

- ▶ Power factor min. 0,96, low level of input current harmonics
- ▶ Low-profile package, small size
- ▶ Case operation temperature -60°C to $+125^{\circ}\text{C}$
- ▶ Output power 200 W, 400 W
- ▶ Input voltage 187...242 VDC (with external bridge rectifier) or 260...342 VDC
- ▶ Switching frequency 470 to 530 kHz, external synchronization
- ▶ Typical efficiency from 92 to 95%

DESCRIPTION

Compact modular power factor corrector is a DC/DC converter without galvanic isolation, which was designed for providing high power factor in power supply systems with single-phase AC input voltage.

Small size and low-profile package support integration of KKM units in compact power supply systems. With external bridge rectifier and isolated DC/DC converter it can employ ultralow-profile AC/DC converter with case operation temperature range $-60^{\circ}\text{C}..+125^{\circ}\text{C}$.

Galvanically isolated differential input allows to synchronize switching frequency and provide reliable hardware or software program filtration of electromagnetic noises.

KKM unit has remote switch off and overload and output overvoltage protection.

KKM unit can be designed with different pin out options e.g. with axial or radial position of plug-in terminals, with blade contacts, flexible mount wires, terminal blocks etc.

ORDERING INFORMATION

KKM 400 C 380 Y
 ① ② ③ ④ ⑤

- ① - Power factor adjuster
- ② - Rated power, W
- ③ - Nominal input AC voltage index
C – 220 VDC (187...242 VDC)
- ④ - Nominal output voltage, VDC
- ⑤ - Nominal output voltage
Y – case with flanges
B – caseless application

MODEL RANGE

MODULE	INPUT VOLTAGE RANGE	RATED POWER	OUTPUT VOLTAGE / RATED OUTPUT CURRENT
KKM200 C 380X	~187...242 VAC / =260...342 VDC	200 W	380 VDC / 0,53 A
KKM200 C 400X	~187...242 VAC / =260...342 VDC	200 W	400 VDC / 0,5 A
KKM400 C 380X	~187...242 VAC / =260...342 VDC	400 W	380 VDC / 1,05 A
KKM400 C 400X	~187...242 VAC / =260...342 VDC	400 W	400 VDC / 1 A

Optionally custom design modules with different power output and output and input voltage can be produced.

GENERAL SPECIFICATIONS KKM200, KKM400*

Input specifications

Input AC voltage range / transient deviation, 1 c	C	187...242 VAC / 176...264 VAC
Input filter		no
Nominal constant power factor		min 0,96

Output specifications

Overall output regulation		max ±10%
Ripple and noise (peak-to-peak)		max 2% U _{out, nom.}
Overload protection**		110–130% P _{nom.}
Short circuit protection		no
Output overvoltage protection		max 115% U _{out, nom.}

General specifications

Efficiency under regular capacity		min 92%
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Синхронизация частоты преобразования модуля

Sync signal frequency		470...530 kHz
Sync signal on-off time		1,25...5
Sync signal rate		2,4...5,5 V

Remote switching

Module can be switched remotely by closing contacts «OUT» and «-IN», or supplying voltage 0..0,4 V on «OFF» against «-OUT».

Внешние воздействующие факторы

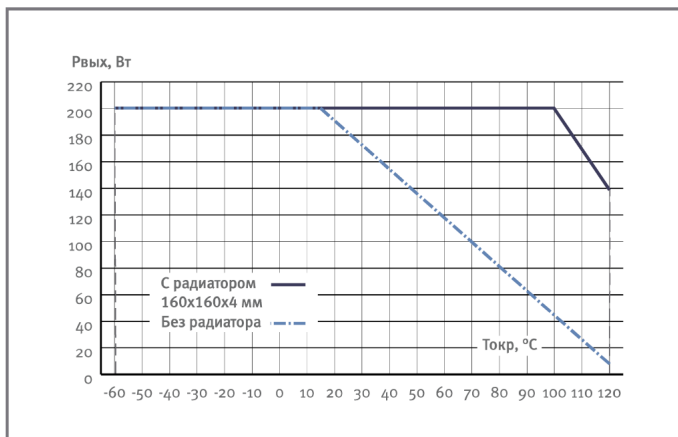
Case temperature	operating storage	-60...+125°C -60...+125°C
Isolation strength	in.,out./case sync/in.,out.; sync/case isolation resistance @ 500 VDC	1500 VAC 600 VDC > 20 MOhm (normal climatic conditions)
High humidity		98% / 25°C
Thermal impedance case – ambient (case with flanges)		6,4 °C/W
MTBF		>50000 hrs
Cooling		convection cooling or forced fan cooling
Weight (max)	Case with flanges Caseless application	190 g 150 g

* All specifications are valid for normal climatic conditions, U_{in,nom.}, I_{out,nom.}, unless otherwise stated.

