

single output
up to 80 Watt

DC/DC converters
with isolation



- Input voltage range 8 - 34V
≤10V/500ms - 100V/50ms
- Active transient protection (AFI)
- Active input reverse pol. protection (AVS)
- Housing IP64, option IP65*
- EMC VG 95373 class 3 (option class 2*)
- Disturbances VG 96916 T5
- Shock/vibration MIL STD 810F
- Temperature range -40°C...+85°C

Mobile power supply with isolation



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Series MCA.U On-board-Adapter isolated

US Pat. No. 6.094.366
D Pat. No. 195 05 417

Main points:

Output:

- Accuracy absolute $\pm 1\%$
- Regulation factor $\Sigma(U_{in} + I_{out} + T_U) < \pm 2\%$
- Ripple $< 10 \text{ mV}_{pp}$ over T_U
- Spikes $< 50 \text{ mV}_{pp}$ (T 1:1/50MHz)
- Response time $\Delta I = 50\% \leq 2 \text{ ms}$
- Current limiting $< 1,2 I_{outmax}$ ($U_{out} = 0 \text{ V}$)
- Output spike filter (C - L² - C)
- Over voltage protection $1,2 U_{outmax}$
- 80W (90W at $< 15^\circ\text{C}$ heat-up application)
- Connector: PTC 07C8-3SW

Input:

- No-load current without load (Inhibit) 50mA (Optional $< 50\mu\text{A}$)
- Extreme input voltage range
- Input fuse external (customer)
- Input-reverse polarity protection (active)
- Disturbances: MIL-Std 1275B
10V/250ms, 100V/50ms
- On-load/Inrush current-limiting / integral
- Regulation of defined transients
- EMC-levels: VG95373 class 3
LA01G; SA02G; SA04G
- Limit of class 3 exceeded at fundamental frequency acc. to SA02G nb
- Disturbances: LF01G; LF02G; LF03G;
LF05G; RS03; SF03G; SA06S; SF01S;
DIN EN61000-4-3 SG3;
- LED-signalling for U_{out}
- Connector: PTC 07 C 8-3 P

General:

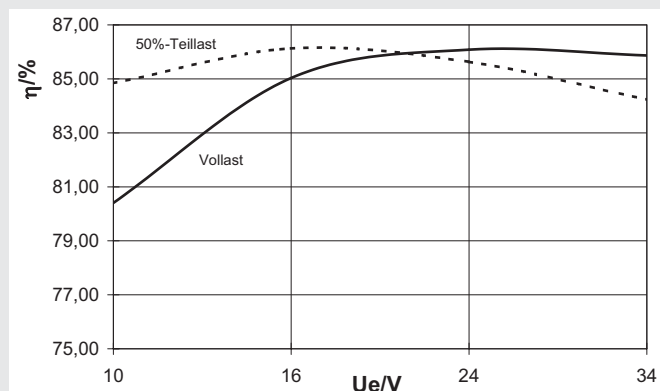
- Ambient temperature: $-40^\circ\text{C} / +85^\circ\text{C}$
- Convection cooled
- No use of wet-electrolytic capacitors
- Isolation test voltage: 50V DC (ϕ -C)
- Air-, creepage distances: 1,5mm
- Weight: approx. 1,1 kg
- Dimensions L x W x H:
(175 x 80 x 57)mm + connectors
- Option:
Housing with flange:
L x W x H: (175 x 113 x 65)mm
- Stable ground connector

Other dimensions (option):

für improved EMC
(175 x 125 x 43) mm²
available on request

<u>U_{in}</u>	<u>PA</u>	<u>U_{out}</u>	<u>I_{out}</u>	Model-
V	W	V	A	number
8 - 18 stat.	70	12	5,8	MCA.U 12.12.058
27V 100ms	70	15	4,7	MCA.U 12.15.047
	70	24	2,9	MCA.U 12.24.029
9 - 34 stat.	65	12	5,4	MCA.U 20.12.054
50V 50ms	65	15	4,4	MCA.U 20.15.044
70V 2ms	65	24	2,7	MCA.U 20.24.027
16 - 34 stat.	65	12	5,4	MCA.U 24.12.054
10V / 500ms	80	15	5,4	MCA.U 24.15.054
100V / 50ms	80	24	3,3	MCA.U 24.24.033
90 Watt $\leq 15^\circ\text{C}$ for external heat-operation				
Other connectors:				On request
Modification costs for possible changes above values:				On request

