Ordering Information

Module	UFE1300/2000	HPS3000
Rack #	UFR6000	HPR12K
# of Slots	3	4
Total Power	6000 W	12000 W

**See website for option codes on HPR racks.

Ordering Information

HPS3000-9-001	High airflow performance	HPR120K-00-001
HPS3000-9	Standard fans	HPR12K-00

UFE1300/2000 Electrical Specifications

Input	
Input range (operating)	88-264 Vac 176-264 Vac
Input range (nominal)	120 Vac 240 Vac
Frequency	47-63 Hz
Input fusing	30 A (both lines fused)
Power factor	0.98 (50-100% load)
Input current	15 A max.
Leakage current	2 mA max.
Undervoltage lockout (power up)	176 Vac max. (high line range) 88 Vac max. (wide range)
Undervoltage lockout (power down)	162 Vac min. (high line range) 76 Vac min. (wide range)

Output	
Output rating - Main output	48 V 2000 W (high line range) 48 V 1300 W (wide range) 24 V 1300 W (all ranges)
Output rating - Auxiliary output	11 V $\pm 15\%$, 2.875 W
Line regulation	$\pm 0.15\%$ max.
Load regulation	$\pm 0.15\%$ max.
Turn-on delay	5.0 seconds max.
Ambient temp. coefficient	$\pm 0.005\%/^{\circ}\text{C}$
Voltage adjustability (via PMBus)	48 V 42-57 Vdc 24 V 21-28.5 Vdc
Output setpoint accuracy	$\pm 0.5\%$
Default output voltage (@ 25 $^{\circ}\text{C}$)	48 V $\pm 0.5\%$ @ 41 A 27 V $\pm 0.5\%$ @ 48 A
Total error band	$\pm 1.0\%$ max.
Overshoot/undershoot	0%
Ripple and noise (20 MHz)	500 mV pk-pk, 150 mV rms
Dynamic regulation (except droop mode)	2.5% max., recovery in 1 ms max.
Current sharing	15% max.
Electrical insulation	4242 Vdc input/output
Switching frequency	450 kHz fixed
Power limit	115%
Current limit	108% typical
Short-circuit	200 ms on; 1/8 second off
Overvoltage	60 V/32 V
Overtemperature	Non-latching

UFE Power Shelf



UFE2000

Ordering Information

Rated Output Power	Output Voltage Vout		Output Current (Min)	Power Limit + 15% / -0% Vout (min)	Line Range at Turn On (Auto Ranging)	Operating Line Range	Current Limit (Vout) < Vout (min)	Model Numbers	Order Number
	Min	Max							
24 Vout Models									
1300 W	21 V	28.5 V	0 A	1300 W	90-264 Vac	65 A	65 A	UFE1300-96S24PJ	UFE1300-5
48 Vout Models									
1300 W	42 V	57 V	0 A	1300 W	90-264 Vac	33 A	33 A	UFE2000-96S48PJ	UFE2000-9
2000 W	42 V	57 V	0 A	2000 W	180-264 Vac	52 A	52 A		
1300 W	42 V	57 V	0 A	1300 W	90-264 Vac	33 A	33 A	UFE2000-96S48PDJ	UFE2000-9-HD
2000 W	42 V	57 V	0 A	2000 W	180-264 Vac	52 A	52 A		
1300 W	42 V	57 V	0 A	1300 W	90-264 Vac	33 A	33 A	UFE2000-96S48PHDJ	UFE2000-9-D
2000 W	42 V	57 V	0 A	2000 W	180-264 Vac	52 A	52 A		

Product Family	Rated Output Power	Input Range	Standard Compliance	Type of Output	Output Voltage	Communications Type	Option Code	Special Modification	RoHS Compliance
UFE	2000	9	6	S	48	P	D	xx	J
UFE = Universal Front-End	1300 = 1300 Watts 2000 = 2000 Watts	9 = Universal Input with PFC	6 = UL/CSA/VDE Class A/B	S = Single	48 = 48 V 24 = 24 V	P = PMBus serial communications	None = Active Ishare D = Droop Ishare HD = PS Enable HI/Droop		J = Pb free (RoHS 6/6 compliant)

Distributed Power Systems (DS)

AC and DC inputs available

450-2900 Watts



DS450DC/DS2900

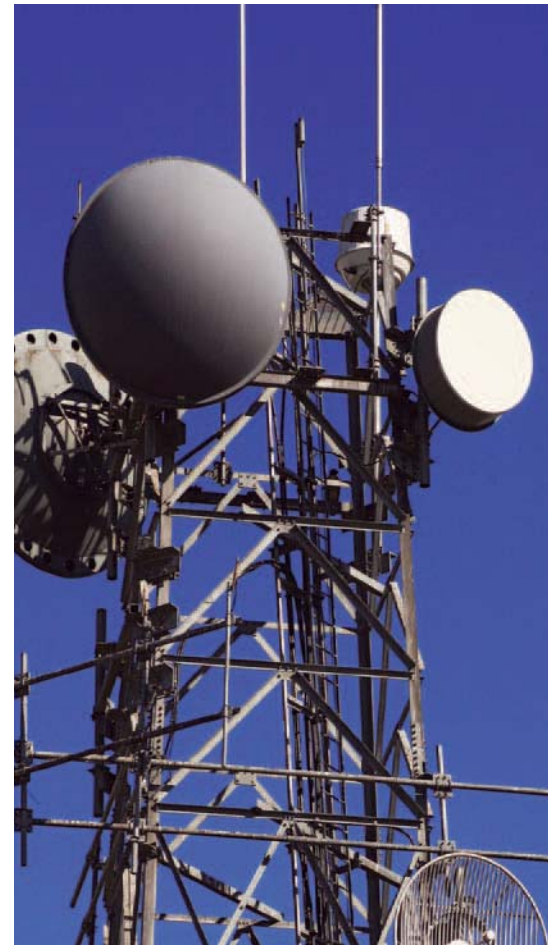
Special Features

- Active power factor correction
- EN61000-3-2 harmonic compliance
- Active AC inrush control
- High density
- Outputs +12 Vdc with some +48 Vdc models available
- 3.3 Vdc standby
- Options for 5 V standby voltage
- No minimum load required
- Hot plug operation
- N+1 redundant
- Internal OR-ing FETs
- Active current sharing
- Built-in cooling fans
- I²C Interface with EEPROM for FRU data
- Internal fan speed control with fan fail signal
- DC Input
- DSR1 rack for DS650/850. Ordering part number is 73-762-002. Standard 19" 1U fits up to 5 modules (4250 Watts)
- Gold efficiency standards on some models
- Options for reverse airflow
- Options for 5 V standby
- Platinum Plus efficiency on some models

Voltage Availability

Model	12 V	24 V	48 V	PMBus
	(-3)	(-5)	(-9)	
DS450 (HE)	●			
DS450DC	●			
DS460S	●			●
DS460SDC	●			●
DS550 (HE)	●			
DS550DC	●			
DS500SPE	●			
DS650	●	●	●	
DS650DC	●			
DS750PED	●			
DS760SL	●			
DS800SL	●			●
DS850	●	●	●	
DS850DC	●			
DS1050	●			●
DS1100PED	●			
DS1200	●			●
DS1100SLPE	●			
DS1200DC	●			●
DS1600SPE	●			
DS2000	●			●
DS2500PE	●			
DS2900	●			●
DS3000PE	●			

Notes: ● Available



Safety

UL	UL60950 (UL recognized)
NEMKO	EN60950
TÜV	EN60950
CE	Mark
CB	Report



DS460



DS550

Electrical Specifications

NEW!

	DS450-3	DS450DC-3	DS460S-3	DS460SDC	DS500SPE-3	DS550-3
Input						
Input Range	90-264 Vac	40-72 Vdc	90-264 Vac	40-72 Vdc	90-264 Vac	90-264 Vac
Frequency	47-63 Hz	DC	47-63 Hz	DC	47-63 Hz	47-63 Hz
Efficiency	80% Typ	80% Typ	92% Typ	92% Typ	94% Typ	80% Typ
EMI/RFI	Class B	N/A	Class B	N/A	Class A	Class B
Leakage Current	1.4 mA @ 240 V	N/A	1.0 mA @ 240 V	N/A	1.75 mA @ 240 V	1.4 mA @ 240 V
Outputs						
Output Main	12 V / 37 A	12 V / 37 A	12 V / 38.2 A	12 V / 38.2 A	12 V / 41.6 A	12 V / 45 A
Output Stand-By	3.3 Vsb / 3 A	3.3 Vsb / 3 A	12 Vsb / 2.5 A	12 Vsb / 2.5 A	12 V / 4.5 A	3.3 Vsb / 3 A
OCP/OVP/OTP	YES	YES	YES	YES	YES	YES
I ² C Control	YES	YES	YES	YES	YES	YES
Environmental						
Operating Temp	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	0 °C to 50 °C	-10 °C to 50 °C
Derating	N/A	N/A	N/A	N/A	50 °C to 70 °C	N/A
Storage	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
RoHS Compliant	YES	YES	YES	YES	YES	YES
MTBF	300K Hours	500K Hours	500K Hours	500K Hours	200K Hours	300K Hours
Other						
Size (inch)	1.57 x 3.07 x 11.05	1.57 x 3.07 x 11.05	1.57 x 3.4 x 7.75	1.57 x 3.4 x 7.75	1.57 x 3.39 x 7.73	1.57 x 3.07 x 11.05
Size (mm)	40 x 78 x 280	40 x 78 x 280	40 x 86.4 x 197	40 x 86.4 x 197	40 x 86.3 x 196.5	40 x 78 x 280
Power Density	8.42	8.42	11.12	11.12	12.15	10.30
Cubic Inches	53.42	53.42	41.37	41.37	41.14	53.42
Pro-E Files	NO	YES	YES	YES	YES	NO
Thermal Data	YES	YES	YES	YES	YES	YES
PQ Airflow Curves	YES	YES	YES	YES	YES	YES
Warranty	Two Years	Two Years	Two Years	Two Years	Two Years	Two Years
Ordering Codes						
Standard	DS450-3	DS450DC-3	DS460S-3-002 DS460S-3-004 (CCC 5,000m altitude)	DS460SDC-3	DS500SPE-3	DS550-3
ALT Standby	DS450-3-001					
Reverse Air	DS450-3-002	DS450DC-3-002	DS460S-3-003 DS460S-3-005 (CCC 5,000m altitude)	DS460SDC-3-001	DS500SPE-3-001	



DS550DC



DS650/DS850



DS750PED

NEW!

	DS550DC-3	DS650-3	DS650-5	DS650-9	DS650DC-3	DS750PED-3
Input						
Input Range	40-72 Vdc	90-264 Vac	90-264 Vac	90-264 Vac	40-72 Vdc	90-264 Vac
Frequency	DC	47-63 Hz	47-63 Hz	47-63 Hz	DC	47-63 Hz
Efficiency	80% Typ	80% Typ	80% Typ	82% Typ	80% Typ	94% Typ
EMI/RFI	N/A	Class B	Class B	Class B	N/A	Class A
Leakage Current	N/A	1.4 mA @ 240 V	1.4 mA @ 240 V	1.4 mA @ 240 V	N/A	1.75 mA @ 240 V
Outputs						
Output Main	12 V / 45 A	12 V / 52.5 A	24 V / 26.3 A	48 V / 13.1 A	12 V / 52.5 A	12 V / 62.5 A
Output Stand-By	3.3 Vsb / 3 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A	12 V / 3 A
OCP/OVP/OTP	YES	YES	YES	YES	YES	YES
ƒC Control	YES	YES	YES	YES	YES	YES
Environmental						
Operating Temp	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	0 °C to 50 °C
Derating	N/A	50% at 70 °C	50% at 70 °C	50% at 70 °C	50% at 70 °C	N/A
Storage	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +70 °C
RoHS Compliant	YES	YES	YES	YES	YES	YES
MTBF	500K Hours	500K Hours	500K Hours	500K Hours	500K Hours	200K Hours
Other						
Size (inch)	1.57 x 3.07 x 11.05	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00	1.57 x 3.39 x 7.74
Size (mm)	40 x 78 x 280	40 x 81.3 x 279.4	40 x 81.3 x 279.4	40 x 81.3 x 279.4	40 x 81.3 x 279.4	41 x 86.3 x 196.5
Power Density	10.30	11.76	11.76	11.76	11.76	18.23
Cubic Inches	53.42	55.44	55.44	55.44	55.44	41.14
Pro-E Files	YES	YES	YES	YES	YES	YES
Thermal Data	YES	YES	YES	YES	YES	YES
PQ Airflow Curves	YES	YES	YES	YES	YES	YES
Warranty	Two Years	Two Years	Two Years	Two Years	Two Years	Two Years
Ordering Codes						
Standard	DS550DC-3/	DS650-3	DS650-5	DS650-9	DS650DC-3	DS750PED-3
ALT Standby					DS650DC-3-002	
Reverse Air	DS550DC-3-003	DS650-3-007			DS650DC-3-003	DS750PED-3-001
ALT Standby & Reverse Air					DS650DC-3-004	
Disable External Fan Drive				DS650DC-3-001		



DS760SL



DS800SL



DS850

	DS760SL-3	DS800SL-3	DS850-3	DS850-5	DS850-9
Input:					
Input Range	90-264 Vac	90-264 Vac	90-264 Vac	90-264 Vac	90-264 Vac
Frequency	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz
Efficiency	90% Typ	92% Typ GLD	82% Typ	82% Typ	83% Typ
EMI/RFI	Class A	Class B	Class B	Class B	Class B
Leakage Current	0.8 mA @240 V	0.8 mA @240 V	1.4 mA @ 240 V	1.4 mA @ 240 V	1.4 mA @ 240 V
Outputs					
Output Main	12 V / 62.3 A	12 V / 66.7 A	12 V / 70 A	24 V / 35 A	48 V / 17.5 A
Output Stand-By	5.0 Vsb / 3.6 A	5.0 Vsb / 4 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A
OCP/OVP/OTP	YES	YES	YES	YES	YES
I ² C Control	YES	YES	YES	YES	YES
Environmental					
Operating Temp	0 °C to 50 °C	0 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C
Derating	N/A	N/A	50% at 70 °C	50% at 70 °C	50% at 70 °C
Storage	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
RoHS Compliant	YES	YES	YES	YES	YES
MTBF	300K Hours	500K Hours	500K Hours	500K Hours	500K Hours
Other:					
Size (inch)	1.57 x 2.15 x 12.68	1.57 x 2.15 x 12.68	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00
Size (mm)	40 x 54.5 x 322	40 x 54.5 x 322	40 x 81.3 x 279.4	40 x 81.3 x 279.4	40 x 81.3 x 279.4
Power Density	17.76	18.69	15.38	15.38	15.38
Cubic Inches	42.8	42.8	55.44	55.44	55.44
Pro-E Files	YES	YES	YES	YES	YES
Thermal Data	YES	YES	YES	YES	YES
PQ Airflow Curves	YES	YES	YES	YES	YES
Warranty	Two Years	Two Years	Two Years	Two Years	Two Years
Ordering Codes					
Standard	DS760SL-3	DS800SL-3	DS850-3	DS850-5	DS850-9
ALT Standby	DS760SL-3-002		DS850-3-005		
Reverse Air	DS760SL-3-001	DS800SL-3-001	DS850-3-006		
ALT Standby & Reverse Air	DS760SL-3-003				



DS850DC



DS1100PED



DS1200

NEW!

