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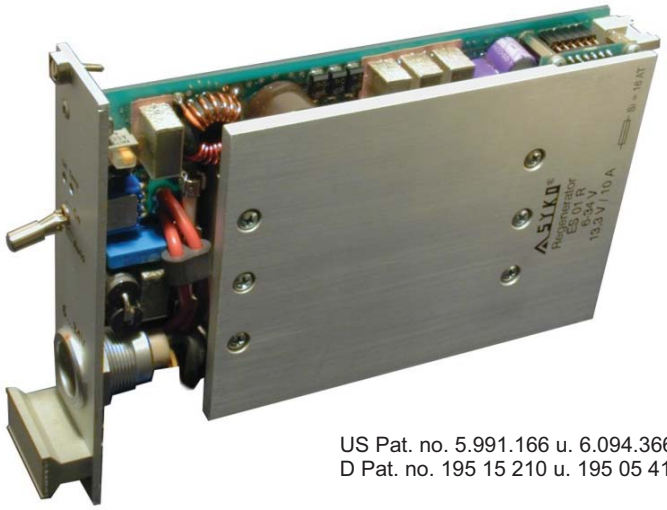
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Find the *SYKO ES01R* at our website: *Click HERE*

- **Input voltage range 1:6**
- **Security relevant topology**
  **no static voltage breaktrough**
- **Step-up/step-down regulator**
  **Uin lower-equal-higher as Uout**
- **Noise suppression EN 55022.B**
- **19"-rack style / 6TE**
- **Active reverse pol. protection**
  **(low power-loss)**
- **Load-dump-proof**

Measurement applications / Vehicles / Industry



® registered trademark of company SYKO GmbH & Co. KG

# *Series ES 01.R*

US Pat. no. 5.991.166 u. 6.094.366
D Pat. no. 195 15 210 u. 195 05 417

**Main points:**

**Output:**

- Short circuit protected / no-load stable
- Accuracy absolute ±1%
- Regulation $\Sigma(U_{in}+I_{out}+T_U)$ ±1,5%
- Ripple <20 $mV_{pp}$(const. over $T_U$)
- Spikes <100 $mV_{pp}$ (T 1:1/50MHz)
- Regulation time ΔI=50% ≤ 3 ms
- Fan connection (Temp. separated)
- Power fail-signal
- Temperature-signalling

**Input:**

- No-load power 0,8W
- Extreme input voltage range
- Active reverse pol. protection
- Fuse (emergency protection)
- Disturbances EN 61000-4-5 level 3
- DIN ISO 7637 T1/3 tested
- Low input capacity
- Hold-up time or UPS-function with separated circuit (connections prepared)
- Switch on with security toggle switch and with remote control (RMC)

**General:**

- Ambient temperature -25°C / +70°C
- Option H: -40°C / +85°C
- Derating: see chart
- Forced air converction
- MTBF on request
- Shock / vibration vehicle tested
- Weight approx. 600 g
- Connectors:
  Input: LEMO-opposite plug
  FGJ.3B.304.CYMD72
  Output:H15
- Dimension 160 x 100 x 6TE mm³
- No breakthrough of $U_{in}$ to $U_{out}$ /$U_{out}$ to $U_{in}$
- Do not bridge input-0V and output-0V (active reverse pol. protection)

| Uin | Uout | Iout | Model |
|---|---|---|---|
| V | V | A | number |
| **8 - 18** | 24 | 5 | ES 01.R 12.24.050 |
| 27V dyn | 12 | 10 | ES 01.R 12.12.100 |
| **9 - 34** | 12 | 9 | ES 01.R 20.12.100 |
| 6-40 dyn | 24 | 4 | ES 01.R 20.24.040 |
| **10 - 48** | 12 | 8 | ES 01.R 26.12.080 |
| 9-60 dyn | 24 | 4 | ES 01.R 26.24.040 |

Prices incl. front panel

| | | |
|---|---|---|
| (H) | -40°C up to +85°C | Additional charge |
| First-sample modification costs: | | on request |
| Modification costs for possible changes above values: | | on request |
| Other current/voltage values: | | on request |

