

double output
12,5/20/25/30 Watt

DC/DC converters
with isolation



- Input range 1:4 up to > 1:12
- Transient range up to $3 \times U_{inmax}$
- Excellent protection against shock and vibration
- Extreme good radio interference adjustable
- Suitable for surge and long term transients
- High efficiency
- Optional -40°C up to +85°C
- 1,5kV AC Test voltage / 1 Min

For railway / roadcar / telecommunication / industry



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Series SRI-Z unsymmetrical (symmetrical)

Main Points:

Output:

- Voltage accuracy: $\pm 1\%$ (1,5)
- Regulation: $\Sigma (U_{in} + I_{out} + T_{j}) \pm 1\%$ (3)
- Ripple: $< 10 \text{ mV}$ (T 1:1 / 50MHz)
- Spikes $< 100 \text{ mV}$ (T 1:1/50MHz)
- Response time: $\Delta I = 50\% \leq 250 \mu\text{s}$ (1ms)
- Current limited: $< 1,2 I_{outmax}$ unsymm.
- Current limited: $> 2 I_{outmax}$ symm.
- Dynamically and statically protected against short circuit
- Symm. steady over $\pm U_{out}$ / means. 0V
- Unsymmetrical input steady
- Potentially separate unsymmetrical output 500 V_{DC}

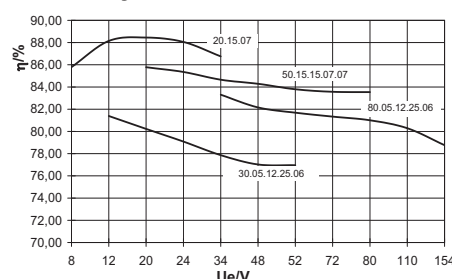
Input:

- Power consumption at no load: 0,9 Watt
- Remote on/off
- ICL-circuit (Application)
- Radio interference suppression better than EN 55022 A
- Transient and EMC-application On request

General:

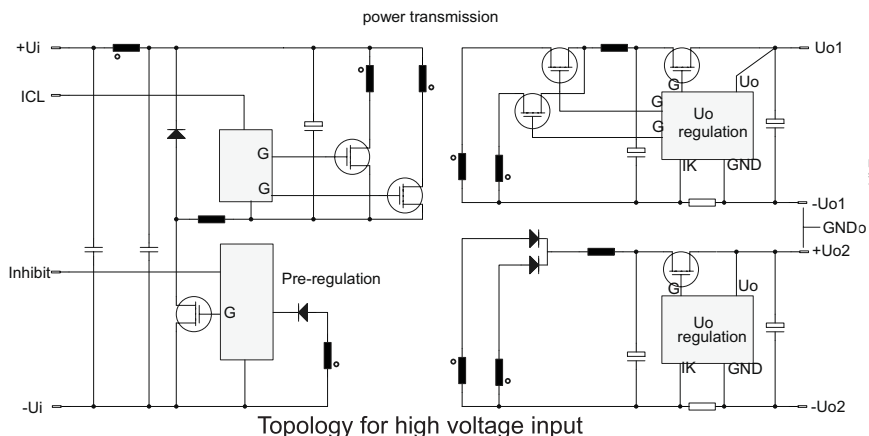
- Overvoltage protection (Logik)
- Isolation voltage: 1,5 KV_{AC} / 1 Min
- Ambient temperature: -25°C / +70°C
- Ambient temperature: -40°C / +85°C
- Derating: 1,5%/°C above >70°C only 1)
- Convection cooled
- MTBF: SN29500 2,3Mio h / 40°C
- Shock / Vibration Annex V
- Weight approx. 120 g
- Size: 90 x 65 x 22 mm³
- Other pin assignments available on request

Efficiency:



U _{in} V	U _{out1} ·U _{out2} V	I _{out1} ·I _{out2} A	Eff. %	Model number
8 - 34 50V/100ms	±12	±0,8	85	SRI-Z 20-12-08
	±15	±0,7	85	SRI-Z 20-15-07
	±24	±0,4	86	SRI-Z 20-24-04
	5,1/3,3	2,5/2,0	79	SRI-Z 20-05-03-25-20
	5,1/5,1	2,5/1,5	80	SRI-Z 20-05-05-25-15
	5,1/12	2,5/0,6	81	SRI-Z 20-05-12-25-06
	5,1/15	2,5/0,5	81	SRI-Z 20-05-15-25-05
13,5 - 34 70V/50ms	±12	±1,0	86	SRI-Z 24-12-10
	±15	±0,8	86	SRI-Z 24-15-08
	±24	±0,4	86	SRI-Z 30-24-04
	5,1/3,3	2,5/2,0	80	SRI-Z 30-05-03-25-20
	5,1/5,1	2,5/1,5	81	SRI-Z 30-05-05-25-15
	5,1/12	2,5/0,6	81	SRI-Z 30-05-12-25-06
	5,1/15	2,5/0,5	81	SRI-Z 30-05-15-25-05
13,5 - 52 100V/10ms	±12	±0,8	86	SRI-Z 30-12-08
	±15	±0,7	86	SRI-Z 30-15-07
	±24	±0,4	86	SRI-Z 30-24-04
	5,1/3,3	2,5/2,0	80	SRI-Z 30-05-03-25-20
	5,1/5,1	2,5/1,5	81	SRI-Z 30-05-05-25-15
	5,1/12	2,5/0,6	81	SRI-Z 30-05-12-25-06
	5,1/15	2,5/0,5	81	SRI-Z 30-05-15-25-05
35 - 154 300V/10ms	±12	±0,8	86	SRI-Z 80-12-08
	±15	±0,7	86	SRI-Z 80-15-07
	±24	±0,4	86	SRI-Z 80-24-04
	5,1/3,3	2,5/2,0	80	SRI-Z 80-05-03-25-20
	5,1/5,1	2,5/1,5	81	SRI-Z 80-05-05-25-15
	5,1/12	2,5/0,6	81	SRI-Z 80-05-12-25-06
	5,1/15	2,5/0,5	81	SRI-Z 80-05-15-25-05
13,5 - 154 300V/10ms	±12	±0,5	81	SRI-Z 03-12-05
	±15	±0,4	81	SRI-Z 03-15-04
	5,1/12	1,5/0,5	78	SRI-Z 30-05-12-15-05
	5,1/24	1,5/0,3	78	SRI-Z 30-05-24-15-03
Output 1: 2,7-24V / Output 2: 2,7-24V / max 3A				
19 - 85	see above	see above		SRI-Z 50-XX-XX-XX-XX
16,8 - 34	30 Watt symm. output			SRI-Z 23-XX-XX
Derating > 60°C 1%/°C				
smaller input range means higher efficiency				
(H)				
-40°C up to +85°C				On request
Modification costs for possible changes above values:				On request

Modules of the **SRI.Z** series are not potted. The high and constant efficiency and the in details patented system topologies with the result of high functionality are ideal for the use at extreme requirements. Transients are regulated because of the high dynamical voltage strength and absorbed in accordance to SYKO's application reports respectively (Patent-no. D 38004074 and EU 0402367). The use in accordance to railway, road car as well as standards of special technology (MIL/VG) is given.