NEW!

	DS850DC-3	DS1050-3	DS1100PED-3	DS1100SLPE-3	DS1200-3	DS1200DC-3
Input:						
Input Range	40-72 Vdc	90-264 Vac	90-264 Vac	90-264 Vac	90-264 Vac	40-72 Vdc
Frequency	DC	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz	DC
Efficiency	80% Typ	92% Typ GLD	94% Typ	94% Typ	90% Typ	91% Typ
EMI/RFI	N/A	Class B	Class A	Class A	Class B	N/A
Leakage Current	N/A	1.4 mA @ 240 V	1.75 mA @ 240 V	1.75 mA	1.4 mA @ 240 V	N/A
Outputs:						
Output Main	12 V / 70 A	12 V / 85.5 A	12 V / 91.67 A	12 V / 90 A	12 V / 98 A	12 V / 98 A
Output Stand-By	3.3 Vsb / 6 A	3.3 Vsb / 6 A	12 V / 3 A	3.3 V / 3 A	3.3 Vsb / 6 A	3.3 Vsb / 6 A
OCP/OVP/OTP	YES	YES	YES	YES	YES	YES
I ² C Control	YES	YES	YES	YES	YES	YES
Environmental						
Operating Temp	-10 °C to 50 °C	-10 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	-10 °C to 50 °C	-10 °C to 50 °C
Derating	50% at 70 °C	50% at 70 °C	N/A	60% at 65 °C	50% at 70 °C	50% at 70 °C
Storage	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +70 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
RoHS Compliant	YES	YES	YES	YES	YES	YES
MTBF	500K Hours	500K Hours	200K Hours	300k Hours	500K Hours	500K Hours
Other						
Size (inch)	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00	1.57 x 3.39 x 7.75	1.57 x 2.15 x 12.66	1.57 x 3.20 x 11.00	1.57 x 3.20 x 11.00
Size (mm)	40 x 81.3 x 279.4	40 x 81.3 x 279.4	42 x 86.3 x 196.5	40 x 54.6 x 321.56	40 x 81.3 x 279.4	40 x 81.3 x 279.4
Power Density	15.38	18.95	26.74	25.7	21.71	21.71
Cubic Inches	55.44	55.44	41.14	42.73	55.44	55.44
Pro-E Files	YES	YES	YES	YES	YES	YES
Thermal Data	YES	YES	YES	YES	YES	YES
PQ Airflow Curves	YES	YES	YES	YES	YES	YES
Warranty	Two Years	Two Years	Two Years	Two Years	Two Years	Two Years
Ordering Codes						
Standard	DS850DC-3	DS1050-3	DS1100PED-3	DS1100SLPE-3	DS1200-3	DS1200DC-3 DS1200DC-3-005 (NEBS compliant)
ALT Standby	DS850DC-3-003	DS1050-3-002			DS1200-3-002	DS1200DC-3-002
Reverse Air	DS850DC-3-004	DS1050-3-001	DS1100PED-3-001	DS1100SLPE-3-001	DS1200-3-003	DS1200DC-3-001
ALT Standby & Reverse Air		DS1050-3-003			DS1200-3-004	

DS2000



DS2500PE-3



DS2900

**NEW!****NEW!****NEW!**

	DS1600SPE-3	DS2000-3	DS2500PE-3	DS2900	DS3000PE-3
Input:					
Input Range	180-264 Vac	90-264 Vac	180-264Vac	180-264 Vac	208-264 Vac
Frequency	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz	47-63 Hz
Efficiency	94% Typ	87% Typ	94% Typ	90% Typ	94% Typ
EMI/RFI	Class A	Class B	Class A	Class B	Class A
Leakage Current	1.75 mA @ 240 V	1.4 mA @ 24 0V	0.75 mA @ 240 V	1.4 mA @ 240 V	0.58 mA @ 240 V
Outputs:					
Output Main	12 V / 133.3 A	12 V / 165 A	12 V / 208.3 A	12 V / 240 A	12 V / 250 A
Output Stand-By	12 V / 4.5 A	3.3 Vsb / 9 A	3.3 V / 2.7 A	3.3 Vsb / 3 A	12 V / 4.5 A
OCP/OVP/OTP	YES	YES	YES	YES	YES
I ² C Control	YES	YES	YES	YES	YES
Environmental					
Operating Temp	0 °C to 50 °C	-10 °C to 50 °C	10 °C to 50 °C	0 °C to 50 °C	0 °C to 40 °C
Derating	50% at 70 °C	N/A	N/A	N/A	25% at 50 °C
Storage	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +60 °C	-40 °C to +85 °C	-40 °C to +85 °C
RoHS Compliant	YES	YES	YES	YES	YES
MTBF	200K Hours	500K Hours	750K Hours	500K Hours	400K Hours
Other					
Size (inch)	1.57 x 3.39 x 7.76	1.57 x 4.2 x 11.6	1.69 x 5.47 x 10.63	3.07 x 4.17 x 8.5	4.15 x 2.78 x 11.12
Size (mm)	43 x 86.3 x 196.5	40 x 106.7 x 295.7	42.9 x 139 x 270	78 x 106 x 217	105.5 x 70.6 x 282.6
Power Density	38.89	26.2	25.44	26.7	26.26
Cubic Inches	41.14	76.5	98.27	108.8	114.23
Pro-E Files	YES	YES	YES	YES	YES
Thermal Data	YES	YES	YES	YES	YES
PQ Airflow Curves	YES	YES	YES	YES	YES
Warranty	Two Years	Two Years	Two Years	Two Years	Two Years
Ordering Codes					
Standard	DS1600SPE-3	DS2000-3	DS2500PE-3	DS2900-3	DS3000PE-3
ALT Standby		DS2000-3-002		DS2900-3-002	
Reverse Air	DS1600SPE-3-001	DS2000-3-001		DS2900-3-001	DS3000PE-3-001
ALT Standby & Reverse Air				DS2900-3-003	

ADN-C Series Single Phase

120-960 Watts

Special Features

- Slim form factor
- Five year warranty
- High efficiency > 90% typical
- Full power at 60 °C
- PowerBoost technology
- Industrial grade design
 - Metal mounting clip
 - Metal case
- MTBF > 450,000h demonstrated at 40 °C
- Active PFC > 0.92
- Adjustable output
- Overvoltage protection with auto recovery
- Continuous short-circuit and overload protection
- SEMI F47 Sag Immunity
- New visual diagnostic LED
- Three Status LEDs
 - Input, Output, Alarm
- DC OK Relay
- Parallel operation capability
- Screw terminal connections
- RoHS compliant
- No tools required for mounting



Electrical Specifications

Input	
AC Input range	Nominal: 115-230 Vac 85-264 Vac
DC Input range	90-375 Vdc
Frequency	47-67 Hz, 400 Hz
Efficiency	> 90%
Inrush current	ADN5-24-1PM-C: < 15 A ADN10-24-1PM-C: < 30 A ADN20-24-1PM-C: < 40 A
PFC	Active, better than 0.92

Output	
Nominal voltage	ADN5-24-1PM-C & ADN10-24-1PM-C: 24 Vdc (22.5-28.5 Vdc Adj) ADN20-24-1PM-C: 24 Vdc (24-28 Vdc Adj)
Initial voltage setting	24.5 V ±1%
Hold-up time	> 20 ms at full load (100 Vac Input @ Tamb = +25 °C)
Voltage regulation	< ±2% (combination line, load, time and temperature related changes)
Ripple	ADN5-24-1PM-C & ADN10-24-1PM-C: < 50 mVpp ADN20-24-1PM-C: < 100 mVpp
Back EMF immunity	< 35 Vdc
PowerBoost	1.5x nominal current for 4 seconds
Short-circuit current	1.5x nominal current at near zero volts at short-circuit condition
Parallel operation	Switch selectable single unit or parallel unit operation. Units will not be damaged by parallel operation (regardless of switch position setting)
Output noise suppression	Radiated EMI values below EN61000-6-2
Overvoltage protection	> 30.5 Vdc but < 33 Vdc, auto recovery
Line and load regulation	< 0.5%
Time and temperature drift	< 1%



Power	Voltage	Current	Size L x W x H (mm)	Model Number
120 W	85-264 Vac 90-375 Vdc	5 A	4.85" x 1.97" x 4.37" (123 x 50 x 111)	ADN5-24-1PM-C
240 W	85-264 Vac 90-375 Vdc	10 A	4.85" x 2.36" x 4.37" (123 x 60 x 111)	ADN10-24-1PM-C
480 W	85-264 Vac 90-375 Vdc	20 A	4.85" x 3.42" x 4.96" (123 x 87 x 126)	ADN20-24-1PM-C
960 W	85-264 Vac 90-375 Vdc	40 A	4.81" x 7.09" x 4.85" (122.2 x 180 x 123.3)	ADN40-24-1PM-C

ADN-C Series 3-Phase

120-960 Watts



Special Features

- Slim form factor
- Five year warranty
- High efficiency > 93% typical
- Full power at 60 °C
- PowerBoost technology
- Industrial grade design – metal cases
- MTBF > 450,000h demonstrated at 40 °C
- Active PFC
- Adjustable output
- Overvoltage protection with auto recovery
- Continuous short-circuit and overload protection
- Three Status LEDs – Input, Output, Alarm
- DC OK Relay
- Parallel operation capability
- Screw terminal connections
- RoHS compliant
- No tools required for mounting

Electrical Specifications

Input	
Nominal voltage	380-480 Vac
AC Input range	320-540 Vac
DC Input range	450-720 Vdc for ADN20
Frequency	50-60 Hz
Efficiency	93% for ADN20; 94% for ADN40
PFC	Active power factor correction
Two phase input	Derate to 75% and 50% for ADN20 and ADN40 respectively under loss of 1 phase. Units will shut down if thermal threshold is exceeded under this condition
Output	
Nominal voltage	24 V (24.0-28.0 Vdc Adj.)
Hold-up time	> 20 ms for ADN20; > 15 ms for ADN40
Voltage regulation	< ±2% overall
Ripple	< 100 mVpp
PowerBoost	1.5x nominal current for 4 seconds
Peak current	1.5x nominal current for 4 seconds minimum while holding voltage > 20 Vdc
Parallel operation	Single or parallel operation selectable via front switch. For redundant operation use of external diode module is preferred; ADN40 uses active paralleling
Power back immunity	> 35 V
Overvoltage protection	> 30.5 Vdc but < 33 Vdc, auto recovery



Power	Voltage	Current	Size L x W x H (mm)	Model Number
120 W	320-540 Vac 450-760 Vdc	5 A @ 24 Vdc	4.85" x 1.97" x 4.37" (123 x 50 x 111)	ADN5-24-3PM-C
240 W	320-540 Vac 450-760 Vdc	10 A @ 24 Vdc	4.85" x 2.36" x 4.37" (123 x 60 x 111)	ADN10-24-3PM-C
480 W	320-540 Vac 450-760 Vdc	20 A @ 24 Vdc	4.68" x 3.34" x 4.85" (119 x 85 x 123)	ADN20-24-3PM-C
960 W	320-540 Vac	40 A @ 24 Vdc	4.85" x 7.09" x 4.85" (123 x 180 x 123)	ADN40-24-3PM-C

DC–DC Converters

Artesyn Embedded Technologies is widely acknowledged as an industry leader in distributed power applications and produces an exceptionally wide range of DC–DC conversion products

