

- Euro card 3 U / 10 TE
- Chassis mounting height 45 mm
- DIN rail mounting (option)
- Wide input voltage range
- Inrush current limitation (ICL)
- Active transient protection filter (SYKO-Patent no. 3804074 and 402367)
- Input noise suppression EN 55022.B
- Input / output spike filter
- Shock/vibration EN 50155

- for
- Railway
  - Vehicles
  - Instrumentation



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## Series HL15.U

### Main points:

#### Output:

- Regulation  $\Sigma (U_{in} + I_{out} + T_u) < \pm 2\%$
- Accuracy absolute  $\pm 2\%$
- Ripple (over  $T_u$ )  $I_{out} > 100\text{mA}$ :  $< 20\text{ mV}_{pp}$   
 $I_{out} < 100\text{mA}$ :  $< 100\text{ mV}_{pp}$
- Spikes  $< 200\text{ mV}_{pp}$  (T 1:1/50MHz)
- Response time  $\Delta I = 50\% < 2\text{ ms}$
- Constant current limitation  $< 1,2 I_{o,max}$
- Output spike filter (C - L<sup>2</sup> - C)
- No-load, over load, short circuit proof

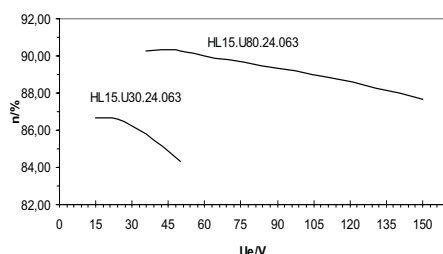
#### Input:

- Burst/Surge EN61000-4-4/5 level 3/2Ω
- Stand-by power  $< 5\text{ Watt}$
- ON-OFF-application (inhibit)
- On-Off switch hysteresis at under voltage and delayed restart
- Input filter acc. to EN 55022.B
- Low input capacity
- Emergency fuse on PCB
- Dyn. reverse polarity protection to fuse

#### In general:

- LED for  $U_{in}/U_{out} = OK$
- Connector DIN 41612, style H15
- Buck regulator + push-pull
- Clock frequency 60 kHz/80kHz
- Isolation test voltage 1,5 KV<sub>AC</sub> 1 min
- Ambient temperature  $-25^\circ\text{C} / +70^\circ\text{C}$   
Option:  $-40^\circ\text{C} / +85^\circ\text{C}$  EN50155 TX
- Derating 1,2%/°C  $> 60^\circ\text{C}$
- MTBF SN29500/40°C:  $> 1,7\text{ mio h}$
- Shock/vibration acc. to EN50155
- Weight cassette 950g  
chassis 850g
- CE-certificate on request
- Limit temperature on KK-★ 95°
- Front panel acc. to specification (Option)

### Efficiency



U <sub>in</sub>	U <sub>out</sub>	I <sub>out</sub>	Eff.	Model number
V	V	A	%	
<b>16,8 - 34</b>	5,1	15,0	88	HL15-U24-05-150
50V/10ms	12	10	87	HL15-U24-12-100
70V/2ms	15	8	86	HL15-U24-15-080
	24	5,5	86	HL15-U24-24-055
	48	3,1	87	HL15-U24-48-031
<b>13,5 - 52</b>	12	12	87	HL15-U30-12-120
surge proof	15	10	86	HL15-U30-15-100
1kV / 2Ω	24	6,3	86	HL15-U30-24-063
1,8kV / 5Ω	48	3,1	87	HL15-U30-48-031
	110	1,3	87	HL15-U30-110-13
<b>19 - 80</b>	12	12	88	HL15-U50-12-120
100V/10ms	15	10	87	HL15-U50-15-100
	24	6,3	87	HL15-U50-24-063
	48	3,1	88	HL15-U50-48-031
	110	1,3	88	HL15-U50-110-13
<b>36 - 154</b>	12	12	89	HL15-U80-12-120
surge proof	15	10	88	HL15-U80-15-100
1kV / 2Ω	24	6,3	89	HL15-U80-24-063
1,8kV / 5Ω	48	3,1	89	HL15-U80-48-031
	110	1,3	89	HL15-U80-110-13

Version H -40°C up to +85°C additional charge

Double output with symmetrical ±-voltage on request

HL15.XX.XX.XXX 19"-cassette style or open chassis mounting

HL15.XX.XX.XXX.C Chassis mounting with housing additional charge

HL15.XX.XX.XXX.CA Chassis mounting with cover additional charge

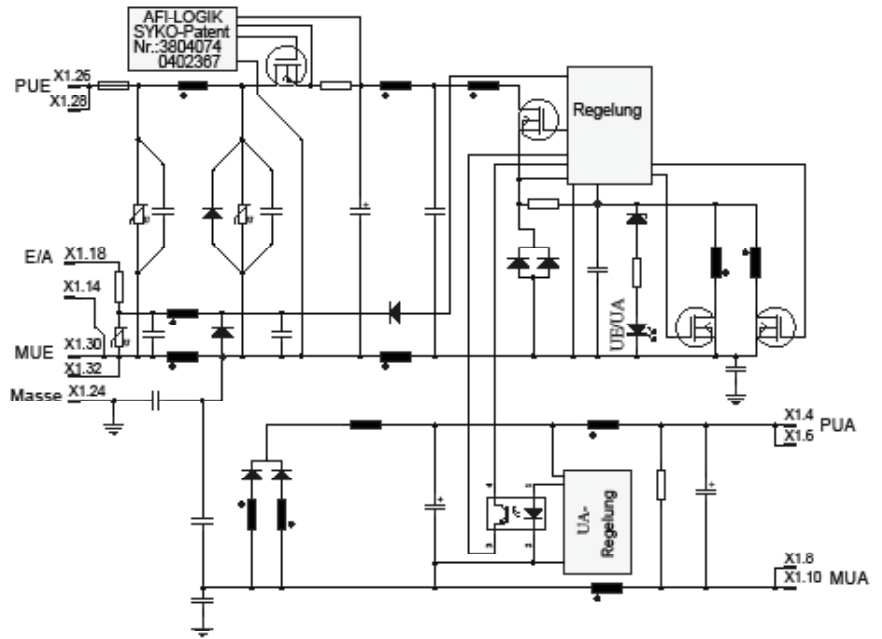
HL15.XX.XX.XXX.S DIN rail mounting with housing additional charge

