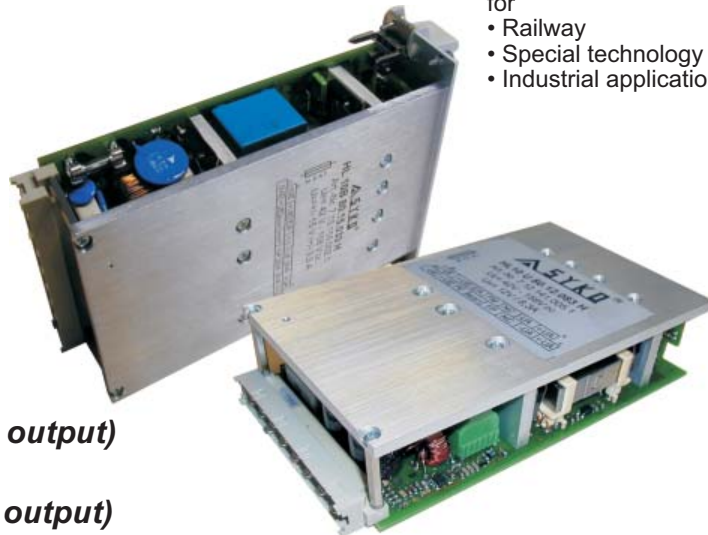


- Euro card 3U / 9TE
- 3U-9TE front panel (Option)
- Reset signal (output)
- Over voltage protection (Thyristor)
- Input noise suppression EN 55022.A
- Output spike filter C-L<sup>2</sup>-C
- Wide input voltage range
- Shock/vibration acc. to EN 50155
- CE-conformity

- for
- Railway
  - Special technology
  - Industrial applications



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## Series **HL10.U** (single output) **HL10.B** (double output)

### Main points:

#### Output:

- Regulation  $\Sigma (U_{in} + I_{out} + T_U) < \pm 2\%$
- Accuracy absolute  $\pm 1\%$
- Ripple over  $T_U$ 
  - $I_{out} > 100\text{mA} < 20\text{ mV}_{pp}$
  - $I_{out} < 100\text{mA} < 100\text{ mV}_{pp}$
- Spikes  $< 100\text{ mV}_{pp}$  (T 1:1/50MHz)
- Response time  $\Delta I = 50\% \leq 2\text{ ms}$
- Constant current limitation  $< 1,2 I_{o,max}$
- Output spike filter (C - L<sup>2</sup> - C)
- No-load, over load, short circuit proof
- Reset 0,9  $U_{out}$  (Open Collector)

#### Input:

- Stand-by power approx. 3 Watt
- ON-OFF-application (inhibit)
- On-Off-switch and time hysteresis at under voltage
- Low input capacity
- Input filter acc. to EN 55022.A
- Disturbances
  - EN 61000-4-4 level 3
  - EN 61000-4-5 level 3
- Reverse polarity protection (fuse)
- Emergency fuse on PCB
- Dyn. rev. polarity protection (square diode)

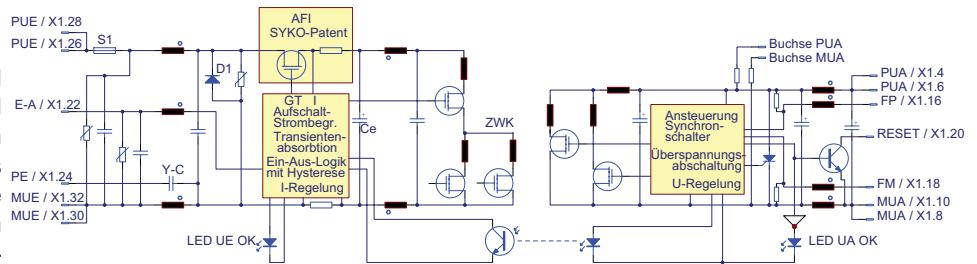
#### In general:

- Connector DIN 41612, style H15
- Forward converter concept
- Parallel operation
- Clock frequency 80 kHz
- Isolation test voltage 1,5  $KV_{AC}$  1 min
- Ambient temperature  $-25^\circ\text{C} / +70^\circ\text{C}$   
Option:  $-40^\circ\text{C} / +85^\circ\text{C}$
- Derating 1,3%/°C  $> 70^\circ\text{C}$
- MTBF 687000 h (acc. SN 29500, 40°C)
- Shock/vibration acc. to EN 50155
- Weight approx. 700g
- CE-conformity certificate on request
- Limit temperature on KK-★  $95^\circ$
- Front panel acc. to specification (Option)