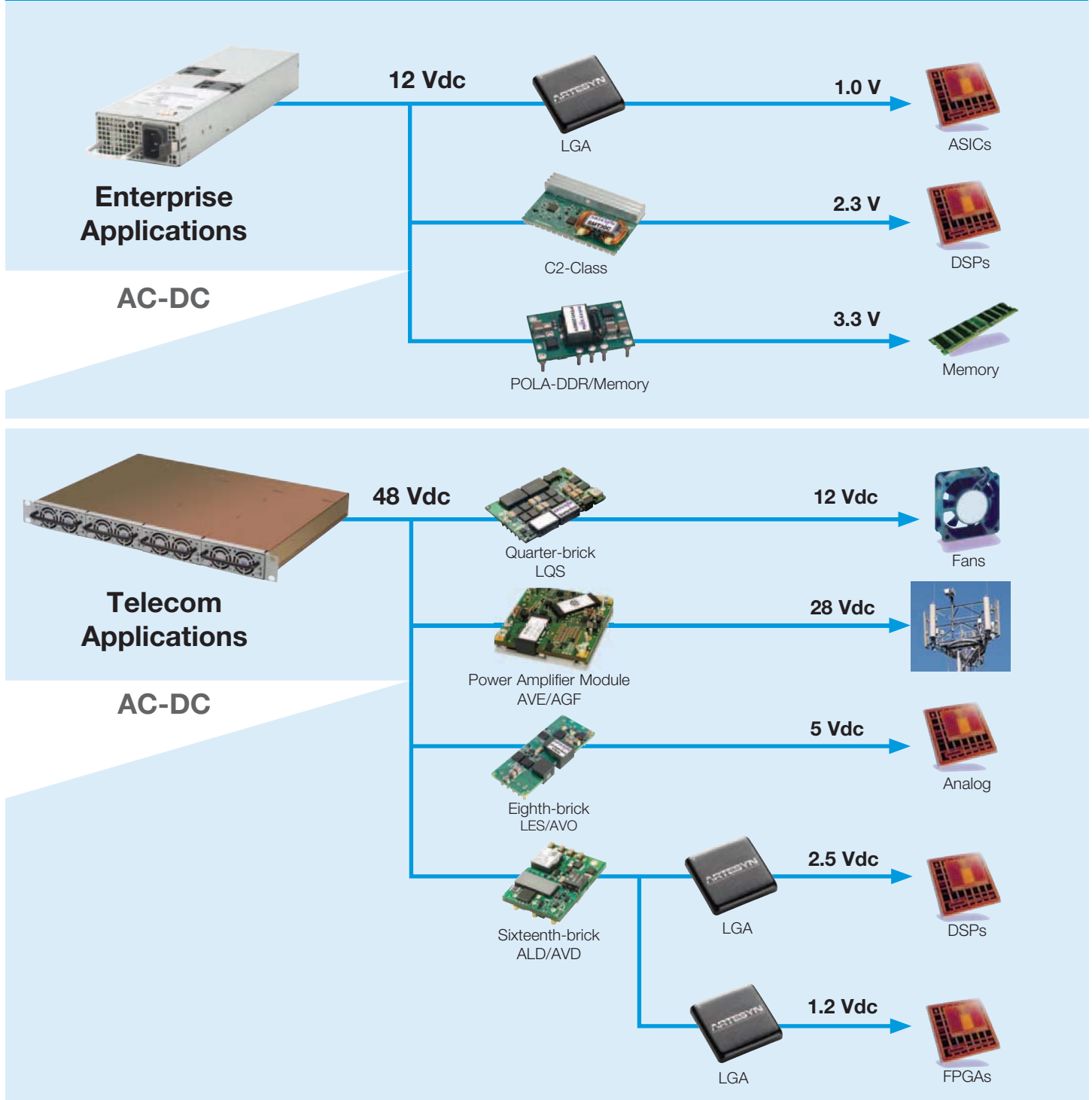


Distributed Power Architecture

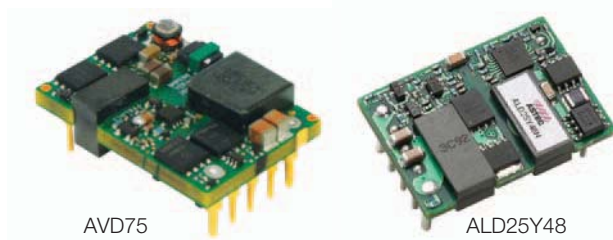
Artesyn Embedded Technologies understands the needs and nuances of developing power systems using Distributed Power Architecture. We know it is your job to create the most efficient, cost-effective, quality system, and deliver it in a timely fashion.

From full-system power to board-level components, high-power isolated front ends to a full line of isolated and non-isolated DC-DC modules, Artesyn Embedded Technologies is the source for today's power systems.

Distributed Power Architecture DC-DC Conversion



Sixteenth-Brick



AVD75

ALD25Y48

Special Features

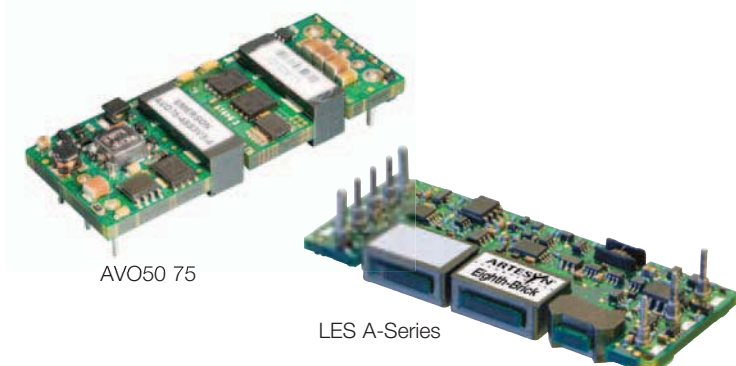
- Industry leading sixteenth-brick standard package and feature sets
- Scalable offering: 35 W, 50 W, 75 W and 85 W platforms
- Mechanical options for optimum mounting flexibility: Through-hole (default) or surface mount (suffix "-S") termination; 5 mm (default) or 3.7 mm through-hole pin length option
- Meets basic insulation
- Power densities as high as 146.5 W per cubic inch
- International safety standards approvals – UL, CSA, TÜV

V _{out}	I _{out}	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
1.2 V	Open-frame				
	15 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	84%	ALD15K48N-L
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.34" (33 x 22.9 x 8.5)	84%	AVD75-48S1V2-6L
	Baseplate				
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.5" (33 x 22.9 x 12.7)	84%	AVD75-48S1V2B-6L
1.5 V	Open-frame				
	15 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	85%	ALD15M48N-L
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	85%	ALD25M48N-L
1.8 V	Open-frame				
	13 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	87%	ALD13Y48N-L
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	88%	ALD25Y48N-L
2.5 V	Open-frame				
	11 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	89%	ALD11G48N-L
	20 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	89%	ALD20G48N-L
3.3 V	Open-frame				
	15 A	48 V (36-75 V)	1.3" x 0.9" x 0.37" (33 x 22.9 x 9.5)	91%	AVD50B-48S3V3-6L
	20 A	48 V (36-75 V)	1.3" x 0.9" x 0.41" (33 x 22.9 x 10.5)	92%	AVD75-48S3V3-6L
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.41" (33 x 22.9 x 10.5)	92%	AVD85-48S3V3-6L
	Baseplate				
	20 A	48 V (36-75 V)	1.3" x 0.9" x 0.5" (33 x 22.9 x 12.7)	92%	AVD75-48S3V3B-6L
	25 A	48 V (36-75 V)	1.3" x 0.9" x 0.5" (33 x 22.9 x 12.7)	92%	AVD85-48S3V3B-6L
5 V	Open-frame				
	7 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	91%	ALD07A48N-L
	10 A	48 V (36-75 V)	1.3" x 0.9" x 0.37" (33 x 22.9 x 9.5)	92%	AVD50-48S05-6L
	12 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	91%	ALD12A48N-L
12 V	Open-frame				
	2.75 A	48 V (36-75 V)	1.3" x 0.9" x 0.35" (33 x 22.9 x 8.89)	92%	ALD03B48N-L
	7 A	48 V (36-75 V)	1.3" x 0.9" x 0.34" (33 x 22.9 x 8.5)	92%	AVD85-48S12-6L
	Baseplate				
	7 A	48 V (36-75 V)	1.3" x 0.9" x 0.5" (33 x 22.9 x 12.7)	92%	AVD85-48S12B-6L

Eighth-Brick

Special Features

- Industry leading eighth-brick standard package and feature sets
- Scalable output power offering: Low power 80 W series or up to 240 W high power series
- Mechanical options for optimum mounting flexibility: Open-frame (ALO, LES, AVO) or baseplate (AEO or AVO-B) construction; Through-hole (default) or surface mount (suffix “-S”) termination; 5 mm (default) or 3.7 mm through-hole pin length option
- Meets basic insulation
- Power densities as high as 181 W per cubic inch
- Wide operating temperature range
- International safety standards approvals – UL, CSA, TÜV



Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
1.0 V	Open-frame				
	25 A	48 V (36-75 V)	2.3" x 0.9" x 0.36" (57.9 x 22.9 x 9.14)	85%	LES25B48-1V0REJ
1.2 V	Open-frame				
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	86%	AVO50-48S1V2-4
	25 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	86%	AVO75-48S1V2-4
	50 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	86%	LES50A48-1V2REJ
	Baseplate				
	50 A	48 V (36-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	85.5%	AVO100-48S1V2B-6L
1.5 V	Open-frame				
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	88%	AVO50-48S1V5-4
	40 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	89%	AVO100B-48S1V5-6L
	Baseplate				
	40 A	48 V (36-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	89%	AVO100B-48S1V5B-6L
1.8 V	Open-frame				
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	89%	AVO50-48S1V8-4
	25 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	89%	AVO75-48S1V8-4
	40 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	89.5%	AVO100-48S1V8-6L
	Baseplate				
	40 A	48 V (36-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	89.5%	AVO100-48S1V8B-6L
2.5 V	Open-frame				
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	90%	AVO50-48S2V5-4
	25 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	90%	AVO75-48S2V5-4
	35 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91.5%	AVO100-48S2V5-6L
	40 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	LES40A48-2V5REJ
	Baseplate				
	35 A	48 V (36-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	91.5%	AVO100-48S2V5B-6L
3.3 V	Open-frame				
	15 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	90%	AVO50C-48S3V3-6
	20 A	24 V (18-36 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	90%	LES20A24-3V3REJ
	20 A	24 V/48 V (19-60 V)	2.3" x 0.9" x 0.32" (57.9 x 22.9 x 8.13)	91%	ALO20F36N-L
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO75-48S3V3-4
	30 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO100B-48S3V3-6L
	Baseplate				
	30 A	48 V (36-75 V)	2.3" x 0.9" x 0.4" (57.9 x 22.9 x 10.16)	91%	AVO100C-48S3V3B-4L

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
5 V	Open-frame				
	10 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO50-48S05-4
	13 A	48 V (36-75 V)	2.3" x 0.9" x 0.36" (57.9 x 22.9 x 9.14)	92%	LES13B48-5V0REJ
	15 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO75-48S05-6
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	92.8%	AVO100-48S05-6L
	Baseplate				
	20 A	48 V (36-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	92.8%	AVO100-48S05B-6L
12 V	Open-frame				
	4.2 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO50-48S12-6L
	6.3 A	48 V (36-75 V)	2.3" x 0.9" x 0.34" (57.9 x 22.9 x 8.5)	91%	AVO75-48S12P-4
	NEW! 10 A	48 V (36-75 V)	2.28" x 0.9" x 0.374" (57.9 x 22.9 x 9.5)	93%	AVO120-48S12-6L
	20 A	48 V (41-75 V)	2.3" x 0.9" x 0.37" (57.9 x 22.9 x 9.5)	94%	AVO240-48S12-6L
	Baseplate				
	4 A	48 V (36-75 V)	2.3" x 0.9" x 0.4" (57.9 x 22.9 x 10.16)	93%	AEO04B48N-L
	NEW! 10 A	48 V (36-75 V)	2.28" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	93%	AVO120-48S12B-6L
	20 A	48 V (41-75 V)	2.3" x 0.9" x 0.5" (57.9 x 22.9 x 12.7)	94%	AVO240-48S12B-6L



Quarter-Brick



Special Features

- Industry leading quarter-brick standard package and feature sets
- Up to 100 A offering
- Wide operating temperature range
- Meets basic insulation
- Exceptional dynamic response and reactive loading capability
- Monotonic start-up characteristic
- International safety standards approvals – UL, CSA, TÜV

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
1.2 V	Open-frame				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.38" (57.9 x 36.8 x 9.6)	86%	AGQ100-48S1V2-4
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	85%	AGQ200-48S1V2-4L
	60 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	85%	AGQ300-48S1V2-4L
	100 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	86%	LQS100A48-1V2REJ
	Baseplate				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	86%	AGQ100-48S1V2B-4
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	85%	AGQ200-48S1V2B-4L
1.5 V	Open-frame				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.38" (57.9 x 36.8 x 9.6)	87%	AGQ100-48S1V5-4
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	86%	AGQ200-48S1V5-4L
	50 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	89%	LQS50A48-1V5-REJ
	80 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	89%	LQS80A48-1V5REJ
	100 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	89%	LQS100A48-1V5REJ
	Baseplate				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	87%	AGQ100-48S1V5B-4
1.8 V	Open-frame				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.38" (57.9 x 36.8 x 9.6)	87%	AGQ100-48S1V8-4
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	88%	AGQ200-48S1V8-4L
	50 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	90%	LQS50A48-1V8REJ
	80 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	90%	LQS80A48-1V8REJ
	100 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	90%	LQS100A48-1V8REJ
	Baseplate				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	87%	AGQ100-48S1V8B-4
2.5 V	Open-frame				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	88%	AGQ100-48S2V5-4
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	90%	AGQ200B-48S2V5-4L
	50 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	90%	LQS50A48-2V5REJ
	80 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	91%	LQS80A48-2V5REJ
	Baseplate				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	88%	AGQ100-48S2V5B-4