Modification costs of possible changes above values: on request

The **HL15.U** series with an output power up to 150 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.

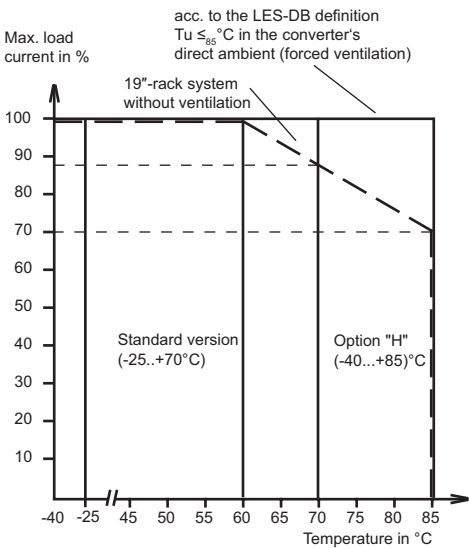
The clever mechanical build up allows the heat conduction to the face heat sink. The direct chassis mounting is possible with very good heat transmission over the extended flange heat sink. The converter is equipped with an under voltage monitoring function with amplitude- and time hysteresis. The integral switch on current limitation is done with an internal power limitation.



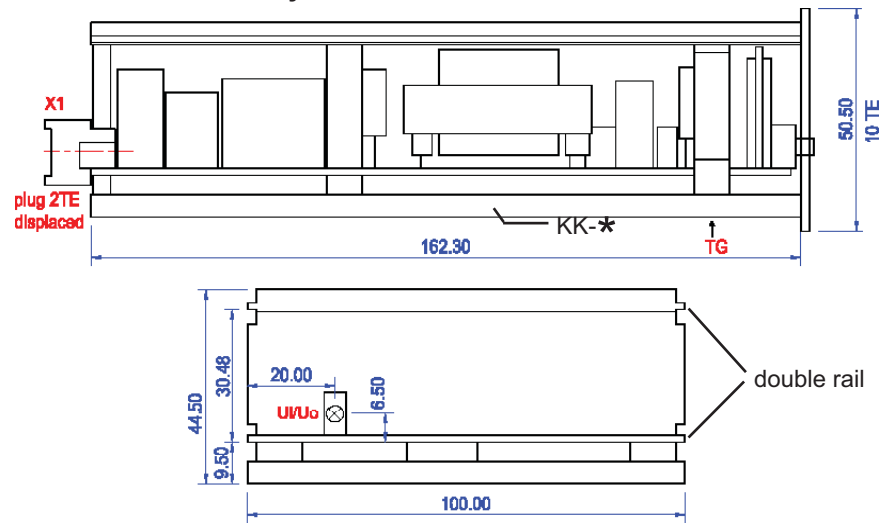
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The functionality is secured in the whole operational range up to limit values based on the chosen components, filters, security circuits, dynamical and statically current limitation and over voltage protection.

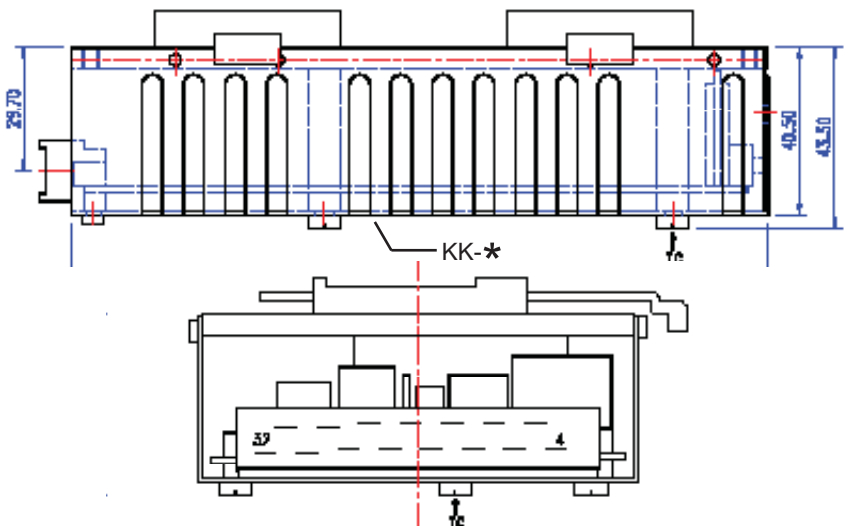
**Derating curve**



**19"-cassette style**



**DIN rail version**



**Measurement of radio interference**