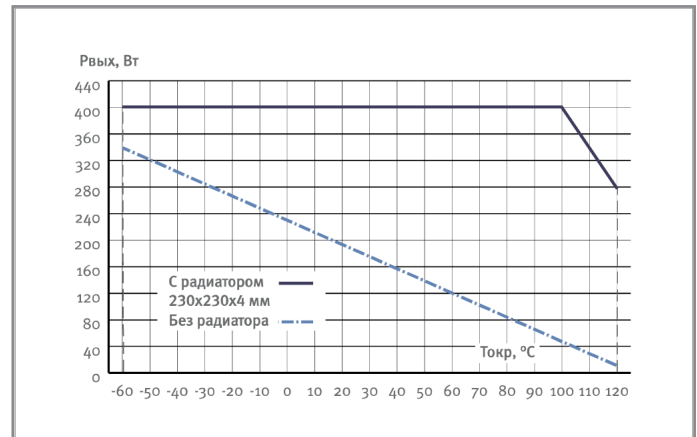
** Parameters are stated for the information purposes and could not be used at long term work, exceeding maximum output current, operating outside of a working temperatures range or when output voltage is over the range of adjustment.

POWER REDUCTION DIAGRAM OF MODULE ACCORDING TO ENVIRONMENT TEMPERATURE (CASE WITH FLANGES)