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
3.3 V	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	90%	AGQ200B-48S2V5B-4L
	Open-frame				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.38" (57.9 x 36.8 x 9.6)	91%	AGQ100C-48S3V3-6L
	30 A	24 V (18-36 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	90%	LQS30A24-3V3REJ
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	91%	AGQ200B-48S3V3-4L
	50 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	91%	LQS50A48-3V3REJ
	60 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	91%	LQS60A48-3V3REJ
5 V	Baseplate				
	25 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	91%	AGQ100C-48S3V3B-6L
	40 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	91%	AGQ200B-48S3V3B-4L
	Open-frame				
	NEW! 20 A	24 V (18-36 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.6)	91%	AVQ100-24S05-4L
	30 A	48 V (36-75 V)	2.28" x 1.45" x 0.39" (57.9 x 36.8 x 9.8)	91%	AGQ150-48S05-4L
	40 A	48 V (36-75 V)	2.3" x 1.45" x 0.34" (58.42 x 36.8 x 8.64)	92%	LQS40A48-5V0REJ
12 V	Baseplate				
	NEW! 20 A	24 V (18-36 V)	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	91%	AVQ100-24S05B-4L
	30 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	91%	AGQ150-48S05B-4L
	Open-frame				
	8.33 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	90%	AGQ100-48S12-6L
	NEW! 25 A	48 V (36-75 V)	2.28" x 1.45" x 0.36" (57.9 x 36.8 x 9.6)	94%	AVQ300-48S12-6L
	Baseplate				
	8.33 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	90%	AGQ100-48S12B-6L
	NEW! 15 A	24 V (18-30 V)	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	94%	IBC15-24S12ENJ
	NEW! 25 A	48 V (36-75 V)	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	94%	AVQ300-48S12B-6L
	33 A	48 V (36-75 V)	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	93%	AVQ400-48S12B-6L



Half-Brick



AGH100 150



AVE300

Special Features

- Industry standard half-brick available up to 60A
- Open-frame and baseplate construction
- Highest efficiencies available
- Optimum transient load performance and reactive loading capacity
- Wide operating temperature range
- International safety standards approvals – UL, CSA, TÜV

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
1.2 V	Open-frame				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	86%	AVE300-48S1V2-4
	Baseplate				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	86%	AVE300-48S1V2B-4
1.5 V	Baseplate				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	87%	AVE300-48S1V5B-4
1.8 V	Baseplate				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	89%	AVE300-48S1V8B-4
2.5 V	Aluminum Substrate				
	20 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	86%	AVE100-48S2V5
	Open-frame				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	91%	AVE300-48S2V5-4
	Baseplate				
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	91%	AVE300-48S2V5B-4
3.3 V	Open-frame				
	8 A	48 V (36-75 V)	2.4" x 2.28" x 0.43" (61 x 57.91 x 10.92)	90%	EXB30-48S3V3J
	25 A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	91%	AGH100-48S3V3-4L
	30 A	48 V (36-75 V)	2.4" x 2.28" x 0.39" (61 x 57.91 x 9.91)	91%	EXB100-48S3V3-RJ
	Aluminum Substrate				
	40 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	89%	AVE200-48S3V3-4
	Baseplate				
	25 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	91%	AGH100-48S3V3B-4L
	60 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	92%	AVE300-48S3V3B-4
	Open-frame				
5 V	30 A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	91%	AGH150-48S05-6
	Baseplate				
	30 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	91%	AGH150-48S05B-6
12 V	Open-frame				
	20A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	92%	AVE240C-48S12-4L
	30A	48 V (36-75 V)	2.4" x 2.3" x 0.4" (61 x 57.9 x 9.5)	94%	AGH360-48S12-6L
	Baseplate				
	30 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	94%	AGH360-48S12B-6L
	50 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	95.5%	AVE600-48S12B-4L

Half-Brick Dual



EXB30

	Current	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
3.3/5 V	Open-frame				
	6/6 A	24 V (18-36 V)	2.4" x 2.28" x 0.5" (61 x 57.91 x 12.7)	87%	EXB30-24D05-3V3J
	6/6 A	48 V (36-75 V)	2.4" x 2.28" x 0.5" (61 x 57.91 x 12.)	88%	EXB30-48D05-3V3J
	7.5/7.5 A	48 V (36-75 V)	2.4" x 2.28" x 0.39" (61 x 57.91 x 9.91)	89%	EXB50-48D05-3V3-J

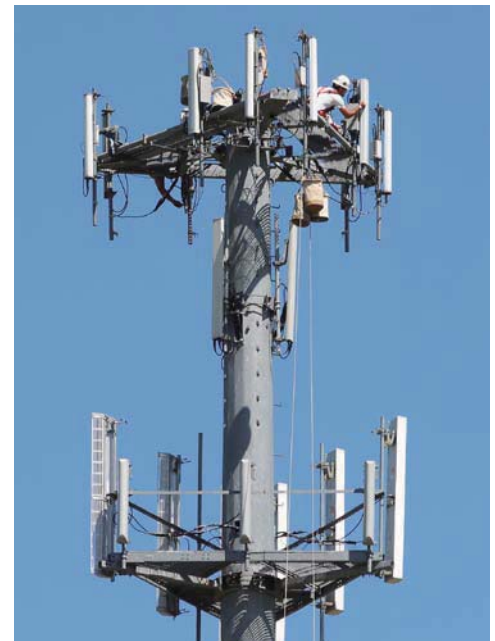
RF Power Bricks



AGF600



RFB300



Special Features

- Specialized high power bricks for RF applications such as base station power amplifiers
- Offered in 24 V and 48 V input voltages
- Wide output voltage adjustability
- -40 °C to 100 °C baseplate temperature for RFB, RFF and -40 °C to 85 °C for AVE, AGF baseplate temperature with no derating at rated power
- International safety standard approvals – UL, CSA, VDE, CB Report

Half-Brick

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
7.2-13.2 V	Baseplate				
	25 A	24 V (18-36 V)	2.4" x 2.27" x 0.5" (61 x 57.66 x 12.7)	86%	RFB300-24S12-R5Y
	29.2 A	48 V (36-75 V)	2.4" x 2.27" x 0.5" (61 x 57.66 x 12.7)	86%	RFB350-48S12-R5J
28 V	Aluminum Board				
	12.5 A	24 V (18-36 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	93%	AVE350-24S28-6L
	12.5 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	93%	AVE350B-48S28-6
	16 A	48 V (36-75 V)	2.4" x 2.3" x 0.5" (61 x 57.9 x 12.7)	94%	AVE450B-48S28-6L/M

Full-Brick

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
14-33 V	Aluminum Substrate				
	21.5 A	24 V (18-36 V)	4.6" x 2.4" x 0.5" (116.8 x 61 x 12.7)	93%	AGF600-24S28-6L
	21.5 A	48 V (36-75 V)	4.6" x 2.4" x 0.5" (116.8 x 61 x 12.7)	93.5%	AGF600-48S28-6L
	25 A	48 V (36-75 V)	4.6" x 2.4" x 0.5" (116.8 x 61 x 12.7)	93%	AGF700-48S30-6L
	NEW! 28.5 A	48 V (36-75 V)	4.6" x 2.4" x 0.5" (116.8 x 61 x 12.7)	94%	AGF800-48S28-6L
48 V	NEW! 16 A	50 V (36-75 V)	4.6" x 2.4" x 0.5" (116.8 x 61 x 12.7)	94.5%	AGF800-48S48P-6L

Wide Input Voltage Series



Special Features

- Wide input voltage range to cover 24 V and 48 V input
- Industry standard brick package
- Open-frame and baseplate construction
- Wide operating temperature

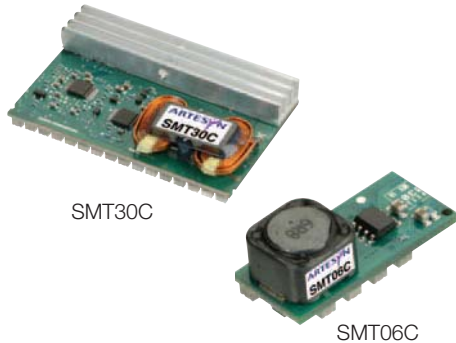
NEW!

		Vout	Iout	Input Voltage	Efficiency	Package LxWxH (mm)	Model number
Eighth Brick	Baseplate	3.3 V	20 A	24V, 48V (18-75V)	93.0%	2.28" x 0.9" x 0.50" (57.9 x 22.9 x 12.7)	AVO75B-36S3V3B-6L
Eighth Brick	Baseplate	3.3 V	30 A	24V, 48V (18-75V)	93.0%	2.28" x 0.9" x 0.50" (57.9 x 22.9 x 12.7)	AVO100-36S3V3B-6L
Eighth Brick	Open-frame	3.3 V	20 A	24V, 48V (18-75V)	93.0%	2.28" x 0.9" x 0.43" (57.9 x 22.9 x 10.8)	AVO75B-36S3V3-6L
Eighth Brick	Open-frame	12 V	4 A	24V, 48V (18-60V)	91.0%	2.28" x 0.9" x 0.33" (57.9 x 22.9 x 8.5)	IBC04-36S12-J
Quarter Brick	Baseplate	3.3 V	25 A	24V, 48V (18-60V)	90% @ 48 vin, 92% @ 24 vin	2.28" x 1.45" x 0.40" (57.9 x 36.8 x 10.2)	AVQ100-36S3V3B-6L
Quarter Brick	Baseplate	12 V	19 A	24V, 48V (18-75V)	94.0%	2.28" x 1.45" x 0.50" (57.9 x 36.8 x 12.7)	AVQ200-36S12B-6L
Quarter Brick	Open-frame	3.3 V	25 A	24V, 48V (18-60V)	90% @ 48 vin, 92% @ 24 vin	2.28" x 1.45" x 0.40" (57.9 x 36.8 x 10.2)	AVQ100-36S3V3-6L
Quarter Brick	Open-frame	12 V	19 A	24V, 48V (18-75V)	94.0%	2.28" x 1.45" x 0.38" (57.9 x 36.8 x 9.6)	AVQ200-36S12-6L



C-Class – Economy

The 1st generation C-Class non-isolated DC–DC converters are designed to provide good efficiency and performance.

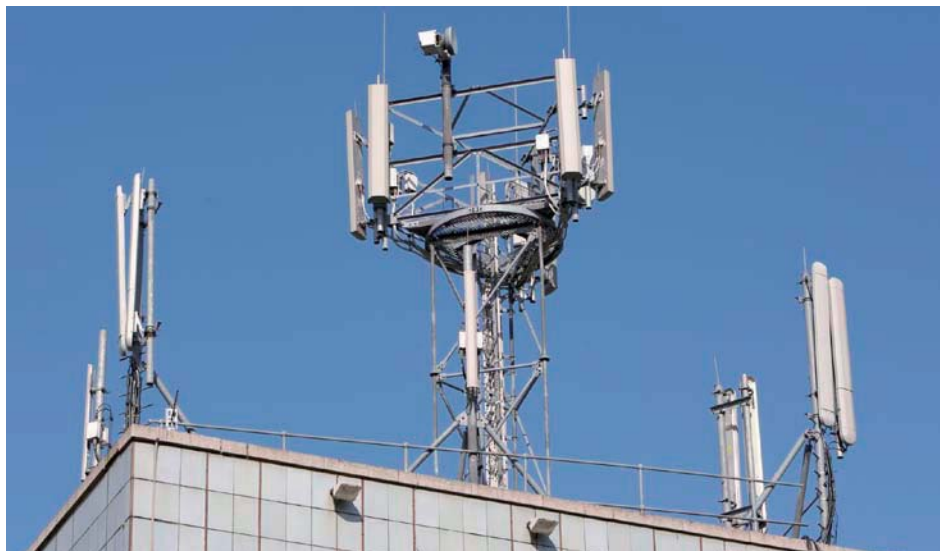


Special Features

- Input voltage ranges: 4.5-5.5 V or 10.2-13.8 V
- Wide output voltage trim/adjustability: 0.9 to 5 Vdc
- Output current: 6-40 A
- High efficiency up to 92%
- Remote on/off
- Power good
- Parallel operation/current share (SIL30C)
- Remote sense (SIL30C)
- Excellent transient response
- Operating temperature range for SIL20C2 and SIL40C2: 0 °C to 70 °C
- Protection: overcurrent/short-circuit
- Cost-optimized design – industry leading value
- Compact footprint, vertical, horizontal and horizontal SMT options
- International safety standard approvals – UL, CSA, TÜV & CB Report

General-Purpose C-Class Non-Isolated DC–DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number
Single-In-Line, Through-Hole Mounting					
6 A	4.5-5.5 Vdc	0.9-3.3 V	89%	1.2" x 0.45" x 0.61" (30.48 x 11.43 x 15.49)	SIL06C-05SADJ-VJ
6 A	10.2-13.8 Vdc	0.9-5.0 V	91%	1.2" x 0.45" x 0.61" (30.48 x 11.43 x 15.49)	SIL06C-12SADJ-VJ
15 A	4.5-5.5 Vdc	0.9-3.3 V	89%	1.2" x 0.4" x 1.1" (30.48 x 10.16 x 27.94)	SIL15C-05SADJ-VJ
15 A	10.2-13.8 Vdc	0.9-5.0 V	91%	1.2" x 0.4" x 1.1" (30.48 x 10.16 x 27.94)	SIL15C-12SADJ-VJ
25 A	10.2-13.8 Vdc	-4.5-(-5.5 V)	90%	2.4" x 0.52" x 1.25" (60.96 x 13.21 x 31.75)	SIL25C-12SNEG-VJ
30 A	10.2-13.8 Vdc	0.9-5.0 V	91%	2.4" x 0.52" x 1.25" (60.96 x 13.21 x 31.75)	SIL30C-12SADJ-VJ
Surface-Mounting					
6 A	4.5-5.5 Vdc	0.9-3.3 V	89%	1.2" x 0.53" x 0.47" (30.48 x 13.46 x 11.94)	SMT06C-05SADJJ
6 A	10.2-13.8 Vdc	0.9-5.0 V	91%	1.2" x 0.53" x 0.47" (30.48 x 13.46 x 11.94)	SMT06C-12SADJJ
15 A	4.5-5.5 Vdc	0.9-3.3 V	89%	1.2" x 1.1" x 0.46" (30.48 x 27.94 x 11.68)	SMT15C-05SADJJ
15 A	10.2-13.8 Vdc	0.9-5.0 V	91%	1.2" x 1.1" x 0.46" (30.48 x 27.94 x 11.68)	SMT15C-12SADJJ
30 A	10.2-13.8 Vdc	0.9-5.0 V	91%	2.28" x 1.45" x 0.43" (57.91 x 36.83 x 10.92)	SMT30C-12SADJJ

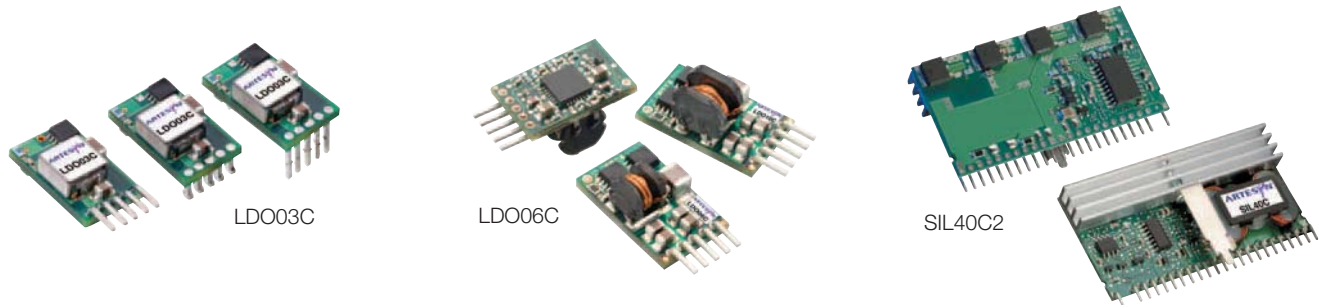


C-Class – High Density

The 2nd generation C-Class non-isolated DC–DC converters are designed to provide good efficiency and performance, a smaller footprint, and integrated input and output capacitors.

