



AC/DC power supplies
Customized power supply systems
Noise filters
Customized solutions



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Manufacturer reserves the right to change the specifications of products and parts without prior notice. Actual specifications are agreed in appendices to the sales contract and may differ from the ones stated in reference materials.

ABOUT COMPANY



KW SYSTEMS, LLC is a Russian developer and manufacturer of AC/DC power supplies, part of ENEL Scientific and Production Group. We are professionals in creating highly reliable products for harsh environments. Our products are widely used by dozens of manufacturers of electronic equipment in Russia and all over the world.

The company is located in Voronezh, Russia. It has more than 500 employees, over 1/3 of whom are ISO9001 certified engineers, as well as the Quality Management System.

December, 1999 – ALEXANDER ELECTRIC Company was founded as a manufacturer of special purpose power supplies and converters.

January, 2003 – the company was licenced and certified for orders by the Ministry of Defence of the Russian Federation. Production capacity this year has reached 10 000 units per year.

August, 2007 – the 2nd generation of power supplies was developed and introduced to serial production. This year the company signed a contract for supply of products to the Russian Railways.

June, 2012 – ENERGY ELECTRONICS holding company was created.

May, 2013 – the 3d generation of power supplies was developed and introduced into serial production.

December, 2013 – KW SYSTEMS project was launched within ENERGY ELECTRONICS with its main purpose to develop and manufacture power supply units for new market segments.

December, 2015 – based on the decision on redundant production AEDON and KW Systems separate the development and production of DC/DC and AC/DC products respectively.

AC/DC power supplies

KWant/MAA, low profile power supplies

Model	Power, W	Input voltage, VAC	Output voltage, VDC	Case operation temperature	Isolation voltage	Typical efficiency	Dimensions, mm	Page
KWant30	30	220 (100...264)	5; 12; 15; 24; 28	-50...+85°C; -40...+85°C	~1500 V	91,5%	101×51×20	11
KWant75	75	220 (100...264)	5; 12; 15; 24; 28			93%	111×61×25	12
KWant250	250	220 (100...264)	5; 9; 12; 15; 24; 28; 60			90%	134×84×33	13
KWant500	500	220 (100...264)	24; 28; 48			95%	175×93×35	14
MAA1000	800; 1000	220 (100...264) 220 (187...242)	24; 28; 48			89%	211×117×41	15
MAA1500	1500	220 (187...242)	24; 28; 48			92%	250×140×41	16
MAA2000	2000	220 (187...242)	24; 28; 48			92%	250×140×50	17
MAA3000	3000	220 (187...242)	24; 28; 48			92%	284×174×54	18
MAA500 3ph	500	220 (187...253) 380 (323...437)	5; 9; 12; 15; 24; 28			85%	175×93×35	19
MAA1500 3ph.	1500	220 (187...253) 380 (323...437)	24; 28; 48			90%	250×140×41	20
MAA2000 3ph.	2000	220 (187...253) 380 (323...437)	24; 28; 48			92%	250×140×50	21
KWant3000 3ph. NEW	3000	380 (323...437)	28; 60			93%	284×174×54	22

KAM, power supplies for portable computers

Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Dimensions, mm	Page
KAM20	20	85...264, 50 Hz	24, 28	-25...+85°C	~3000 V	91%	100×50×25	25
KAM30	30	187...264, 50 Hz	5	-50...+55°C		87%	115×64×31	26
KAM100	100	187...264, 50 Hz	19	-50...+55°C		92%	115×64×29	27

KWadr, high power AC/DC converters

Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Form-factor	Dimensions, mm	Page
KWadr5000	5000	90...280 1ph.	30; 60; 110; 140; 250; 300; 350	-20(-40)...+50°C	~2500 V	95%	KAP-platform or chassis mounted	475×140×63	29
KWadr5000T	5000	350...450 3ph.	30; 60; 110; 140; 250; 300; 350	-20(-40)...+50°C	~2500 V	95%	chassis mounted	475×140×68(housing), 475×180×68 (with flanges)	30

KAN-D, DIN rail mountable power supply units

Model	Power, W	Input voltage, V	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency (Uout=24 VDC)	Dimensions, mm	Page
KAN-D75	75	~220 (80...264) =310 (90...372)	12; 24; 48	-40...+70°C -50...+70°C	~3000 V	92%	131×133×33	33
KAN-D120	120	~220 (80...264) =310 (90...372)	24	-40...+70°C		92%	131×133×42	34
KAN-D240	240	~220 (85...264) =310 (100...372)	15; 24	-40...+70°C		92%	131×133×62	35
KAN-D500	480	~220 (187...264) =310 (263...372)	24	-40...+70°C -50...+70°C		92%	131×133×62	36
KAN-MD40	current 40 A	=12...48	=12...48	-50...+70°C	~1500 V	—	131×130×50	37

MIIR, power supply units for medical equipment

Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Dimensions, mm	Page
MIIR30	30	85...264, 47-440 Hz	12, 15, 24, 28	-10...+70°C	~4000 V	93.5%	76.2×50.8×28	39
MIIR65	65							

Customized power supply systems

KWasar

Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Form-factor	Dimensions, mm	Page
KWasar15	15000	90...264 (1ph) 304...456 (3ph.+N.)	30; 60; 110; 250; 300	-20(-40)...+50°C	~2500 V	95%	3U 19"	566×482.6×132.5	43

Noise filters

MRM/MRR

Model	Max flow current, A	Input voltage, VAC	Output voltage, VDC	Case operation temperature	Isolation voltage in./case	Typical efficiency	Dimensions, mm	Page
MRM4	1	~115 @ 400 Hz ~220 @ 50-400 Hz	~115 @ 400 Hz	-60...+85°C	~1500 V	98%	67.5×40.2×10.2	46
MRR2	3		~220 @ 50-400 Hz				107.5×56.5×19.2	
MRR3	7.5		129.5×61.5×22.2					

MAA-F

Model	Max flow current, A	Input voltage, VAC	Output voltage, VDC	Case operation temperature	Isolation voltage in./case	Typical efficiency	Dimensions, mm	Page
MAA200	2	~115 @ 400 Hz / ~220 @ 50-400 Hz	~115 @ 400 Hz	-50...+85°C; -40...+85°C	~1500 V	98%	107×56×17	47
MAA600	6		~220 @ 50-400 Hz				129×61×20	
MAA2000	18		136×97×31					

AC/DC POWER SUPPLIES

KWant, low profile power supply units

KAM, power supplies for portable computers

KWadr, high power digitally controlled AC/DC converters

KAN-D, DIN-rail mountable power supply units

MIIR, power supply units for medical equipment



Currently the main directions of the company's development are:

- Compact AC/DC converters for harsh environments operating without additional external circuit.
- High power digitally controlled power supply systems with charging and UPS functions.
- Unique customized power supply systems.
- Converters for industrial automation in extractive sector.

KWant/MAA, low profile conductive cooled power supplies



Model	Power, W	Input voltage, VAC	Output voltage, VDC	Case operation temperature	Isolation voltage	Typical efficiency	Dimensions, mm
KWant30	30	220 (100...264)	5; 12; 15; 24; 28	-50...+85°C; -40...+85°C	~1500 V	91,5%	101×51×20
KWant75	75	220 (100...264)	5; 12; 15; 24; 28			93%	111×61×25
KWant250	250	220 (100...264)	5; 9; 12; 15; 24; 28; 60			90%	134×84×33
KWant500	500					95%	175×93×35
MAA1000	800; 1000	220 (100...264) 220 (187...242)	24; 28; 48			89%	211×117×41
MAA1500	1500	220 (187...242)	24; 28; 48			92%	250×140×41
MAA2000	2000	220 (187...242)				92%	250×140×50
MAA3000	3000					92%	284×174×54
KWant500 3ph	500	220 (187...253)	5; 9; 12; 15; 24; 28			85%	175×93×35
MAA1500 3ph.	1500	380 (323...437)	24; 28; 48			90%	250×140×41
MAA2000 3ph.	2000					92%	250×140×50
KWant3000 3ph. NEW	3000	380 (323...437)	28; 60			93%	284×174×54

FEATURES

- Operation temperature: -50...+85°C; -40...+85°C
- High efficiency
- Active PFC (for powers over 150 W)
- Conductive cooling
- Overvoltage, overheat, overcurrent, overload protection
- MIL-STD-810G compliant
- MIL-STD-461E compliant
- 2 years warranty



KWant/MAA family description online:
<https://eng.kwsystems.ru/catalog/acdc/series/1>

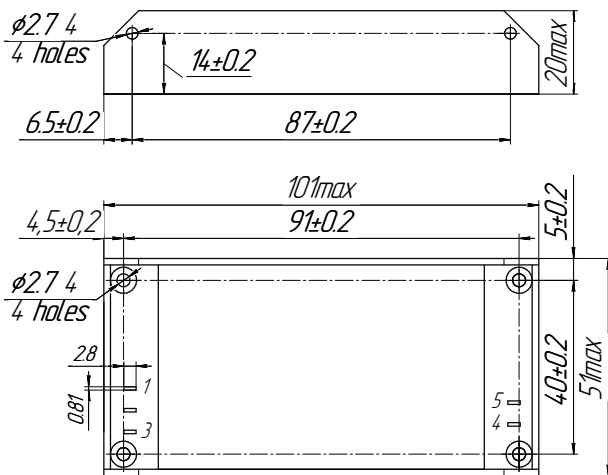
KWant30

FEATURES

- MIL-STD 461E compliant without additional external components
- Efficiency up to 91 %
- Output current up to 6 A
- Low output ripple <30 mV (Uout=28 VDC)
- Low profile design (20 mm) with blade contacts or terminal blocks
- DIN-rail mountable (option)
- Fanless cooling (incl. convective)
- Protections: overvoltage, short-circuit, overload and overtemperature

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	4	+OUT1
2	N	5	-OUT1
3	⊕		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
30 W	100...264, 50-400 Hz	-	5	6
			12	2.5
			15	2
			24	1.3
			28	1.1

Other output voltage within range 5...68 VDC is also available upon special request.