KKM200



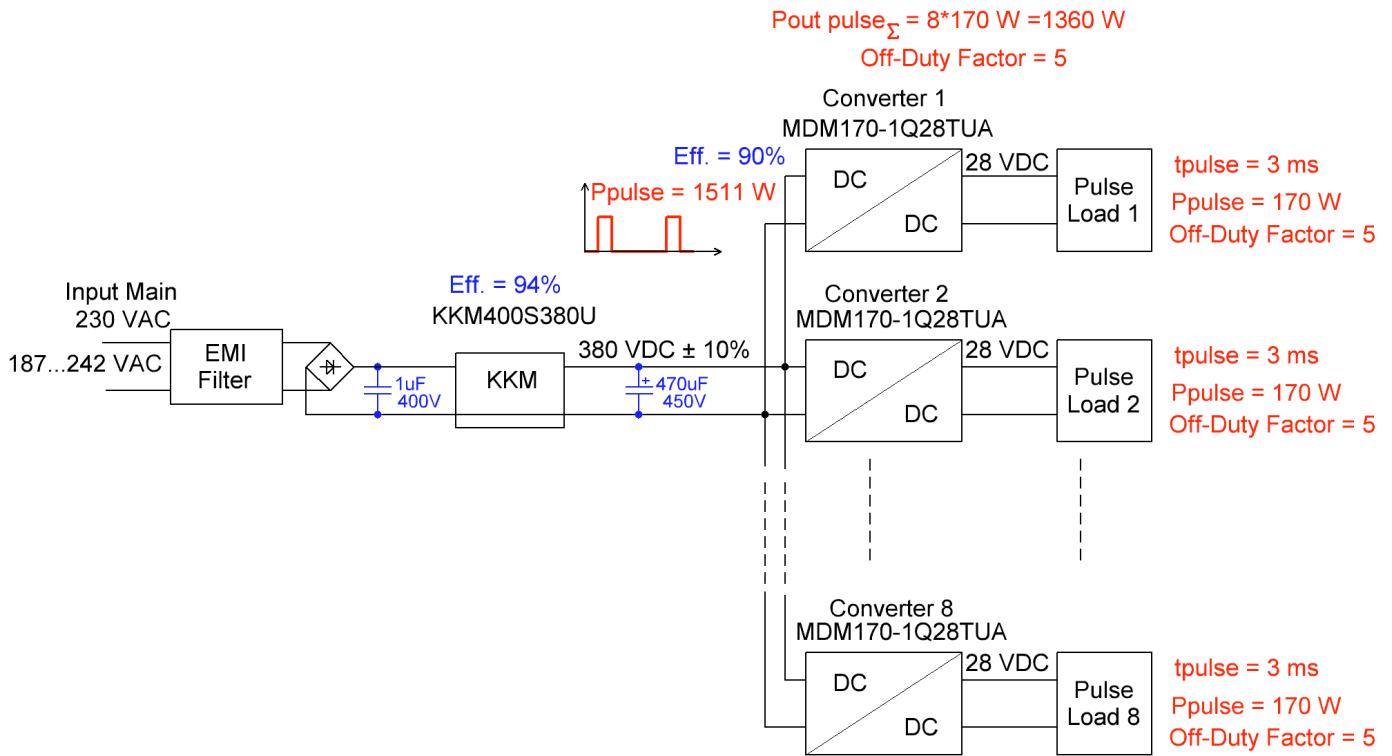
KKM400



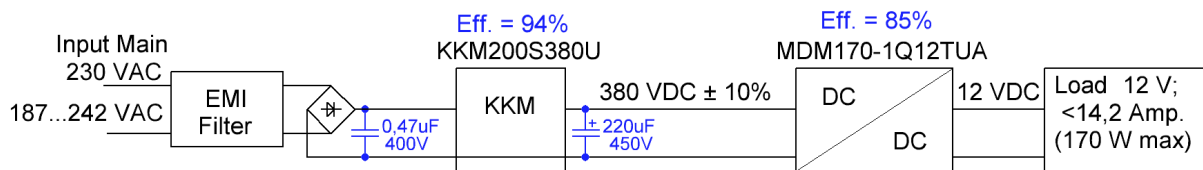
Decreasing segments of curves align with max. temperature of heat-transmitting surface + 125°C. KKM output power must not exceed the value limited by a curve at designed environment temperature.

KKM can be used without heatsinks if only heat-dissipated base (thickness of base - min. 3 mm, length and width - not less than dimensions of case) is fixed with the use of heat conducting paste.

TYPICAL APPLICATIONS OF KKM

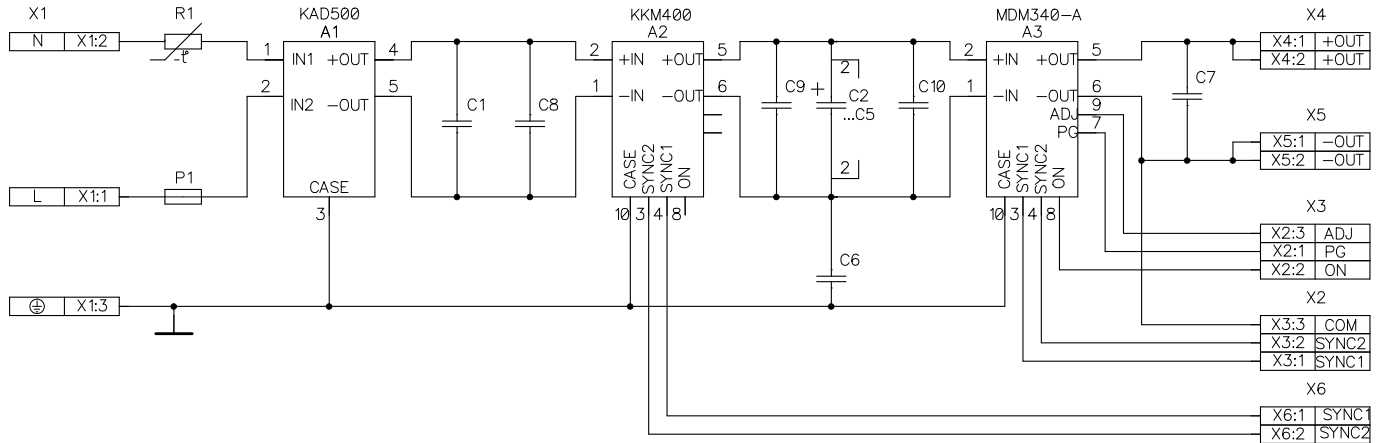


Application 1. AC line power supply system of eight PCB AESA without impulse load.