Special Features

- Wide input voltage ranges: 3-13.8 V or 4.5-13.8 V
- Wide output voltage trim/adjustability: 0.59-5.1 V
- Output current: 3-40 A
- High efficiency up to 94%
- Remote on/off
- Power good
- Remote sense (Sxx20C2, Sxx40C2 and Sxx60C2)
- Excellent transient response
- Current sink capability for termination applications
- Operating temperature range for LDO03, LDO06, LDO10: -40 °C to 85 °C.
- Operating temperature range for SIL/SMT20C2, SIL/SMT40C2 and SIL60C2: 0 °C to 70 °C
- Operating temperature range for SIL/SMT80C2: 0 °C to 85 °C
- Protection: over current/short-circuit
- No added input or output capacitors needed for ripple current capability or stability
- Cost-optimized design – industry leading value
- Compact footprint, vertical, horizontal and horizontal SMT options
- International safety standard approvals – UL, CSA, TÜV & CB Report



General-Purpose C-Class Non-Isolated DC–DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number
Single-In-Line, Through-Hole Mounting					
3 A	3.0-13.8 Vdc	0.59-5.1 V	90%	0.37" x 0.21" x 0.61" (9.4 x 5.33 x 15.49)	LDO03C-005W05-VJ
6 A	3.0-13.8 Vdc	0.59-5.1 V	92%	0.41" x 0.37" x 0.65" (10.41 x 9.4 x 16.51)	LDO06C-005W05-VJ
10 A	3.0-13.8 Vdc	0.59-5.1 V	94%	0.41" x 0.45" x 0.65" (10.41 x 11.43 x 16.51)	LDO10C-005W05-VJ
20 A	4.5-13.8 Vdc	0.59-5.1 V	93%	1.2" x 0.46" x 0.61" (30.48 x 11.68 x 15.49)	SIL20C2-00SADJ-VJ
40 A	4.5-13.8 Vdc	0.6-5.0 V	94%	1.2" x 0.43" x 1.1" (30.48 x 10.92 x 27.94)	SIL40C2-00SADJ-VJ
NEW! 60 A	10.8-13.2 Vdc	1.2-4.0V	89%	1.98" x 0.54" x 0.78" (50.29 x 13.72 x 19.81)	SIL60C2-00SADJ-VDJ
NEW! 80 A	4.7-13.8 Vdc	0.84-5.0 V	93%	2.4" x 0.7" x 1.25" (60.96 x 17.78 x 31.75)	SIL80C2-00SADJ-VJ
Surface-Mounting					
3 A	3.0-13.8 Vdc	0.59-5.1 V	90%	0.61" x 0.37" x 0.29" (15.49 x 9.4 x 7.37)	LDO03C-005W05-SJ
6 A	3.0-13.8 Vdc	0.59-5.1 V	92%	0.65" x 0.41" x 0.44" (16.51 x 10.41 x 11.18)	LDO06C-005W05-SJ
10 A	3.0-13.8 Vdc	0.59-5.1 V	94%	0.65" x 0.41" x 0.52" (16.51 x 10.41 x 13.21)	LDO10C-005W05-SJ
20 A	4.5-13.8 Vdc	0.59-5.1 V	93%	1.2" x 0.61" x 0.48" (30.48 x 15.49 x 12.19)	SMT20C2-00SADJJ
40 A	4.5-13.8 Vdc	0.6-5.0 V	94%	1.2" x 1.1" x 0.44" (30.48 x 27.94 x 11.18)	SMT40C2-00SADJJ
NEW! 80 A	4.5-13.8 Vdc	0.84-5.1V	88%	2.4" x 1.25" x 0.7" (60.96 x 31.75 x 18.03)	SMT80C2-00SADJ-J

C-Class – High Density LGA C Series

The latest addition to the C-Class non-isolated DC-DC converter offering packaged in an ultra-compact, low-profile Land Grid Array with current densities up to 225 A/in³.

Special Features

- High density, ultra low profile surface mount module in Land Grid Array (LGA) package
- Available in 4 different output current levels: 3, 6, 10 and 20 Amps
- Wide input voltage range: 3.0-14.0 V
- Adjustable output voltage: 0.59-5.1 V via external resistor
- High efficiency ~92% typical
- Wide ambient operating temperature range: -40 °C to 85 °C
- Input UVLO; Remote On/Off; Output Adjust; Margin; PGood signal, Differential sense
- Current sink capability for voltage termination applications
- Integrated input and output capacitors resulting in minimal external capacitance required for stable operation



LGA03C



LGA06C



LGA10C



LGA20C

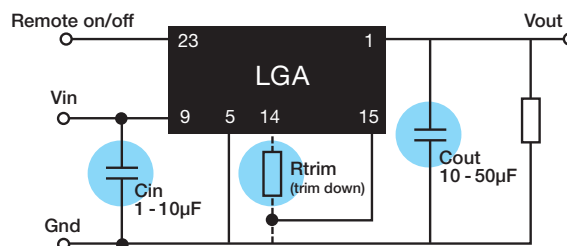
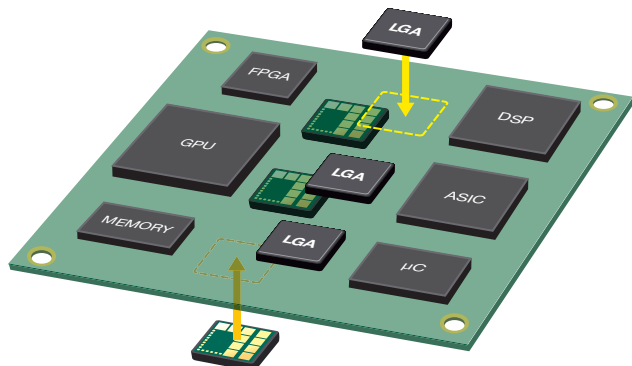
LGA C Series Non-Isolated DC-DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number
Surface-Mounting					
3 A	3.0-14 Vdc	0.59-5.1 V	92%	0.65" x 0.65" x 0.129" (16.51 x 16.51 x 3.27)	LGA03C-00SADJJ
6 A	3.0-14 Vdc	0.59-5.1 V	92%	0.65" x 0.65" x 0.129" (16.51 x 16.51 x 3.27)	LGA06C-00SADJJ
10 A	3.0-14 Vdc	0.59-5.1 V	92%	0.65" x 0.65" x 0.129" (16.51 x 16.51 x 3.27)	LGA10C-00SADJJ
20 A	4.5-14 Vdc	0.59-5.1 V	91%	0.65" x 0.65" x 0.210" (16.51 x 16.51 x 5.33)	LGA20C-01SADJJ

Note: Optional heatsink kits are available. Ordering part number is LGA-HTSK-KIT-XXX

XXX = Total height of the LGA20C-01SADJJ with heatsink attached: 045 = 0.45"; 048 = 0.48"; 050 = 0.50"

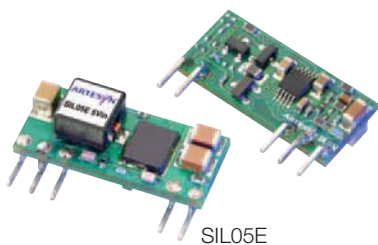
A Paradigm Shift in Converter Packaging



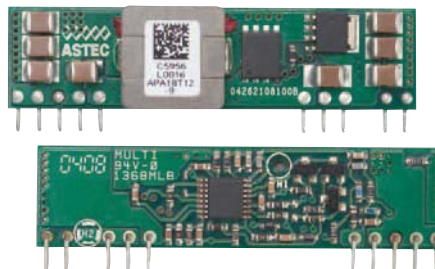
- Compact LGA package - significant improvement in current density, saves board space
- Scalable solution, one footprint design for 3, 6, 10 and 20 A offering
- Fully operational DC-DC solution with 3 external components
- Allows for bilateral thermal management not easily provided by "down" solutions or typical modules (e.g., uniform height for coldplate cooling)

E-Class – Performance

Efficiencies as high as 96% and current densities up to 140 A/in³.



SIL05E



Special Features

Efficiencies as high as 96% and current densities up to 140 A/in³.

- Input voltage ranges: 3-5.5 V, 4.5-5.5 V, 8-14 V, 10-14 V
- Wide output voltage trim ranges: 0.8-3.63 V and 0.75-5.5 V
- Output current: 5-30 A
- Remote on/off
- Remote sense

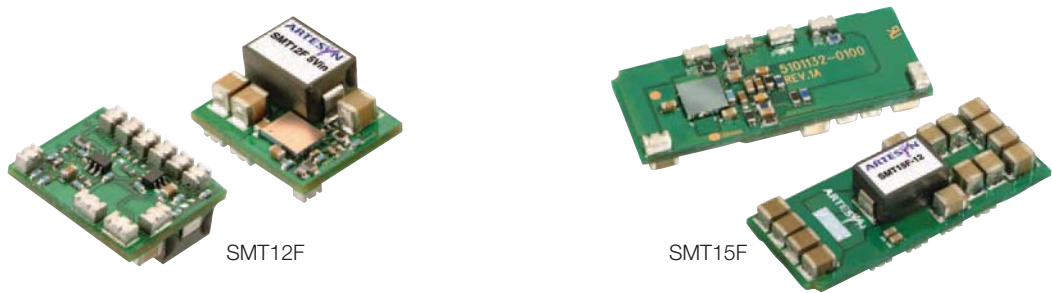
- Industry standard footprint—vertical and horizontal mounting (low profile SMT/SIP—through-hole)
- Operating temperature range: -40 °C to 85 °C
- Protection: overcurrent/short-circuit
- International safety standard approvals –UL, CSA, TÜV & CB Report

General-Purpose E-Class Non-Isolated DC-DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number
Single-In-Line, Through-hole Mounting					
5 A	3.0-5.5 Vdc	0.75-3.63 V	94%	0.9" x 0.28" x 0.4" (22.86 x 7.11 x 10.16)	SIL05E-05W3V3-VJ
10 A	4.5-5.5 Vdc	0.8-3.63 V	95%	2" x 0.31" x 0.5" (50.8 x 7.87 x 12.7)	SIL10E-05W3V3-VJ
10 A	10-14 Vdc	0.8-3.63 V	94%	2" x 0.31" x 0.5" (50.8 x 7.87 x 12.7)	SIL10E-12W3V3-VJ
15 A	3.0-5.5 Vdc	0.8-3.63 V	94%	2" x 0.31" x 0.5" (50.8 x 7.87 x 12.7)	SIL15E-05W3V3-VJ
15 A	10-14 Vdc	0.8-3.63 V	94%	2" x 0.31" x 0.5" (50.8 x 7.87 x 12.7)	SIL15E-12W3V3-VJ
18 A	3.0-5.5 Vdc	0.75-3.6 V	92%	2" x 0.39" x 0.5" (50.8 x 9.91 x 12.7)	APA18T04-9L
18 A	10-14 Vdc	0.75-3.6 V	92%	2" x 0.39" x 0.5" (50.8 x 9.91 x 12.7)	APA18T12-9L
30 A	8.0-14 Vdc	0.8-3.63 V	93%	2" x 0.31" x 0.5" (50.8 x 7.87 x 12.7)	SIL30E-12W3V3-VJ
Surface-Mounting					
5 A	3.0-5.5 Vdc	0.75-3.63 V	94%	0.8" x 0.45" x 0.26" (20.32 x 11.43 x 6.6)	SMT05E-05W3V3J
5 A	10-14 Vdc	0.8-3.63 V	91%	0.8" x 0.45" x 0.24" (20.32 x 11.43 x 6.1)	SMT05E-12W3V3J
10 A	3.0-5.5 Vdc	0.8-3.63 V	96%	1.3" x 0.53" x 0.32" (33.02 x 13.46 x 8.13)	SMT10E-05W3V3J
10 A	10-14 Vdc	0.8-3.63 V	94%	1.3" x 0.53" x 0.32" (33.02 x 13.46 x 8.13)	SMT10E-12W3V3J
15 A	3.0-5.5 Vdc	0.8-3.63 V	95%	1.3" x 0.53" x 0.32" (33.02 x 13.46 x 8.13)	SMT15E-05W3V3J
15 A	10-14 Vdc	0.8-3.63 V	94%	1.3" x 0.53" x 0.32" (33.02 x 13.46 x 8.13)	SMT15E-12W3V3J
18 A	3.0-5.5 Vdc	0.75-3.63 V	92%	1.3" x 0.53" x 0.34 (33.02 x 13.46 x 8.64)	APC18T04-9L
18 A	10-14 Vdc	0.75-5.5 V	92%	1.3" x 0.53" x 0.34 (33.02 x 13.46 x 8.64)	APC18T12-9L
30 A	8.0-14 Vdc	0.8-3.63 V	91%	1.3" x 0.53" x 0.32" (33.02 x 13.46 x 8.13)	SMT30E-12W3V3J

F-Class – Fast Transient Response

Highly integrated non-isolated DC–DC modules, combining transient response up to 300 A/μs. Expressly designed to minimize the number of external capacitors needed.