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

BASIC SPECIFICATIONS

Power	30 W
Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<30 mV (Uout=28VDC)
Short-circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom. 98%
High humidity	98% @ t° ambient +25°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	91% @ Uout=28 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	convective, conductive, forced fan
Dimensions	101×51×20 mm
Weight	under 0.15 kg

KWant75

FEATURES

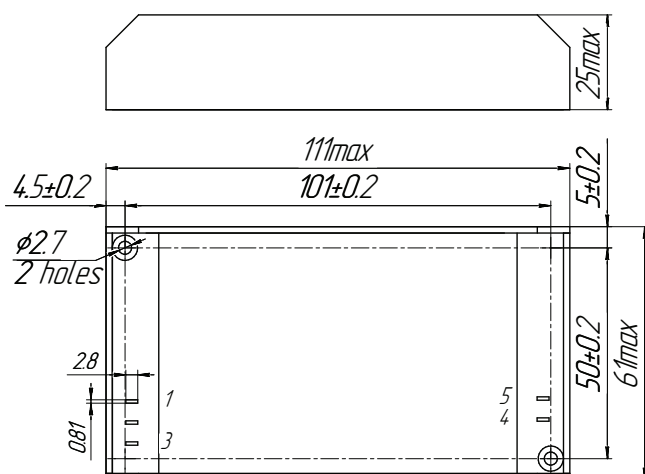
- Efficiency up to 93 %
- MIL-STD 461E compliant without additional external components
- Low output ripple < 30 mV (Uout=28 VDC)
- Output current up to 15 A
- Low profile design (25 mm) with blade contacts to terminal blocks
- DIN-rail mountable (option)
- Protections: overvoltage, short-circuit, overload and overtemperature
- Fanless cooling (incl. convective)

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	4	+OUT1
2	N	5	-OUT1
3	⊕		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
75 W	100...264, 50-400 Hz	-	5	15
			12	6.3
			15	5
			24	3.12
			28	2.7

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Ripple and noise (peak-to-peak)	<30 mV (Uout=28 VDC)
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
High humidity	95% @ t° ambient +25°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	93% @ Uout=28 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	convective, conductive
Dimensions	111×61×25 mm
Weight	under 0.3 kg

KWant250

FEATURES

- MIL-STD 461E compliant without additional external components
- Output ripple 50 mV (U_{out}=28 VDC)
- Output current up to 30 A
- Low profile design (33 mm) with blade contacts or terminal blocks
- Remote on / off
- Series and parallel operation
- Protections: overvoltage, short-circuit, overload and overtemperature
- Efficiency 90 %
- Fanless cooling
- Operation without heatsink at U_{in}: ~170...270 VAC (T_{amb.} < 50 °C)
- Active power factor corrector



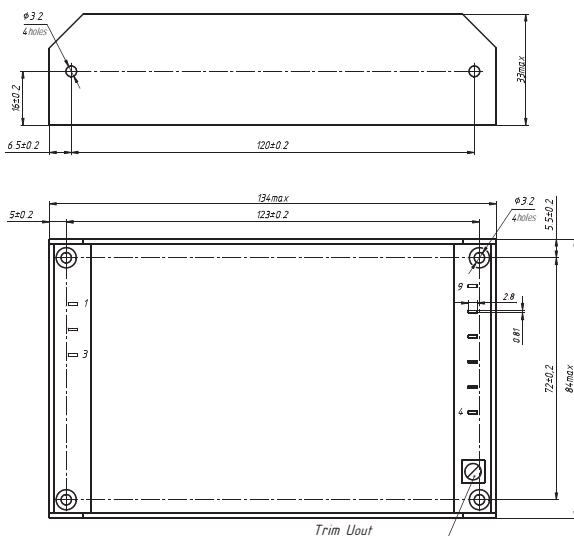
MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
250 W	100...264, 50-400 Hz	-	5	30
			9	27.7
			12	20.8
			15	16.6
			24	10.4
			28	8.9
			60	4.16

Other output voltage within range 5...68 VDC is also available upon special request.

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	5	+REMOTE ON/OFF
2	N	6, 7	+OUT1
3	⊕	8, 9	-OUT1
4	-REMOTE ON/OFF		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% U _{out} nom. for the 1st channel under 10% for the 2nd channel (3d)
Ripple and noise (peak-to-peak)	<2% U _{out} nom.
Short circuit protection	auto recovery
Output overload protection	<125% U _{out} nom.
Overcurrent protection	P _{max} < 1.8 P _{nom}
Output voltage adjustment	±10%
High humidity	98% @ t° ambient +35 °C
Case operating temperature	-40...+85 °C -50...+85 °C
Typical efficiency	90% @ U _{out} =27 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive, forced fan
Dimensions	134×84×33 mm
Weight	under 0.6 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

KWant500

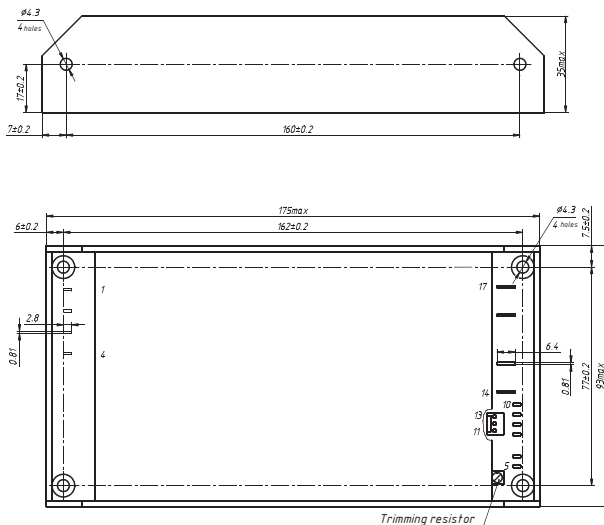
FEATURES

- MIL-STD 461E compliant without additional external components
- Output ripple 50 mV (Uout=28 VDC)
- Output current up to 60 A
- Low profile design (35 mm) with blade contacts or terminal blocks
- Remote on/off
- Series and parallel operation
- Protections: overvoltage, short-circuit, overload and overtemperature
- Efficiency 95 %
- Fanless cooling
- Operation without heatsink at Uin: ~170...270 VAC (Tamb.av. <30 °C)
- Active power factor corrector



PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	8	PARAL
2	N	9	+U FAN
3	⊕	10	-U FAN
4	-REMOTE ON/OFF	11	NOT USED
5	+REMOTE ON/OFF	12,13	+OUT1
6	+RS	14,15	-OUT1
7	-RS		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
500 W	100...264, 50-400 Hz	-	5	60
			9	55.5
			12	41.6
			15	33.3
			24	20.8
			28	17.9

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom. for the 1st channel under 10% for the 2nd channel (3d)
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Output voltage adjustment	±10%
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	95% @ Uout=28 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive, forced fan
Dimensions	175×93×35 mm
Weight	under 1.1 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

MAA1000

FEATURES

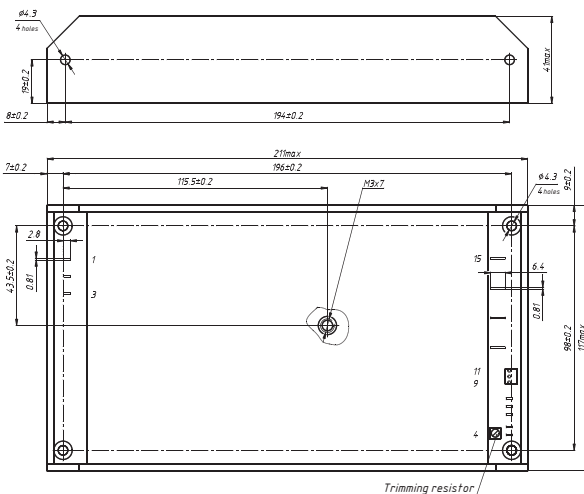
- Power 800/1000 W
- Active power factor corrector
- Remote on/off
- Fanless cooling
- Protections: overvoltage, short-circuit, overload and overtemperature
- Low profile design (41 mm) with blade contacts or terminal blocks
- Max capacity: 78000 µF (Uout=15 VDC)

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	8	PARAL
2	N	9	+U FAN
3	⊕	10	-U FAN
4	-REMOTE ON/OFF	11	NOT USED
5	+REMOTE ON/OFF	12, 13	+OUT1
6	+RS	14, 15	-OUT1
7	-RS		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
800 W	100...264, 50-400 Hz 187...242, 50-400 Hz	100...264 @ 1 s 176...264 @ 1 s 81...150 @ 1 s	24	33.3
			27	29.6
			48	16.6
1000 W			24	41.6
			28	35.7
			48	20.8

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	<2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Output voltage adjustment	±10%
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	89% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive, forced fan
Dimensions	211×117×41 mm
Weight	under 1.9 kg

MAA1500

FEATURES

- Power 1500 W
- Active power factor corrector
- Protections: overvoltage, short-circuit, overload and overtemperature
- Low profile design (41 mm) with blade contacts or terminal blocks
- Fanless cooling
- Max capacity: up to 400 000 μ F (standart - 33 000 μ F, Uout=28 VDC)

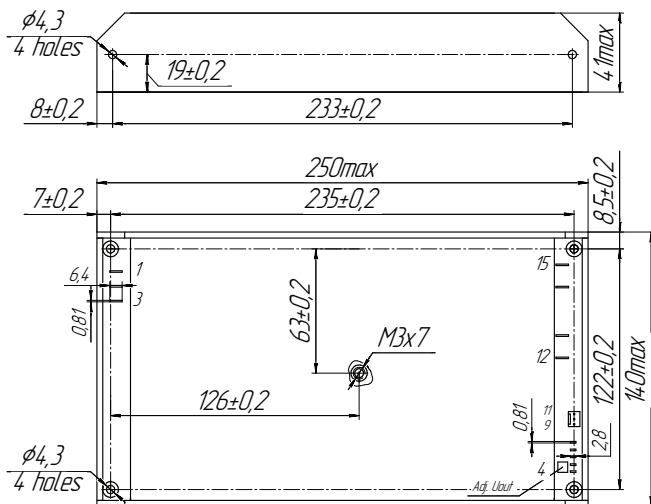


COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	9	+U FAN
2	N	10	-U FAN
3	⊕	11	NOT USED
4	-REMOTE ON/OFF	12	+OUT
5	+REMOTE ON/OFF	13	+OUT
6	+RS	14	-OUT
7	-RS	15	-OUT
8	PARAL		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

MODELS

Power	Input voltage, VAC	Transient deviation, V @ 1 s	Output voltage, VDC	Output current, A
1500 W	187...242, 50-400 Hz	176...264 @ 1 s	24	62.5
			28	53.6
			48	31.3

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Output voltage adjustment	±10%
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	92% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive, forced fan
Dimensions	250×140×41 mm
Weight	under 2.4 kg