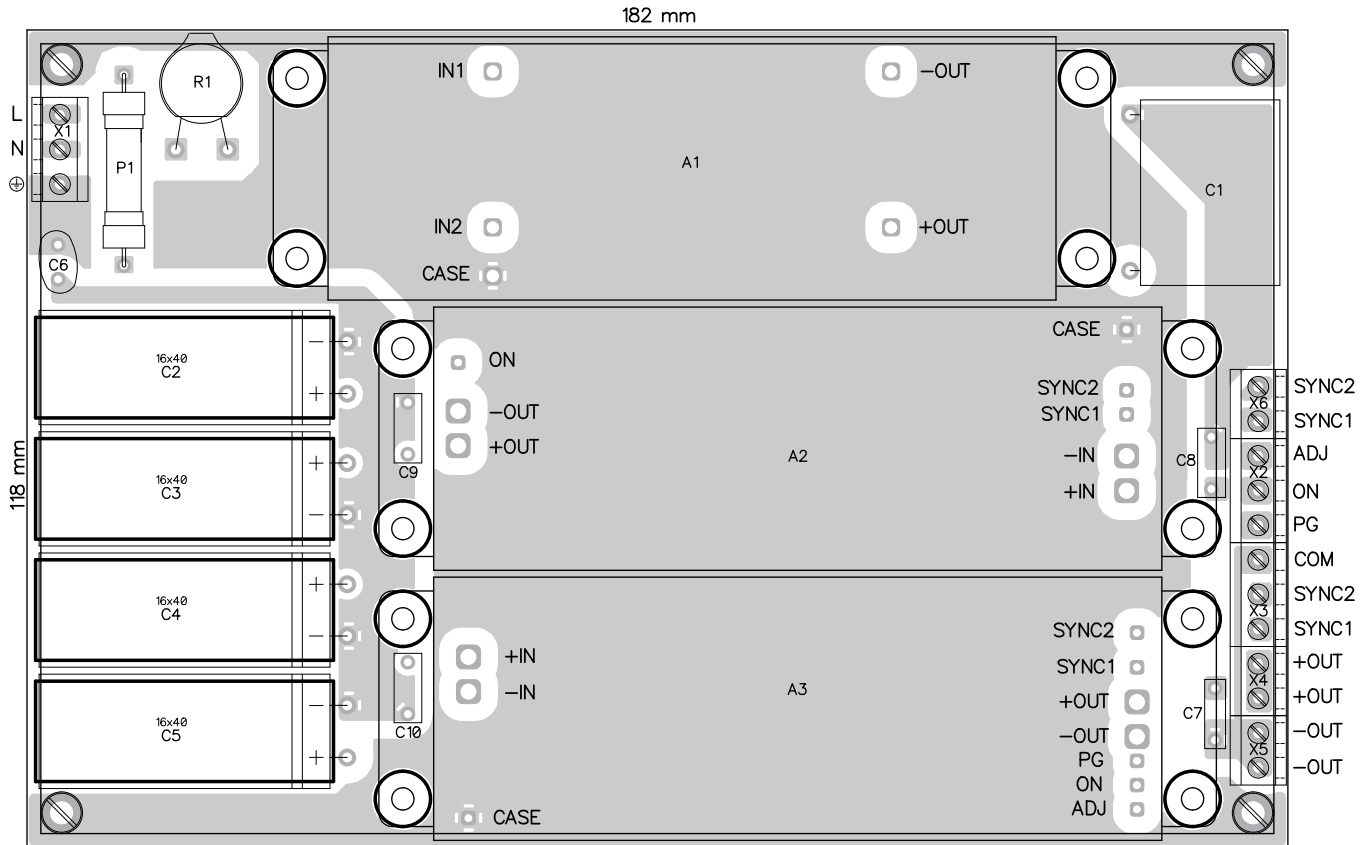


Application 2. AC line 12V power supply without impulse load with system voltage 220 V with adjustment of power factor.

