

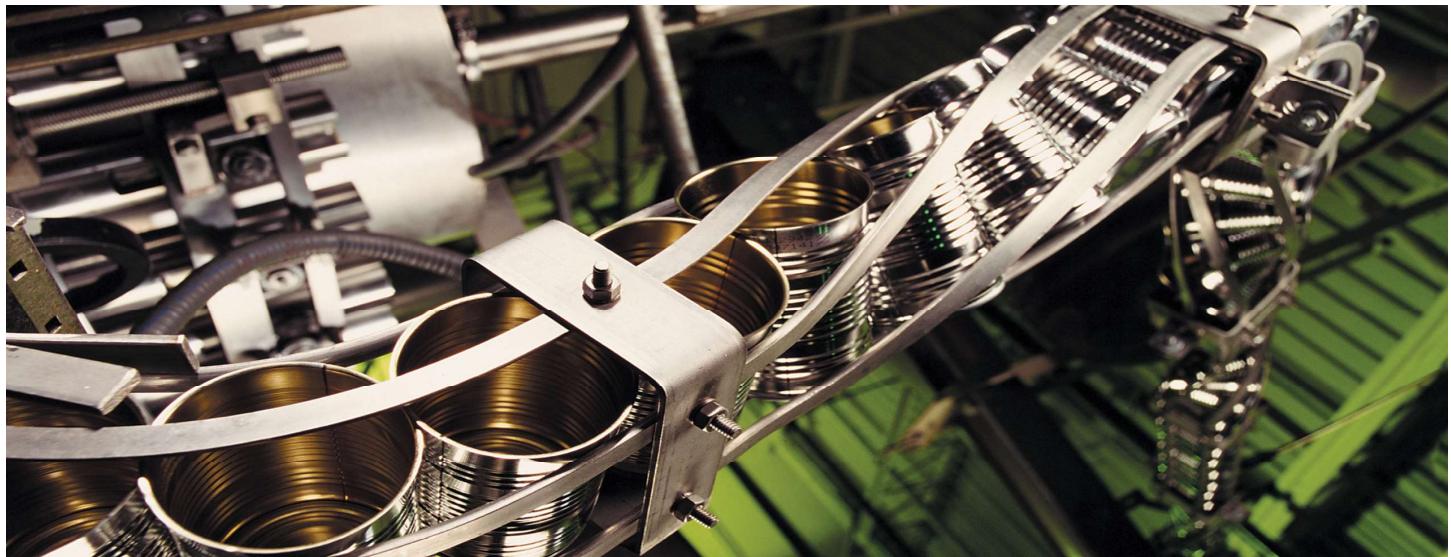


## TDK-Lambda Industrial Products



## Company Overview

TDK-Lambda is the #1 world-wide manufacturer of industrial power supply solutions. We offer a broad product line with over 5,000 models to choose from. Backed by industry-leading warranties. Reliability you can count on.



### Product Offering & Attributes

- ◆ Wide range of products
- ◆ Standard and modified power solutions
- ◆ AC-DC power supplies + line filters + DC-DC converters
- ◆ Products available for Harsh & Hazardous locations
- ◆ Industrial approvals as standard
- ◆ Long-life products
- ◆ Low cost of ownership
- ◆ Many Convection, Conduction & Forced Air Cooled Products

### Organization

- ◆ Founded in 1948; offering long term financial stability
- ◆ Worldwide recognition as a leader in high quality
- ◆ Outstanding customer support
- ◆ International organization with local presence & support
- ◆ Local design capability
- ◆ Experts in industrial power supply solutions
- ◆ Preferred supplier for Tier 1 industrial companies
- ◆ Local inventory / local buffer

# Industrial Sub-Segments

## Factory Automation



- ◆ Automotive Equipment
- ◆ Food, & Beverage Equipment
- ◆ Material Handling Equipment
- ◆ Power Generation Equipment
- ◆ Metals & Mining Equipment
- ◆ Chemical Equipment
- ◆ Oil & Gas Equipment
- ◆ Packaging Machinery
- ◆ Machine Tools
- ◆ Infrastructure

## Material Handling



- ◆ Conveyors
- ◆ Industrial Trucks
- ◆ Positioning Equipment
- ◆ Electric Track Vehicle Systems
- ◆ Automated Guided Vehicles (AGVs)
- ◆ Forklifts
- ◆ Cranes
- ◆ Industrial Robotics
- ◆ Storage Equipment

## Agriculture



- ◆ Tractors and Heavy Equipment
- ◆ Cultivation Equipment
- ◆ Planting Equipment
- ◆ Fertilizer and Pest Control Equipment
- ◆ Irrigation Systems & Equipment
- ◆ Produce Sorting Equipment
- ◆ Harvesting/Post-harvesting Equipment

## Robotics



- ◆ Machining Equipment
- ◆ Welding Equipment
- ◆ Painting Equipment
- ◆ Assembly Equipment
- ◆ Controllers Equipment
- ◆ Process Control Equipment