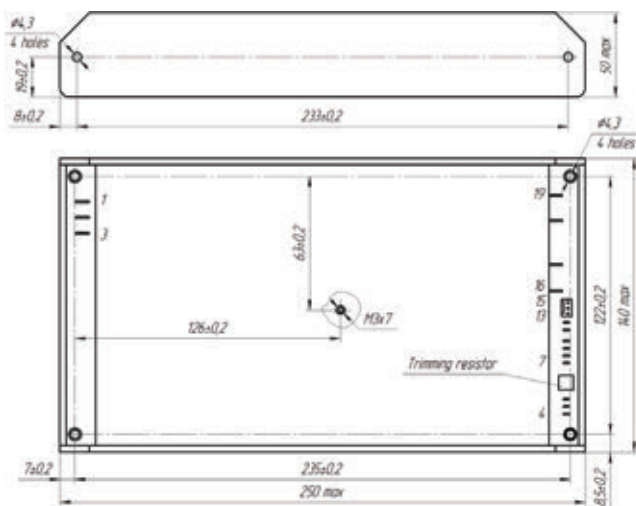
MAA2000

FEATURES

- Power 2000 W
- Remote on/off
- Parallel operation, remote sense
- Protections: overvoltage, short-circuit, overload and overtemperature
- Fanless cooling
- Low profile design (50 mm) with blade contacts or terminal blocks
- Max capacity: up to 400 000 μF (standart - 33 000 μF , $U_{\text{out}}=28 \text{ VDC}$)

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	11	+PGOOD
2	N	12	-POWER GOOD
3	\oplus	13	+U FAN
4	-REMOTE ON/OFF	14	-U FAN
5	+REMOTE ON/OFF	15	NOT USED
6	AUX	16, 17	+OUT
7	+RS	18, 19	-OUT
8	-RS		
9	PARAL		
10	ADJ		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage, VAC	Transient deviation, V @ 1 s	Output voltage, VDC	Output current, A
2000 W	187...242, 50 Hz	176...264	24	83.3
			28	71.4
			48	41.6

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% $U_{\text{out nom}}$.
Ripple and noise (peak-to-peak)	<2% $U_{\text{out nom}}$.
Short circuit protection	auto recovery
Overcurrent protection	$P_{\text{max}} < 1.8 P_{\text{nom}}$.
Overvoltage protection	<125% $U_{\text{out nom}}$.
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	92% @ $U_{\text{out}}=48 \text{ VDC}$
Isolation voltage (in./out.)	~1500 V
Output voltage adjustment	±10%
Cooling	conductive, forced fan
Dimensions	250×140×50 mm
Weight	under 3.4 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

MAA3000

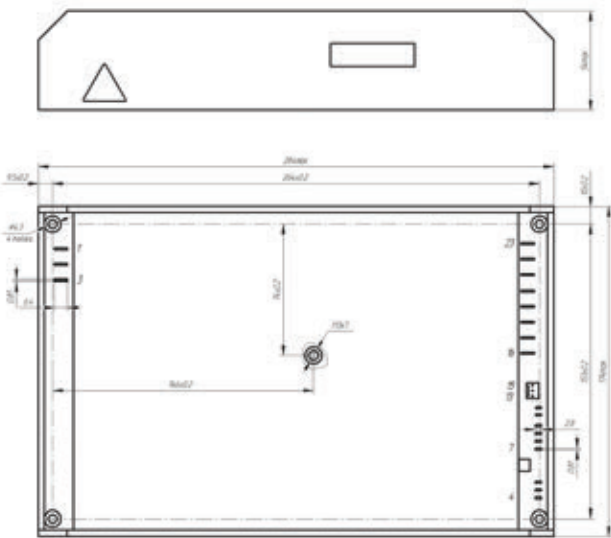
FEATURES

- Power 2000 W (3000 W up to 20 min.)
- Efficiency up to 92 %
- Low profile design (54 mm) with blade contacts or terminal blocks
- Parallel operation
- Protections: overvoltage, short-circuit, overload and overtemperature
- Fanless cooling
- Max capacity: 36500 μ F (Uout= 28 VDC)



PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	L	9	+U FAN
2	N	10	-U FAN
3	⊕	11	NOT USED
4	-REMOTE ON/OFF	12	+OUT
5	+REMOTE ON/OFF	13	+OUT
6	+RS	14	-OUT
7	-RS	15	-OUT
8	PARAL		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
3000 W	187...242, 50-400 Hz	176...264 @ 1 s	24	125
			28	107.1
			48	62.5

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Output voltage adjustment	±10% using built-in trimpot
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	92% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive, forced fan
Dimensions	284x174x54 mm
Weight	under 3.4 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

MAA500 3ph.

FEATURES

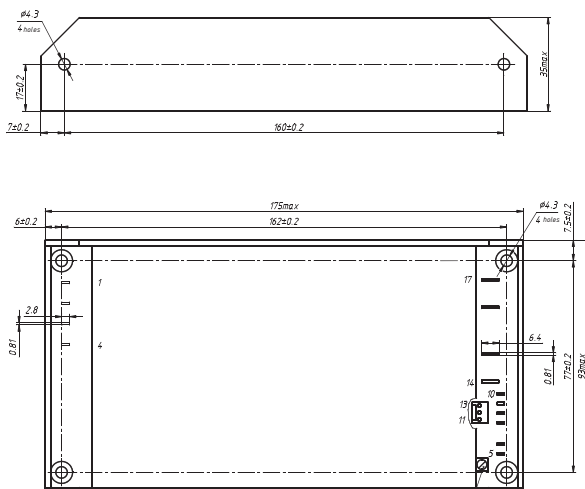
- Power 500 W
- Low profile (35 mm) with blade contacts or terminal blocks
- Parallel operation, remote sense
- Protections: overvoltage, short-circuit, overload and overtemperature
- Fanless cooling
- Max capacity: 20000 μ F (Uout= 15 VDC)

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	C	9	PARAL
2	B	10	PEF
3	A	11	NOT USED
4	\oplus	12	-U FAN
5	-REMOTE ON/OFF	13	+U FAN
6	+REMOTE ON/OFF	14,15	+OUT1
7	+RS	16,17	-OUT1
8	-RS		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage,VAC	Transient deviation, V	Output voltage, VDC	Output current, A
500 W	323...437, 50 Hz 187...253, 400 Hz	304...456 @ 1 s 176...264 @ 1 s	5	60
			9	55.5
			12	41.6
			15	33.3
			24	20.8
			28	17.9

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1,2
Line and load regulation	under 2% Uout nom. for the 1st channel under 10% for the 2nd channel (3d)
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overvoltage protection	<125% Uout nom.
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	85% @ Uout=28 VDC
Isolation voltage (in./out.)	~1500 V
Output voltage adjustment	±10%
Cooling	conductive, forced fan
Dimensions	175×93×35 mm
Weight	under 1.1kg

MAA1500 3ph.

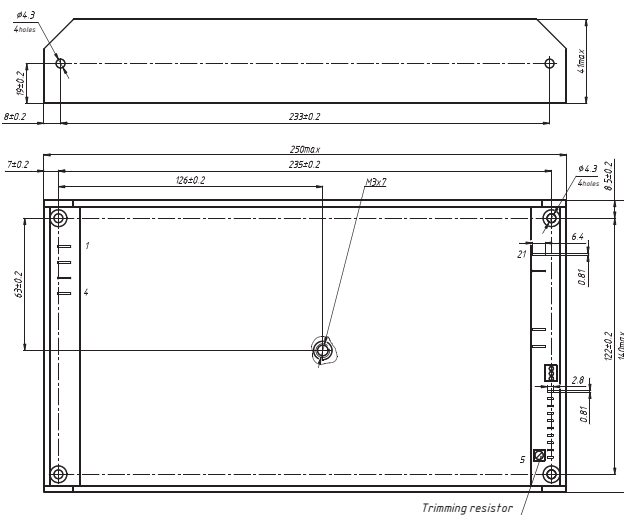
FEATURES

- Output power 1500 W
- Efficiency up to 90 %
- Remote on/off
- Parallel operation, remote sense
- Protections: overvoltage, short-circuit, overload and overtemperature
- Available version with current limitation
- Available version with extended output voltage adjustment range (-75...+10 % Unom.)
- Available version with extended operation temperature range (-60...+85 °C)
- Fanless cooling
- Low profile design (41 mm) with blade contacts or terminal blocks



PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	C	11	PARAL
2	B	12	ADJ
3	A	13	POWER GOOD OUT2
4	⊕	14	POWER GOOD OUT1
5	-REMOTE ON/OFF	15	+U FAN
6	+REMOTE ON/OFF	16	-U FAN
7	POWER GOOD IN2	17	NOT USED
8	POWER GOOD IN1	18,19	+OUT
9	+RS	20,21	-OUT
10	-RS		



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

MODELS

Power	Input voltage,VAC	Transient deviation, V	Output voltage, VDC	Output current, A
1500 W	323...437, 50 Hz 187...253, 400 Hz	304...456	24	62.5
		@ 1 s 176...264	28	53.6
		@ 1 s	48	31.25

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
High humidity	98% @ t° ambient +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	90% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Output voltage adjustment	±10% (available version with adjustment range -60...+10%)
Cooling	conductive, forced fan
Dimensions	250×140×41 mm
Weight	under 2.4 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

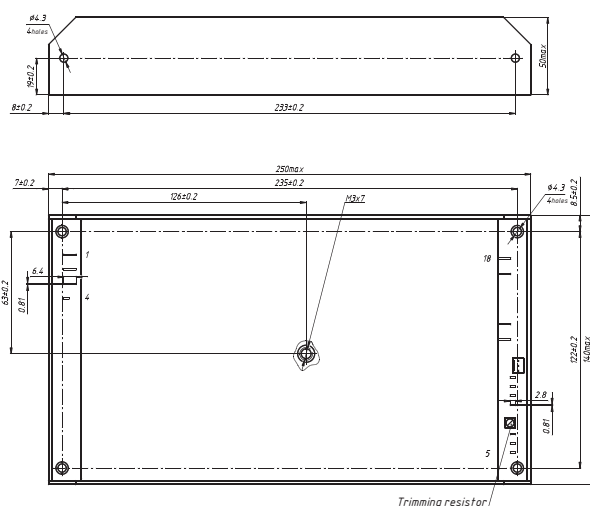
MAA2000 3ph.

FEATURES

- Output current up to 83 A
- Low profile design (50 mm) with blade contacts or terminal blocks
- Remote on/off
- Efficiency up to 92 %
- External synchronization is available: frequency range is provided upon request.
- Parallel operation, remote sense
- Fanless cooling

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	A	10	PARAL
2	B	11	PEF
3	C	12	+POWER GOOD
4	⊕	13	-POWER GOOD
5	-REMOTE ON/OFF	14	+U FAN
6	+REMOTE ON/OFF	15	-U FAN
7	AUX	16	NOT USED
8	+RS	17, 18	+Uout1
9	-RS	19, 20	-Uout1



Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.



MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
2000 W	187...253, 400 Hz 323...437, 50 Hz	176...264 @ 1 s 263...356 @ 1 c	24	83.3
			28	71.4
			48	41.6

Other output voltage within range 5...68 VDC is also available upon special request.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pout...1.2 Pmax
Overvoltage protection	<120% Uout nom.
Output voltage adjustment	±10% (upon request a version for UPS with adjustment 19-30 V for UPS)
High humidity	95% @ t° ambient +25°C
Case operating temperature	-40...+85°C
Typical efficiency	92% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive
Dimensions	250×140×50 mm
Weight	under 3.4 kg

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G

KWant3000 3ph. NEW

FEATURES

- MIL-STD-461E
- Power 3000 W (up to 12 kW in pulse mode)
- 3 ph step up PFC
- Efficiency 93 %
- Source of current and Source of voltage modes, adjustable current protection curve
- RS-485 control interface
- External frequency synchronization
- Parallel and serial operation
- Fanless cooling
- Low profile design (54 mm) with blade contacts or terminal blocks



MODELS

Power	Input voltage, VAC	Transient deviation, V @ 1 s	Output voltage, VDC	Output current, A
3000 W	307...453, 50 Hz	304...456	28 60	107.1 50

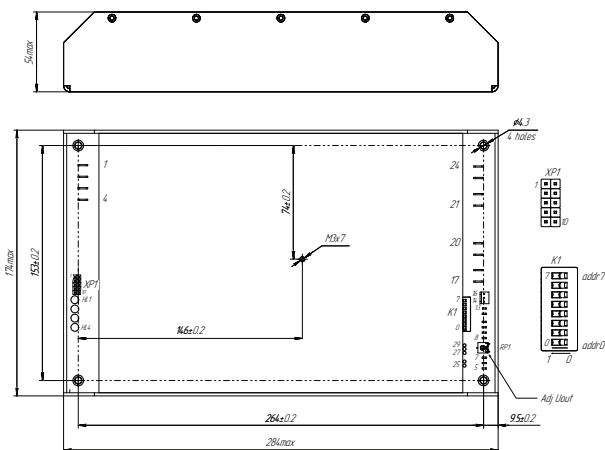
Other output voltage within range 5...68 VDC is also available upon special request.

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	A	12	+POWER GOOD
2	B	13	-POWER GOOD
3	C	14	+U FAN
4	⊕	15	-U FAN/COMMON
5	-REMOTE ON/OFF/-AUX	16	U FAN TACHO
6	+REMOTE ON/OFF	17, 18, 19, 20	+OUT 1
7	+AUX	21, 22, 23, 24	-OUT 1
8	+RS	25	-SYNC
9	-RS	26	+SYNC
10	PARAL	27	RS485 Common
11	ADJ (analogue)	28	RS485 Data-B
		29	RS485 Data-A

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	under 2% Uout nom.
Ripple and noise (peak-to-peak)	<2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Output voltage adjustment	-50...+10%
High humidity	98% @ t° +35°C
Case operating temperature	-40...+85°C -50...+85°C
Typical efficiency	93% @ Uout=48 VDC
Isolation voltage (in./out.)	~1500 V
Cooling	conductive-heatsink or forced fan
Dimensions	284×174×54 mm
Weight	under 3400 r



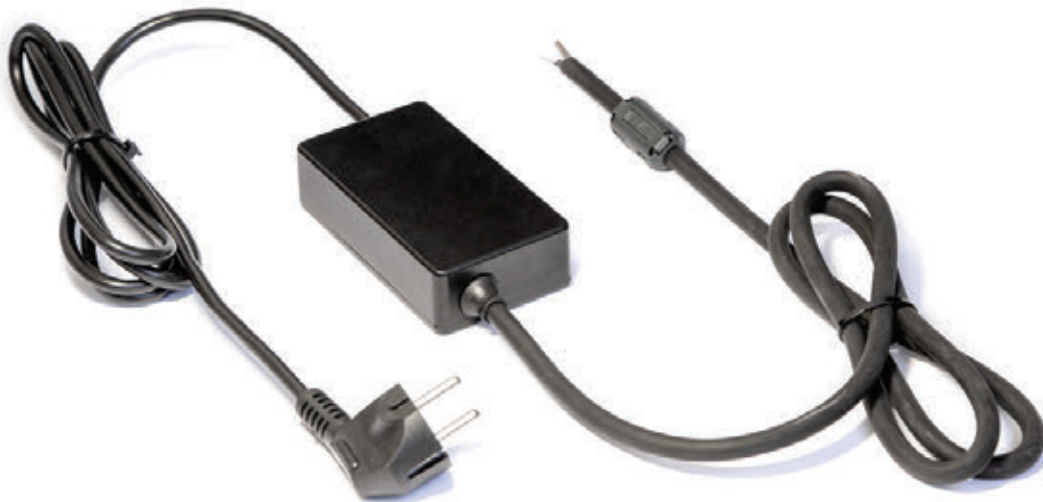
Dimensions in mm. Single channel design with blade contacts. Other versions are available. Full information can be found in technical documentation section on the manufacturer's web-site.

COMPLIANCE

EMC	MIL-STD-461E
Environmental	MIL-STD-810G



KAM, power supplies for portable computers



Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Dimensions, mm
KAM20	20	85...264, 50 Hz	24, 28	-25...+85°C	~3000 V	91%	100×50×25
KAM30	30	187...264, 50 Hz	5	-50...+55°C		87%	115×64×31
KAM100	100	187...264, 50 Hz	19	-50...+55°C		92%	115×64×29

DESCRIPTION

The units of this family ensure high quality power supply for portable computers (laptops, tablets) with power up to 100 W. External noise filters are available.

During production process 100% of products pass through quality control of electric parameters and extreme environmental testing.

FEATURES

- MIL-STD-461E without external components
- Ambient operation temperature: -50...+55°C
- High efficiency
- Wide range of protections
- Customized output connectors



KAM family description online:
<https://eng.kwsystems.ru/catalog/acdc/series/14>

KAM20

FEATURES

- MIL-STD-461E without external components
- Suitable for supplying power to highly technological and sensitive equipment
- IP67 protection
- High efficiency – 91%
- Protections: short circuit, overcurrent, overvoltage.
- 2 years warranty

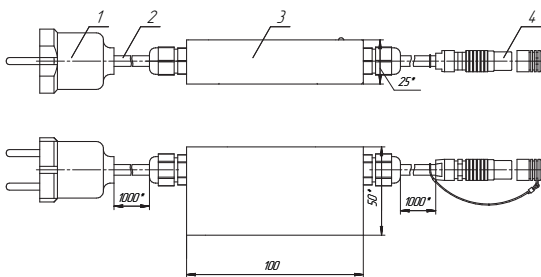


COMPLIANCE

Environmental	IP67
EMC	EN 60601-1-2, EN 61000-6-3, EN 61000-6-1, MIL-STD-461E without external components

PIN ASSIGNMENT

Pin	Single channel	Pin	Single channel
1	Electrical plug (non IP67 compliant)	3	KAM20 power supply unit
2	Cable	5	Output connector (according to customer's requirement)



Dimensions in mm.
 Input connector can be changed in accordance to customer's requirements.
 Full details can be found in documentaion section on the web-site.

MODELS

Power	Input voltage, VAC	Output voltage, VDC	Output current, A
20 W	85...264, 50 Hz.	24	0.83
		28	0.74

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	< 1% Uout nom.
Ripple and noise (peak-to-peak)	Under 100 mV
Short circuit protection	auto recovery
Overcurrent protection	<150% Iout nom. autorecovery
Overvoltage protection	<140% Uout nom. restart required
Ambient operation temperature range	-25...+85°C
Typical efficiency	91% @ Uout=28 VDC
Isolation voltage (in./out.)	~3000 V
Isolation class	II
Cooling	convective
Dimensions	100×50×25 mm
Weight	under 0.35 kg

KAM30

FEATURES

- MIL-STD-461E without external components
- Suitable for supplying power to highly technological and sensitive equipment
- IP54 protection
- High efficiency – 86%
- Protections: short circuit, overcurrent, overvoltage.
- Warranty 2 years



COMPLIANCE

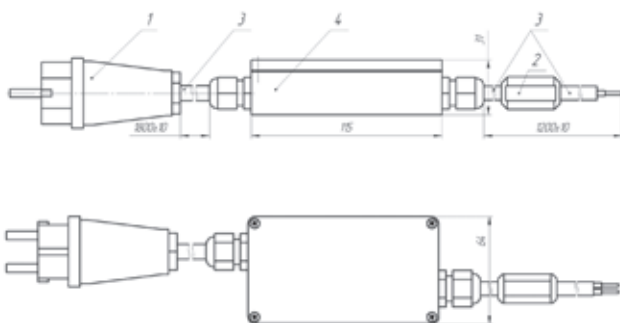
Environmental	IP54
EMC	EN 55022 Class B, MIL-STD-461E without external components

MODELS

Power	Input voltage, VAC	Output voltage, VDC	Output current, A
30 W	187...264, 50 Hz	5	6

PIN ASSIGNMENT

1	Electrical plug	3	Cable
2	Ferrit cable filter	4	KAM30 power supply unit



Dimensions in mm.

Input connector can be changed in accordance to customer's requirements.

Full details can be found in documentaion section on the web-site.

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	±5% (±0,25 V)
Ripple and noise (peak-to-peak)	under 50 mV
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Pnom.
Overvoltage protection	<125% Uout nom.
Ambient operation temperature range	-50...+55°C
Typical efficiency	86%
Isolation voltage (in./out.)	~1500 V
Isolation voltage (in./case)	~1500 V
Isolation voltage (out./case)	~500 V
Cooling	convective
Dimensions	115×64×31 mm
Weight	under 0.7 kg

KAM100

FEATURES

- MIL-STD-461E without external components
- Suitable for supplying power to highly technological and sensitive equipment
- High mechanical integrity
- IP54 protection
- High efficiency – 92%
- Protections: short circuit, overcurrent, overvoltage.
- 2 years warranty

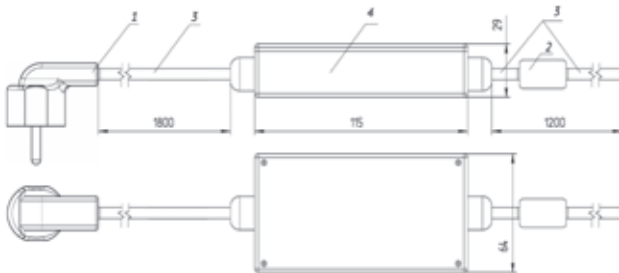


COMPLIANCE

Environmental	IP54
EMC	EN 55022 Class A, MIL-STD-461E without external components

PIN ASSIGNMENT

1	Electrical plug (non IP54 compliant)	3	Cable
2	Noise filter	4	KAM power supply



Dimensions in mm.

