- **Chassis mounting**
- **No forced cooling needed**
- **Extreme high efficiency**
- **Regeneration of battery-networks**
  **including Diesel-start operation**
- **Extreme input voltage range**
- **Extreme transient protection**
- **Buck/Boost-topologie (Patent)**
- **Input interference EN55022 B**
- **Output interference EN55022 B**
- **Shock / Vibration EN50155**
- **Security relevant topology**

Railway / Automotive / Instrumentation




# *Series DBR.V*

**Main points:**

**Output:**

- Regulation $\Sigma(U_{in}+I_{out}+T_U) \pm 2\%$
- Voltage accuracy ± 1%
- Ripple <50 $mV_{pp}$(const. over $T_U$)
- Spikes <400 $mV_{pp}$ (T 1:1/50MHz)
- Response time ΔI=50% 25 ms
- Current limit < 1,2 × $Iout_{max}$ up to Uout=0V
- Output filter EN55022 B
- No load-, over load-, short circuit proof
- Thyristor-over voltage protection
- Output voltage-adjustable 0-$Uout_{max}$
- Isolated set point value 0-5V

**Input:**

- Burst/Surge EN 61000-4-4/5 Level 3
- Long time transient proof
- EN 7637 T1/3 / VG 96916 T5 - transients
- On-Off-Remote galv. isolated
- On-Off-hysteresis at under voltage and timed re-start-delay
- Input filter EN55022B
- Switch-on-current limiting integral

**General:**

- Chassis mountable housing IP32
- Option: without housing
- Patented cascaded Buck/Boost-topology
- Isolation voltage to ground 1,5KVAC
- Ambient temperature -40°C/+70°C
- Option: +85°C EN50155 TX
- Derating 1%/°C > 70°C
- Terminal WAGO 16mm²
- MTBF on request
- Shock / Vibration EN 50155
- Weight approx. 4 kg
- CE-Conformity on request
- Temperature on KK-✱point max. 95°C
- Customer must place external input-fuse
- Interface-plug for inhibit / set point value: Phoenix Contact MC 1.5/4-STF-3.81

| Uin | Pout | Uout | Iout | η | Model number |
|---|---|---|---|---|---|
| V | W | V | A | % | |
| **10 - 34** | 300 | 12 | 25 | 87 | DBR.V 20.012.250 |
| **8V Start operation** | 340 | 24 | 14 | 88 | DBR.V 20.024.140 |
| DIN / ISO 7637-1/3 | 320 | 42 | 7,5 | 88 | DBR.V 20.042.075 |
| C E < 200µF | 320 | 0-18 | 17,5 | | DBR.V 20.014.175.B |
| | 340 | 0-28 | 12 | | DBR.V 20.028.120.B |
| **14,4 - 34** | 300 | 12 | 25 | 87 | DBR.V 24.012.250 |
| 8 - 36 dyn. | 360 | 24 | 15 | 88 | DBR.V 24.024.150 |
| Diesel-start operation | 360 | 42 | 8,5 | 88 | DBR.V 24.042.085 |
| Surge Level 3 | 360 | 110 | 3,5 | 87 | DBR.V 24.110.035 |
| DIN / ISO 7637-1/3 | 360 | 0-18 | 20 | | DBR.V 24.014.200.B |
| C E < 200µF | 360 | 0-34 | 10,5 | | DBR.V 24.028.105.B |
| **10 - 48** | 240 | 12 | 20 | 86 | DBR.V 26.012.200 |
| 9 - 60 dyn. | 340 | 24 | 14 | 87 | DBR.V 26.024.140 |
| DIN / ISO 7637-1/3 | 320 | 42 | 7,5 | 87 | DBR.V 26.042.075 |
| | 320 | 0-18 | 17 | | DBR.V 26.014.170.B |
| | 360 | 0-34 | 10,5 | | DBR.V 26.034.105.B |
| | 340 | 0-48 | 7 | | DBR.V 26.048.070.B |
| **16,8 - 34** | 260 | 12 | 22 | 88 | DBR.V 30.012.220.MIL |
| 8 - 36 dyn. | 360 | 24 | 15 | 89 | DBR.V 30.024.150.MIL |
| VG 96 916 T5 | 320 | 0-18 | 18 | | DBR.V 30.018.180.B.MIL |
| 50V / 50ms | 360 | 0-34 | 10,5 | | DBR.V 30.034.105.B.MIL |
| 70V / 2ms | 340 | 0-48 | 7 | | DBR.V 30.048.070.B.MIL |
| **30 - 48** | 440 | 24 | 18 | 90 | DBR.V 42.024.180 |
| 20 - 60 dyn. | 440 | 42 | 10,5 | 90 | DBR.V 42.042.105 |
| Surge Level 3 | 410 | 0-18 | 23 | | DBR.V 42.018.230.B |
| DIN / ISO 7637-1/3 | 440 | 0-34 | 13 | | DBR.V 42.034.150.B |
| | 480 | 0-48 | 10 | | DBR.V 42.048.100.B |
| **66 - 158** | 490 | 24 | 20,5 | 90 | DBR.V 10.024.205 |
| 40 - 170 dyn. | 530 | 48 | 11 | 92 | DBR.V 10.048.110 |
| Diesel-start operation | 510 | 60 | 8,5 | 92 | DBR.V 10.060.085 |
| Surge Level 3 | 490 | 110 | 4,5 | 92 | DBR.V 10.110.045 |
| | 490 | 0-110 | 4,5 | | DBR.V 10.110.045.B |
| (H) | | -40°C up to +85°C | | | Option |
| Price for chassis mounting without housing | | | | | on request |
| Modification-costs for possible changes above values | | | | | on request |