Special Features

- Input voltage ranges: 3-5.5 Vdc, 10.8-13.2 Vdc
- Wide output voltage trim range: 0.9-3.3 V (SMT12F)
- Output current: 12-15 A
- High efficiency: 95%@ 5 V in 3.3 Vdc output/full load
- Remote on/off
- Differential remote sense
- Power good
- Separate digital inputs for +5% and –5% output voltage margining
- Industry standard surface-mount footprint (SMT15F)
- Current densities in excess of 72 A/in3
- Operating temperature range: -40 °C to 85 °C
- Protection: overcurrent/short-circuit (non-latching) and overtemperature
- International safety standard approvals – UL, CSA, TÜV & CB Report

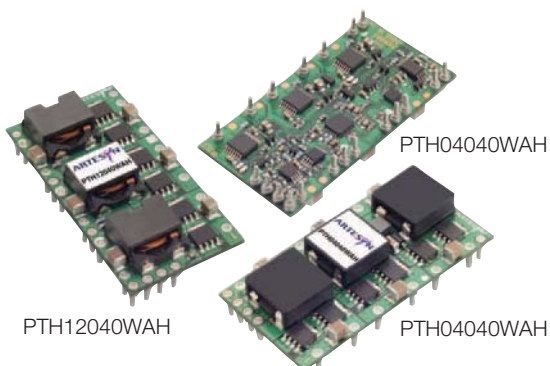
General-Purpose F-Class Non-Isolated DC–DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number
Surface-Mounting					
12 A	3-5.5 Vdc	0.9-3.3 V	95%	0.63" x 0.52" x 0.31" (16 x 13.21 x 7.87)	SMT12F-05W3V3J
15 A	10.8-13.2 Vdc	1.0 V	85%	1.3" x 0.53" x 0.3" (33.02 x 13.46 x 7.62)	SMT15F-12S1V0J
15 A	10.8-13.2 Vdc	1.2 V	86%	1.3" x 0.53" x 0.3" (33.02 x 13.46 x 7.62)	SMT15F-12S1V2J
15 A	10.8-13.2 Vdc	1.5 V	87%	1.3" x 0.53" x 0.3" (33.02 x 13.46 x 7.62)	SMT15F-12S1V5J
15 A	10.8-13.2 Vdc	1.8 V	88%	1.3" x 0.53" x 0.3" (33.02 x 13.46 x 7.62)	SMT15F-12S1V8J



POLA – General Purpose

Choose POLA modules for multi-sourced and interoperable parts.



Special Features

- Input voltage ranges: 2.95-3.65 V, 4.5-5.5 V, 10.8-13.2 V
- Wide output voltage trim and adjustability: 0.8-5.5 V
- Output current: 6-60 A
- High efficiency up to 96%
- Auto-Track™ Sequencing
- Margin up/down controls
- Pre-bias start up capability
- Remote on/off
- Remote sense
- POLA compatible
- True multi-sourcing flexibility (form, fit and function)
- Operating temperature range: -40 °C to 85 °C
- Protection: overcurrent/short-circuit
- Through-hole or surface-mount
- International safety standard approvals – UL, CSA, TÜV & CB Report

General Purpose POLA Non-Isolated DC-DC Converters

Output Current	Input Voltage	Output Voltage	Efficiency	Package L x W x H (mm)	Model Number*
6 A	2.95-3.65 Vdc	0.8-2.5 V	94%	0.87" x 0.495" x 0.335" (22.01 x 12.57 x 8.51)	PTH03050WAD
6 A	4.5-5.5 Vdc	0.8-3.6 V	95%	0.87" x 0.495" x 0.335" (22.01 x 12.57 x 8.51)	PTH05050WAD
6 A	10.8-13.2 Vdc	1.2-5.5 V	93%	0.87" x 0.495" x 0.335" (22.01 x 12.57 x 8.51)	PTH12050WAD
8 A	2.95-3.65 Vdc	0.8-2.5 V	93%	0.9" x 0.33" x 0.4" (22.86 x 8.38 x 10.16)	PTV03010WAD
8 A	4.5-5.5 Vdc	0.8-3.6 V	95%	0.9" x 0.33" x 0.4" (22.86 x 8.38 x 10.16)	PTV05010WAD
8 A	10.8-3.2 Vdc	1.2-5.5 V	92%	0.9" x 0.33" x 0.4" (22.86 x 8.38 x 10.16)	PTV12010WAD
10 A	2.95-3.65 Vdc	0.8-2.5 V	93%	0.995" x 0.62" x 0.354" (25.27 x 15.75 x 8.99)	PTH03060WAD
10 A	4.5-5.5 Vdc	0.8-3.6 V	94%	0.995" x 0.62" x 0.354" (25.27 x 15.75 x 8.99)	PTH05060WAD
10 A	10.8-3.2 Vdc	1.2-5.5 V	94%	0.995" x 0.62" x 0.354" (25.27 x 15.75 x 8.99)	PTH12060WAD
12 A	10.8-13.2 Vdc	1.2-5.5 V	94%	1.370" x 0.62" x 0.354" (34.80 x 15.75 x 8.99)	PTH12010WAD
15 A	2.95-3.65 Vdc	0.8-2.5 V	93%	1.370" x 0.62" x 0.354" (34.80 x 15.75 x 8.99)	PTH03010WAD
15 A	4.5-5.5 Vdc	0.8-3.6 V	95%	1.370" x 0.62" x 0.354" (34.80 x 15.75 x 8.99)	PTH05010WAD
16 A	10.8-13.2 Vdc	1.2-5.5 V	93%	1.750" x 0.37" x 0.500" (44.45 x 9.4 x 12.7)	PTV12020WAD
18 A	2.95-3.6 Vdc	0.8-2.5 V	95%	1.750" x 0.37" x 0.500" (44.45 x 9.4 x 12.7)	PTV03020WAD
18 A	4.5-5.5 Vdc	0.8-3.6 V	94%	1.750" x 0.37" x 0.500" (44.45 x 9.4 x 12.7)	PTV05020WAD
18 A	10.8-13.2 Vdc	1.2-5.5 V	95%	1.495" x 0.87" x 0.354" (37.97 x 22.01 x 8.99)	PTH12020WAD
22 A	2.95-3.65 Vdc	0.8-2.5 V	95%	1.495" x 0.87" x 0.354" (37.97 x 22.01 x 8.99)	PTH03020WAD
22 A	4.5-5.5 Vdc	0.8-3.6 V	96%	1.495" x 0.87" x 0.354" (37.97 x 22.01 x 8.99)	PTH05020WAD
26 A	10.2-13.8 Vdc	1.2-5.5 V	95%	1.37" x 1.12" x 0.354" (34.80 x 28.45 x 8.99)	PTH12030WAD
30 A	2.95-3.65 Vdc	0.8-2.5 V	93%	1.37" x 1.12" x 0.354" (34.80 x 28.45 x 8.99)	PTH03030WAD
30 A	4.5-5.5 Vdc	0.8-3.6 V	94%	1.37" x 1.12" x 0.354" (34.80 x 28.45 x 8.99)	PTH05030WAD
50 A	8.0-14 Vdc	0.8-5.5 V	96%	2.045" x 1.045" x 0.357" (51.94 x 26.54 x 9.07)	PTH12040WAD
60 A	2.95-2.5 Vdc	0.8-2.5 V	96%	2.045" x 1.045" x 0.357" (51.94 x 26.54 x 9.07)	PTH04040WAD

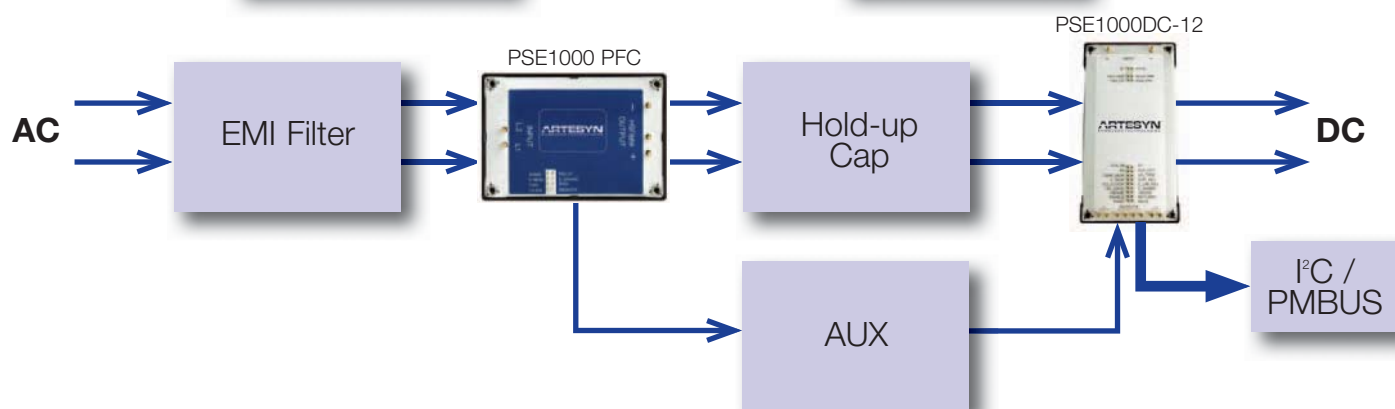
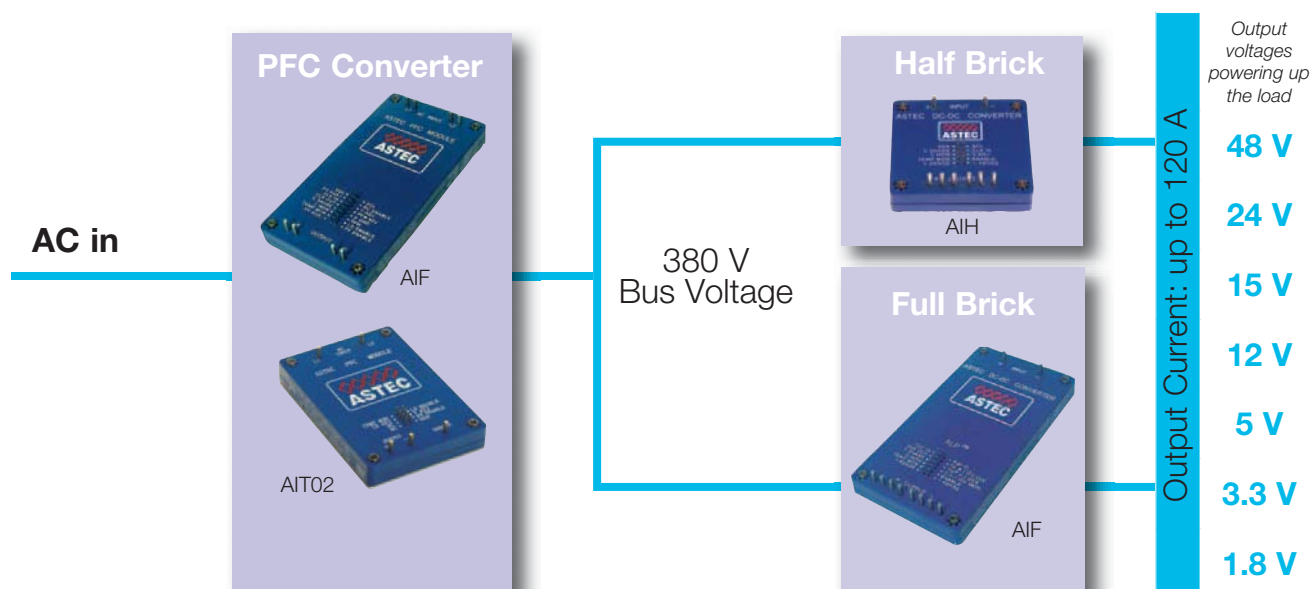
*Mounting Option Suffix:

D Horizontal through-hole (RoHS 6/6)

Z Surface-mount solder ball (RoHS 6/6)

On-board AC-DC Distributed Architecture

- High power and high density AC-DC building blocks for quick-turn and modular power solutions
- Alternative power solutions vs. custom development approach
- No fans and high reliability (1M hours MTBF)
- Suitable for harsh temperature conditions
(-40 °C startup/-20 °C to 100 °C operating temperature)



Power Factor Correction (PFC)

AIF04ZPFC
1600 WAIT02ZPFC
720 W

PSE1000PFC

AIQ00ZPFC
75 W

Special Features

- 1600 W/720 W/75 W
- Unity power factor
- Universal input and frequency range
- Positive and negative enable
- Paralleling with current share
- IEC 1000-3.2 compliance
- 100 °C baseplate
- Clock synch (in/out)
- Current monitoring
- Vout adjust
- On/off enable
- Remote sense
- 95% efficiency
- Fast transient response

Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
PFC Module - Baseplate					
380 V	4.2 A	85-264 Vac	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	95%	AIF04ZPFC-01L
380 V	4.2 A	85-264 Vac	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	95%	AIF04ZPFC-02L
393 V	0.25 A	100-122 Vac	2.3" x 1.45" x 0.5" (58.42 x 36.83 x 12.7)	90%	AIQ00ZPFC-01NL
393 V	2.08 A	85-264 Vac	3.5" x 2.4" x 0.5" (88.9 x 60.96 x 12.7)	93%	AIT02ZPFC-01NL
390 V	2.56 A	90-264 Vac	3.5" x 2.4" x 1" (88.9 x 60.96 x 25.4)	94%	PSE1000PFC*

NEW!