Product Series	Description	Output Power (W)	Outputs	Output Voltages (VDC)	Dimensions (Inches)	Protection Class	Cooling
KAS2	PCB mount	2	1	3.3, 5, 8, 9, 12, 14, 15, 24	1.12 x 1.02 x 0.67	Class II	Convection
KAS4	PCB mount	4	1	3.3, 5, 8, 9, 12, 14, 15, 24	1.46 x 1.08 x 0.69	Class II	Convection
KPSA5	PCB mount	4.1 - 5.5	1	3.3, 5, 12, 15, 24	1.25 x 2.17 x 0.83	Class II	Convection or Forced air
KPSA10	PCB mount	8.3 - 10.1	1	3.3, 5, 12, 15, 24	1.55 x 2.40 x 0.9	Class II	Convection or Forced air
KPSA15	PCB mount	9.9 - 15.1	1	3.3, 5, 12, 15, 24	1.77 x 2.75 x 0.79	Class II	Convection or Forced air
KWSA5	Enclosed PCB Mount	5 - 5.4	1	5, 12, 15, 24	1.5 x 1.0 x 0.85	Class II	Convection
KWSA10	Enclosed PCB Mount	10 - 12	1	5, 12, 15, 24	1.5 x 1.0 x 0.85	Class II	Convection
KWSA15	Enclosed PCB Mount	15 - 16.8	1	5, 12, 15, 24	2.0 x 1.0 x 0.94	Class II	Convection
KWSA25	Enclosed PCB Mount	25 - 26.4	1	5, 12, 15, 24	2.5 x 1.0 x 1.14	Class II	Convection
ZWS10B	Open - frame	6.6 - 12	1	3.3, 5, 12, 15, 24	1.97 x 0.87 x 2.89	Class I	Convection / Forced air
ZWS15B	Open - frame	9.9 - 16.8	1	3.3, 5, 12, 15, 24	1.97 x 0.87 x 3.44	Class I	Convection / Forced air
ZWS30B	Open - frame	19.8 - 31.2	1	3.3, 5, 12, 15, 24	1.97 x 1.04 x 4.13	Class I	Convection / Forced air
KMS15	Enclosed PCB Mount	9.9 - 15	1	3.3, 5, 9, 12, 15, 24	2.52 x 1.79 x 0.92	Class II	Convection
KMD15	Enclosed PCB Mount	15	2	(+5); (+12); (+15)	2.52 x 1.79 x 0.92	Class II	Convection
KMT15	Enclosed PCB Mount	15	3	(5, +12); (5, +15)	2.52 x 1.79 x 0.92	Class II	Convection
KMS40	Enclosed PCB Mount	26.4 - 40	1	3.3, 5, 9, 12, 15, 24	3.5 x 2.5 x 1.06	Class II	Convection
KMD40	Enclosed PCB Mount	40	2	(+5); (+12); (+15); (5,12); (5,24)	3.5 x 2.5 x 1.06	Class II	Convection
KMT40	Enclosed PCB Mount	40	3	(5, +12); (5, +15)	3.5 x 2.5 x 1.06	Class II	Convection
KMS15A	Enclosed PCB Mount	15	1	5, 9, 12, 15, 24	2.07 x 1.08 x 0.93	Class II	Convection
KMS30A	Enclosed PCB Mount	25 - 30	1	5, 12, 15, 24	2.52 x 1.77 x 0.93	Class II	Convection
KMS60A	Enclosed PCB Mount	51 - 60	1	5.1, 9, 12, 15, 24	3.5 x 2.5 x 1.06	Class II	Convection
HWS15A	Enclosed	10 - 15	1	3.3, 5, 12, 15, 24, 48	1.24 x 3.23 x 3.15	Class I	Convection
HWS30A	Enclosed	30	1	3.3, 5, 12, 15, 24, 48	1.24 x 3.23 x 3.74	Class I	Convection
HWS50A	Enclosed	50	1	3.3, 5, 12, 15, 24, 48	1.24 x 3.23 x 4.72	Class I	Convection
HWS100A	Enclosed	100	1	3.3, 5, 12, 15, 24, 48	1.3 x 3.23 x 6.3	Class I	Convection
HWS150A	Enclosed	150	1	3.3, 5, 12, 15, 24, 48	1.65 x 3.23 x 6.3	Class I	Convection
ZPSA20	Open - frame	14.5 - 22	1	3.3, 5, 9, 12, 15, 24	2 x 3.5 x 0.79	Class I	Convection
ZPSA40	Open - frame	20 - 40	1	3.3, 5, 9, 12, 15, 24, 28, 30, 36, 48	2 x 4 x 1.07	Class I	Convection
ZPSA60	Open - frame	26.4 - 60	1	3.3, 5, 9, 12, 15, 24, 28, 30, 36, 48	2 x 4 x 1.07	Class I	Convection
ZPSA100	Open - frame	100	1	5, 9, 12, 15, 18, 24, 48	3 x 5 x 1.05	Class I	Convection
LS25	Enclosed	19.8 - 25	1	3.3, 5, 12, 15, 24, 36, 48	3.1 x 2.0 x 1.1	Class I	Convection
LS35	Enclosed	35	1	3.3, 5, 12, 15, 24, 36, 48	3.9 x 3.2 x 1.4	Class I	Convection
LS50	Enclosed	50	1	3.3, 5, 12, 15, 24, 36, 48	3.9 x 3.8 x 1.4	Class I	Convection
LS75	Enclosed	75	1	3.3, 5, 12, 15, 24, 36, 48	5.1 x 3.8 x 1.5	Class I	Convection
LS100	Enclosed	100	1	3.3, 5, 12, 15, 24, 36, 48	6.3 x 3.8 x 1.5	Class I	Convection
LS150	Enclosed	150	1	3.3, 5, 12, 15, 24, 36, 48	7.8 x 3.9 x 1.5	Class I	Convection
LS200	Enclosed	132 - 201.6	1	3.3, 5, 7.5, 12, 15, 24, 36, 48	7.8 x 3.9 x 1.61	Class I	Convection or Forced air
HWS30A/HD	U - Channel	20 - 31.2	1	3.3, 5, 12, 15, 24, 48	1.04 x 3.23 x 3.74	Class I	Convection
HWS50A/HD	U - Channel	33 - 52.8	1	3.3, 5, 12, 15, 24, 48	1.04 x 3.23 x 4.72	Class I	Convection
HWS100A/HD	U - Channel	66 - 108	1	3.3, 5, 12, 15, 24, 48	1.1 x 3.23 x 6.3	Class I	Convection
HWS150A/HD	U - Channel	99 - 158.4	1	3.3, 5, 12, 15, 24, 48	1.46 x 3.23 x 6.3	Class I	Convection
CUS30M	Open frame	30 - 30.6	1	12, 15, 18, 24, 36, 48	3 x 2 x 0.95	Class I / Class II	Convection
CUS60M	Open frame	60 - 60.48	1	5, 12, 15, 18, 24, 36, 48	3 x 2 x 1.05	Class I / Class II	Convection
CUS150M	Open frame	120 - 150	1	12, 15, 18, 24, 28, 36, 48	2 x 4 x 1.24	Class I / Class II	Convection
CUS150MU	U - Channel	120 - 150	1	12, 15, 18, 24, 28, 36, 48	2.52 x 4.57 x 1.52	Class I / Class II	Convection
CUS150MA	U - Channel with cover	120 - 150	1	12, 15, 18, 24, 28, 36, 48	2.52 x 4.57 x 1.56	Class I / Class II	Convection
CUS150MF	U - Channel with cover & top fan	120 - 150	1	12, 15, 18, 24, 28, 36, 48	2.52 x 4.57 x 2.00	Class I / Class II	Forced air
CUT35	Open frame	26.1 - 35	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	2 x 4 x 1.06	Class I	Convection
CUT35/A	Open Frame with cover	26.1 - 35	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	2.48 x 4.92 x 1.42	Class I	Convection
CUT35/B	Open frame with baseplate	26.1 - 35	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	2.22 x 4.8 x 1.1	Class I	Convection
CUT75	Open frame	64 - 75	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	3 x 5 x 0.94	Class I	Convection
CUT75/A	Open Frame with cover	64 - 75	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	3.22 x 5.12 x 1.5	Class I	Convection
CUT75/B	Open frame with baseplate	64 - 75	2 - 3	(5, + 12); (5,24); (5, +15); (5,30)	2.99 x 5.79 x 1.46	Class I	Convection
ZWS50BAF	Open - frame	33 - 52.8	1	3.3, 5, 12, 15, 24, 48	1.97 x 1.02 x 5.2	Class I	Convection
ZWS75BAF	Open - frame	49.5 - 76.8	1	3.3, 5, 12, 15, 24, 48	1.97 x 1.3 x 5.9	Class I	Convection
ZWS100BAF	Open - frame	66 - 103.2	1	3.3, 5, 12, 15, 24, 48	2.44 x 1.3 x 6.1	Class I	Convection
ZWS150BAF	Open - frame	99 - 153.6	1	3.3, 5, 12, 15, 24, 48	2.95 x 1.46 x 6.3	Class I	Convection
ZWS300BAF	Open - frame	300	1	12, 15, 24, 36, 48	3.31 x 1.65 x 7.09	Class I	Convection / Forced air
CSS65A	Open - frame	40 - 65	1	5, 12, 15, 19, 24, 28, 48, 54	2 x 4 x 1.08	Class II	Convection
CSW65	U - Channel	40 - 65	1	5, 12, 15, 18, 24, 28, 48, 54	2.5 x 4.75 x 1.5	Class I	Convection
CSW65/A	U - Channel with cover	40 - 65	1	5, 12, 15, 18, 24, 28, 48, 54	2.5 x 4.75 x 1.5	Class I	Convection
CSW65/D	U - Channel, cover & DIN rail bracket	40 - 65	1	5, 12, 15, 18, 24, 28, 48, 54	2.5 x 4.75 x 1.85	Class I	Convection
RWS50-B	Enclosed	50 - 52.8	1	5, 12, 24, 48	3.23 x 1.34 x 3.2	Class I	Convection
RWS100-B	Enclosed	70 - 108	1	5, 12, 15, 24, 48	3.7 x 1.54 x 4.25	Class I	Convection
RWS150-B	Enclosed	105 - 158.4	1	5, 12, 15, 24, 48	3.7 x 1.61 x 5.04	Class I	Convection