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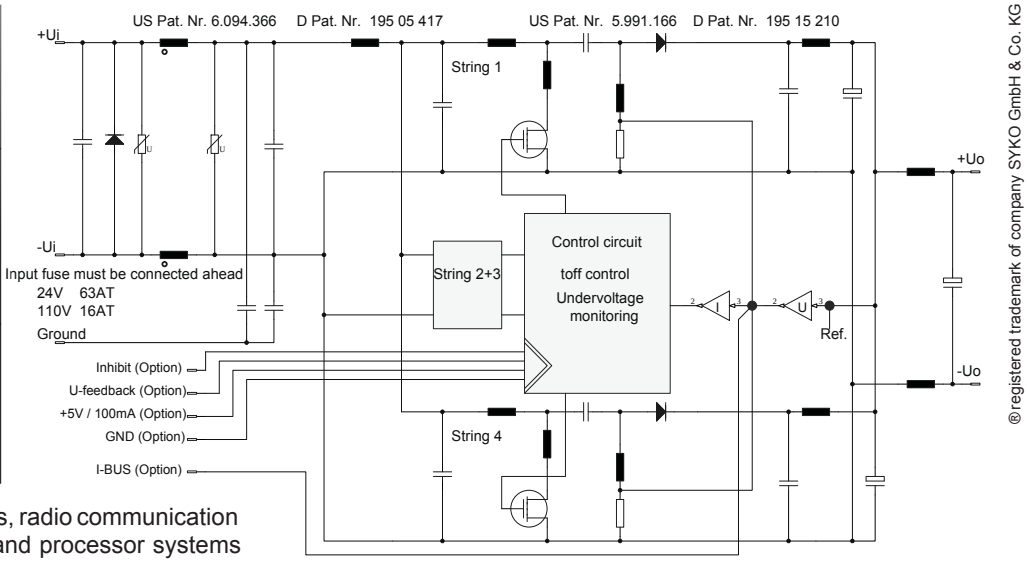
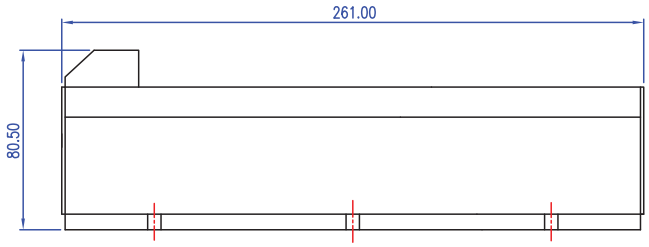
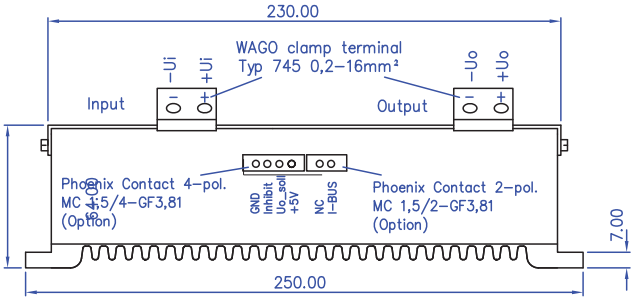
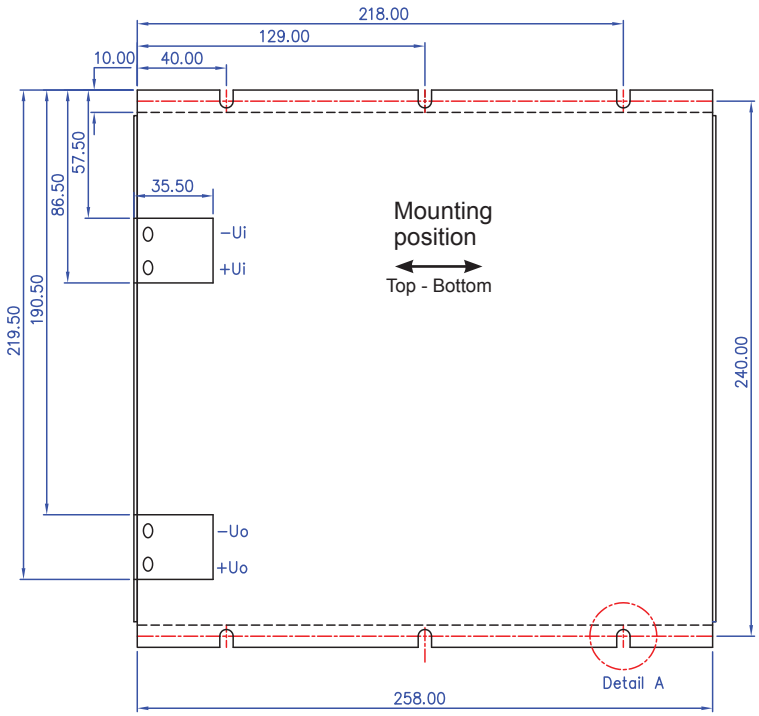
The ***DBR.V*** series is designed for the use in stationary and mobile applications. It regenerates the input voltage without galvanic isolation to the nominal value as a platform supply. The converter is also able to generate other constant or adjustable voltages in extreme fluctuating on-board networks. SYKO's patented current cascaded Regenerator-topology works as a Buck/Boost-topology for lower, equal and/or higher input-voltages. While a diesel-start operation in the field of Railway applications and special vehicles, a voltage fluctuating of 0,35 ... 