

# Orion IP67 24/12 and 12/24 DC-DC Converters

[www.victronenergy.com](http://www.victronenergy.com)

Non-isolated

## Completely encapsulated: waterproof, shockproof and ignition protected

Water, oil or dirt will not damage the Orion IP67 DC-DC Converter. The casing is made of cast aluminium and the electronics are moulded in resin.

## Extra-long input and output cables

Thanks to the cables of 1.8 meters in length, intermediate cable interconnections to increase length even more will in most cases not be needed. This is an important reliability increasing feature in an area where IP67 protection grade is needed.

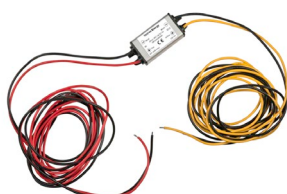
## Wide input voltage range

With 15 to 40 Volts input range, a stable output is ensured during surges or sags due to other equipment connected to same battery.

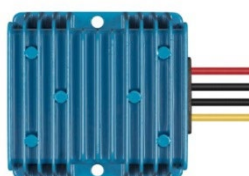
## Protected against overheating

It can be used in a hot environment such as a machine room.

| Orion IP67                                                   | 24/12-5                                                              | 24/12-10        | 24/12-20        | 24/12-100      | 12/24-50       |
|--------------------------------------------------------------|----------------------------------------------------------------------|-----------------|-----------------|----------------|----------------|
| Input voltage range                                          | 15-40VDC                                                             |                 |                 | 18-35VDC       | 10-15VDC       |
| Under voltage shutdown                                       | 13V                                                                  |                 |                 | 15V            | 8V             |
| Under voltage restart                                        | 14V                                                                  |                 |                 | 16V            | 9V             |
| No load current at 24V                                       | 1mA                                                                  | 20mA            | 50mA            | 85mA           | 45mA           |
| DC output voltage                                            | 12V +/- 3%                                                           | 12V +/- 3%      | 12V +/- 3%      | 12V +/- 3%     | 24V +/- 3%     |
| Maximum continuous output current                            | 5A                                                                   | 10A             | 20A             | 100A           | 50A            |
| Efficiency                                                   | 93%                                                                  | 93%             | 95%             | 96%            | 96%            |
| Ripple & Noise                                               | 75mVpp                                                               |                 |                 | 150mVpp        |                |
| Operating temperature range<br>(derate 3% per °C above 40°C) | -40 to +70°C (full rated output up to 40°C)                          |                 |                 |                |                |
| Overload protection                                          | Hiccup mode, recovers automatically after fault condition is removed |                 |                 |                |                |
| Short circuit proof                                          | Yes                                                                  |                 |                 |                |                |
| Protection against reverse polarity connection               | With external fuse or circuit breaker (not included)                 |                 |                 |                |                |
| ENCLOSURE                                                    |                                                                      |                 |                 |                |                |
| Material & Colour                                            | Aluminium (blue RAL 5012)                                            |                 |                 |                |                |
| Protection category                                          | IP67                                                                 |                 |                 |                |                |
| DC connection                                                | Two input and two output cables, length 1,8m                         |                 |                 | Bolts M6       |                |
| Cable cross section, input                                   | 0,8mm² (18 AWG)                                                      | 1,5mm² (15 AWG) | 2,6mm² (13 AWG) | n.a.           | n.a.           |
| Cable cross section, output                                  | 0,8mm² (18 AWG)                                                      | 1,5mm² (15 AWG) | 2,6mm² (13 AWG) | n.a.           | n.a.           |
| Weight (kg)                                                  | 50 g                                                                 | 300 g           | 300 g           | 2,15 kg        | 2,15 kg        |
| Dimensions (h x w x d in mm)                                 | 25 x 43 x 20                                                         | 74 x 74 x 32    | 74 x 74 x 32    | 265 x 127 x 63 | 265 x 127 x 63 |
| STANDARDS                                                    |                                                                      |                 |                 |                |                |
| Safety                                                       | EN 60950                                                             |                 |                 |                |                |
| Emission                                                     | EN 61000-6-3, EN 55014-1                                             |                 |                 |                |                |
| Immunity                                                     | EN 55014-2, EN 61000-6-1, EN 61000-6-2                               |                 |                 |                |                |
| Vibration                                                    | IEC 68-2-6: 10-150 Hz / 1.0 G                                        |                 |                 |                |                |



**Orion IP67 24/12-5**  
with 1,8 m cables



**Orion IP67 24/12-10**  
**Orion IP67 24/12-20**



**Orion IP67 24/12-100**  
**Orion IP67 12/24-50**