

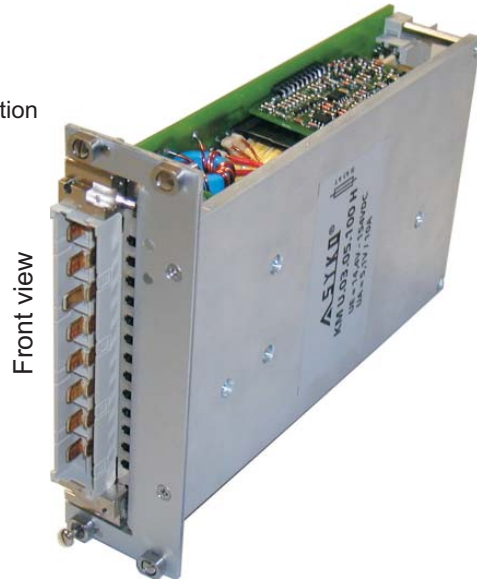
single / double output
up to 60 Watt

DC/DC system converters
isolated



- Euro card 3U / 8 TE
- Frontend-Input
- 8TE front panel (Option)
- Parallel operation
- Over voltage protection
- Input noise suppression EN 55022.B
- Input / output spike filter
- Wide input voltage range
- Shock/vibration acc. to EN 50155
- Active transient protection filter
(SYKO-Patent no. 3804074 and 0402367)
- Active hold-up time > 10ms (up to $U_{i, \min}$)

- for
- Railway
 - Vehicles
 - Instrumentation



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Series KM.U / KM.B

Main points:

Output:

- Regulation $\Sigma(U_{in} + I_{out} + T_U) < \pm 1,5\%$
- Accuracy absolute $\pm 1\%$
- Ripple $< 20 \text{ mV}_{pp}$ over T_U
- Spikes $< 100 \text{ mV}_{pp}$ (T 1:1/50MHz)
- Response time $\Delta I = 50\% \leq 250 \mu\text{s}$
- Constant current limitation $< 1,2 I_{o, \max}$
- Output spike filter
- No-load, over load, short circuit proof
- Parallel operation
- Active power failure bridging
>10ms up to $U_{in, \min}$
- LED for $U_{out} = \text{OK}$

Input:

- Stand-by power approx. 3 Watt
- On-Off switch and time hysteresis at under voltage
- Low input capacity
- Input filter acc. to EN 55022.B
- Rev. polarity protection (length diode)
- Input fuse on PCB
- LED for $U_{in} = \text{OK}$

In general:

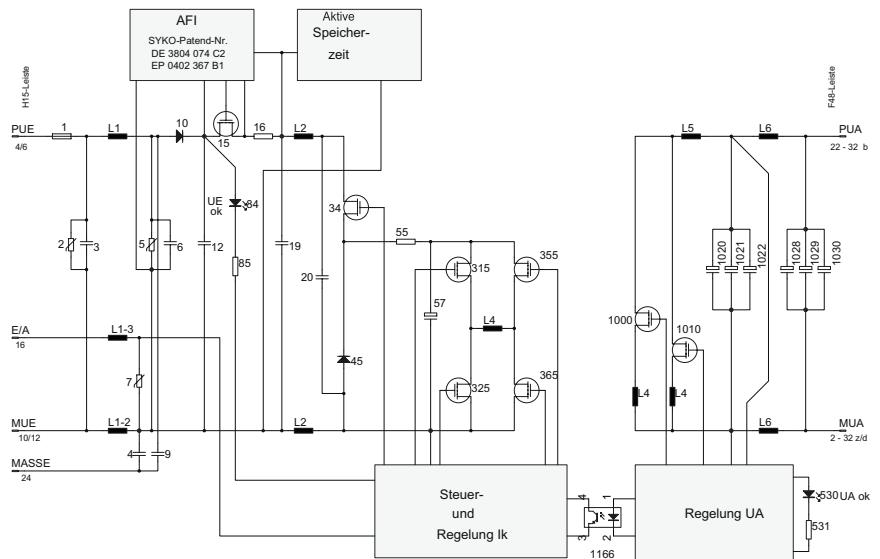
- Connector DIN 41612
 - Input front: style H15
 - Output back: style F 48
- Push-pull-converter concept and Regenerator (low voltage)
Buck regulator (high voltage)
- Clock frequency 60 kHz
- Isolation test voltage 1,5 KV_{AC} 1 min
- Ambient temperature -25°C / +70°C
Option: -40°C / +85°C
Derating 1%°C/>70°C
- MTBF on request
- Shock/vibration acc. to EN 50155
- Weight approx. 750g
- CE-conformity on request
- Limit temperature on KK-★ 95°