Input connector can be changed in accordance to customer's requirements. Full details can be found in documentaion section on the web-site.

MODELS

Power	Input voltage, VAC	Output voltage, VDC	Output current, A
100 W	187...264, 50 Hz	19	5.26

BASIC SPECIFICATIONS

Number of output channels	1
Line and load regulation	<2% Uout nom.
Ripple and noise (peak-to-peak)	Under 100 mV
Short circuit protection	auto recovery
Overcurrent protection	Pmax. < 1.8 Phom.
Overvoltage protection	<125% Uout nom.
Ambient operation temperture	-50...+55°C
Typical efficiency	92%
Isolation voltage (in./out.)	~1500 V
Isolation voltage (in./case)	~1500 V
Isolation voltage (out./case)	~500 V
Cooling	convective
Dimensions	115×64×29 mm
Weight	under 0.7 kg

KWadr, high power digitally controlled AC/DC converters



Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Form-factor	Dimensions, mm
KWadr5000	5000	90...280 1ph.	30; 60; 110; 140; 250; 300; 350	-20(-40)...+50°C	~2500 V	95%	KAP-platform or chassis mounted	475x140x63
KWadr5000T	5000	350...450 3ph.	30; 60; 110; 140; 250; 300; 350			95%	chassis mounted	475x140x68 (housing), 475x180x68 (with flanges)

DESCRIPTION

KWasar family, high power 1-phase and 3-phase power supply units designed for 19" rack. These are modular solutions based on unified digitally controlled KWadr5000 units. Depending on a task KWasar will give you various turn-key solutions: from AC/DC converters to UPS or a charger. Digital control adds wide functionality: output current and voltage stabilization and adjustment, adaptive cooling and parallel operation.

FEATURES

- Output power up to 30 kW
- Input voltage: 220 VAC (1ph), 380 VAC (3ph+n., 3ph without n)
- Output voltage up to 350 VDC
- Output voltage (20...100%) and current (0...100 %) adjustment
- RS-485 digital control and monitor interface
- Ambient operating temperature : - 20 (-40)...+50 °C
- Hot swap
- Designed to meet mil-std-461E (ce102) w/o external components
- 2 years warranty



KWasar family description
<https://eng.kwsystems.ru/catalog/acdc/series/3>

KWadr5000

FEATURES

- Developed for stand-alone operation and as a part of KWasar systems
- Wide input mains 220 VAC (1ph)
- Series (up to 1kV) and parallel operation
- Output power up to 5 kW
- Output current up to 166.6 A
- Efficiency up to 95 %
- Hot swap
- Software defined operation mode: source of power or current
- Designed to meet mil-std-461E (ce102) w/o external components

COMPLIANCE

EMC	IEC 61000-3-12:2004 MIL-STD-461E CE102
EMI	IEC 61000-6-4:2006 MIL-STD-461E RE102

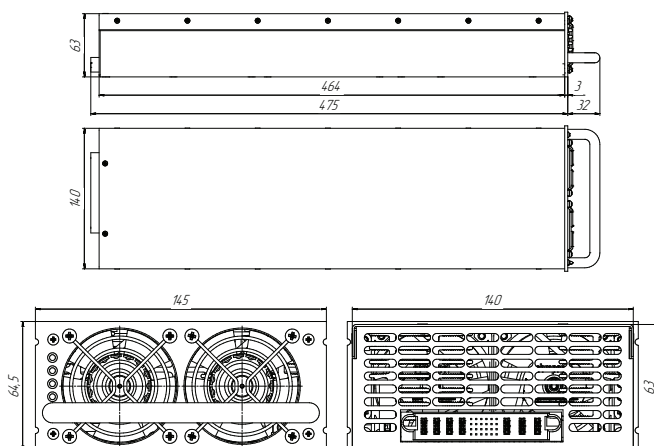
MODELS

Power	Input voltage, VAC	Output voltage, VDC	Output current, A
5000 W	90...280 (1ph.)	30 (20...30)	166.6
		60 (30...60)	83.3
		110 (70...110)	45.5
		140 (70...140)	35.71
		250 (1...250)	20
		300 (1...300)	16.7
		350 (175...350)	14.28



BASIC SPECIFICATIONS

Output voltage, VDC	30 60 110 140 250 300 350
Ripple and noise (peak-to-peak) 20...100 % × Uout nom.	2% 2% 2% 2% <1%
Warm-up time	up to 2.5-4.5 sec. after power supply; 2 sec. after supply of signal to remote on/off pins
Transient deviation duration	20 ms
Overcurrent protection	>105% Inom.
Output current adjustment range	0... 100%
Short circuit protection	auto recovery
Output overvoltage protection	105% Uout max
Ambient operation temperature range	-20...+50°C (custom -40...+50°C)
Thermal protection	built-in with hysteresis effect+100°C
Typical efficiency	95% @ Uout=300 VDC
Isolation voltage (in./out.)	~2500 V
Cooling	adaptive built-in forced fan
Case material	metal
Digital interface	RS-485, isolated
Number of units connected to network	up to 20
Control device	PC with Win XP, 7, 8
Dimensions	475×140×63 mm
Weight	under 6 kg



KWadr5000C300, dimensions in mm.

STANDARD FUNCTIONS

- In-rush current limitation
- Overcurrent protection
- Protection of remote sense cut (overvoltage >105% Uout max)
- Remote on/off
- Mounting flanges

OPTIONAL FUNCTIONS

- Customized output voltage
- Application of various thermal protection algorithms

KWadr5000T

FEATURES

- Input voltage: three-phase 380 VAC (3 ph without N)
- Output power up to 5 kW
- Output current up to 83.3 A
- Efficiency up to 95 %
- Series (up to 1kV) and parallel operation
- Software defined operation mode: source of voltage or current
- Designed to meet mil-std-461E (ce102) w/o external components



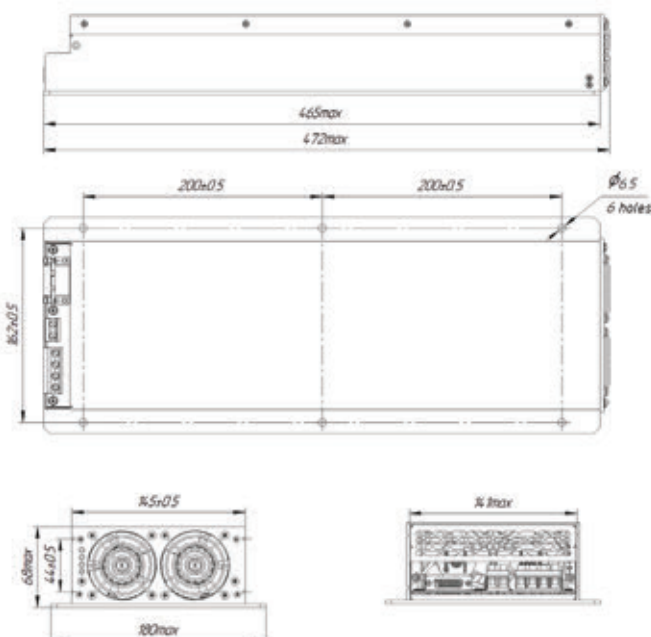
COMPLIANCE

EMC	IEC 61000-3-12:2004 MIL-STD-461E CE102
EMI	IEC 61000-6-4:2006 MIL-STD-461E RE102

MODELS

Power	Input voltage, VAC	Output voltage, VDC	Output current, A
5000 W	350...450 (3ph. without n)	30 (20...30)	166.6
		60 (30...60)	83.3
		110 (70-110)*	45.4
		140 (70...140)	35.7
		250 (125...250)	20
		300 (150...300)	16.7
		350 (150...300)	14.28

*custom 70-140 V



KWadr5000T300, dimensions in mm.

BASIC SPECIFICATIONS

Ripple and noise (peak-to-peak)	<1 %
Warm-up time	up to 2,5-4,5 sec. after power supply; sec. after supply of signal to remote on/off pins
Transient deviation duration	20 ms
Overcurrent protection	>105% Inom.
Output current adjustment range	0... 100%
Output voltage adjustment range	1... 100%
Short circuit protection	auto recovery
Output overvoltage protection	105% Uout max
Ambient operation temperature range	-20...+50°C (custom -40...+50°C)
Thermal protection	built-in with hysteresis effect +100°C
Typical efficiency	95% @ Uout=300 VDC
Isolation voltage (in./out.)	~2500 V
Cooling	adaptive built-in forced fan
Case material	metal
Digital interface	RS-485, isolated
Number of units connected to network	up to 10
Control device	PC with Win XP, 7, 8
Dimensions	475 ×140×68 (case), 475×180×68 (with mounting flanges)
Weight	under 6.5 kg

STANDARD FUNCTIONS

- In-rush current limitation
- Overcurrent protection
- Protection of remote sense cut (overvoltage >105% Uout max)
- Remote on/off
- Mounting flanges

OPTIONAL FUNCTIONS

- Customized output voltage
- Application of various thermal protection algorithms



KWant/MAA

KAM

KWadr

KAN-D

MIIR

KWasar

KAN-D, DIN-rail mountable power supply units



Model	Power, W	Input voltage, V	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency (U _{out} =24 VDC)	Dimensions, mm
KAN-D75	75	~220 (80...264) =310 (90...372)	12; 24; 48	-40...+70°C -50...+70°C	~3000 V	92%	131×133×33
KAN-D120	120	~220 (85...264) =310 (100...372)	24	-40...+70°C		92%	131×133×42
KAN-D240	240		15; 24	-40...+70°C		92%	131×133×62
KAN-D500	480	~220 (187...264) =310 (263...372)	24	-40...+70°C -50...+70°C		92%	131×133×62
KAN-MD40	current 40 A	=12...48	=12...48	-50...+70°C	~1500 V	–	131×130×50

DESCRIPTION

KAN-D family, DIN-rail mountable convective cooled AC/DC converters, which are able to operate at high humidity and temperature – 50°C! These converters show high efficiency and EMC.