Product Series	Description	Output Power (W)	Outputs	Output Voltages (VDC)	Dimensions (Inches)	Protection Class	Cooling
RWS300-B	Enclosed	250 - 302.4	1	5, 12, 15, 24, 36, 48	4.02 x 1.61 x 6.7	Class I	Forced air
RWS600-B	Enclosed	500 - 601.2	1	5, 12, 15, 24, 36, 48	4.72 x 2.4 x 7.48	Class I	Forced air
RWS1000-B	Enclosed	1005 - 1008	1	12, 15, 24, 36, 48	5 x 2.48 x 7.8	Class I	Forced air
RWS1500-B	Enclosed	1500 - 1536	1	12, 15, 24, 36, 48	5 x 2.48 x 10.28	Class I	Forced air
SCS120PW	Open - frame	120	1	12, 15, 18, 19, 24, 30, 32, 36, 48	3 x 5 x 1.27	Class I	Convection
CSS150	Open - frame	150	1	12, 15, 24, 36, 48	3 x 5 x 1.3	Class II	Convection / Forced air
CSS280	Open - frame	280	1	12, 24, 28, 48, 54	3 x 5 x 1.18	Class I	Convection / Forced air
CSS500	U - Channel	360 - 500	1	12, 24, 30, 36, 48, 54, 57	8 x 4.7 x 1.51	Class I	Convection / Forced air
CSS500/S	Enclosed - End fan	360 - 500	1	12, 24, 30, 36, 48, 54, 57	9 x 4.7 x 1.63	Class I	Convection / Forced air
CSS500/T	Enclosed - Top fan	360 - 500	1	12, 24, 30, 36, 48, 54, 57	8 x 4.7 x 2.85	Class I	Convection / Forced air
ZMS100	Open - frame	80 - 100	1	12, 15, 24, 36, 48	2 x 4 x 1.25	Class I, Class II	Convection / Forced air
CUS200LD	Enclosed	79.2 - 153.6	1	3.3, 4.2, 5, 7.5, 12, 15, 24, 28, 48	6.3 x 2.36 x 1.22	Class I	Convection / Conduction
CUS250LD	U - Channel	165 - 252	1	3.3, 4.2, 5, 12, 24	7.8 x 4 x 1.18	Class I	Convection
CUS250LD/A	Enclosed	165 - 252	1	3.3, 4.2, 5, 12, 24	7.8 x 4 x 1.34	Class I	Convection
NV175	Open Frame (configurable)	175 - 200	1-5	1.8, 2.7, +3.3, +5, +12, +15, +24	3 x 5 x 1.25	Class I	Forced air
NV300	Open Frame (configurable)	300	1-5	1.8, 2.7, +3.3, +5, +12, +15, +24	3.75 x 7.25 x 1.34	Class I	Forced air
NV350/700	Enclosed - End fan (configurable)	350- 660	1-6	3.3 - 64	10.8 x 3.75 x 1.6	Class I	Forced air
HWS300	Enclosed	198 - 336	1	3.3, 5, 12, 15, 24, 48	2.4 x 3.23 x 6.5	Class I	Forced air
HWS600	Enclosed	396 - 648	1	3.3, 5, 12, 15, 24, 48	3.94 x 3.23 x 6.5	Class I	Forced air
HWS1000	Enclosed	660 - 1056	1	3.3, 5, 6, 7.5, 12, 15, 24, 36, 48, 60	5 x 3.25 x 9.45	Class I	Forced air
HWS1500	Enclosed	990 - 1536	1	3.3, 5, 6, 7.5, 12, 15, 24, 36, 48, 60	5 x 3.25 x 11	Class I	Forced air
HWS300/HD	Enclosed	198 - 336	1	3.3, 5, 12, 15, 24, 48	2.4 x 3.23 x 6.5	Class I	Forced air
HWS600/HD	Enclosed	396 - 648	1	3.3, 5, 12, 15, 24, 48	3.94 x 3.23 x 6.5	Class I	Forced air
HWS1000/HD	Enclosed	660 - 1104	1	3.3, 5, 12, 15, 24, 36, 48	5 x 3.2 x 9.5	Class I	Forced air
HWS1500/HD	Enclosed	990 - 1536	1	3.3, 5, 12, 15, 24, 36, 48	5 x 3.25 x 11	Class I	Forced air
CUS200M	Open - frame	200 - 250	1	12, 18, 24, 36, 48	3 x 5 x 1.34	Class I	Convection / Forced air
HWS1800T	Enclosed	990 - 1800	1	3.3, 5, 6, 7.5, 12, 15, 24, 36, 48, 60	4.98 x 3.23 x 11	Class I	Forced air
CUS350M	U - Channel	350 - 420	1	12, 18, 24, 36, 48	7.5 x 3.4 x 1.6	Class I	Convection / Forced air
Z+	Enclosed End Fan (Std body)	200-800	1	0-650	3.27 x 2.76 x 13.78	Class I	Forced air
Z+	Enclosed End Fan (Wide body)	200-800	1	0-650	3.27 x 4.13 x 13.78	Class I	Forced air
GWS250	Enclosed	250	1	12, 24, 36, 48	7.8 x 4.1 x 1.61	Class I	Convection
GWS500	Enclosed	500	1	12, 24, 36, 48	8.6 x 4.1 x 1.61	Class I	Forced air
CFE400M	U - Channel	300-400	1	12,24,48	7 x 3.94 x 1.6	Class I	Convection / Forced air
FEF300	Open frame	300 (**400)	1	12, 24	3 x 5 x 1.34	Class I	Forced air
FEF400	Open frame	400 (**530)	1	12, 24	3 x 6 x 1.34	Class I	Forced air
FEF300M	Open frame	300 (**400)	1	12, 24, 48	3 x 6 x 1.34	Class I	Forced air
FEF400M	Open frame	400 (**530)	1	12, 24, 48	3 x 6.5 x 1.34	Class I	Forced air
PFE300SA	PCB Mount	300 - 302	1	12, 28, 48	2.4 x 0.5 x 4.6	Class I	Conduction
PFE500SA	PCB Mount	396 - 504	1	12, 28, 48	2.4 x 0.5 x 4.6	Class I	Conduction
PFE700SA	PCB Mount	714	1	48	2.4 x 0.5 x 4.6	Class I	Conduction
PFE1000FA	PCB Mount	720 - 1008	1	12, 28, 48	3.94 x 0.53 x 6.3	Class I	Conduction
PFE500F	PCB Mount	504	1	12, 28, 48	2.76 x 0.5 x 4.8	Class I	Conduction
PFE1000F	PCB Mount	720 - 1008	1	12, 28, 48	3.94 x 0.53 x 6.3	Class I	Conduction
SWS600L	Enclosed - End fan	396 - 648	1	3.3, 5, 12, 15, 24, 36, 48, 60	2.4 x 4.72 x 7.48	Class I	Forced air
SWS1000L	Enclosed - End fan	660 - 1224	1	3.3, 5, 12, 15, 24, 36, 48, 60	9.45 x 5.91 x 2.4	Class I	Forced air
Vega	Enclosed - End fan (configurable)	450 - 900	1-10	0.5 - 62	10.6 x 5 x 2.5	Class I	Forced air
Vega-Lite	Enclosed - End fan (configurable)	550 - 900	1-10	1.8 - 56	10.6 x 5 x 2.5	Class I	Forced air
XMS500	Open Frame (configurable)	500	1	12, 24, 36, 48	4 x 7.1 x 1.46	Class I, Class II	Forced air
CPFE500F	Enclosed	504	1	12, 24, 28, 48	10.63 x 4.96 x 2.17	Class I	Conduction
NV700	Enclosed - End fan (configurable)	700-1150	1-8	3.2 - 64	10.8 x 5 x 2.5	Class I	Forced air
CPFE1000F	Enclosed	720 - 1008	1	12, 28, 48	10.63 x 7.48 x 2.40	Class I	Conduction
CPFE1000Fi	Enclosed	720 - 1008	1	12, 28, 48	10 x 4.41 x 1.73	Class I	Conduction
LZSA500	Enclosed	504	1	24	4.25 x 4.75 x 10.25	Class I	Forced air
LZSA1000	Enclosed	1008	1	12, 24	5.62 x 4.75 x 10.5	Class I	Forced air
LZSA1500	Enclosed	1512	1	24, 48	5.62 x 4.75 x 10.5	Class I	Forced air
QM5	Enclosed - End fan (configurable)	700 - 800	1-12	2.8 - 61.6	10.6 x 5.0 x 2.5	Class I	Forced air
QM5H	Enclosed - End fan (configurable)	700 - 1200	1-12	2.8 - 61.6	10.6 x 5.0 x 2.5	Class I	Forced air
QM7	Enclosed - End fan (configurable)	1200 - 1500	1-16	2.8 - 55.2	10.6 x 6.9 x 2.5	Class I	Forced air
Alpha 1000	Enclosed - End fan	1000	1-14	1.8 - 48	7 x 2.5 x 11	Class I	Forced air
RFE1600	Enclosed	1200 - 1608	1	12, 24, 32, 48	3.5 x 1.61 x 12.6	Class I	Forced air
RFE2500	Enclosed	1500 - 2496	1	12, 24, 48	4.21 x 1.61 x 13.6	Class I	Forced air
HFE1600	Enclosed	1600 (*7600)	1	12, 24, 32, 48	3.35 x 1.61 x 11.8	Class I	Forced air
HFE2500	Enclosed	2500 (*9500)	1	12, 24, 48	4.21 x 1.61 x 12.8	Class I	Forced air
TPS3000	Enclosed - End fan	3000 - 3200	1	24, 48	4.21 x 3.32 x 12.76	Class I	Forced air

\* Maximum wattage in 19 in. full rack \*\* Peak output power

## External / Desktop Power Supplies



Product Series	Description	Output Power (W)	Outputs	Output Voltages (VDC)	Dimensions (Inches)	Protection Class	Cooling
DT62/80D	External adapter	40-80	1	5 to 48	2.72 x 5.2 x 1.57	Class I	Convection
DT100/150D	External adapter	100-150	1	12 to 48	3.35 x 6.7 x 1.73	Class I	Convection
DTM300-D	External adapter	300	1	12 to 54	4.4 x 8.75 x 1.77	Class I / Class II	Convection

## AC-DC DIN Rail Power Supplies



Product Series	Description	Output Power (W)	Outputs	Output Voltages (VDC)	Dimensions (Inches)	Input	Cooling
DPP15	Din Rail	15	1	24	0.9 x 2.95 x 3.81	85 - 264 VAC, 1Ø	Convection
DPP25	Din Rail	25	1	5	1.77 x 2.95 x 3.58	85 - 264 VAC, 1Ø	Convection
DPP30	Din Rail	30	1	12, 24	1.77 x 2.95 x 3.58	85 - 264 VAC, 1Ø	Convection
DPP50	Din Rail	50	1	15, 24, 48	1.77 x 2.95 x 3.58	85 - 264 VAC, 1Ø	Convection
DPP100	Din Rail	100	1	24	2.86 x 2.95 x 3.81	85 - 264 VAC, 1Ø	Convection
DPP120	Din Rail	120	1	12, 24	2.92 x 4.88 x 4.68	340 - 575 VAC 3Ø	Convection
DPP240	Din Rail	240	1	24, 48	3.5 x 4.88 x 4.68	340 - 575 VAC 3Ø	Convection
DPP480	Din Rail	480	1	24, 48	5.91 x 4.88 x 4.68	340 - 575 VAC 3Ø	Convection
DPP960	Din Rail	960	1	24, 48	10.86 x 4.97 x 4.68	340 - 575 VAC 3Ø	Convection
DSP10	Din Rail	7.5 - 10.1	1	5, 12, 15, 24	0.71 x 3.58 x 2.19	90-264 VAC 1Ø	Convection
DSP30	Din Rail	15 - 31.2	1	5, 12, 15, 24	2.09 x 3.58 x 2.19	90-264 VAC 1Ø	Convection
DSP60	Din Rail	35 - 60	1	5, 12, 15, 24	2.8 x 3.58 x 2.19	90-264 VAC 1Ø	Convection
DSP100	Din Rail	91.2 - 100.8	1	24	3.54 x 3.58 x 2.24	90-264 VAC 1Ø	Convection
DRB15	Din Rail	15.1	1	24	0.71 x 2.95 x 3.54	85-264 VAC 1Ø	Convection
DRB30	Din Rail	30	1	12, 24,	0.83 x 2.95 x 3.54	85-264 VAC 1Ø	Convection
DRB50	Din Rail	50.4 - 51	1	12, 24, 48	1.18 x 2.95 x 3.54	85-264 VAC 1Ø	Convection
DRB100	Din Rail	100.8	1	24	1.77 x 2.95 x 3.94	85-264 VAC 1Ø	Convection
DRB480	Din Rail	480	1	24	3.3 x 4.92 x 4.88	90-264 VAC 1Ø	Convection
DRF120	Din Rail	120	1	24	1.44 x 4.86 x 4.53	85-264 VAC 1Ø	Convection
DRF240	Din Rail	240	1	24	1.93 x 4.86 x 4.53	85-264 VAC 1Ø	Convection
DRF480	Din Rail	480	1	24	3.23 x 4.86 x 4.53	85-264 VAC 1Ø	Convection
DRL10	Din Rail	10 - 10.08	1	12, 24	0.71 x 3.58 x 2.19	85-264 VAC 1Ø	Convection
DRL30	Din Rail	25.2 - 30	1	12, 24	1.42 x 3.58 x 2.19	85-264 VAC 1Ø	Convection
DRL60	Din Rail	54 - 60	1	12, 24	2.13 x 3.58 x 2.19	85-264 VAC 1Ø	Convection
DRL100	Din Rail	100.8	1	24	2.83 x 3.58 x 2.19	85-264 VAC 1Ø	Convection

