

single output
12,5/20/25/35 Watt

DC/DC converters
with isolation



- Input range 1:4 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
- Very 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 · E

Main points:

Output:

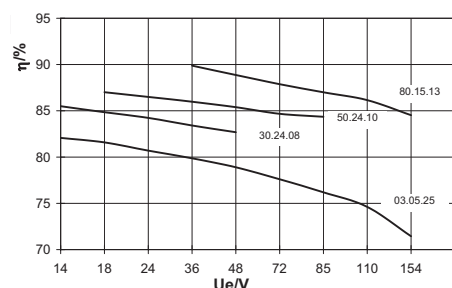
- Voltage accuracy: $\pm 1\%$
- Regulation: $\Sigma(U_{in} + I_{out} + T_U) \pm 1,0\%$
- Ripple: $< 10 \text{ mV}_{pp}$ (constant over T_U)
- Spikes: $< 100 \text{ mV}_{pp}$ (T 1:1/50MHz)
- Response time: $\Delta I = 50\% \leq 1 \text{ ms}$
- Current limit: $< 1,4 I_{outmax}$
- Load compensation: (FP/FM $\Sigma 4\% U_{put}$)
- Dynamically and statically protected against short circuit

Input:

- Power consumption at no load: 0,9 Watt
- Remote on/off
- Inrush current limited (optional)
- Radio interference suppression better than EN55022A
- Various transient and EMC performance available

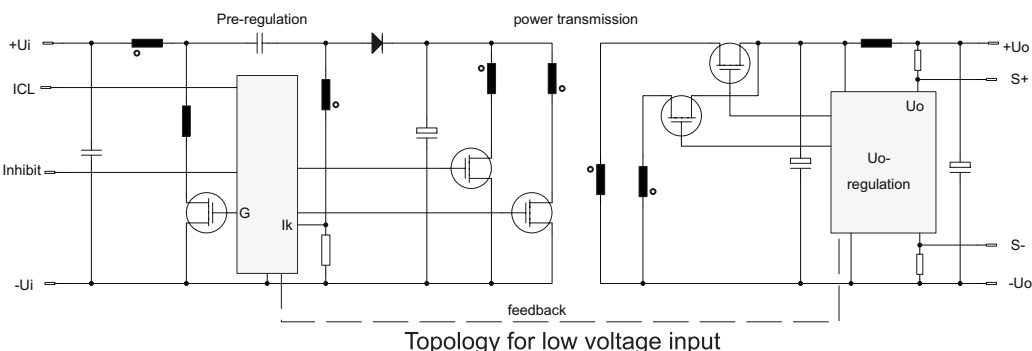
General:

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



<u>U_{in}</u> V	<u>U_{out}</u> V	<u>I_{out}</u> A	<u>Eff.</u> %	Model number
8 - 34 50V/100ms	3,3	5,0	81	SRI-E 20-03-50
	5,1	4,0	84	SRI-E 20-05-40
	12	1,7	85	SRI-E 20-12-17
	15	1,3	84	SRI-E 20-15-33
	24	0,8	85	SRI-E 20-24-08
	60	0,3	85	SRI-E 20-60-03
8 - 72	3,3	5,0	81	SRI-E 27-03-50
	5,1	4,0	84	SRI-E 27-05-40
	12	1,7	85	SRI-E 27-12-17
	15	1,3	84	SRI-E 27-15-33
	24	0,8	85	SRI-E 27-24-08
	60	0,3	85	SRI-E 27-60-03
13,5 - 34 70V/50ms 1)	3,3	5,0	83	SRI-E 24-03-50
	5,1	5,0	85	SRI-E 24-05-50
	12	2,0	86	SRI-E 24-12-20
	15	1,7	85	SRI-E 24-15-17
	24	1,0	86	SRI-E 24-24-10
	60	0,4	86	SRI-E 24-60-04
13,5 - 52 100V/10ms	3,3	5,0	83	SRI-E 30-03-50
	5,1	4,0	85	SRI-E 30-05-40
	12	1,7	86	SRI-E 30-12-17
	15	1,3	85	SRI-E 30-15-13
	24	0,8	86	SRI-E 30-24-08
	60	0,4	86	SRI-E 30-60-04
35 - 154 300V/10ms	3,3	5,0	83	SRI-E 80-03-50
	5,1	4,0	85	SRI-E 80-05-40
	12	1,7	86	SRI-E 80-12-17
	15	1,3	85	SRI-E 80-15-13
	24	0,8	86	SRI-E 80-24-08
	60	0,4	86	SRI-E 80-60-04
13,5 - 154 300V/10ms	3,3	3,5	75	SRI-E 03-03-50
	5,1	2,5	76	SRI-E 03-05-25
	12	1,0	77	SRI-E 03-12-10
	15	0,8	76	SRI-E 03-15-08
	24	0,5	77	SRI-E 03-24-05
	60	0,2	77	SRI-E 03-60-02
19 - 85	see above	see above	On request	SRI-E 50-XX-XX
16,8 - 34 1)	35W Derating>60°C 1%/°C		On request	SRI-E 23-XX-XX
150 - 350			On request	SRI-E 06-XX-XX
(H)	-40°C up to +85°C			additional charge
Modification costs for possible changes above values:				On request