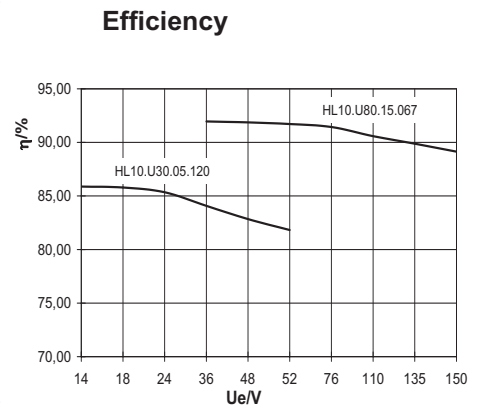
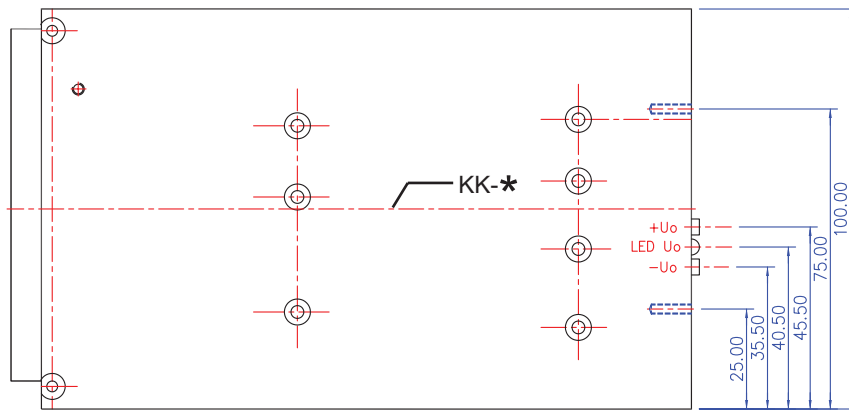
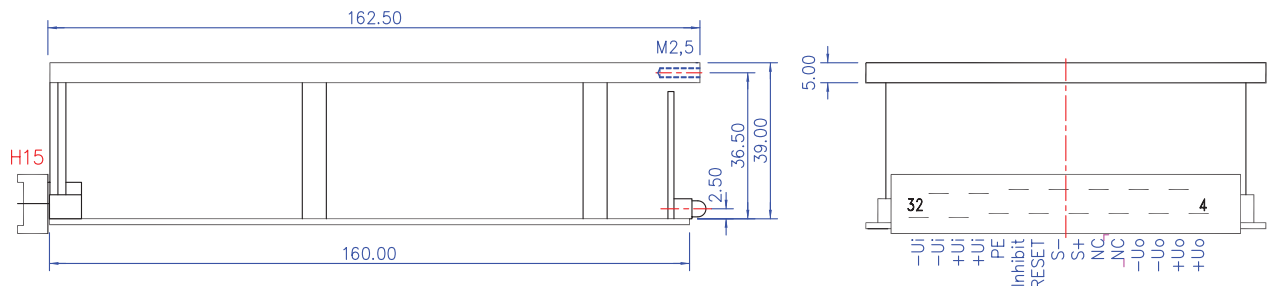
<u>U<sub>in</sub></u> V	<u>P<sub>out</sub></u> W	<u>U<sub>out</sub></u> V	<u>I<sub>out</sub></u> A	Model number
<b>16,8 - 34</b>	<b>60</b>	5,1	12,0	HL10.U24.05.120
50V / 50ms	<b>80</b>	12	6,6	HL10.U24.12.066
70V / 2ms		15	5,3	HL10.U24.15.053
		24	3,3	HL10.U24.24.033
		48	1,7	HL10.U24.48.017
		$\pm 12$	$\pm 3,3$	HL10.B24.12.033
		$\pm 15$	$\pm 2,6$	HL10.B24.15.026
		$\pm 24$	$\pm 1,7$	HL10.B24.24.017
<b>14,4 - 52</b>	<b>60</b>	5,1	12,0	HL10.U30.05.120
surge proof	<b>100</b>	12	8,3	HL10.U30.12.083
1kV / 2Ω		15	6,6	HL10.U30.15.066
1,8kV / 5Ω		24	4,2	HL10.U30.24.042
		48	2,1	HL10.U30.48.021
		$\pm 12$	$\pm 4,2$	HL10.B30.12.042
		$\pm 15$	$\pm 3,3$	HL10.B30.15.033
		$\pm 24$	$\pm 2,1$	HL10.B30.24.021
<b>40 - 154</b>	<b>60</b>	5,1	12,0	HL10.U80.05.120
surge proof	<b>100</b>	12	8,3	HL10.U80.12.083
1kV / 2Ω		15	6,6	HL10.U80.15.066
1,8kV / 5Ω		24	4,2	HL10.U80.24.042
		48	2,1	HL10.U80.48.021
		$\pm 12$	$\pm 4,2$	HL10.B80.12.042
		$\pm 15$	$\pm 3,3$	HL10.B80.15.033
		$\pm 24$	$\pm 2,1$	HL10.B80.24.021
<b>Version H</b>		-40°C up to +85°C		additional charge
Option: voltages 36V / 60V / 110V / $\pm 30V$				on request
Modification costs of possible changes above values:				on request

The **HL10.U** series with an output power up to 100 Watt is designed for mobile applications and high operational reliability.

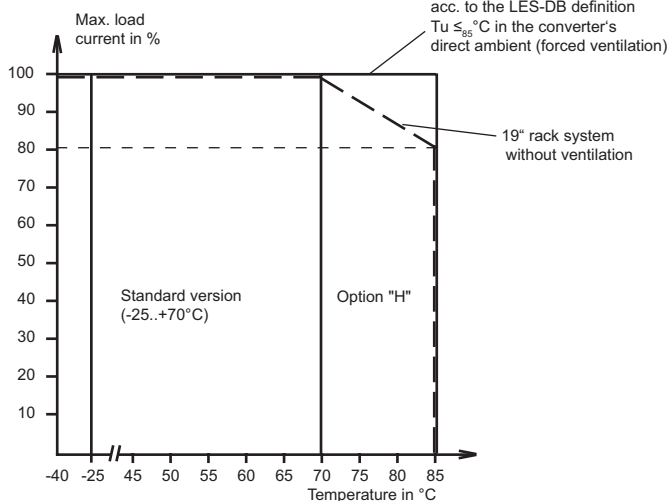
Inrush currents are limited and long term transients are absorbed with the used SYKO-Patent of an active filter. The converter works with low input capacity and the chopping capacitors are chosen as high current capable capacitors. The clever mechanical build up allows the heat conduction to the face heat sink. The direct chassis mounting is possible with very good heat transmission over the extended flange heat sink. The converter is equipped with an under voltage monitoring function with amplitude- and time hysteresis. The integral switch on current limitation is done with an internal power limitation.



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.



### Derating curve



### Measurement of radio interference