*85°C temperature

High Power 300 Vin



300 V input 65-600 W output

Special Features

- 300 V input (250-420 V PFC-ready)
- 2nd generation product
- Standard through-hole termination
- Power density >100 W/in³
- 100 °C max baseplate operating temperature
- Embedded controls on secondary side (Full- and Half-brick):
 - Temp monitor
 - Current sharing
 - Power good signal
 - Current limit & OVP adjust

	Vout	Iout	Input Voltage	Package L x W x H (mm)	Efficiency	Model Number
AIF 300 Vin	Full-Brick – Baseplate					
	1.8 V	120 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	80%	AIF120Y300-L
	3.3 V	120 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	87%	AIF120F300-L
	5 V	80 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	90%	AIF80A300-L
	12 V	50 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	90%	AIF50B300-L
	15 V	40 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	90%	AIF40C300-L
	24 V	25 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	90%	AIF25H300-L
	48 V	12 A	300 V (250-420 V)	4.6" x 2.4" x 0.5" (116.84 x 60.96 x 12.7)	91%	AIF12W300-L
PSE1000DC	Full-Brick – Baseplate					
	12 V	83 A	370-390 V	4.6" x 2.4" x 1" (116.84 x 60.96 x 25.4)		PSE1000DC-12*
AIT 300 Vin	Three-Quarter-Brick – Baseplate					
	28 V/3.3 V	3.9 A/4.5 A	390 V (375-410 V)	3.6" x 2.4" x 0.5" (91.44 x 60.96 x 12.7)	87%	AIT04RF300-L
AIH 300 Vin	Half-Brick – Baseplate					
	1.8 V	50 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	80%	AIH50Y300-L
	3.3 V	50 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	85%	AIH50F300-L
	5 V	40 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	88%	AIH40A300-L
	12 V	20 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	90%	AIH20B300-L
	15 V	16 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	90%	AIH16C300-L
	24 V	10 A	300 V (250-420 V)	2.3" x 2.4" x 0.5" (58.42 x 60.96 x 12.7)	90%	AIH10H300-L
AIQ 300 Vin	Quarter-Brick – Baseplate					
	28 V	2.32 A	300 V (250-420 V)	2.3" x 1.45" x 0.5" (58.42 x 36.83 x 12.7)	89%	AIQ02R300L

*85°C temperature

Low Power Isolated DC-DC Product



Special Features

- Input voltages 9-36 V, 18-36 V, 18-75 V and 36-75 V
- Single and dual outputs
- Power 6-30 W
- Regulated outputs
- Overcurrent protection
- Operating temperature -40 °C to 71 °C (ambient)
- 1500 Vdc isolation
- CE Mark Safety
- UL Approval with "S" suffix part number

NEW! 6 W

Input Voltage	Output Voltage	Package L x W x H (mm)	I/O Isolation	Efficiency	Model Number
Enclosed					
9-36 V	12 V @ 0.5 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA00B18-LS
9-36 V	15 V @ 0.4 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00C18-LS
9-36 V	5 V @ 1 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	81%	ASA01 A18-LS
9-36 V	3.3 V @ 1.2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	78%	ASA01F18-LS
9-36 V	5 V @ ±0.5 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	81%	ASA00 AA18-LS
9-36 V	12 V @ ±0.25 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA00BB18-LS
9-36 V	15 V @ ±0.2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00CC18-LS
18-75 V	12 V @ 0.5 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA00B36-LS
18-75 V	15 V @ 0.4 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00C36-LS
18-75 V	5 V @ 1 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	81%	ASA01 A36-LS
18-75 V	3.3 V @ 1.2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	78%	ASA01F36-LS
18-75 V	5 V @ ±0.5 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	81%	ASA00AA36-LS
18-75 V	12 V @ ±0.25 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA00BB36-LS
18-75 V	15 V @ ±0.2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00CC36-LS

NEW! 10 W

Enclosed					
18-36 V	12 V @ 0.835 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00B24-LS
18-36 V	5 V @ 2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA02 A24-LS
18-36 V	3.3 V @ 3 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	79%	ASA03F24-LS
18-36 V	2.5 V @ 3 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	77%	ASA03G24-LS
36-75 V	12 V @ 0.835 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	83%	ASA00B48-LS
36-75 V	5 V @ 2 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	82%	ASA02 A48-LS
36-75 V	3.3 V @ 3 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	79%	ASA03F48-LS
36-75 V	2.5 V @ 3 A	DIP 1.25" x 0.8" x 0.4" (31.75 x 20.32 x 10.16)	1500 Vdc	87%	ASA03G48-LS

NEW! 15 W

Enclosed					
9-36 V	12 V @ 1.25 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE01B18-LSx
9-36 V	15 V @ 1 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE01C18-LS
9-36 V	3.3 V @ 4 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	80%	AEE04F18-LS
9-36 V	5 V @ 3 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE03A18-LS
9-36 V	12 V @ ±0.625 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	83%	AEE00BB18-LS
9-36 V	15 V @ ±0.5 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	83%	AEE00CC18-LS
9-36 V	5 V @ ±1.5 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	79%	AEE01 AA18-LS
18-75 V	12 V @ 1.25 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE01B36-LS
18-75 V	15 V @ 1 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE01C36-LS
18-75 V	3.3 V @ 4 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	80%	AEE04F36-LS
18-75 V	5 V @ 3 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	84%	AEE03A36-LS
18-75 V	12 V @ ±0.625 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	83%	AEE00BB36-LS
18-75 V	15 V @ ±0.5 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	83%	AEE00CC36-LS
18-75 V	5 V @ ±1.5 A	1" x 2" x 0.44" (25.4 x 50.8 x 11.30)	1500 Vdc	79%	AEE01AA36-LS



	Input Voltage	Output Voltage	Package L x W x H (mm)	I/O Isolation	Efficiency	Model Number
20 W	Enclosed					
	9-36 V	2.5 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	79%	AET06G18-L
	9-36 V	3.3 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	83%	AET06F18-L
	9-36 V	5 V @ 4 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET04A18-L
	9-36 V	12 V @ 1.67 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01B18-L
	9-36 V	15 V @ 1.33 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01C18-L
	9-36 V	5 V @ ± 2 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET02AA18-L
	9-36 V	12 V @ ± 0.835 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET00BB18-L
	9-36 V	15 V @ ± 0.665 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET00CC18-L
	18-75 V	2.5 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	79%	AET06G36-L
	18-75 V	3.3 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	83%	AET06F36-L
	18-75 V	5 V @ 4 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET04A36-L
	18-75 V	12 V @ 1.67 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01B36-L
	18-75 V	15 V @ 1.33 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01C36-L
	18-75 V	5 V @ ± 2 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET02AA36-L
	18-75 V	12 V @ ± 0.835 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET00BB36-L
	18-75 V	15 V @ ± 0.665 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET00CC36-L
30 W	Enclosed					
	9-36 V	2.5 V @ 8 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	79%	AET08G18-L
	9-36 V	3.3 V @ 7 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	82%	AET07F18-L
	9-36 V	5 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET06A18-L
	9-36 V	12 V @ 2.5 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET02B18-L
	9-36 V	15 V @ 2 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET02C18-L
	9-36 V	12 V @ ± 1.25 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01BB18-L
	9-36 V	15 V @ ± 1 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01CC18-L
	18-75 V	2.5 V @ 8 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	79%	AET08G36-L
	18-75 V	3.3 V @ 7 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	82%	AET07F36-L
	18-75 V	5 V @ 6 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	84%	AET06A36-L
	18-75 V	12 V @ 2.5 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET02B36-L
	18-75 V	15 V @ 2 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET02C36-L
	18-75 V	12 V @ ± 1.25 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01BB36-L
	18-75 V	15 V @ ± 1 A	1.6" x 2" x 0.48" (40.6 x 50.8 x 12.19)	1500 Vdc	85%	AET01CC36-L

Low Power Isolated DC-DC Product

AXA01B18-L



Special Features

- Package size 1.0" x 1.0" x 0.4"
- Ultra-wide 4:1 input range: 9 - 36 Vin, 18 - 75 Vin
- Very high efficiency up to 90%
- Operating temperature range: -40 °C to + 85 °C
- Output voltage adjustable
- I/O isolation voltage 1500 VDC
- Remote ON/OFF control
- Metal case with isolated baseplate

NEW! 20 W

Input Voltage	Output Voltage	Power	Package L x W x H (mm)	I/O Isolation	Efficiency	Model Number
9-36 Vdc	3V3 @ 4.5 A	15 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	87%	AXA04F18-L
9-36 Vdc	5 V @ 4 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA04A18-L
9-36 Vdc	12 V @ 1.67 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA01B18-L
9-36 Vdc	15 V @ 1.33 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA01C18-L
9-36 Vdc	24 V @ 0.835 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	88%	AXA00H18-L
9-36 Vdc	±12 V @ 0.835 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA00BB18-L
9-36 Vdc	±15 V @ 0.67 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA00CC18-L
18-75 Vdc	3V3 @ 4.5 A	15 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	88%	AXA04F36-L
18-75 Vdc	5 V @ 4 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA04A36-L
18-75 Vdc	12 V @ 1.67 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA01B36-L
18-75 Vdc	15 V @ 1.33 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA01C36-L
18-75 Vdc	24 V @ 0.835 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	88%	AXA00H36-L
18-75 Vdc	±12 V @ 0.835 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA00BB36-L
18-75 Vdc	±15 V @ 0.67 A	20 W	1" x 1" x 0.4" (25.4 x 25.4 x 10.16)	1500 Vdc	89%	AXA00CC36-L

DC-DC Converter for Railway Application



ERM50 / ERM75

NEW! 50 W

Input Voltage	Output Voltage	Output Current	Package L x W x H (mm)	I/O Isolation	Efficiency	Model Number
72 (43 - 101)	5 V	10000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	90%	ERM10A72
72 (43 - 101)	12 V	4170 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	92%	ERM04B72
72 (43 - 101)	15 V	3330 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	92%	ERM03C72
72 (43 - 101)	24 V	2080 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM02H72
110 (66 - 160)	5 V	10000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	90%	ERM10A110
110 (66 - 160)	12 V	4170 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM04B110
110 (66 - 160)	15 V	3330 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	92%	ERM03C110
110 (66 - 160)	24 V	2080 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM02H110

NEW! 75 W

72 (43 - 101)	5 V	15000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	89%	ERM15A72
72 (43 - 101)	12 V	6250 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	92%	ERM06B72
72 (43 - 101)	15 V	5000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	92%	ERM05C72
72 (43 - 101)	24 V	3125 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM03H72
110 (66 - 160)	5 V	15000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	89%	ERM15A110
110 (66 - 160)	12 V	6250 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM06B110
110 (66 - 160)	15 V	5000 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	91%	ERM05C110
110 (66 - 160)	24 V	3125 mA	2.28" x 1.45" x 0.5" (57.9 x 36.8 x 12.7)	3000 Vac rms	90%	ERM03H110



Rapid Modification and Value-Added Solutions

Why use a Modified Standard Power Supply?

Time-to-market, reliability and costs have the greatest impact on your ROI. Fully custom solutions can delay your time-to-market and undermine your competitive advantage. So why pay custom development costs when Artesyn can deliver a modified standard power supply sample the way you want it, delivered in days at a standard price.

Artesyn has you Covered!

No matter what type of power supply you need, Artesyn has you covered!

While Artesyn Embedded Technologies offers a broad range of standard products that address the needs of many industries, there are occasions when a standard product does not address all your application requirements. Also, a custom solution does not always make economic sense, especially in terms of your schedule needs. This is where the knowledge and expertise of Artesyn really pays dividends. By using proven standard platforms as building blocks, we can develop cost-effective turnkey power solutions that meet your exact needs.

- Sample lead time varies with complexity.

Rapid Modification

Simple to Complex Modifications – Initial Samples Can be Available in Days!

Value-Add & Changes Made

- Modified output termination from single to 3-way contact
- AC_OK and POK Logic and timing signal changes via firmware
- Custom enclosure and accessories
- Ruggedization for shock and vibration
- Firmware changes for heavy peak loading startup; and load adaptive fan speed.

Modified Advantage

What you will get from Artesyn's modified power supplies:

- Broad portfolio of power supplies to leverage from
- Quick time to market vs. custom solutions
- Low risk - using proven reliable platforms as building blocks
- Cost effective (Lower development cost)
- Quality, high reliability products





Modified Solutions

Artesyn provides modified standard products and value-add solutions in varying degrees of complexity. These meet specific customer needs in a wide range of applications, such as:



Communications

- Access Solutions
- Enterprise Networking
- Wireless Communications
- Wireline Communications
- Optical Communications



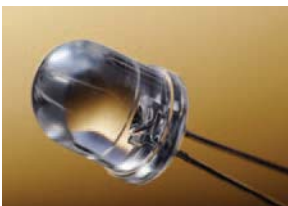
Healthcare

- Bio Life Sciences
- Dental
- Imaging
- Laboratory
- Medical



Industrial

- Process Control
- Robotics
- Test & Measurement



Lighting & Signage

- Displays
- Illuminated Signs



Mil/Aero (COTS)

- Avionics
- In-flight Entertainment

Capabilities

The exact specifications you require that's within your budget

Electrical Parameters

- Factory Vout Preset
- Low Noise
- Power & Efficiency Upgrades
- Hot Swap Control
- Inrush Current Control
- Integrated PDU Assemblies
- Compliance to Industry Standards



Connectivity

- Cable Wire Assemblies
- Connector Changes
- Busbar Design
- Overmoulding
- Interposer Boards



Packaging

- Conformal Coating
- Custom Chassis/Sled
- Ruggedization for Shock, Vibration and Hazardous Locations
- Shielding for High Magnetic Environment
- Sealed/IP Rated Enclosures
- Customized Print/Marking/Labels



Communications & Control

- Logic Signal/Timing Changes
- Adaptive Fan Control
- Output Sequencing
- Peak Load/Efficiency Optimization



Terms and Conditions of Sale

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1. PRICES: Unless otherwise specified in writing by Seller, the price quoted or specified by Seller for the Goods and/or Software shall remain in effect for 30 days after the date of Seller's quotation or acknowledgment of Buyer's order for the Goods and/or Software, whichever occurs first, provided an unconditional authorization from Buyer for the shipment of the Goods and/or Software is received and accepted by Seller within such time period. If such authorization is not received by Seller within such 30 day period, Seller shall have the right to change the price for the Goods and/or Software to Seller's price for the Goods and/or Software at the time of shipment. All prices and licensee fees are exclusive of taxes, transportation and insurance, which are to be borne by Buyer.