1,6 times Unom can occur. Motor-control systems, radio communication systems, driver's cab-displays and processor systems with a long re-start-time in general must be supplied without interruptions. The internal electrolytic-capacitors are not burdened with chopping-currents. The output voltage is protected with a Thyristor (Crowbar) against over voltages. Input and output are radio interference suppression. With the option of the isolated interface, the inhibit-signal (on/off) can be given. The output voltage can be adjusted from 0V to Uout max with a set value of 0-5V. It is possible to simulate a fluctuating on-board voltage as well as the use as a battery or high-cap charger with an superposed battery-management or the use as a field regulator for separately excited generators in diesel-electric-drives.

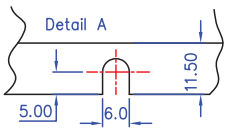




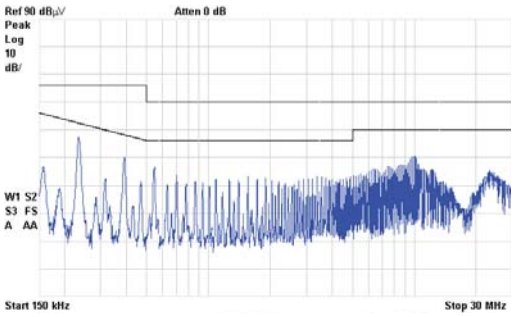




**Measurement radio interference Input**




**Output**