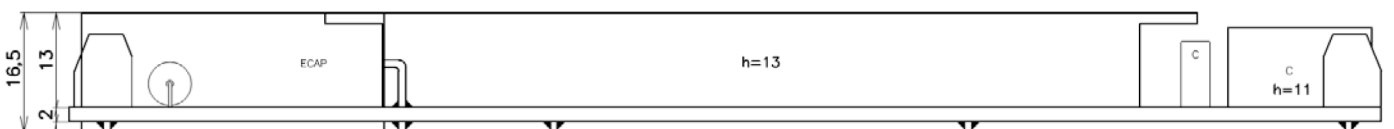
Electric schematic diagram



Arrangement of PCB



Side view

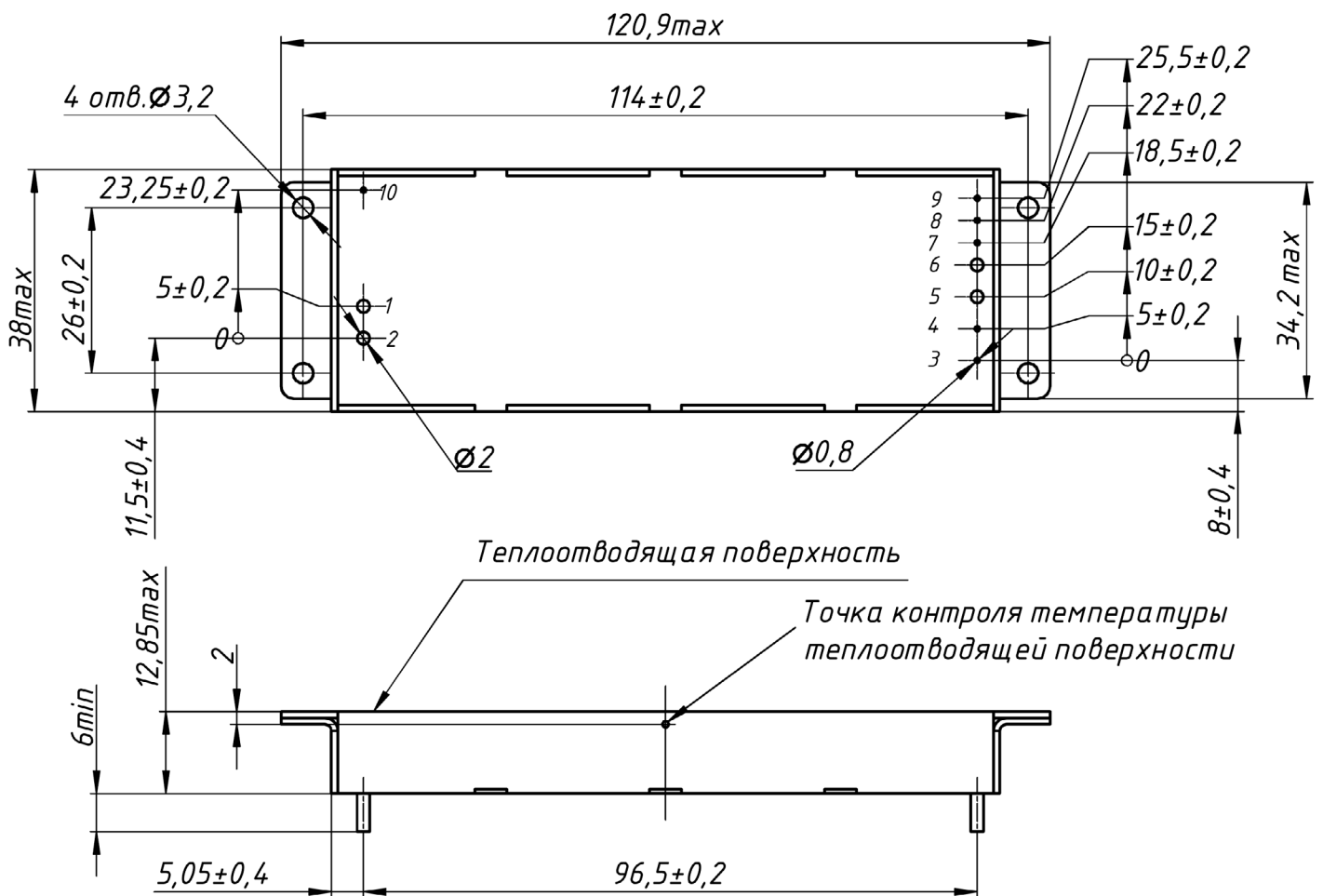


Application 3. Construction of low-profile (H=16,5 mm) AC/DC 340 W power-supply system using unified modules produced by KW Systems Llc.

PIN OUT

PIN №	1	2	3	4	5	7	8	9	10
APPLICATION	-IN	+IN	SYNC2	SYNC1	+OUT	NO USE	ON	NO USE	CASE

KKM VERTICAL PINS AND FLANGED CASE



KKM CASELESS APPLICATION WITH VERTICAL PINS