## DC-DC DIN Rail Power Supplies



Series	Description	Output Power (W)	Outputs	Output Voltages (VDC)	Dimensions (Inches)	Input	Cooling
DPX15W*	Din Rail	14.85 - 15	1, 2	3.3, 5, 5.1, 12, 15, +5, +12, +15	0.96 x 2.27 x 4.92	9.5 - 75	Convection
DPX20W*	Din Rail	18.15 - 20	1, 2	3.3, 5, 12, 15, +5, +12, +15	0.96 x 2.27 x 4.92	9.5 - 75	Convection
DPX30W*	Din Rail	19.8 - 30	1, 2	3.3, 5, 12, 15, +12, +15	0.96 x 2.27 x 4.92	9.5 - 75	Convection
DPX40W	Din Rail	40	1, 2	5, 12, 15, +12, +15	0.96 x 2.27 x 4.92	9.5 - 75	Convection
DPX40	Din Rail	40	2, 3	+12; +15; 5, +12; 5, +15	0.96 x 2.27 x 4.92	9.5 - 75	Convection
DPX60	Din Rail	60	1	5, 12, 15	0.96 x 2.27 x 4.92	18 - 75	Convection

\*Special order

## DC-DC Isolated Converters



Series	Total Power (W)	Outputs	Input Volts (VDC)	Output Volts (VDC)	Amps (A)	Size (inches)	Type
CC-E	1.5-25	1 to 2	4.5-76	3.3-30	up to 7.5	DIP/SIP	PCB Mount
PXD10,20	10-20	1 to 2	9-75	3.3-30	up to 5	2 x 1 x 0.4	PCB Mount
CCG15	15	1	9-76	3.3-15	up to 4	1 x 1 x 0.39	PCB Mount
PXE	20-30	1 to 2	9-75	3.3-30	up to 6	2 x 1.6 x 0.4	PCB Mount
CCG30	23-30	1	9-76	3.3-15	up to 7	1 x 1 x 0.39	PCB Mount
PXF	40-60	1 to 3	9-75	3.3-15	up to 14	2 x 2 x 0.4	PCB Mount
iEA	48-78	1	18-75	5-28	up to 15	2.3 x 0.9 x 0.35	Eighth Brick
iEH	300	1	36-75	12	up to 25	2 x 0.9 x 0.49	Eighth Brick
CN-A110	30-100	1	60-160	5-24	up to 20	2.28 x 1.45 x 0.5	Quarter Brick
HQA	120	1	9-40	12-48	up to 10	2.39 x 2.2 x 0.5	Quarter Brick
iQE	49-204	1	16-75	3.3-15	up to 30	2.28 x 1.45 x 0.41	Quarter Brick
CN-A24	50-100	1	14.4-36	5-24	up to 20	2.28 x 1.45 x 0.5	Quarter Brick
PH-A280	50-150	1	200-425	3.3-48	up to 20	1.46 x 0.5 x 2.3	Quarter Brick
iQL	72-308	1	18-75	1.2-28	up to 60	2.28 x 1.45 x 0.52	Quarter Brick
iQG	300-504	1	36-75	9.6-12	up to 47	2.28 x 1.45 x 0.52	Quarter Brick
CN-200A110	200	1	60-160	5-24	up to 40	2.4 x 2.28 x 0.5	Half Brick
PAH300-450	300-450	1	18-76	12-48	up to 29	2.4 x 2.28 x 0.5	Half Brick
iHG	300-456	1	36-75	12	up to 38	2.36 x 2.24 x 0.52	Half Brick
PAF600F	600	1	19-76	12, 28	up to 50	4.6 x 2.4 x 0.5	Full Brick

## DC-DC Non-Isolated Converters



Series	Total Power (W)	Outputs	Input Volts (VDC)	Output Volts (VDC)	Amps (A)	Size (inches)	Type
iCF	16-24	1	2.4-14	0.6-5.5	up to 5	0.48 x 0.48 x 0.175	DOSA 2
iCG	33	1	2.4-14	0.6-5.5	up to 6	0.48 x 0.48 x 0.335	DOSA 2
ICH	85	1	4.5-14	0.7-8.5	up to 12	0.48 x 0.48 x 0.335	DOSA 2+
iBH	80	1	3-14	0.7-5.5	up to 20	0.8 x 0.45 x 0.39	DOSA 2+
iAH	150	1	3.5-17	0.7-5.5	up to 40	1.3 x 0.53 x 0.4	DOSA 2+
iJA35A	100	1	8-14	0.6-3.3	up to 35	0.9 x 0.5 x 0.38	SMT
iJB	120	1	8-14	0.6-2	up to 60	1.055 x 0.948 x 0.381	SMT
i6A	250	1	9-40	3.3-24	up to 14	1.3 x 0.9 x 0.5	Sixteenth Brick
i6A4W	250	1	9-53	3.3-15	up to 20	1.3 x 0.9 x 0.5	Sixteenth Brick
i6AN	75	1	9-40	-3.5- -30	up to 8	1.3 x 0.9 x 0.5	Sixteenth Brick

## Filters



Product Series	Description	Input (VAC)	Rated Current (A)	Max Leakage current (µA) @250VAC, 60 Hz	Cooling
RSAL-20	Chassis Mount	250	0.5-6	10	Convection
RSEL-20	Chassis Mount	250	0.5-6	10	Convection
RSAN-20	Chassis Mount, Din rail optional	250	3-30	10	Convection
RSEN-20	Chassis Mount, Din rail optional	250	3-30	10	Convection
RSHN-20	Chassis Mount, Din rail optional	250	3-30	100	Convection
RSMN-20	Chassis Mount, Din rail optional	250	3-30	10	Convection



# AC-DC Power Supplies



## KAS Series

### 2 & 4W AC-DC Power Supplies

- ◆ Low Profile
- ◆ Smaller Footprint
- ◆ PC Board Mountable
- ◆ Low Cost
- ◆ UL Class II Approved
- ◆ Wide Input Range
- ◆ No External Components needed



## KPSA Series

### 15, 10, 15W AC-DC Power Supplies

- ◆ 90 - 305VAC Input Voltage
- ◆ Class II (No ground needed)
- ◆ Wide Temperature Range (-40 to +80°C)
- ◆ Low Off-Load Power Draw
- ◆ High Efficiency



## KWSA Series

### 5, 19, 15, 25W AC-DC Power Supplies

- ◆ Wide Temperature Range -40 (start up) to +85°C
- ◆ <0.5W Off-Load Power Draw
- ◆ Efficiencies up to 88%
- ◆ Compact Sizes
- ◆ Class II, No Ground Connection



## ZWSB Series

### 10, 15, 30W AC-DC Power Supplies

- ◆ Universal Input (85 - 265VAC)
- ◆ Five Year Warranty
- ◆ Small Size
- ◆ <0.5W Off-Load Power Draw
- ◆ 10 year E-cap lifetime



## KM Series

### 15-40W AC-DC PCB-Mount Power Supplies

- ◆ 4kVAC Input -Output Isolation
- ◆ PC Board Mountable
- ◆ Wide Range Input
- ◆ Small Size and Lightweight
- ◆ Class II (No ground needed)
- ◆ High Efficiency



## KMS-A Series

### 15, 30, 60W AC-DC PCB-Mount Power Supplies

- ◆ 4kVAC Input -Output Isolation
- ◆ PC Board Mountable
- ◆ Smaller Size than KMS
- ◆ Class II (No ground needed)
- ◆ Wide Temperature Range (-40 to +80°C)
- ◆ Low Off-load Power Draw
- ◆ High Efficiency



# AC-DC Power Supplies



## HWS Series

### 15, 30, 50, 100, 150W AC-DC Power Supplies

- ◆ Limited Lifetime Warranty
- ◆ UL508 approved
- ◆ SEMI F47 Compliant (high line AC)
- ◆ Universal Input (85 - 265VAC)
- ◆ High Efficiency
- ◆ Wide Range AC Input



## ZPSA20 Series

### 14-22W AC-DC Power Supplies

- ◆ Wide Range AC Input
- ◆ Low Profile, Industry Standard Footprint
- ◆ Global Safety Agency Compliance
- ◆ Class B Conducted EMI



## ZPSA40-60 Series

### 40-60W, 2" x 4" AC-DC Power Supplies

- ◆ Single Output
- ◆ Wide Range AC Input
- ◆ Low 1.07" Profile
- ◆ Industry Standard Footprint
- ◆ Global Safety Agency Compliance
- ◆ Up to 88% Efficiency



## ZPSA100 Series

### 100W 3" x 5" AC-DC Power Supplies

- ◆ PFC
- ◆ Wide Range AC Input
- ◆ Low Profile, Industry Standard Footprint
- ◆ Global Safety Agency Compliance
- ◆ RoHS Compliant
- ◆ Up to 84% Efficiency
- ◆ Meets EN61000-4 Immunity



## LS Series

### 25 - 150W AC-DC Power Supplies

- ◆ Very low cost
- ◆ 25W to 150W
- ◆ Small size
- ◆ 115VAC or 230VAC input
- ◆ Withstands 300VAC surges (5s)
- ◆ Five year warranty