2. TAXES: Any current or future tax or governmental charge (or increase in same) affecting Seller's costs of production, sale, or shipment, or which Seller is otherwise required to pay or collect in connection with the sale, purchase, delivery, storage, processing, use or consumption of Goods, shall be for Buyer's account and shall be added to the price or billed to Buyer separately, at Seller's election.

3. TERMS OF PAYMENT: Unless otherwise specified by Seller, terms are net 30 days from date of Seller's invoice by bank wire transfer or automated clearing house in U.S. currency. Payment will be made no less frequent than weekly. Seller shall have the right, among other remedies, either to terminate this agreement or to suspend further performance under this and/or other agreements with Buyer in the event Buyer fails to make any payment when due, which other agreements Buyer and Seller hereby amend accordingly. Buyer shall be liable for all expenses, including attorneys' fees, relating to the collection of past due amounts. If any payment owed to Seller is not paid when due, it shall bear interest, at a rate to be determined by Seller, which shall not exceed the maximum rate permitted by law, from the date on which it is due until it is paid. Any payment due to either party under this agreement shall be made in full without any set-off, restriction, condition deduction or withholding for or on account of any counterclaim. Should Buyer's financial responsibility become unsatisfactory to Seller, cash payments or security satisfactory to Seller may be required by Seller for future deliveries of the Goods and/or Software. If such cash payment or security is not provided, in addition to Seller's other rights and remedies, Seller may discontinue deliveries.

4. SHIPMENT AND DELIVERY: While Seller will use all reasonable commercial efforts to maintain the delivery date(s) acknowledged or quoted by Seller, all shipping dates are approximate and not guaranteed. Seller

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If within 30 days after Buyer's discovery of any warranty defects within the warranty period, Buyer notifies Seller thereof in writing, Seller shall, at its option and as Buyer's exclusive remedy, repair, correct or replace per its return policy, or refund the purchase price for, that portion of the Goods found by Seller to be defective. Failure by Buyer to give such written notice within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Advance written permission to return Goods must be obtained from Seller. Such Goods must be shipped transportation prepaid to Seller. Returns made without proper written permission will not be accepted by Seller. Seller reserves the right

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Buyer assumes all other responsibility for any loss, damage, or injury to persons or property arising out of, connected with, or resulting from the use of Goods and/or Software, either alone or in combination with other products/components.

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7. PATENTS AND COPYRIGHTS: Subject to the limitations of the second paragraph of Section 6, Seller warrants that the Goods sold, except as are made specifically for Buyer according to Buyer's specifications, do not infringe any valid U.S. patent or copyright in existence as of the date of shipment. This warranty is given upon the condition that Buyer promptly notifies Seller of any claim or suit involving Buyer in which such infringement is alleged and cooperates fully with Seller and permits Seller to control completely the defense, settlement or compromise of any such allegation of infringement. Seller's warranty as to utility patents only applies to infringement arising solely out of the inherent operation according to Seller's specifications and instructions of such Goods. In the event such Goods are held to infringe such a U.S. patent or copyright in such suit, and / or the use of such Goods is enjoined, or in the case of a compromise or settlement by Seller, Seller shall have the right, at its option and expense, to procure for Buyer the right to continue using such Goods, or replace them with non-infringing Goods, or modify same to become non-infringing, or grant Buyer a credit for the depreciated value of such Goods and accept return of them. In the event of the foregoing or, if in Seller's opinion, Seller receives a credible allegation of infringement, Seller may also, at its option,

cancel or suspend this agreement as to future deliveries of such Goods, without liability.

8. EXCUSE OF PERFORMANCE: Seller shall not be liable for delays in performance or for non-performance due to acts of God; acts of Buyer; war; fire; flood; weather; sabotage; epidemics; strikes or labor disputes; civil disturbances or riots; governmental requests, restrictions, allocations, laws, regulations, orders or actions; unavailability of or delays in transportation; default of suppliers; or unforeseen circumstances or any events or causes beyond Seller's reasonable control. Deliveries or other performance may be suspended for an appropriate period of time or canceled by Seller upon notice to Buyer in the event of any of the foregoing, but the balance of the agreement shall otherwise remain unaffected as a result of the foregoing.

If Seller determines that its ability to supply the total demand for the Goods, or to obtain material used directly or indirectly in the manufacture of the Goods, is hindered, limited or made impracticable due to causes set forth in the preceding paragraph, Seller may allocate its available supply of the Goods or such material (without obligation to acquire other supplies of any such Goods or material) among its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom.

9. RESCHEDULE/CANCELLATION: Unless otherwise agreed in writing by Seller, orders under this agreement may not be rescheduled or canceled by Buyer for any reason.

10. CHANGES: Buyer may request changes or additions to the Goods and/or Software consistent with Seller's specifications and criteria. In the event such changes or additions are accepted by Seller, Seller may revise the price, license fees and dates of delivery.

Seller reserves the right to change designs and specifications for the Goods and/or Software without prior notice to Buyer, except with respect to Goods and/or Software being made to order for Buyer. Seller shall have no obligation to install or make such change in any Goods and/or Software manufactured prior to the date of such change.

11. NUCLEAR/MEDICAL: GOODS AND SOFTWARE SOLD HEREUNDER ARE NOT FOR USE IN CONNECTION WITH ANY NUCLEAR, MEDICAL, LIFE-SUPPORT AND OTHER HIGH RISK APPLICATIONS WHERE GOODS OR SOFTWARE FAILURE COULD LEAD TO LOSS OF LIFE OR CATASTROPHIC PROPERTY DAMAGE. Buyer accepts Goods and Software with the foregoing understanding, agrees to communicate the same in writing to any subsequent purchasers or users and to defend, indemnify and hold harmless Seller from any claims, losses, suits, judgments and damages, including incidental and consequential damages, arising from such use, whether the cause of action be based in tort, contract or otherwise, including allegations that the Seller's liability is based on negligence or strict liability.

12. ASSIGNMENT: Buyer shall not assign its rights or delegate its duties hereunder or any interest herein without the prior written consent of Seller, and any such assignment, without such consent, shall be void.

13. SOFTWARE: Notwithstanding any other provision herein to the contrary, Seller or applicable third party licensor to Seller shall retain all rights of ownership and title in its respective Software, including without limitation all rights of ownership and title in its respective copies of such Software. Except as otherwise provided herein, Buyer is hereby granted a nonexclusive, non-transferable royalty free license to use the Software incorporated into the Goods solely for purposes of Buyer properly utilizing such Goods purchased from Seller. All other Software shall be furnished to, and used

by, Buyer only after execution of Seller's (or the licensor's) applicable standard license agreement, the terms of which are incorporated herein by reference. The Software is Seller's own or Seller's supplier's proprietary information, and Buyer and its employees and agents shall not disclose the Software to others without Seller's prior written consent.

14. TOOLING: Tool, die, and pattern charges, if any, are in addition to the price of the Goods and are due and payable upon completion of the tooling. All such tools, dies and patterns shall be and remain the property of Seller. Charges for tools, dies, and patterns do not convey to Buyer, title, ownership interest in, or rights to possession or removal, or prevent their use by Seller for other purchasers, except as otherwise expressly provided by Seller and Buyer in writing with reference to this provision.

15. INTELLECTUAL PROPERTY: Seller's intellectual property, including without limitation, all patents, copyrights, trade secrets, trade-dress and any other intellectual property of any kind (including without limitation, that which exists in the underlying technology), furnished by Seller to Buyer in connection with this agreement is the property of Seller and Seller retains all rights, including without limitation, exclusive rights of use, licensing, and sale. Possession of Goods, pre-production units, specifications, prints or drawings, or any other materials does not convey to Buyer any rights or license thereto.

16. BUYER'S COMPLIANCE WITH LAWS: In connection with the transactions contemplated by this agreement, Buyer is familiar with and shall fully comply with all applicable laws, regulations, rules and other requirements of the United States and of any applicable state, foreign and local governmental body in connection with the purchase, license, receipt, use, transfer and disposal of the Goods and/or Software.

17. EXPORT/IMPORT: Buyer agrees that all applicable import and export control laws, regulations, orders and requirements, including without limitation those of the United States and the European Union, and the jurisdictions in which the Seller and Buyer are established or from which Goods and/or Software may be supplied, will apply to their receipt and use. In no event shall Buyer use, transfer, release, import, export, Goods and/or Software in violation of such applicable laws, regulations, orders or requirements.

18. GOVERNMENT CONTRACT CONDITIONS: In the event Buyer supplies Goods or Software to the U.S. Government or to a prime contractor selling to the U.S. Government, the following Federal Acquisition Regulation (FAR) clauses are accepted by Seller and are made part of this agreement applicable to such supply: 52.222-21 Prohibition of Segregated Facilities; 52.222-26 Equal Opportunity; 52.222-35 Equal Opportunity For Special Disabled Veterans, Veterans of Vietnam Era, and Other Eligible Veterans; 52.222-36 Affirmative Action For Workers with Disabilities; and 52.219-8 Utilization of Small Business Concerns. No additional FAR or FAR Supplement clauses are accepted by Seller. In the event Buyer elects to sell Goods or Software to the U.S. Government or any national, state, provincial or local non-U.S. governmental entity or to a prime contractor selling to such entities, Buyer does so solely at its own option and risk, and agrees not to obligate Seller as a subcontractor or otherwise to the U.S. Government or other governmental entity except as described in this Section 18. Buyer remains solely and exclusively responsible for compliance with all statutes and regulations governing sales to the U.S. Government or any national, state, provincial or local non-U.S. governmental entity. Seller makes no representations, certifications or warranties whatsoever with respect to the ability of its Goods, Software, or prices to satisfy any such statutes and regulations.

19. GENERAL PROVISIONS: These terms and conditions supersede all other communications, negotiations and prior oral or written statements regarding the subject matter of these terms and conditions. No change, modification, rescission, discharge, abandonment, or waiver of these terms and conditions shall be binding upon the Seller unless made in writing and signed on its behalf by a duly authorized representative of Seller. No conditions, usage of trade, course of dealing or performance, understanding or agreement purporting to modify, vary, explain, or supplement these terms and conditions shall be binding unless hereafter made in writing and signed by the party to be bound, and no modification or additional terms shall be applicable to this agreement by Seller's receipt, acknowledgment, or acceptance of purchase orders, shipping instruction forms, or other documentation containing terms at variance with or in addition to those set forth herein. Any such modifications or additional terms are specifically rejected and deemed a material alteration hereof. If this document shall be deemed an acceptance of a prior offer by Buyer, such acceptance is expressly conditional upon Buyer's assent to any additional or different terms set forth herein. No waiver by either party with respect to any breach or default or of any right or remedy, and no course of dealing, shall be deemed to constitute a continuing waiver of any other breach or default or of any other right or remedy, unless such waiver be expressed in writing and signed by the party to be bound. All typographical or clerical errors made by Seller in any quotation, acknowledgment or publication are subject to correction. In the event that any provision or portion thereof contained in the Contract is held to be unenforceable, the Contract shall be construed without such provision or portion thereof.

(A) If Seller is a U.S. incorporated entity: This Agreement shall be governed by the laws of the State of Delaware, U.S.A., without reference to its choice or conflict of laws principles. The parties agree to submit to the exclusive jurisdiction of the courts of the State of Delaware for all actions arising in connection herewith.

(B) If Seller is a European incorporated entity: This Agreement shall be governed by the laws of England. Any dispute arising out of or in connection with this Agreement that cannot be resolved through friendly consultation shall be referred to and finally resolved by arbitration in London, England before the London Court of International Arbitration in accordance with its arbitration rules. The arbitral award shall be final and binding on the parties.

(C) If Seller is an entity incorporated in the Asia Pacific region: This Agreement shall be governed by the laws of the Hong Kong Special Administrative Region of the People's Republic of China. Any dispute arising out of or in connection with this Agreement that cannot be resolved through friendly consultation shall be referred to and finally resolved by arbitration in Hong Kong before the Hong Kong International Arbitration Centre in accordance with its arbitration rules. The arbitral award shall be final and binding on the parties.

(D) No action, regardless of form, arising out of transactions relating to this agreement, may be brought by either party more than two (2) years after the cause of action has accrued. The U.N. Convention on Contracts for the International Sales of Goods shall not apply to this agreement.

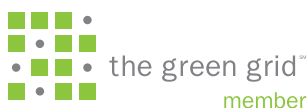
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Ecosystem Leadership

Just as nature relies on communities of organisms functioning as an ecological unit, embedded power solutions depend on a broad and powerful ecosystem, including standards bodies, industry associations, technology alliances and engineering communities. Artesyn Embedded Technologies brings a wealth of innovation and many years' experience to accredited standards development organizations, specification consortia and industry associations through our executive memberships and key committee positions. We have long been committed to a strong ecosystem that works to further the development of the industries and technologies that are important to our customers' success.



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