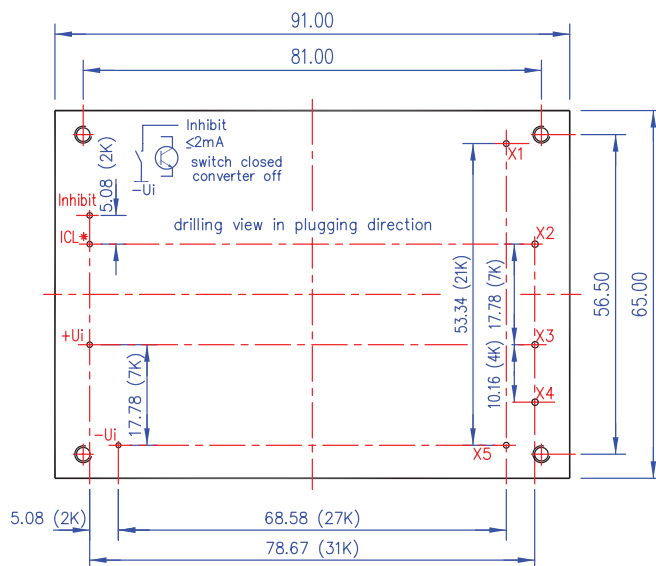
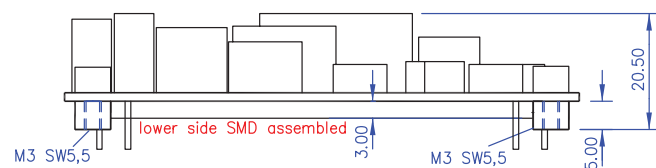
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Symmetrical outputs are regulated over $\pm U_{out}$. Un-symmetrical outputs are regulated output sided with own designed very-low-drop-regulators and short circuit proof to 1,2-times of the nominal current. The outputs are working independently from each other and can be switched parallel under limited conditions. Un-symmetrical outputs run-up against a short circuit (high capacitive loads). Symmetrical outputs can turn into a hick up mode by 0,6 times U_{out} (please consult us).

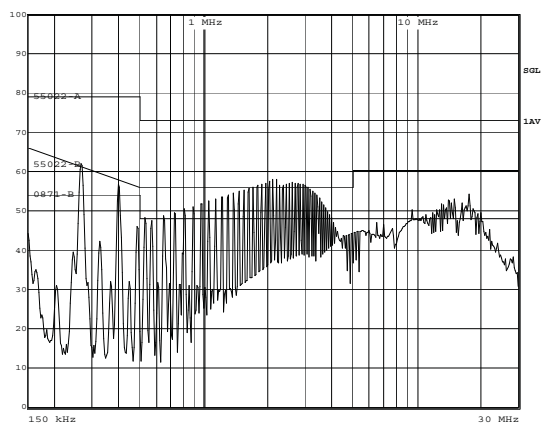
The Inhibit-function (Inhibit) switches the input-no-load current to $< 2\text{mA}$. The ICL-option (Inrush Current Limiting-SYKO Patent) can limit the inrush current to any size of capacitors and long term transients can be limited active (application). A thermal distribution of the power-hot spots is done with special designed PCB. The whole converter's surface is used for heat emission. An application report for an active reverse polarity protection (minimizing power losses), an active transient protection and inrush-current limiting as well as passive hold up time is available on request.

Pin-assignment

Pin	SRI	E	Z	D
X1	+Uo	+Uo1	+Uo1	
X2	-Uo	-Uo1	-Uo1	
X3	S+	+Uo2	+Uo2	
X4	-	-	GND _{o2}	
X5	S-	-Uo2	-Uo2	

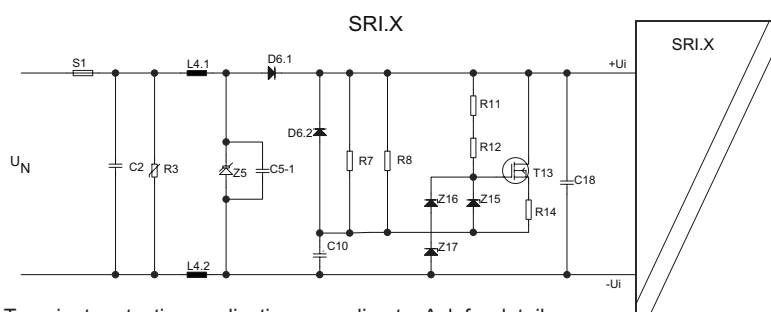


Measurement of radio interference



Application Noise suppression / EMV

with reverse polarity protection, transient protection, hold-up time 10ms



Transient protection application according to: Ask for details
EN 61000-4-5 / Rlout12 A-L / VDE 0160 / MIL 461 / VG96916