

SYKO in general:

- 30 and more customized developments per year
- Extreme requirements are kept
- Shock, vibration
- Temperature
- Supply voltage fluctuating
- Disturbances, lightning struck
- Load throw-off in inductive networks
- Power failures / voltage drops at start operations
- Innovative, patented topologies
- Step-up / step-down- with or without isolation
- Regenerator topology (US Pat. no. 5.991.166, D. Pat. no. 195 15 210)

Market segments:

- Railway technology
- Special technology
 - Vehicle applications
 - Naval applications
 - Off-Shore applications
 - Avionic applications
- Automotive measurement applications
- Higher industrial requirements

Input values:

- 12 / 24 / 36 / 48 / 60 / 96 / 110 / 220 / 450 V batteries
- 9 - 70 V / 13,5 - 154 V / 150 - 660 V without switch over
- 4 - 38 / 6 - 38 / 9 - 85 V
- Transients up to 2 / 50 / 100ms
- 18 V DC - 264 V AC (universal input)
- 400 V - 1200 V DC
- 600 V - 1600 V DC
- 680 V - 5000 V DC/AC + transients up to 16kV / 2ms

Output values:

- Up to 15 and more output voltages
- No-load proof, short circuit proof, over load protected, no crosswise load interference
- 2 - 640 V at input voltage ranges of up to 1:10
- With or without isolation

System features:

- Active transient protection (SYKO Patent-no. 0402367 + 3804074) for inrush current limitation and over voltage absorption (transient kill)
- Active hold-up time 10ms - 1s at DC and AC input and down to $U_{in\ min}$ over the whole input voltage range constant voltage interruption bridging
- Extension of active hold-up time up to the range of seconds with capacitors, up to the range of hours with batteries
- Additional outputs, transient free and EMC-clean, with the same potential as the input voltage
- Switchable outputs, inhibit-function
- Combination of low voltage and high voltage outputs at very wide input voltage ranges
- Output regulation with approx. 100 mV dropout voltage per 5A output current
- Regulated outputs with the converters sum power for heating or cooling with polarity change
- Set point values with reference voltage or reference current
- Actual value re-feeding reference voltage or reference current
- Passive (diode) or active (reduce of power loss) reverse polarity protection
- Higher power and higher input voltages with cascading of Regenerator stages
US Pat. no. 6.094.366, D. Pat. no. 195 05 417
- One step PFC on alternating input voltages up to 2100V at 16 2/3 up to 60Hz sinus and rectangular
- Minimal modification times of 6 - 10 weeks from incoming order till delivery of pre-series prototypes

If the market talks about development costs of 50.000,- Euros, SYKO shows flexibility and can offer developments for around 10.000,- Euros. Multiple developments, which are parallel finished and continuous come to the series status make this clear. Customers are not longer talking about SYKO as a supplier of a niche market, but rather of a partner, which can offer solutions for their in-house demands. If the market is scanned, there can be found more suppliers which are supplying this market. We say, that the quantity of suppliers and not the factory size defines the standard. Standard components are interesting from the price side, but customised requirements are just limited possible. Now the market must learn that next to the power of a power supply also the functionality must be calculated.