## LS200 Series

### 15, 10, 15W AC-DC Power Supplies

- ◆ Very low cost
- ◆ Small Size
- ◆ Wide Range AC Input
- ◆ Convection or Fan Cooled
- ◆ Five year warranty
- ◆ 1.6" high (For 1U racking)



# AC-DC Power Supplies



## HWS50-1500/HD Series



### 50-1500W AC-DC Power Supplies

- ◆ Limited Lifetime Warranty
- ◆ -10 to +71°C Operation (-40°C start up)
- ◆ Universal Input (85 - 265VAC)
- ◆ Conformally coated pcbs
- ◆ Class 1 Div 2 option (/RYHD suffix)



## CUS30M & CUS60M Series



### 30-60W AC-DC Power Supplies

- ◆ High Efficiency, up to 90%
- ◆ Industry Standard 2" x 3" Footprint
- ◆ Convection Cooled
- ◆ Class I and II Operation
- ◆ Suitable for B and BF rated equipment



## CUS150M Series



### 150W 2" x 4" AC-DC Power Supplies

- ◆ 150W Convection Rating (/U version)
- ◆ ITE & Medical Certifications (2 x MOPP)
- ◆ Class B Conducted and Radiated EMI
- ◆ Suitable for Class I and Class II installations
- ◆ Compact 2 x 4 x 1.24" Footprint
- ◆ Suitable for BF Rated Equipment
- ◆ Operation up to 85°C Ambient



## CUT35 Series



### 14-22W AC-DC Power Supplies

- ◆ 2" x 4" x 1.06" footprint
- ◆ Output 1 isolated from outputs 2 & 3
- ◆ No minimum loading
- ◆ Medical & ITE Certifications
- ◆ Three year warranty



## CUT75 Series

### 75W AC-DC Power Supplies

- ◆ 3" x 5" x 1.06" footprint
- ◆ Output 1 isolated from outputs 2 & 3
- ◆ No minimum loading
- ◆ Convection Cooled
- ◆ Three year warranty



## ZWS50-150BAF Series

### 33-150W AC-DC Power Supplies

- ◆ Universal Input (85 - 265VAC)
- ◆ Power factor Corrected
- ◆ Convection Cooled
- ◆ Five Year Warranty
- ◆ Compact Design



# AC-DC Power Supplies



## ZWS240RC-24 Series



### 240W 24V Output Power Supply with EN62477-1 OVC III

- ◆ Certified to IEC/EN62477-1 OVC III
- ◆ 12 Year e-cap Lifetime
- ◆ Five Year Warranty
- ◆ Convection Cooling



## ZWS300BAF Series



### 300W Single Output, Convection Cooled Power Supplies

- ◆ Universal Input (85 - 265VAC)
- ◆ Power Factor Corrected
- ◆ Convection cooling (300W) or Forced Air (336-338W)
- ◆ Five year warranty
- ◆ Less than 0.5mA earth leakage current



## CSS65A Series



### 40-65W 2" x 4" AC-DC Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ Low profile, Industry Standard Footprint
- ◆ Wide Range AC Input
- ◆ Low profile, Industry Standard Footprint
- ◆ Global Safety Agency Compliance
- ◆ Remote Sense
- ◆ Dual Input Fuses
- ◆ <75mw off-load power consumption



## CSW65 Series



### 40-65W 90-305V AC-DC Power Supplies

- ◆ Accepts 115/230/277VAC Nominal Inputs
- ◆ DIN Rail Mount Option
- ◆ Global Safety Agency Compliance
- ◆ <150mW Off-Load Power Consumption
- ◆ DOE Efficiency Level VI
- ◆ Class 2 24V Model to UL1310



## RWS-B Series

### 50-600W Single Output General Purpose Power Supplies

- ◆ Low Cost
- ◆ Wide Range AC Input 85 - 265VAC (300VAC for 5s)
- ◆ UL508 Certification on Select Models
- ◆ Enclosed Construction
- ◆ Compact Size
- ◆ Seven Year Warranty



## RWS1000/1500-B Series

### 1000W to 1500W Single Output General Purpose Power Supplies

- ◆ Cost Effective
- ◆ Wide Range AC Input 85 - 265VAC
- ◆ Enclosed Construction
- ◆ Compact Sizes
- ◆ SEMI F47 Line Dips
- ◆ Seven Year Warranty



# AC-DC Power Supplies



## SCS120PW Series

### 120W, 3" x 5" Single Output Power Supplies

- ◆ Low Profile
- ◆ Convection cooled
- ◆ Wide Range AC Input with PFC
- ◆ Global Safety Agency Compliance
- ◆ Industry standard footprint



## CSS150 Series

### 150W 3" x 5" AC-DC Power Supplies

- ◆ 3kVAC Input - Output Isolation
- ◆ Wide Range AC Input
- ◆ Low Profile, Industry Standard Footprint
- ◆ Global Safety Agency Compliance
- ◆ Dual Input Fuses



## CSS280 Series

### 280W 3" x 5" AC-DC Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ Wide Range AC Input
- ◆ Low profile, Industry Standard Footprint
- ◆ 210W Convection
- ◆ Global Safety Agency Compliance
- ◆ Dual Input Fuses



## CSS500 Series

### 500W AC-DC Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ 360W Convection Rating
- ◆ High Efficiency
- ◆ IEC60601-1 or IEC60950-1 Certifications
- ◆ ORing FET & Current Share (for Parallel Operation)
- ◆ Dual Input Fuses



## ZMS100 Series

### 100W, 2 x 4" AC-DC Power Supplies

- ◆ 80W Convection, 100W with Forced Air
- ◆ Long e-cap lifetime
- ◆ Medical approval with 2 x MoPP isolation
- ◆ Suitable for Class I and Class II installations
- ◆ Ceramic start-up cap



## CUS200LD Series

### 79-153W Single Output AC-DC Power Supplies

- ◆ Convection or Conduction Cooled
- ◆ Up to 206W Peak Power Capability
- ◆ Low 31mm Height
- ◆ -40°C Ambient temperature Start Up



# AC-DC Power Supplies



## CUS250LD Series

### 250W Single Output Low Profile Power Supplies

- ◆ High Efficiency, up to 90%
- ◆ 1.18" high
- ◆ Wide Range AC Input
- ◆ Convection Cooled
- ◆ Conformal Coated pcb as standard
- ◆ Three year warranty



## NV175 Series

### 175-200W 3" x 5" Power Supplies

- ◆ 3kVAC Input - Output Isolation
- ◆ 1-5 Outputs
- ◆ Up to 90% Efficient
- ◆ Active Power Factor Correction
- ◆ Universal Input (90 - 264VAC)
- ◆ No Minimum Loads



## NVM175 Series

### 180W 3" x 5" Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ Reinforced Input to Output Isolation for IEC60601
- ◆ Very Low Earth Leakage and Class B EMC
- ◆ Standby Supply and Remote On/Off
- ◆ High Efficiency (90%) & High Power Density (9.3 W/in3)
- ◆ 1U Form Factor
- ◆ Dual Fusing



## NV175-M Series

### 180-200W 3" x 5" Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ 1-3 Outputs
- ◆ Up to 90% Efficient
- ◆ Active Power Factor Correction
- ◆ Universal Input (90 - 264VAC)
- ◆ No Minimum Loads



## NV300 Series

### 300W 3.75" x 7.25" Power Supplies

- ◆ 3kVAC Input - Output Isolation
- ◆ Universal Input (90 - 264VAC)
- ◆ Up to 5 Outputs (Including Standby)
- ◆ No Minimum Loads
- ◆ High Efficiency
- ◆ Low Profile



## NV350/700 Series

### 350W-1150W Modular Power Supplies

- ◆ 4kVAC Input - Output Isolation (C, CC, CM modules only)
- ◆ 1U Form Factor
- ◆ Up to 90% Efficient
- ◆ Active Power Factor Correction
- ◆ Universal Input (90 - 264VAC)
- ◆ Up to 8 Outputs (6 for the NV350)
- ◆ No Minimum Loads
- ◆ Peak Power Rating of up to 1450W



## AC-DC Power Supplies



### HWS300-1500 Series

#### 300-1500W Single Output Power Supplies

- ◆ Limited Lifetime Warranty
- ◆ UL508 approved
- ◆ SEMI F47 Compliant (high line AC)
- ◆ Universal Input (85 - 265VAC)
- ◆ High Efficiency
- ◆ Class 1 Div 2 option (/RY suffix)
- ◆ Wide Range AC Input



### CUS200M Series

#### 200 to 250W 3" x 5" Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ High Efficiency, up to 94%
- ◆ 200W Convection Cooled Rating
- ◆ Suitable for BF Rated Equipment
- ◆ 5V Standby Output



### HWS1800T Series

#### 1800W 3 Phase Industrial Power Supplies

- ◆ Limited Lifetime Warranty
- ◆ 208VAC Three Phase Input
- ◆ High Efficiency
- ◆ SEMI F47 Compliant
- ◆ Compact Size



### CUS350M Series

#### 350W/420W Single Output Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ High Efficiency, up to 94%
- ◆ 1.6" High
- ◆ 350W Convection Cooled, 420W Forced Air Rating
- ◆ 5V Standby & 12V Fan Output



### Z+ Series

#### 200-800W Programmable Power Supplies

- ◆ 2U high
- ◆ Built-in USB, RS-232 & RS-485 Interface
- ◆ Optional LAN, GPIB & Isolated Analog Programming
- ◆ Bench or Rack Mount
- ◆ Constant Current or Voltage Modes
- ◆ Five Year Warranty



### GWS Series

#### 250 & 500W Single Output Power Supplies

- ◆ High Efficiency, up to 93%
- ◆ 1.6" high (For 1U racking)
- ◆ Wide Range AC Input
- ◆ 250W Convection Cooled
- ◆ Five Year Warranty



# AC-DC Power Supplies



## CFE400M Series

### 300W Convection / 400W Fan Cooled Power Supplies

- ◆ 4kVAC Input -Output Isolation
- ◆ 94% Efficient
- ◆ 0.5W Standby Power
- ◆ Meets ERP/Eco-Design (2009/125/EC)
- ◆ Meets Climate Savers Gold Level
- ◆ 450W Peak Loading (10s)
- ◆ High Power Density (7" x 4" x 1.6")
- ◆ Suitable for 1U Applications
- ◆ Five Year Warranty



## EFE300 & 400 Series

### 300W / 400W, 3" x 5" / 3 x 6" Power Supplies

- ◆ High Efficiency
- ◆ Active Power Factor Correction
- ◆ Universal Input (90 - 264VAC)
- ◆ High peak loading capability
- ◆ Suitable for 1U applications
- ◆ Full Digital Control
- ◆ Low Profile



## EFE300M & 400M Series

### 300-400W Power Supplies

- ◆ 4kVAC Input -Output Isolation
- ◆ Suitable for BF Rated Equipment
- ◆ ORing FET for Parallel Operation
- ◆ Universal Input (90 - 264VAC)
- ◆ Peak Loading (10s)
- ◆ 1U Form Factor
- ◆ Full Digital Control
- ◆ High Efficiency
- ◆ Low Profile



## PFE-SA Series

### 300-1008W AC-DC Power Supplies

- ◆ Low profile, small size
- ◆ 100°C baseplate temperature
- ◆ High power density
- ◆ High Efficiency
- ◆ Suitable for conduction cooling
- ◆ Power Factor Corrected (PFC)



## SWS600/1000-L Series

### 600-1000W Single Output Low Profile Power Supplies

- ◆ Low Cost
- ◆ Low Profile
- ◆ Active Power Factor Correction
- ◆ Universal Input (85 - 265VAC)
- ◆ Input Transient Protected IEC61000-4
- ◆ Low Acoustical noise
- ◆ Medical Certifications (SWS1000L)
- ◆ Global safety Approvals
- ◆ Variable speed fan



## Vega Series

### 450-900W Multiple Output Modular Power Supplies

- ◆ 4kVAC Input -Output Isolation
- ◆ 1-10 Wide Range Outputs with Adjustment
- ◆ Forward/Reverse/Low Noise/System Air Cooling
- ◆ Output Voltages from 0.5V - 62V
- ◆ 48VDC Input Option
- ◆ MIL-STD-810 Shock and Vibration
- ◆ PFC Compliant to EN61000-3-2
- ◆ Safety Agency Approvals EN, cULus, BSI, CE



# AC-DC Power Supplies



## Vega Lite Series



### 550-900W Multiple Output Modular Power Supplies

- ◆ Suitable for higher volume applications
- ◆ 1-10 Wide Range Outputs With Adjustment
- ◆ Output Voltages From 1.8 - 56V
- ◆ Medical Approval Options
- ◆ MIL-STD-810 Shock and Vibration
- ◆ PFC compliant to EN61000-3-2
- ◆ Safety Agency Approvals EN, cULus, BSI, CE



## XMS500 Series



### 500W Configurable, Class I or Class II AC-DC Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ High Efficiency
- ◆ Class I / II Curve B EMC
- ◆ 1U Form Factor
- ◆ Low Airflow Requirement
- ◆ Five Year Warranty



## CPFE500 Series



### 500W Conduction Cooled Power Supplies

- ◆ Base plate cooled, no fan required
- ◆ High efficiency
- ◆ Protective coating option
- ◆ MIL STD 461/462D CE102 Conducted EMC



## NV350/700 Series

### 350-1150W Modular AC-DC Power Supplies

- ◆ 1U Form Factor
- ◆ Up to 90% Efficient
- ◆ Active Power Factor Correction
- ◆ Universal Input (90 - 264VAC)
- ◆ Up to 8 Outputs (6 for the NV350)
- ◆ No Minimum Loads
- ◆ Medical Certifications
- ◆ Peak power rating of up to 1450W



## CPFE1000 Series



### 720-1000W Conduction Cooled Power Supplies

- ◆ Base plate cooled, no fan required
- ◆ High efficiency
- ◆ Protective coating
- ◆ MIL STD 461/462D CE102 EMC
- ◆ I<sup>2</sup>C Interface
- ◆ Wide range AC Input



## CPFE1000FI Series

### 720-1000W Conduction Cooled Power Supplies

- ◆ Smaller size than CPFE1000F
- ◆ Base plate cooled, no fan required
- ◆ Protective coating option
- ◆ I<sup>2</sup>C Interface



# AC-DC Power Supplies



## Alpha1000 Series



### 1000W Multiple Output Modular Power Supplies

- ◆ 3kVAC Input - Output Isolation
- ◆ Universal AC Input
- ◆ Power Factor Corrected
- ◆ Capable of up to 14 Fully Regulated and Independent Outputs
- ◆ Output Voltages from 1.8V - 48V
- ◆ Low Leakage Options
- ◆ International Safety Agency Certification
- ◆ Fast-on Tab Connections
- ◆ No Minimum Load
- ◆ Wide Range Output Modules



## RFE1600/RFE2500 Series



### 1600-2500W 1U Industrial Power Supplies

- ◆ 1U High
- ◆ Internal ORing FETs & Current Share
- ◆ High Efficiency
- ◆ I<sup>2</sup>C, PMBus Communication Option



## LZSA Series



### 500-1500W Single Output Industrial Power Supplies

- ◆ -40°C to +71°C Operation
- ◆ MIL-STD-810E Vibration / Shock
- ◆ Input transient protected
- ◆ UL508, SEMIF47, Factory Mutual (Class 1, Division 2)
- ◆ Rugged mechanical design with coating on pcbs
- ◆ Superior thermal design
- ◆ Wide range adjustment of output
- ◆ Five Year Warranty



## QM5/QM7 Series



### 700-1500W Medical Multiple Output Modular Power Supplies

- ◆ 2 x MOPP Primary - Secondary
- ◆ 4kVAC Input - Output Isolation
- ◆ High Efficiency
- ◆ Low Speed, Low Audible Noise Fans
- ◆ Up to 16 Outputs
- ◆ Industry Leading Flexibility
- ◆ Suitable for BF Rated Equipment
- ◆ Seven Year Warranty



## HFE1600 Series



### 1600W 1U Front End Power Supplies

- ◆ 1U rackmount containing up to 5 units
- ◆ Internal ORing MOSFET & Current Share
- ◆ High Efficiency
- ◆ Up to 7600W in 1U rack
- ◆ Full array of signals available
- ◆ PMBusTM(I<sup>2</sup>C) and LAN options



## TPS3000 Series



### 3200W 3 Phase Input Industrial Power Supplies

- ◆ 400/440/480 VAC (Nominal) 3 Phase Delta or Wye
- ◆ Fully Regulated, Wide Range Adjustable Output
- ◆ Voltage and Current Programming
- ◆ -40°C (start up) to +70°C operation
- ◆ >92% Efficiency
- ◆ PMBus™ Communication
- ◆ Built in ORing FETs & Active I share for parallel operation
- ◆ Fully Featured



# External / Desktop Power Supplies



## DT62/80D Series



### 40-80W Medical AC-DC External Power Supplies

- ◆ Meets Efficiency Level VI requirements
- ◆ No load Power consumption <210mW DT62, <150mW DT80
- ◆ Power Factor Correction (DT80)
- ◆ LED ON indicator (Blue)



## DT100/150D Series



### 100W to 150W AC-DC External Power Supplies

- ◆ DOE Level VI and EU tier 2 Efficiency Levels
- ◆ >89% Average Efficiency
- ◆ <150mW Off-load Power Draw
- ◆ Wide Range AC Input
- ◆ Power Factor Correction



## DTM300-D Series

### 300W Class I and II External Power Supplies

- ◆ 4kVAC Input - Output Isolation
- ◆ Meets DOE Level VI Efficiency
- ◆ Class I & II Inputs
- ◆ < 0.5W Off-load Power Draw
- ◆ Power Factor Correction



# AC-DC DIN Rail Power Supplies



NEW

## DRB15-100 Series



### 15-100W DIN Rail Mount Power Supplies

- ◆ Compact Size
- ◆ 5V, 12V, 24V, or 48V Outputs
- ◆ High Efficiency (Up to 91%)
- ◆ ErP Compliant Design
- ◆ Low No Load Power Draw
- ◆ Class 2 Models to UL1310
- ◆ Class 1 Div 2 for Hazardous Locations



NEW

## DRL Series



### 10-100W Low Profile DIN Rail Mount Power Supplies

- ◆ Low Profile for Building Automation
- ◆ 12V, or 24V Outputs
- ◆ Class II Double Insulation
- ◆ High Efficiency (Up to 90%)
- ◆ ErP Compliant Design
- ◆ Low No Load Power Consumption
- ◆ Class 2 Models to UL1310
- ◆ SEMI F47 Compliant



## DSP Series

### 7.5-100W Low Profile DIN Rail Mount Power Supplies

- ◆ Low Profile for Building Automation
- ◆ 5V, 12V, 15V, or 24V Outputs
- ◆ Wide Range AC Input
- ◆ UL1310 Class 2
- ◆ Class II Double Insulation
- ◆ -25 to +71°C Operation