Modules of the **SRI.E** 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. The use in accordance to railway, road car as well as standards of special technology is given. The single output is over load protected and static short circuit proof. The outputs run-up against a short circuit (defined capacitive loads) and is parallel switchable under limited conditions with a derating $>60^{\circ}\text{C}$. The sense lines can compensate load-depending voltage drops.

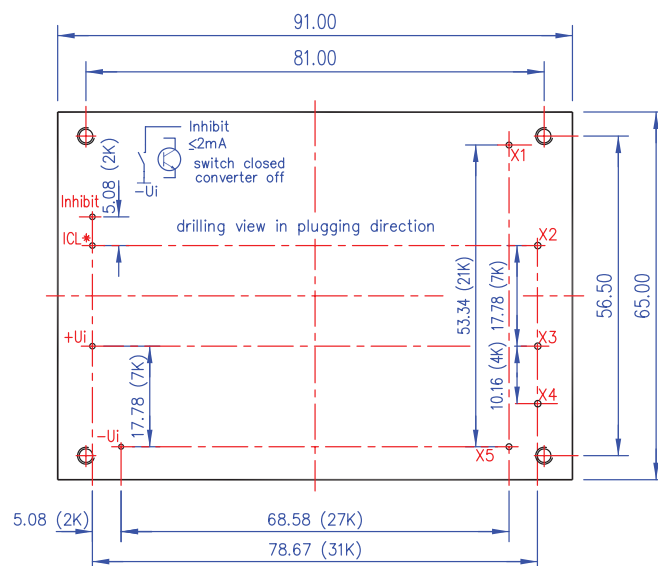
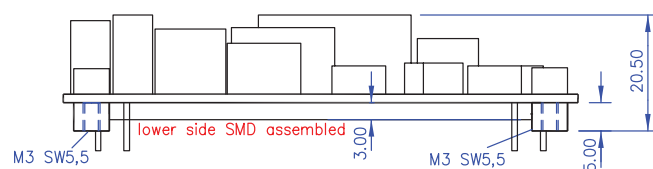


The Inhibit function switches the input-no-load current to $< 2\text{mA}$. The ICL-option (Inrush Current Limiting-SYKO Patent- no. D 3804074 and EU 0402367) can limit the inrush current to any size of capacitors and long term transients can be limited active (application). A thermal distribution of 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.

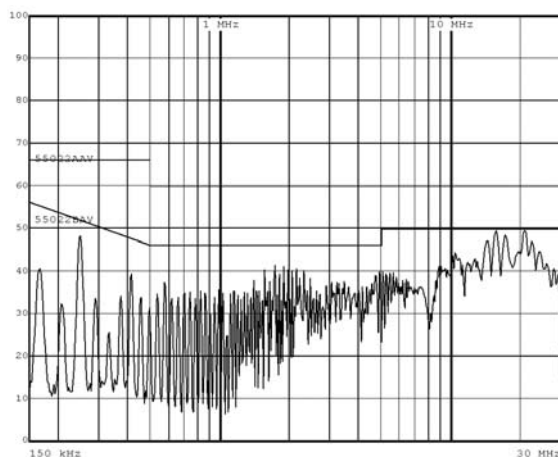
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Pin-assignment

Pin	SRI	E	Z	D
X1	+Uo	+Uo1	+Uo1	
X2	-Uo	-Uo1	-Uo1	
X3	S+	+Uo2	+Uo2	
X4	-	-	GNDo2	
X5	S-	-Uo2	-Uo2	

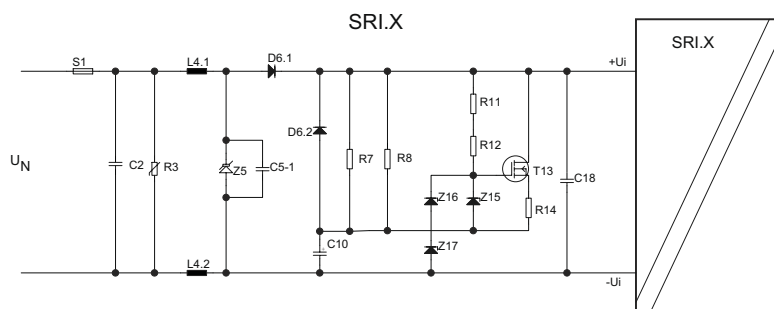


Measurement of radio interference (without application circuit)



Application radio suppression / EMC

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