U_{in} V	P_{out} W	U_{out} V	I_{out} A	Model number
9 - 34	50	5,1	10,0	KM.U 20-05-100
		12	4,0	KM.U 20-12-040
		15	3,3	KM.U 20-15-033
		24	2,0	KM.U 20-24-020
		± 12	$\pm 2,0$	KM.B 20.12.020
		± 15	$\pm 1,6$	KM.B 20.15.016
14,4 - 34 9V dyn. Diesel-cold-start operation surge proof	60	5,1	12,0	KM.U 24-05-120
		12	5,0	KM.U 24-12-050
		15	4,0	KM.U 24-15-040
		24	2,5	KM.U 24-24-025
		± 12	$\pm 2,5$	KM.B 24-12-025
		± 15	$\pm 2,0$	KM.B 24-15-020
13,5 - 52 surge proof	60	5,1	12,0	KM.U 30-05-120
		12	5,0	KM.U 30-12-050
		15	4,0	KM.U 30-15-040
		24	2,5	KM.U 30-24-025
		± 12	$\pm 2,5$	KM.B 30-12-025
		± 15	$\pm 2,0$	KM.B 30-15-020
1,8kV / 2Ω 1,8kV / 12Ω	60	± 24	$\pm 1,25$	KM.B 24-24-012
		5,1	12,0	KM.U 80-05-120
		12	5,0	KM.U 80-12-050
		15	4,0	KM.U 80-15-040
		24	2,5	KM.U 80-24-025
		± 12	$\pm 2,5$	KM.B 80-12-025
14,4 - 154 surge proof	50	5,1	10,0	KM.U 03-05-100
		12	4,2	KM.U 03-12-042
		15	3,3	KM.U 03-15-033
		24	2,0	KM.U 03-24-020
		± 12	$\pm 2,0$	KM.B 03.12.020
		± 15	$\pm 1,7$	KM.B 03.15.017
1,8kV / 12Ω	50	± 24	$\pm 1,0$	KM.B 03-24-010
Front panel Version (H)				additional charge
Option: output voltages 36V / 60V / $\pm 30V$:		-40°C up to +85°C		additional charge
Modification costs of possible changes above values:				on request
				on request

The **KM.U** series with an output power up to 60 W and a front-end input is developed for mobile applications and high operational reliability. The converter's stand-by mode (inhibit-function) requires a current consumption of just typically 3 mA, which is ideal for the use in battery networks.

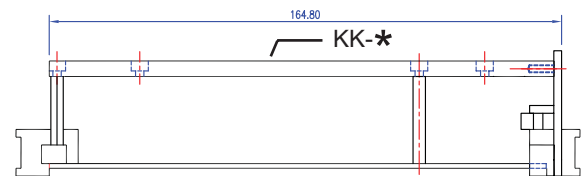
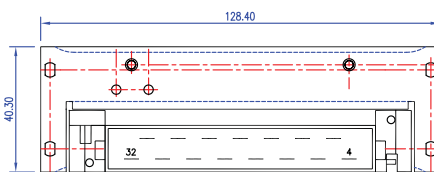
The ultra-wide input voltage range allows the use on weak and transient flawed networks and the global use in all international mobile on-board networks. The mechanically stable and ordered build up can be used in mobile applications with high shock/vibration requirements (special vehicles, short distance traffic, railway - LES DB).

The functionality is secured in the whole operational range up to limit values based on the chosen components, filters, security circuits, dynamical and statically current limitation and over voltage protection. An active transient protection filter prevents dynamical inrush currents, differential currents by transients and absorbs long term transients without current reflection. The switching topology guaranties a hold-up time of >10 ms which is constant from the minimum input voltage.