NEW



NEW

## DRB480 Series



### 480W DIN Rail Mount Power Supply

- ◆ Compact Size, Narrow Width
- ◆ 24V Output
- ◆ High Efficiency (>93% at 230VAC)
- ◆ Conservatively Rated Electrolytic Capacitors
- ◆ Curve B EMC
- ◆ Three Year Warranty



NEW

## DRF Series



### 120-480W DIN Rail Mount Power Supplies

- ◆ Very Compact Size
- ◆ 24V Output
- ◆ High Efficiency (Up to 94%)
- ◆ 150% Peak Power Capability for 4s
- ◆ ErP Compliant Design
- ◆ Low Standby Power Draw
- ◆ Remote On/Off
- ◆ Remote Voltage Adjustment
- ◆ Hazardous Location Option (/HL)



## DSP30-244/277A Series

### 30W 90-304VAC Input DIN Rail Power Supply

- ◆ Low Profile for Building Automation
- ◆ 24V Output
- ◆ Wide Range AC Input (90-304VAC)
- ◆ Evaluated to NEC NFPA70 Class 2 Output
- ◆ Class II Double Insulation
- ◆ AC Line Frequency Sync Signal
- ◆ -25 to +71°C Operation



# AC-DC DIN Rail Power Supplies



## DPP15-100 Series

### 15-100W, DIN Rail Mount Power Supplies

- ◆ Low Cost
- ◆ 5V, 12V, 15V, 24V, or 48V Outputs
- ◆ Universal Input
- ◆ NEC NFPA70 Class 2
- ◆ UL508 Listed
- ◆ Class 1, Division 2 (ISA 12.12)
- ◆ -10 to +71°C Operation



## DPP120-240 Series

### 120W & 240W DIN Rail Mount Power Supplies

- ◆ Low Cost
- ◆ 12V, 24V or 48V Outputs
- ◆ 93-132 / 186-264VAC
- ◆ Auto-ranging Input (no manual switching)
- ◆ Parallel Function Switch
- ◆ -40 to +71°C Operation



## DPP480 Series

### 480W Single Output DIN Rail Mount Power Supplies

- ◆ Low Cost
- ◆ 24V or 48V Outputs
- ◆ 90 to 264VAC
- ◆ Wide Range AC Input
- ◆ Active PFC
- ◆ Parallel Function Switch
- ◆ -40 to +71°C Operation



## DPP120-960 Series

### 120W, 240W, 480W & 960W 3 Phase DIN Rail Mount Power Supplies

- ◆ Low Cost
- ◆ 12V, 24V or 48V Outputs
- ◆ Wide Range 340 to 575VAC Input
- ◆ Parallel Function Switch (240 & 480W)
- ◆ Current Share (960W)
- ◆ -40 to +71°C Operation



## Droop Mode Current Sharing

If two or more supplies are to be connected together to produce more power or share the load, then a parallel-capable model should be selected. TDK-Lambda's DPP100, 120, 240 and 480 models are all parallel-capable.

On the front of each power supply is a small black switch. For parallel operation, this switch should be set to "parallel" (Fig.1).

In single mode, the load regulation (the amount the output voltages changes with load) is minimal, with the difference being less than 0.24V from zero load to full load for a 24V output power supply.

In parallel mode, that load regulation is artificially increased to 1.2V using internal circuitry (Fig. 2).

The extra voltage drop, or "droop," is proportional to the load drawn, so that when two or more power supplies are connected in parallel, the output load is shared between the power supplies. If one of the paralleled power supplies provides more current, its output will droop slightly, and the other supplies will balance.

For optimal performance, all power supplies should have their outputs set to the same voltage.



Fig. 1

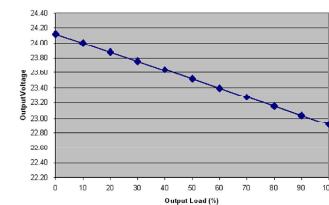


Fig. 2



# DC-DC DIN Rail Power Supplies



## DPX Series

### 40-60W Single, Dual & Triple Output DIN Mount DC-DC Converters

- ◆ DIN Rail Mount Version of TDK-Lambda's PX Series
- ◆ 1600VDC Input to Output Isolation
- ◆ Wide Operating Temperature Range
- ◆ Internally Protected
- ◆ All In One Package



# Isolated DC-DC Converters



## CC-E Series

### 1.5-25W, Ultra Compact Single and Dual DC-DC Converters

- ◆ Compact Footprint / Low Profile
- ◆ Through Hole or SMT Versions
- ◆ 5V, 12V, 24V & 48V Inputs
- ◆ 3.3 to 30V Single, ±12 to 15V Dual Outputs
- ◆ Output Voltage Adjustment
- ◆ Input - Output Isolation
- ◆ RoHS Compliant
- ◆ Self contained
- ◆ Multiple Input Voltage configurations
- ◆ Lightweight design (no potting)
- ◆ Five Year Warranty



## PXD Series

### 10-20W Single and Dual Output DC-DC Converters

- ◆ Industry Standard 2" x 1" Footprint
- ◆ Six Sided Shielding
- ◆ Agency Approved
- ◆ 12V, 24V and 48V Inputs
- ◆ 3.3-30VDC Outputs
- ◆ UL, CSA, EN, CE approvals
- ◆ Wide range input



## PXE Series

### 20-30W Single and Dual Output DC-DC Converters

- ◆ Industry Standard 2" x 1.6" Footprint
- ◆ Six Sided Shielding
- ◆ Agency Approved
- ◆ 12V, 24V and 48V Inputs
- ◆ 3.3-30VDC Outputs
- ◆ UL, CSA, EN, CE approvals
- ◆ Wide range input



## CCG15 Series

### 15W DC-DC Converters

- ◆ Industry Standard 1" x 1" Footprint
- ◆ Wide Range DC Input 9 - 36 or 18 - 76V
- ◆ 3.3-15VDC Outputs
- ◆ High Efficiency - Up to 88%
- ◆ Six Sided Shielding



## CCG30 Series

### 23-30W DC-DC Converters

- ◆ Industry Standard 1" x 1" Footprint
- ◆ Wide Range DC Input 9 - 36 or 18 - 76V
- ◆ 3.3-15VDC Outputs
- ◆ High Efficiency - Up to 91%
- ◆ Six Sided Shielding



## PXF Series

### 40W & 60W Single, Dual, Triple Output DC-DC Converters

- ◆ Industry Standard 2" x 2" Footprint
- ◆ Six Sided Shielding
- ◆ Agency Approved
- ◆ 12, 24V, and 48V Inputs (including 4:1 ranges)
- ◆ UL, CSA, EN, CE approvals
- ◆ Wide input range



# Isolated DC-DC Converters



## iEA Series

### 48-78W Eighth Brick DC-DC Converters

- ◆ Standard Eighth Brick Footprint
- ◆ 36-75VDC Input
- ◆ 5V 15A - 28V 2.67A Nominal Output
- ◆ Through Hole Mounting, open frame design
- ◆ Low 8.8mm Profile
- ◆ 1500VDC Basic Isolation
- ◆ High Operating Efficiency (up to 91%)
- ◆ Constant Switching Frequency



## iEH Series

### 300W Eight Brick DC-DC Converters

- ◆ Standard Eighth Brick Footprint
- ◆ 36-75VDC Input
- ◆ 12V Nominal Output / 10.8V
- ◆ Through Hole Mounting, Baseplate Cooled
- ◆ 2250VDC Basic Isolation
- ◆ Digital adaptive control
- ◆ High Operating Efficiency (up to 94.6%)
- ◆ Constant Switching Frequency



## CN-A110 Series

### 30-200W, 60 to 160VDC Input DC-DC Converters

- ◆ 60 - 160VDC Input
- ◆ 5-24VDC Outputs
- ◆ IEC 61373 Shock and Vibration
- ◆ Base plate Cooled
- ◆ Full Power at 100°C base plate
- ◆ Parallel Operation (200W Only)
- ◆ Small Size
- ◆ Quarter and Half Brick Footprint
- ◆ Full Power from -40 to +100°C
- ◆ Parallel Function (CN200)



## HQA Series

### 120W Harsh Environment Quarter Brick Converters

- ◆ Standard Quarter Brick Footprint
- ◆ 9-40, 18-40VDC Inputs
- ◆ 12 to 48V Nominal Outputs
- ◆ Up to 91.5% Efficiency
- ◆ Up to 115°C ambient temperatures
- ◆ 2250VDC Isolation
- ◆ Encapsulated for Rugged Environments
- ◆ No optocouplers used
- ◆ Enhanced Screening Option



## iQE Series

### 49-204W Quarter Brick DC-DC Converters

- ◆ Standard Quarter Brick Footprint
- ◆ 16-40, 36-75VDC Inputs
- ◆ 3.3V 30A - 15V 10A Nominal Outputs
- ◆ Through Hole Mounting
- ◆ Low 10.41mm Profile
- ◆ 1500VDC Basic Isolation
- ◆ High operating efficiency (>90%)
- ◆ Constant switching frequency, low component count



## CN-A24 Series

### 50 & 100W 14.4 to 36VDC Input DC-DC Converters

- ◆ 5-24VDC Outputs
- ◆ IEC 61373 Shock and Vibration
- ◆ Base-plate Cooled
- ◆ Full Power at 100°C base plate
- ◆ Small Size
- ◆ Quarter Brick Footprint
- ◆ Wide input range



# Isolated DC-DC Converters



## PH-A280 Series

### 50-150W, 200 to 425VDC Input DC-DC Converters

- ◆ 3.3-48VDC Outputs
- ◆ Base-plate Cooled
- ◆ Full Power at 100°C base plate
- ◆ Quarter Brick Footprint