Wide range of input voltages, compact design, active power factor corrector, cost effective solution, high quality.

FEATURES

- DIN-rail mountable
- Ambient operation temperature range: -40...+70 °C; -50...+70°C
- Output voltage adjustment
- Convective cooling
- «Dry contacts»
- Active power factor corrector (from 120 W)
- 2 years warranty



KAN-D family description online:
<https://eng.kwsystems.ru/catalog/acdc/series/4>

KAN-D75

FEATURES

- DIN-rail mountable
- Nominal / max power 75/100 W
- Ambient operation temperature range: -50...+70 °C; -40...+70 °C
- Typical efficiency 92 %
- Output voltage adjustment ±16.7 %
- Convective cooling
- Built-in diode isolation
- «Dry contacts»

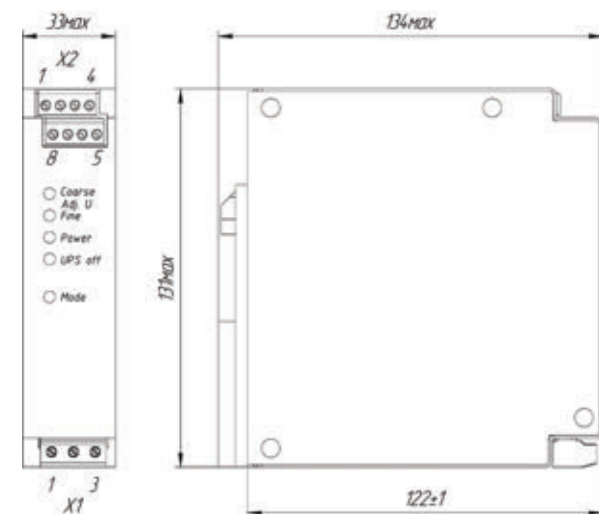


COMPLIANCE

Safety Std. Approval	EN60950-1
EMC Std.	MIL-STD-461E

PIN ASSIGNMENT

Pin		Pin	
X1.1	L	X2.4	-OUT
X1.2	N	X2.5	+OUT ORing
X1.3	⊕	X2.6	+OUT
X2.1	1 (Dry contact -)	X2.7	ADJ. U
X2.2	2 (Dry contact +)	X2.8	POWER GOOD
X2.3	-OUT		



KAN-D75C24, dimensions in mm

MODELS

Power	Input voltage, V	Output voltage, V	Output current, A
75 W	~80...264 =90...372	12	6.25
		24	3.2
		48	1.6

BASIC SPECIFICATIONS

Ripple and noise (peak-to-peak)	<2% Uout nom.
Input mains frequency	47-440 Hz
Output voltage adjustment	±16.7% Uout nom.
Line and load regulation	under 2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax ≤ Pnom.×1.8
Output overvoltage protection	<125% Uout nom.
Type of terminals	screw terminals
Power derating	-2% / °C above +60°C
Protection	IP20
High humidity	98% @ t° +40°C
Ambient operation temperature range	-40...+70°C -50...+70°C
Efficiency, at Uout=	12 VDC 90% 24 VDC 92% 48 VDC 91%
Isolation voltage (in./out.)	~3000 V
Cooling	convective
Case material	metal
Dimensions (HxDxW)	131×133×33 mm
Weight	under 0.6

KAN-D120

FEATURES

- DIN-rail mountable
- Nominal/max power 120/150 W
- Ambient operation temperature range: -40...+70 °C
- Typical efficiency 92 %
- Power factor corrector
- Output voltage adjustment ($\pm 16.7\%$)
- Convective cooling
- «Dry contacts»

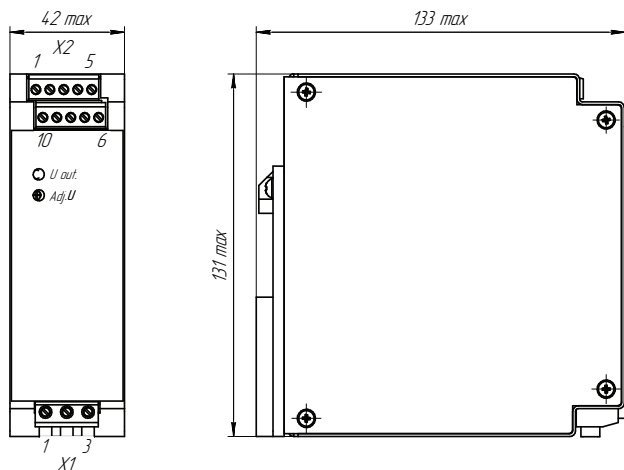


COMPLIANCE

Safety Std. Approval	EN60950-1
EMC Std.	MIL-STD-461E

PIN ASSIGNMENT

Pin	Assignment	Pin	Assignment
X1.1	L	X2.5	-OUT
X1.2	N	X2.10	POWER GOOD
X1.3	⊕	X2.9	ADJ. U
X2.1	+ Dry contact	X2.8	+OUT
X2.2	-Dry contact	X2.7	+OUT
X2.3	-OUT	X2.6	+OUT
X2.4	-OUT		



KAN-D120C24, dimensions in mm

MODELS

Power	Input voltage, V	Output voltage, VDC	Output current, A
120 W	~220 (85..264) ~310 (90..372)	24	5

BASIC SPECIFICATIONS

Ripple and noise (peak-to-peak)	<2% Uout nom.
Input mains frequency	47-60 Hz AC 0 Hz DC
Output voltage adjustment	$\pm 16.7\%$ Uout nom.
Line and load regulation	under 2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	$P_{max} \leq P_{nom} \times 1.5$
Output overvoltage protection	<125% Uout nom.
Type of terminals	screw terminals
Power derating	-2% / °C above +60°C
Protection	IP20
High humidity	98% @ t° +40°C
Ambient operation temperature range	-25...+70°C (start at -40°C)
Efficiency, at Uout.= 24 VDC	92%
Isolation voltage (in./out.)	~3000 V
Cooling	convective
Case material	metal
Dimensions (HxD×W)	131×133×42 mm
Weight	under 0.9 kg

KAN-D240

FEATURES

- DIN-rail mountable
- Nominal/max power 240/300 W
- Ambient temperature operation range: -40...+70 °C
- Typical efficiency 92 %
- Output voltage adjustment (-15...+20 %)
- Convective cooling
- «Dry contacts»
- Active power factor corrector

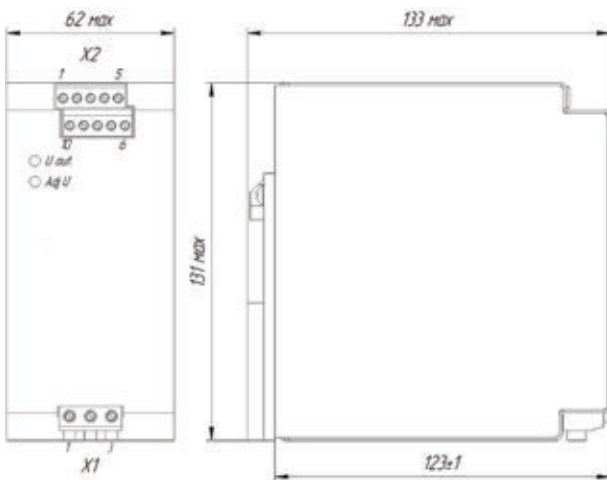


COMPLIANCE

Safety Std. Approval	EN60950-1
EMC Std.	MIL-STD-461E

PIN ASSIGNMENT

Pin	Assignment	Pin	Assignment
X1.1	L	X2.5	-OUT
X1.2	N	X2.10	POWER GOOD
X1.3	⊕	X2.9	ADJ. U
X2.1	Dry contact	X2.8	+OUT
X2.2	Dry contact	X2.7	+OUT
X2.3	-OUT	X2.6	+OUT
X2.4	-OUT		



KAN-D240CXX, dimensions in mm

MODELS

Power	Input voltage, V	Output voltage, VDC	Output current, A
240 W	~80...264	15	16
	=100...372	24	10

BASIC SPECIFICATIONS

Ripple and noise (peak-to-peak)	<2% Uout nom.
Input mains frequency	47-60 Hz AC 0 Hz DC
Output voltage adjustment	-15...+20% Uout.nom.
Line and load regulation	under 2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	Pmax. ≤ Pnom.×1.6
Output overvoltage protection	<150% Uout nom.
Thermal protection	t° ambient >70°C
Type of terminals	screw terminals
Power derating	-2% / °C above +60°C
Protection	IP20
High humidity	98% @ t° +40°C
Ambient operation temperature range	-50...+70°C
Efficiency, at Uout.=	15 VDC 91% 24 VDC 92%
Isolation voltage (in./out.)	~3000 V
Cooling	convective
Case material	metal
Dimensions (H×D×W)	131×133×62 mm
Weight	under 1.5 kg

KAN-D

MIIR

KWAsar

KAN-D500

FEATURES

- DIN-rail mountable
- Nominal power 480 W
- Ambient operation temperature range
-50...+70 °C; -40...+70 °C
- Typical efficiency 92 %
- Output voltage adjustment ($\pm 16.7\%$)
- Convective cooling
- «Dry contacts»
- Active power factor corrector

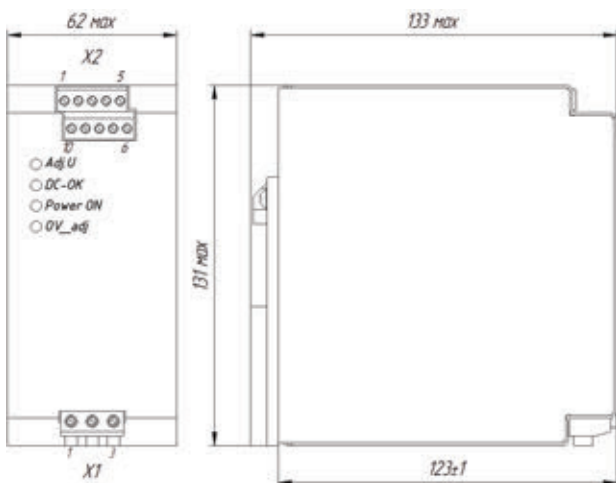


COMPLIANCE

Safety Std. Approval	EN60950-1
EMC Std.	MIL-STD-461E

PIN ASSIGNMENT

Pin	Assignment	Pin	Assignment
X1.1	L	X2.5	-OUT
X1.2	N	X2.10	POWER GOOD
X1.3	⊕	X2.9	ADJ. U
X2.1	Remote on/off +	X2.8	+OUT
X2.2	Remote on/off -	X2.7	+OUT
X2.3	-OUT	X2.6	+OUT
X2.4	-OUT		