Efficiency 80W-Series



Stand: 12/07

C-38

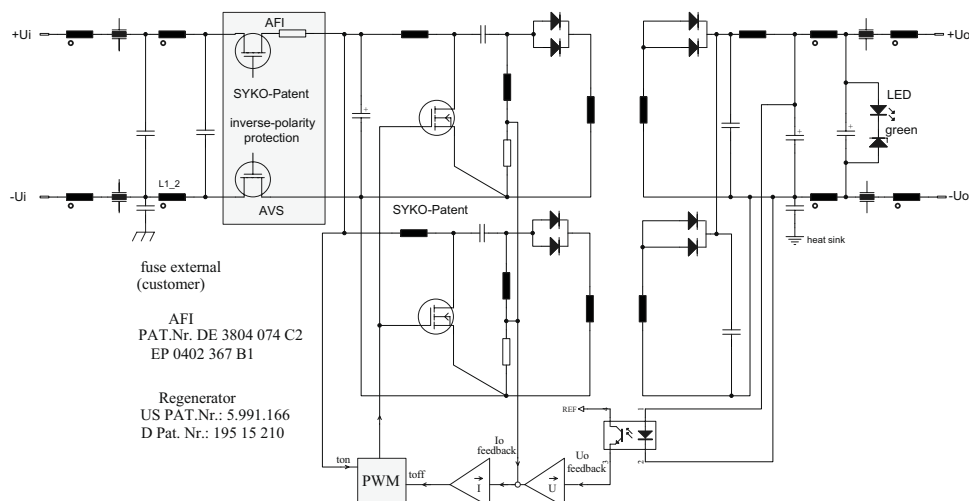
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The series **MCA.U** is designed for the supply of mobile system applications. Extreme climatic and mechanical conditions with the achievement of the known EMC and disturbance requirements for automotive applications at the same time, make the use possible in special vehicles for de-central displays/screens-, computers, processors, sensor equipment.

The universal input voltage range allows the use in 12V-cars as well as 24V-utility vehicles including the bridging of the motor's start operation.

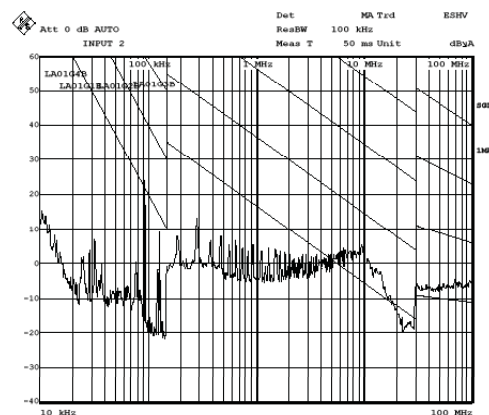
Special effort was put in the high efficiency topology. The reverse polarity protection (AVS) is build-up active. The transient protection filter and the inrush current limitation AFI absorbs transients, inrush currents and differential currents at a fast changing input voltage.

For Extreme environmental conditions there are no wet-electrolytic-capacitors used. High performance foil- and polymer-capacitors guarantee constant process-parameters over the temperature range. Input and output sided are used feed-through-filter-capacitors to realise the noise suppression in accordance to the VG 95373 standard. An active over voltage protection prevents an output sided over voltage in the case of a defect control loop. The output is over load protected and short circuit proof. The low no-load current of $< 50\mu\text{A}$ (Inhibit-option) allows the stand-by operation without a separation relay.



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Measurement of radio interference



Measurement of radio interference