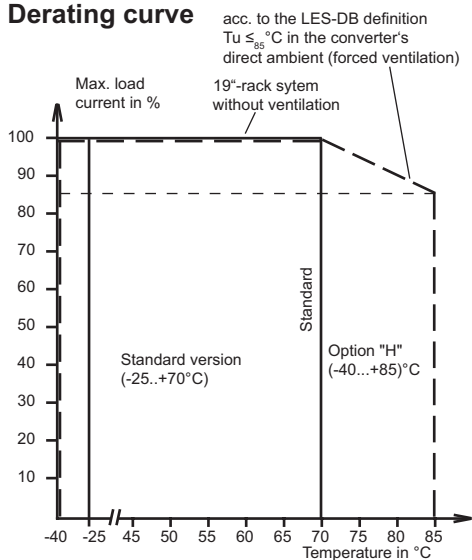


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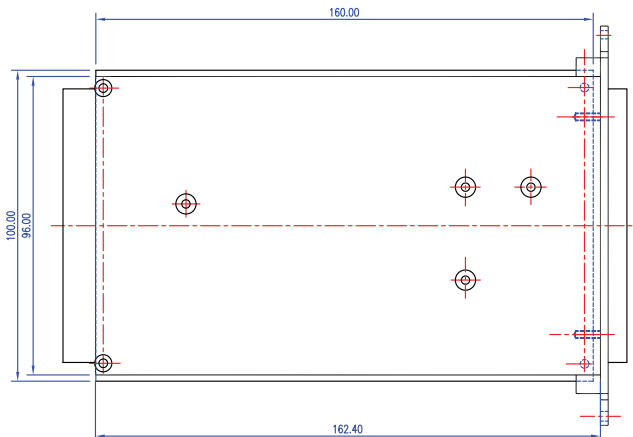
Mechanics



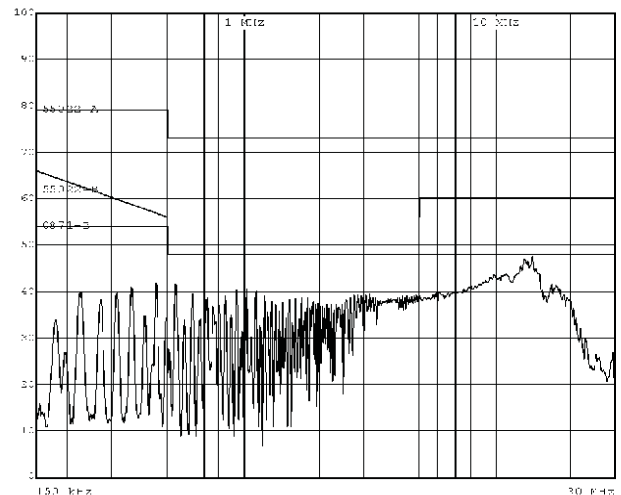
Derating curve



32	-Uo	+Uo	-Uo
30	-Uo	+Uo	-Uo
28	-Uo	+Uo	-Uo
26	-Uo	+Uo	-Uo
24	-Uo	+Uo	-Uo
22	-Uo	+Uo	-Uo
20	-Uo	NC	-Uo
18	-Uo	NC	-Uo
16	-Uo	NC	-Uo
14	-Uo	NC	-Uo
12	-Uo	NC	-Uo
10	-Uo	NC	-Uo
8	-Uo	NC	-Uo
6	-Uo	NC	-Uo
4	-Uo	NC	-Uo
2	-Uo	NC	-Uo
1	+Ui	NC	-Uo
3	+Ui	NC	-Uo
5	+Ui	NC	-Uo
7	+Ui	NC	-Uo
9	+Ui	NC	-Uo
11	+Ui	NC	-Uo
13	+Ui	NC	-Uo
15	+Ui	NC	-Uo
17	+Ui	NC	-Uo
19	+Ui	NC	-Uo
21	+Ui	NC	-Uo
23	+Ui	NC	-Uo
25	+Ui	NC	-Uo
27	+Ui	NC	-Uo
29	+Ui	NC	-Uo
31	+Ui	NC	-Uo
33	+Ui	NC	-Uo



Measurement of radio interference



Efficiency:

