

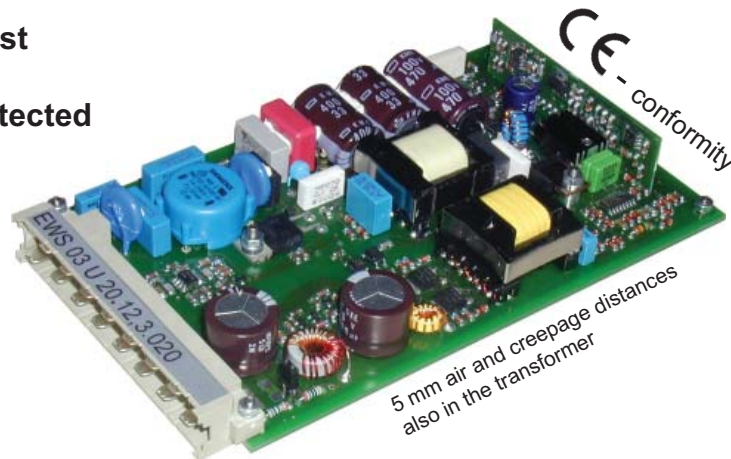
single, double, triple
up to 25 Watt

UC/DC-wide range-
power supplies isolated



- **Universal-Input 48/60/110/220 V_{DC} and 110/230V_{AC} without switch-over**
- **CE-conformity declaration on request**
- **EN 55022.B EN 61000-4-4/5 level 3**
- **Short circuit, no-load, over load protected**
- **Euro card 3 U / 5TE**
- **Front panel 3 U / 5 TE (Option)**
- **Hold-up time > 75 ms**
(constant from minimum input voltage)
- **Active transient protection filter**
(SYKO patent no. 3804074 and 0402367)

for telecommunications / automation and railway applications



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Series EWS 03

Main points:

Outputs:

- Accuracy absolute $\pm 1\%$
- Regulation $\pm 1\%$
- Short circuit and no-load proof
- Ripple $< 10 \text{ mV}_{pp}(\text{const. over } T_U)$
- Spikes $< 50 \text{ mV}_{pp} (T 1:1/50\text{MHz})$
- Response time $\Delta I = 50\% \leq 250 \mu\text{s}$
- Parallel operation
- No cross wise interference

Input:

- Universal input voltage range (DC/AC)
- Input filter EMC EN 55011.B
- Disturbance protection EN61000-4 (Burst) level 3
EN61000-5 (Surge) level 3
- Active Transient protection (SYKO-Patent)
- Hold-up time > 75 ms
also at minimum input voltage
- VDE 0160 / long term transients (Option)

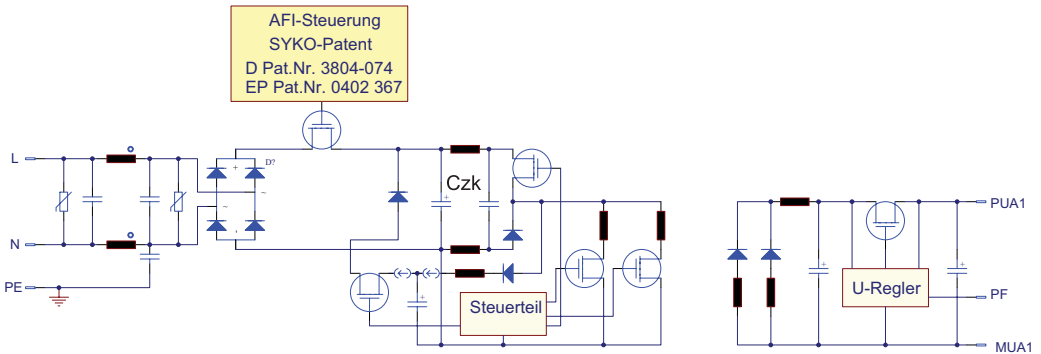
General:

- Isolation test voltage
Input - Output 3,75 KV AC
Input - Ground 2,50 KV AC
Output - Output 0,50 KV AC
- Security requirements EN 60950
- CE conformity proofed
- Power-Fail-Signal (network interruption)
at input voltage < 40 Volt
- Ambient temperature $-25^\circ\text{C} / +70^\circ\text{C}$
without Derating
- Free air convection
- MTBF on request
- Weight approx. 220 g
- Euro card 160 x 100 mm²
Height < 18 mm
- Connector DIN 41612, style H15
- Input fuse external (customer)

<u>U_{in}</u> V	<u>U_{out1-2}</u> V	<u>I_{out1-2}</u> A	Model number
40 - 264 V AC	5,1	5,0	EWS 03 U-06-05-050
36 - 360 V DC	12	2,0	EWS 03 U-06-12-020
surge proof	24	1,0	EWS 03 U-06-24-010
	5,1·24	2,0·0,4	EWS 03 B-06-05-24-20-40
	5,1·±12	3,0±0,15	EWS 03 T-06-05-12-30-15
	5,1·±15	3,0±0,15	EWS 03 T-06-05-15-30-15
	24±12	0,5±0,15	EWS 03 T-06-24-12-05-15
	24±15	0,5±0,15	EWS 03 T-06-24-12-05-15
82 - 264 V AC	5,1	6,0	EWS 03 U-20-05-060
80 - 360 V DC	12	2,5	EWS 03 U-20-12-025
surge proof	24	1,2	EWS 03 U-20-24-012
	5,1·24	2,5·0,5	EWS 03 B-20-05-24-25-50
	5,1·±12	3,5±0,2	EWS 03 T-20-05-12-35-20
	5,1·±15	3,5±0,2	EWS 03 T-20-05-15-35-20
	24±12	0,6±0,2	EWS 03 T-20-24-12-06-20
	24±15	0,6±0,2	EWS 03 T-20-24-15-06-20
45 - 158 V DC	5,1	5,0	EWS 03 U-10-05-050
surge proof	12	2,0	EWS 03 U-10-12-020
1,8kV / 5Ω	24	1,0	EWS 03 U-10-24-010
RIA 12 A-L*	5,1·24	2,0·0,4	EWS 03 B-10-05-24-20-40
polarity free	5,1·±12	3,0±0,15	EWS 03 T-10-05-12-30-15
	5,1·±15	3,0±0,15	EWS 03 T-10-05-15-30-15
	24±12	0,5±0,15	EWS 03 T-10-24-12-05-15
	24±15	0,5±0,15	EWS 03 T-10-24-12-05-15
Modification costs for possible changes above values:			on request
* No fuse (external!), pre-switch resistor necessary (efficiency)			

The **EWS03** series is developed as ultra wide input range supply for the use on battery and AC-networks (ideal for 230/24V UPS) for highest requirements to security and functionality.

Corresponding standards are kept: safety regulations EN 60950, radio interference EN 55011/EN 55022 (level B), disturbances IEC 801-2/3/4/5 with level 3 (optionally level 4).

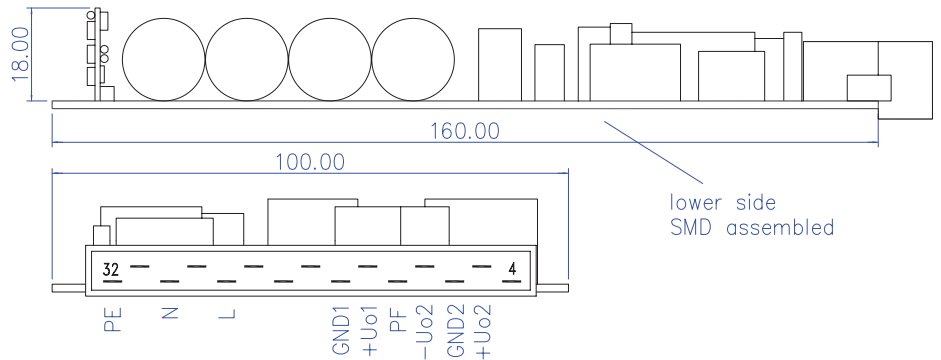


Symmetrical disturbances of surge pulses are handled with the combination of passive and active transient filters AFI (SYKO-patents no. 3804074 and 0402367). Also an active inrush current limitation (ICL) prevents switch-on currents and fast transients. The input is not loaded with high capacitive intermediate- and storage capacitors Czk. Unsymmetrical disturbances based on burst and surge pulses have no consequences because of the secured air- and creepage distances of > 5 mm on the PCB and in the special transformer. Loose coupling and the neutral operation of the transformer's windings (very low coupling capacity) effect these very good results.

All outputs are regulated with a tolerance of $\pm 1\%$ over all parameters. The outputs are independent in functionality from no-load up to short circuit. The 5V-output does not need sense lines because of positive coupling. The storage energy of the active hold-up time circuit (SYKO-concept) is constant for > 50 ms starting from the minimum input voltage. The power-fail-signal (active low) indicates the supplying voltage's fall below the minimum input voltage limit U_{imin} .

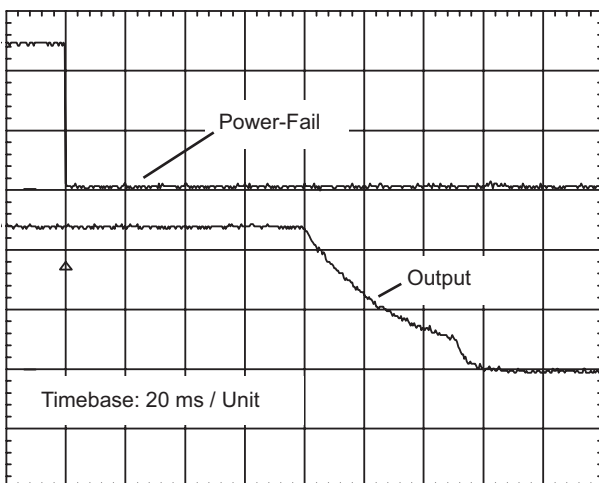
Pin assignment EWS 03

Pin	Name	Function
32	Ground	Ground
28	N	- Uin/AC-Input
24	L	+Uin/AC-Input
16	- Uo1	DC-Output 1 -
14	+Uo1	DC-Output 1 +
12	PF	Power-Fail-Signal
10	- Uo2	DC-Output 2 -
8	0Vo2	DC-Output 2 Ground
6	+Uo2	DC-Output 2 +



hold-up time-diagram

> U_{Emin}



Measurement of radio interference