KAN-D500C24, dimensions in mm

MODELS

Power	Input voltage, V	Output voltage, VDC	Output current, A
480 W	-187...264 =263-372	24	20

BASIC SPECIFICATIONS

Ripple and noise (peak-to-peak)	<2% Uout nom.
Input mains frequency	47-60 Hz AC 0 Hz DC
Output voltage adjustment	$\pm 16.7\%$ Uout nom.
Line and load regulation	under 2% Uout nom.
Short circuit protection	auto recovery
Overcurrent protection	$P_{max.} \leq P_{nom.} \times 1.1$
Output overvoltage protection	<125% Uout nom.
Thermal protection	t° ambient >70°C
Type of terminals	screw terminals
Power derating	-2% / °C above +40°C
Protection	IP20
High humidity	98% @ t° +40°C
Ambient operation temperature range	-40...+70°C -50...+70°C
Efficiency, at Uout= 24 VDC	92%
Isolation voltage (in./out.)	~3000 V
Cooling	convective
Case material	metal
Dimensions (H×D×W)	131×133×62 mm
Weight	under 2 kg

KAN-MD40

FEATURES

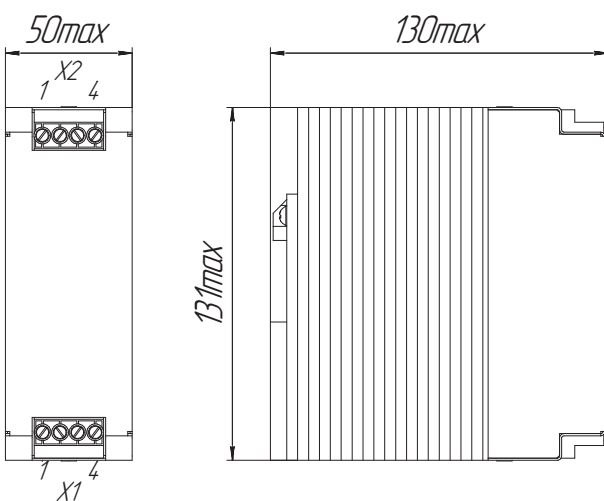
- DIN-rail mountable
- Input voltage =12...48 VAC
- Output voltage =12...48 VDC
- Max current up to 40 A
- Ambient temperature range: -50...+70 °C
- Convective cooling

COMPLIANCE

Safety Std. Approval	EN60950-1
EMC Std.	MIL-STD-461E

PIN ASSIGNMENT

Pin	Assignment	Pin	Assignment
X1.1	+IN1	X2.1	+OUT
X1.2	-IN1	X2.2	+OUT
X1.3	+IN2	X2.3	-OUT
X1.4	-IN2	X2.4	-OUT



KAN-MD40, dimensions in mm



MODELS

Power	Input voltage, V	Output voltage, V	Output current, A
KAN-MD40	=12...48	=12...48	40

BASIC SPECIFICATIONS

Type of terminals	screw terminals
Current derating	1.25% / K, @ t° ambient >+50 °C
Protection	IP20
High humidity	98% @ t° ambient +40°C
Ambient operation temperature range	-50...+70°C
Dissipating power (@ Iout = 40A)	22.8 W
Isolation voltage (bx./kopn.)	~1500 V
Cooling	convective
Case material	metal
Dimensions (H×D×W)	131×130×50 mm
Weight	under 1 kg



KWant/MAA

KAM

KWadr

KAN-D

MIIR

KWasar

KWasar



Model	Power, W	Input voltage, VAC	Output voltage, VDC	Ambient operation temperature	Isolation voltage	Typical efficiency	Form-factor	Dimensions, mm
KWasar15	15000	90...264 (1ph) 304...456 (3ph.+n.)	30; 60; 110; 140; 250; 300; 350	-20 (-40)...+50°C	~2500 V	95%	3U 19"	566×482.6×132.5

DESCRIPTION

KWasar family, high power scaled AC/DC platforms. High efficiency and EMC.

Customizable systems suitable for projects of any level of complexity.

FEATURES

- Customizable solution
- High efficiency (up to 95 %)
- Source of current or voltage
- Output current and voltage adjustment 0-100%
- Hot swap



KWasar family description online:
<https://eng.kwsystems.ru/catalog/acdc/models/48>

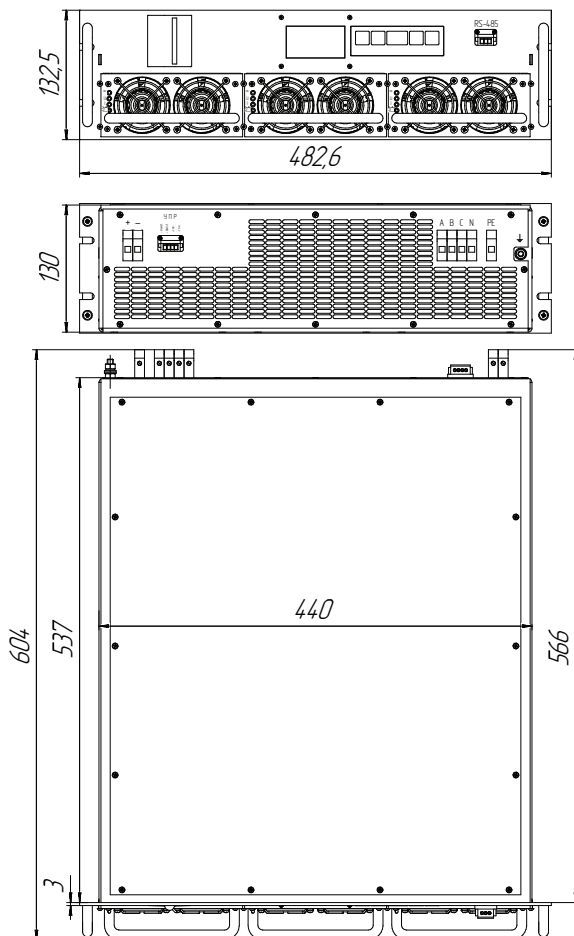
KWasar15

FEATURES

- Output power up to 15 kW
- Output voltage : three-phase 380 VAC (3ph.+n.), 220 VAC (1ph.)
- Output voltage and current adjustment
- Output current up to 500 A
- Digital interface RS-485
- Ambient operation temperature up to -40...+50 °C
- Efficiency up to 95 %
- Hot swap
- 3U form factor for 19" rack mount

MODELS

Power	Input voltage, VAC	Transient deviation, V	Output voltage, VDC	Output current, A
15000 W	90...264 (1ph.) 304...456 (3ph.+N.)	-	30 (15...33)	500
			60 (30...60)	250
			110 B (70...110)	136.5
			250 (125...250)	60
			300 (150...300)	50



KWasar15, dimensions in mm.



COMPLIANCE

EMC	Design to meet IEC 61000-3-12:2004, MIL-STD-461E CE102
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BASIC SPECIFICATIONS

Output voltage adjustment	0...100% Uout nom.
Ripple and noise (peak-to-peak)	<1% Uout nom.
Warm-up time	up to 10 sec. after power supply
Transient deviation duration	20 ms
Overcurrent protection	>105% Inom.
Output current adjustment range	0... 100%
Output voltage adjustment range	20...100%
Ambient operation temperature range	-20...+50°C (custom -40...+50°C)
Typical efficiency	95% @ Uout=300 V
Isolation voltage (in./out.)	~2500 V
Cooling	adaptive built-in forced fan
Case material	metal
Digital interface	RS-485
Number of units	up to 10, separate or group control
Dimensions	566×482.6×132.5 mm
Weight	under 33 kg

STANDARD FUNCTIONS

- Inrush current limitation
- Overcurrent protection
- Remote sense cut protection (output overvoltage >105% Uout. max.)
- Remote on/off
- Mounting flanges

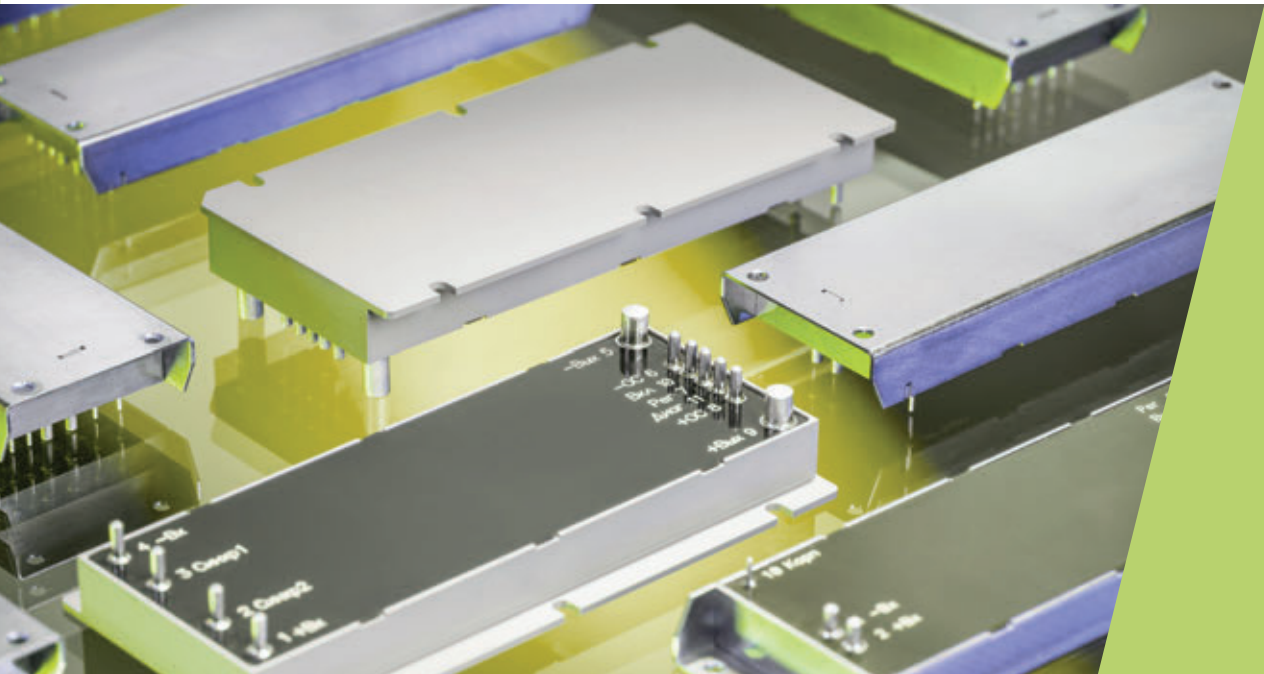
OPTIONAL FUNCTIONS

- Customized output voltage
- Application of various algorithms of thermal protection

NOISE FILTERS

MRM/MRR

MAA-F



Protection and noise filters are designed for building systems with high EMC requirements .