## iQL Series

### 72-308W Quarter Brick DC-DC Converters

- ◆ Standard Quarter Brick Footprint
- ◆ 18-36, 36-75VDC Inputs
- ◆ 1.2V 60A, 28V 11A Nominal Outputs
- ◆ Through Hole Mounting
- ◆ 1500VDC Basic Isolation
- ◆ Baseplate cooling,
- ◆ High operating efficiency (up to 93.5%)
- ◆ Constant switching frequency



## iQG Series

### 300-504W Quarter Brick DC-DC Converters

- ◆ Standard Quarter Brick Footprint
- ◆ 36-75VDC Input
- ◆ 9.6 or 12VDC Outputs
- ◆ Through Hole Mounting
- ◆ 1500VDC Basic Isolation
- ◆ High operating efficiency (up to 95%)
- ◆ Starts with pre-biased output, baseplate cooled
- ◆ Constant switching frequency, Parallel Operation (400W model)



## PAH300-450 Series

### 300-450W Half Brick DC-DC Converters

- ◆ Standard Half Brick Footprint
- ◆ 18-36 or 36-76VDC Inputs
- ◆ 12-48VDC Outputs
- ◆ Through Hole Mounting
- ◆ Low 12.7mm Profile
- ◆ High operating efficiencies (up to 92%)
- ◆ Constant switching frequency
- ◆ Baseplate cooling



## IHG Series

### 300-456W, 48V Input Half Brick DC-DC Converters

- ◆ Standard Half Brick Footprint with Baseplate
- ◆ 36-75VDC Input
- ◆ 12V Nominal Output
- ◆ Through Hole Mounting
- ◆ 1500VDC Basic Isolation
- ◆ High operating efficiency (up to 94%)
- ◆ Constant switching frequency
- ◆ Low component count



## PAF600F Series

### 600W, 24V & 48V Input Full brick DC-DC Converters

- ◆ 12V output for driving non-isolated converters
- ◆ Safety Approved
- ◆ Full power at 100°C baseplate
- ◆ Opto Isolated Remote On / Off
- ◆ Wide Adjustable Output Range
- ◆ Parallel Operation
- ◆ ASIC Design



# Non-Isolated DC-DC Converters



## iCF Series

24.7W (4.5A), 16.5W (3A), Non-isolated SMT Point Of Load

- ◆ Surface Mountable
- ◆ DOSA Compatible Footprint
- ◆ DOSA Compatible Footprint
- ◆ Constant Switching Frequency
- ◆ Edge Plated Castellations (EPC)
  - Inspectable Solder Joints
- ◆ No external loop tuning components needed
- ◆ Excellent Transient Response



## iCG Series

33W, 6A Non-isolated SMT Point Of Load

- ◆ Surface Mountable
- ◆ DOSA Compatible Footprint
- ◆ Constant Switching Frequency
- ◆ Edge Plated Castellations (EPC)
  - Inspectable Solder Joints
- ◆ No external loop tuning components needed
- ◆ Excellent Transient Response



## iCH Series

85W, 12A Non-isolated SMT Point of Load

- ◆ DOSA Compatible Footprint
- ◆ Surface Mountable
- ◆ Constant Switching Frequency
- ◆ No external loop tuning components needed
- ◆ Excellent Transient Response



## iBH Series

80W, 20A Non-isolated SMT Point of Load

- ◆ DOSA Compatible Footprint
- ◆ Surface Mountable
- ◆ Constant Switching Frequency
- ◆ No external loop tuning components needed
- ◆ Excellent Transient Response



## IAH Series

150W, 40A Non-isolated SMT Point of Load

- ◆ DOSA Compatible Footprint
- ◆ Surface Mountable
- ◆ Constant Switching Frequency
- ◆ No external loop tuning components needed
- ◆ Excellent Transient Response



## IJA35A Series

100W, 35A Non-isolated SMT Point of Load with PMBus

- ◆ Only 0.45 in<sup>2</sup> Board Space
- ◆ PMBus Compliant (Read & Write)
- ◆ Surface Mountable
- ◆ Digital Adaptive Control
- ◆ Parallel Operation with Current Sharing
- ◆ Configurable Sequence & Fault Management



# Non-Isolated DC-DC Converters

## iJB Series



### 120W, 60A Non-isolated SMT Point of Load with PMBus™

- ◆ Only 1.0 in<sup>2</sup> Board Space
- ◆ PMBus Compliant (Read & Write)
- ◆ Surface Mountable
- ◆ Digital Adaptive Control
- ◆ Parallel Operation with Current Sharing
- ◆ Configurable Sequence & Fault Management

## iJC Series



### 150W, 100A Non-isolated SMT Point of Load with PMBus™

- ◆ Only 1.5 in<sup>2</sup> Board Space
- ◆ 8 to 14V Input
- ◆ 0.6 - 1.5V Output
- ◆ Digital Adaptive Control
- ◆ Configurable Sequence and Fault Management

## i6A Series



### 250W, 9-40V Input Non-isolated DC-DC Converter

- ◆ 250W 14A Output
- ◆ 1/16th brick Footprint
- ◆ Wide Output Adjustment 3.3 to 24V
- ◆ Minimal External Components Needed
- ◆ Constant Switching Frequency

## i6A4W Series



### 250W, 9-53V Input Non-isolated DC-DC Converter

- ◆ 250W 20A Output
- ◆ 1/16th brick Footprint
- ◆ Wide Output Adjustment 3.3 to 15V
- ◆ Minimal External Components Needed
- ◆ Constant Switching Frequency

## i6AN Series



### 75W, 9 to 40V Input Non-isolated DC-DC Converter with Negative Output

- ◆ 75W 8A Output
- ◆ 1/16th brick Footprint
- ◆ Wide Output Adjustment -3.3 to -30V
- ◆ Minimal External Components Needed
- ◆ Constant Switching Frequency

## Evaluation Kits

### iJx and i6A Series





## EMC/EMI Filters

## R Series Filter Selection Guide

Filter Series	Rated Input Voltage	Current Rating	Screw Terminations	"Fast on" Terminals	Wire Lead Terminations	Chassis Mount	Din Rail Mount (Models up to 30A)	Low Leakage Current	High Voltage Pulse Attenuation	Two Stage (Better Performance)	Other
RSAL	250V 1ph	0.5 to 6A	-	A Suffix	W Suffix	Y	-	L Suffix	Y	-	-
RSEL	250V 1ph	0.5 to 6A	-	A Suffix	W Suffix	Y	-	L Suffix	-	-	Lower Cost than RSAL
RSAN	250V 1ph	3A to 30A	Y	-	-	Y	D Suffix	L Suffix	Y	-	-
RSMN	250V 1ph	3A to 30A	Y	-	-	Y	D Suffix	L Suffix	Y	Y	-
RSEN	250V 1ph	3A to 30A	Y	-	-	Y	D Suffix	L Suffix	-	-	Lower Cost than RSHN
RSHN	250V 1ph	3A to 30A	Y	-	-	Y	D Suffix	L Suffix	-	Y	-



## RSAL Series

## 0.5A to 6A, 250VAC EMI Filters

- ◆ High Voltage Pulse Attenuation
- ◆ Lug or Wire Terminations
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## RSEL Series

## 0.5A to 6A, 250VAC EMI Filters

- ◆ Lower cost compared to the RSAL Series
- ◆ Lug or Wire Terminations
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## RSAN Series

## 3A to 30A, 250VAC EMI Filters

- ◆ High Voltage Pulse Attenuation
- ◆ DIN Rail Mount Option
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## RSEN Series

## 3A to 30A, 250VAC EMI Filters

- ◆ Lower cost compared to the RSHN Series
- ◆ DIN Rail Mount Option
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## RSHN Series

## 3A to 30A, 250VAC EMI Filters

- ◆ Two Stage Filter for Better Performance
- ◆ DIN Rail Mount Option
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## RSMN Series

## 3A to 30A, 250VAC EMI Filters

- ◆ High Voltage Pulse Attenuation
- ◆ Two Stage Filter for Better Performance
- ◆ DIN Rail Mount Option
- ◆ Low Earth Leakage Current Option
- ◆ Conforms to UL, CSA and EN Safety Agency Certifications



## iDQ Series

## 10A, 75VDC EMI Filters

- ◆ Exceptional Differential Mode Performance
- ◆ Very Compact Size
- ◆ Minimal External Components Required



# Power + Solutions



## Capabilities

- ◆ Modified Standard Power Supply
- ◆ Value-Added Solutions
- ◆ Power System Design

## Features

- ◆ Low risk, using standard products as building blocks
- ◆ Low development cost
- ◆ Fast turnaround from design to production
- ◆ Proven DVT processes
- ◆ Compliance Testing (Safety, EMC, Environment and etc)
- ◆ Low cost manufacturing in Asia

## Modified Standard

- ◆ Modifications (electrical or physical) to a Standard / Existing TDK-Lambda product.
- ◆ The product retains the inherent reliability of the product from which it was modified.
- ◆ Examples include Input/Output connector, signal, output voltage, color changes, conformal coating, firmware change, reduced leakage current, addition of test points or indicator lights, etc.



XMS Series



CUS350M Series



QM7 Series

## Value-Added

- ◆ A customized power solution adding enhanced circuitry or packaging around a Standard/ Existing TDK-Lambda Power Supply to meet customer's specifications.
- ◆ Any TDK-Lambda supply may be used as a starting point and these customized solutions also retain the proven reliability of the product from which it was modified.
- ◆ Examples include custom racks or enclosures, communications/control, ruggedization, special wire harnesses, switches, fuses, fans, heat sinks, and other additional functionality to a standard product.









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