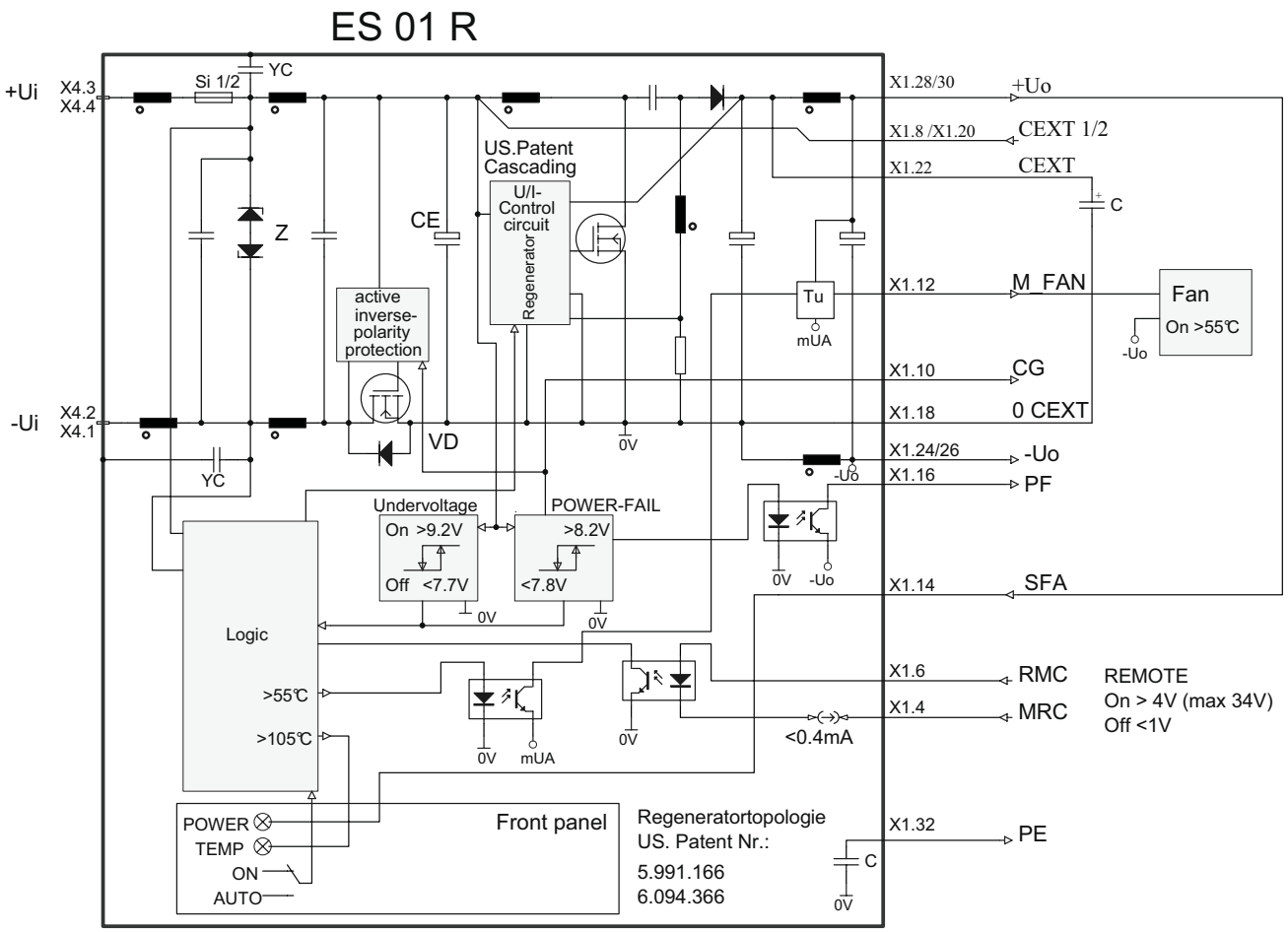
The ES 01.R series is expandable with an active, chassis mountable hold-up time. Network interruptions can be bridged at -40°C up to 150ms without a fluctuating output voltage. In this case the active reverse pol. protection separates high resively the ES 01 R's input from the battery (no energy flow/loss).

10-cell-NiCd and NiMH-batteries are charged and controlled with an intelligent UPS-expansion. This solution can bridge network-interruptions up to a few minutes.

Application reports on request


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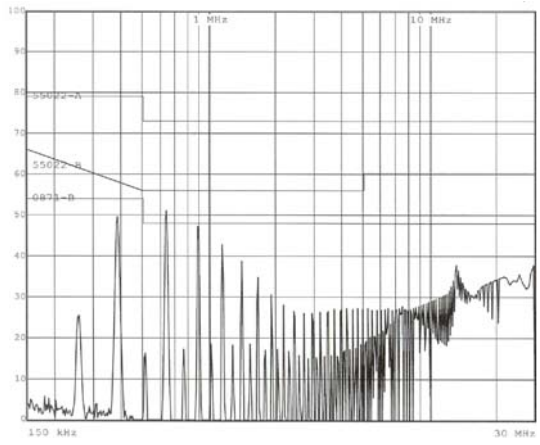
SYKO designed this non-isolating ***ES 01.R*** power supply series (euro card 6TE) for the use in car and truck battery networks with the patented / cascaded REGENERATOR-principle. By an input voltage range of (6 - 36) V or (9-60) V the output voltage of 12V (or 24V) is generated with a sum power of 120W. This power can be used with an input voltage down to 6V dynamically and down to >8V statically. With a derating to >75 W an input voltage of 6 V statically is allowed. The functionality is guaranteed up to an ambient temperature of 85°C (derating) with moving air. A temperature sensor controls the converter's temperature and supplies a fan via MFAN.

An active reverse pol. protection reduces high power loss at the length-diode and prevents an input sided short circuit in the case of under voltage or voltage interruption. Additionally by negative transients, the reverse pol. protection prevents the re-flow of energy out of the input capacitors or external hold-up circuit.

The battery is connected front sided with a high-current plug. The converter can be switched on/off with a front sided security switch. SYKO uses an active hold-up time circuit to guarantee a hold-up time of up to 200 ms or to generate a UPS-function. This can be extended to the range of minutes by using batteries (Ni-Cd, Ni-MH) or high-caps.

Outputs, the hold-up time circuit and the logic signals are connected to the back sided H15-connector. Additionally to this front-end supply different, de-central loads (DC/DC-converters, fans, motors) can be connected. This power supply was tested in according to the EN 55011.B and EN 610004-4/-5, DIN ISO 7637 part 1 and 2 - standards and is delivered with a CE-label.

### Measurement of radio interference




### Temperature-Derating with forced ventilation

| Uin | Ambient temperature / max. load in % | | | |
|---|---|---|---|---|
| | 50° | 60° | 70° | 85° |
| 6V | 90% | 80% | 75% | 70% |
| 7V | 100% | 90% | 80% | 75% |
| 8V | 100% | 100% | 90% | 80% |
| 9V | 100% | 100% | 100% | 90% |
| 10V | 100% | 100% | 100% | 100% |
| 12V | 100% | 100% | 100% | 100% |
| 24V | 100% | 100% | 100% | 100% |
| 32V | 100% | 100% | 100% | 100% |



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