The use of filters allows to reduce conducted noise with a suppression factor of up to 40 dB for AC networks.

The products are optimized for building various power supply systems based on serial power supply units manufactured by KW Systems.

MRM/MRR

DESCRIPTION

Industrial and special purpose AC modular filters. Effective against impulsive and conducted interference. Ready for operation under conditions of high and low temperatures, humidity, and vibration.

The filters of this family are available for various input networks. Like power supply units of KWant family MRM/MRR filters are resistant to external influences: high humidity, salt fog, and sand. Mostly used for communication equipment.



COMPLIANCE

EMI	MIL-STD-810G
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BASIC SPECIFICATIONS

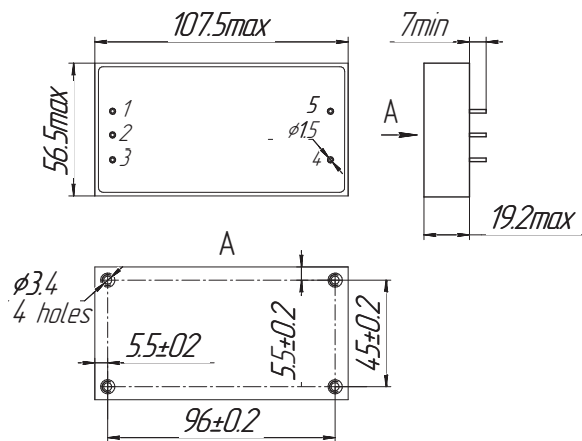
Input range, VAC/ transient deviation, VAC		81...138 / 81...150 @ 1 s 187...242 / 154...286 @ 1 s
	-115 @ 400 Hz -220 @ 50-400 Hz	
Insertion loss within frequency range		
	0.15...0.3 MHz	≥30 dB
	0.3...1 MHz	≥40 dB
	1...10 MHz	≥60 dB
	10...30 MHz	≥55 dB
Case operating temperature		-60...+85°C
Isolation voltage (in./case.)		~1500 V
High humidity		98% / 25°C
Typical MTTF		50 000 hours
Cooling		convective and heatsink, or forced fan
Dimensions	MRM4 MRR2 MRR3	67.5×40.2×10.2 mm 107.5×56.5×19.2 mm 129.5×61.5×22.2 mm
Weight	MRM4 MRR2 MRR3	≤0.055 kg ≤0.4 kg ≤0.6 kg

FEATURES

- For AC mains
- Conductive interference protection
- Impulsive interference protection
- Insertion loss up to 60 dB
- Case operation temperature -60...+85°C
- 2 years warranty

MODELS

Type	Input voltage, VAC	Output voltage adjustment, VAC	Max throughput current, A
MRM4	-115 @ 400 Hz -220 @ 50-400 Hz	-115 @ 400 Hz -220 @ 50-400 Hz	1
MRR2		-115 @ 400 Hz -220 @ 50-400 Hz	3
MRR3		-115 @ 400 Hz -220 @ 50-400 Hz	7.5



MRR2-X3AMU. dimensions in mm. Pin assignment can be found in technical documentation on the web-site.

MAA-F

DESCRIPTION

Unified AC filter modular filters of MAA-F family are designed to improve the electromagnetic compatibility of power supply modules in industrial and defense equipment, especially sensitive to impulsive noise. With small dimensions, the maximum throughput current of filter modules can reach 18 A.

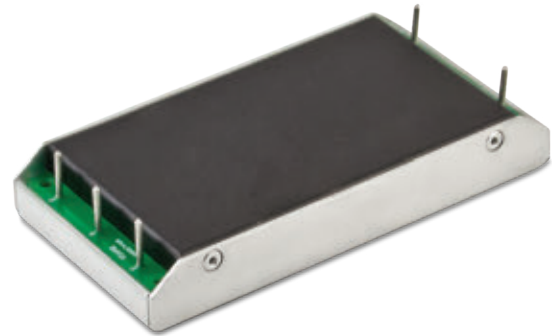
These filters are able to operate in wide case operation temperature range ($-50...+85^{\circ}\text{C}$) and significantly expand the consumer properties of power supply units.

COMPLIANCE

EMI	MIL-STD-810G
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BASIC SPECIFICATIONS

Version index	Index N:	Index P
Ambient temperature range	$-40...+70^{\circ}\text{C}$	$-50...+70^{\circ}\text{C}$
Case operating temperature	$-40...+85^{\circ}\text{C}$	$-50...+85^{\circ}\text{C}$
Input voltage range, VAC/ transient deviation, VAC	$81...138 / 81...150 @ 1 \text{ s}$ $187...242 / 176...264 @ 1 \text{ s}$	
Insertion loss within frequency range	$\geq 20 \text{ dB}$ $\geq 30 \text{ dB}$ $\geq 40 \text{ dB}$ $\geq 30 \text{ dB}$	
Падение напряжения	$\leq 3\% U_{in \text{ nom.}}$	
Isolation voltage (in./case.)	$\sim 1500 \text{ V}$	
High humidity	98% / 35°C	
Typical MTTF	50 000 hours	
Cooling	convective and heatsink or forced fan	
Dimensions	MAA200	107.5×56.5×17.5 mm
	MAA600	129.5×61.5×20.5 mm
	MAA2000	136.5×97.5×31.5 mm

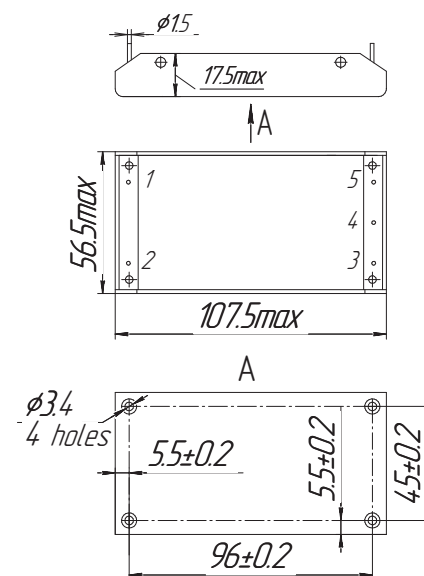


FEATURES

- For AC mains
- Noise reduction up to 40 dB
- Case operation temperature range : $-50...+85^{\circ}\text{C}$
- High reliability
- 2 years warranty

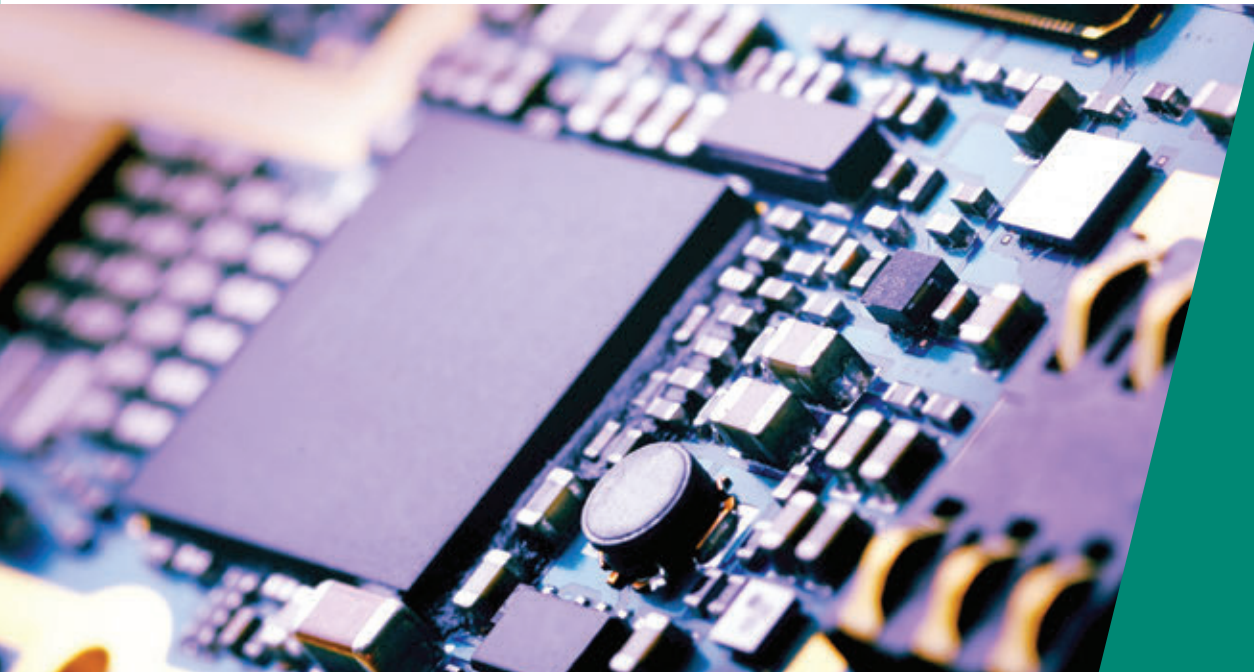
MODELS

Type	Input voltage, VAC	Output voltage adjustment, VAC	Max throuput current, A
MAA200	$\sim 115 @ 400 \text{ Hz}$ $\sim 220 @ 50-400 \text{ Hz}$	$\sim 115 @ 400 \text{ Hz}$ $\sim 220 @ 50-400 \text{ Hz}$	2
MAA600		$\sim 115 @ 400 \text{ Hz}$ $\sim 220 @ 50-400 \text{ Hz}$	6
MAA2000		$\sim 115 @ 400 \text{ Hz}$ $\sim 220 @ 50-400 \text{ Hz}$	18



MAA200-F. Dimensions in mm. Pin assignment can be found in technical documentation on the web-site.

CUSTOMIZED SOLUTIONS



KW Systems is engaged in development of customized projects, including those which require special approach to development. Special multi-channel power supply systems have the following advantages:

- **Quality.** These products are developed by the best engineers with rich experience in power electronics.
- **Terms of development.** A wide range of modular power supplies and various components reduce development and serial production times.
- **Cost.** Development at the expense of the contractor allows the customer to optimize costs and make the project commercially attractive.
- **Flexibility.** Weight and size characteristics that meet international compliance are achieved using several dozen patented solutions of the group of companies.



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