

# DVC500 Series

## DC/DC AUTOMOTIVE CONVERTER

### FEATURES

- 500W Automotive and Vehicle Converter
- Designed for use in rough environment
- Rugged construction / potted device
- Protection against unfavourable environmental conditions
- DC/DC wide range input
- Filtered against vehicle on-board disturbances
- Galvanic separation 1.5kV
- Design acc. to EN60950. EN50155. EN1175. ISO20898
- Regulated output
- Very high efficiency
- Short-circuit / No-load protection
- Over Temperature protection
- Parallel connectable (Option: Smart output characteristics)



### SPECIFICATIONS

| INPUT                    |   |
|--------------------------|---|
| Input voltage            | 36V, 48V, 72V, 96V, 110V                                      |
| Input range              | See selection table   |
| Filtering                | Filtering against on board disturbances                       |
| OUTPUT                   |   |
| Output voltage           | 12.5Vdc, 13.8Vdc, 24.3Vdc                                     |
| Output Voltage Tolerance | +/- 1%  |
| Output Current           | See Selection Table   |
| Current Limiting         | Typically 1.1 x I nominal                                     |
| Load Regulation          | +/-0.5% (Typ 0.3% = 80mV) 10-90% load                         |
| Regulation time          | <1 ms   |
| Line regulation          | ±0.1%   |
| Temperature drift        | -25C to +70C <1%  |
| Ripple & noise           | 100mVp-p  |
| Efficiency               | 92% Typical   |
| Parallel Operation       | Unlimited, 100% redundancy requires external diodes           |
| ENVIRONMENT              |   |
| Ambient temperature      | -40°C to 75°C with derating, Max baseplate temperature 100°C  |
| Storage temperature      | -40°C to 85°C   |
| Humidity                 | 100% relative humidity, dewing permitted.                     |
| Cooling                  | Natural convection / cooling via contact to mounting surface. |

| STANDARDS & APPROVALS       |   |
|-----------------------------|---|
| Safety                      | EN60950, EN50155, EN1175, ISO20898  |
| EMC                         | EN61204-3   |
| PROTECTION                  |   |
| Protective degree           | IP67 (not connector)  |
| Reverse polarity Protection | External input fuse is blown.   |
| Over temperature Protection | Protective shut down, self reset after cool down.   |
| Insulation                  | Input to Output: 1.5kV<br>Input to Case: 1.5kV<br>Output to Case: 500V  |
| Over voltage Protection     | Protective shut down<br>Self reset after cool down.   |
| Safety Note                 | If an external energy source (e.g battery) is connected to the output of the converter, the supply line (+pole) must be fused close by the source. Recommended fusing: 1.1.. 1.2 x Inom |
| MECHANICAL                  |   |
| Connectors                  | Input: +Uin (M5) / -Uin(M8)<br>Output: +Uout (M6) / -Uout(M8)   |
| Dimensions                  | 222(220) x 166(122) x 71(47)mm  |
| Weight                      | 2.65Kg  |
| Case Material               | Aluminium   |

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## SELECTION TABLE

| MODEL          | INPUT VOLTAGE               | OUTPUT VOLTAGE | OUTPUT CURRENT | POWER |
|----------------|-----------------------------|----------------|----------------|-------|
| DVC500-36-24   | 36VDC (25-70VDC)            | 24VDC          | 21A            | 500W  |
| DVC500-48-12   | 48VDC (33-90VDC)            | 12.5VDC        | 40A            | 500W  |
| DVC500-48-13.8 | 48VDC (33-90VDC)            | 13.8VDC        | 36A            | 500W  |
| DVC500-48-24   | 48VDC (33-90VDC)            | 24VDC          | 21A            | 500W  |
| DVC500-48-28.8 | 48VDC (41-80VDC)            | 28.8VDC        | 17.4A          | 500W  |
| DVC500-80-12   | 72/80/96/110VDC (56-154VDC) | 12.5VDC        | 40A            | 500W  |
| DVC500-80-13.8 | 72/80/96/110VDC (65-154VDC) | 13.8VDC        | 36A            | 500W  |
| DVC500-80-24   | 72/80/96/110VDC (56-154VDC) | 24VDC          | 21A            | 500W  |

## TECHNICAL ILLUSTRATIONS

