

Orion-Tr DC-DC converters isolated

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100 / 250 / 400 Watt



Orion-Tr 24/12-20 (240W)



Orion-Tr 24/12-20 (240W)

Remote on-off

The remote on-off eliminates the need for a high current switch in the input wiring. The remote on-off can be operated with a low power switch or by for example the engine run/stop switch (see manual).

Adjustable output voltage: can also be used as a battery charger

For example to charge a 12 Volt starter or accessory battery in an otherwise 24V system.

All models are short circuit proof and can be paralleled to increase output current

An unlimited number of units can be connected in parallel.

High temperature protected

The output current will reduce at high ambient temperature.

IP43 protection

When installed with the screw terminals oriented downwards.

Screw terminals

No special tools needed for installation.

Input fuse (not replaceable)

On 12V and 24V input models only.

| Isolated converters 110 – 120W | Orion-Tr 12/12-9 (110W) | Orion-Tr 12/24-5 (120W) | Orion-Tr 24/12-9 (110W) | Orion-Tr 24/24-5 (120W) | Orion-Tr 24/48-2,5 (120W) | Orion-Tr 48/12-9 (110W) | Orion-Tr 48/24-5 (120W) | Orion-Tr 48/48-2,5 (120W) |
|---|---|-------------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------------|
| Input voltage range | 8-17V | 8-17V | 16-35V | 16-35V | 16-35V | 32-70V | 32-70V | 32-70V |
| Under voltage shut down | 7V | 7V | 14V | 14V | 14V | 28V | 28V | 28V |
| Under voltage restart | 7,5V | 7,5V | 15V | 15V | 15V | 30V | 30V | 30V |
| Nominal output voltage | 12,2V | 24,2V | 12,2V | 24,2V | 48,2V | 12,2V | 24,2V | 48,2V |
| Output voltage adjust range | 10-15V | 20-30V | 10-15V | 20-30V | 40-60V | 10-15V | 20-30V | 40-60V |
| Output voltage tolerance | +/- 0,2V | | | | | | | |
| Output noise | 2mV rms | | | | | | | |
| Cont. output current at nominal output voltage and 25°C | 9A | 5A | 9A | 5A | 2,5A | 9A | 5A | 2,5A |
| Maximum output current (10 s) at nominal output voltage | 12,5A | 6,3A | 12,5A | 6,3A | 3,0A | 12,5A | 6,3A | 3,0A |
| Short circuit output current | 32A | 23A | 39A | 30A | 19A | 27A | 25A | 17A |
| Cont. output power at 25°C | 110W | 120W | 110W | 120W | 120W | 110W | 120W | 120W |
| Cont. output power at 40°C | 85W | 110W | 85W | 115W | 115W | 85W | 100W | 85W |
| Efficiency | 87% | 88% | 85% | 87% | 88% | 87% | 86% | 89% |
| Off load current | < 50mA | < 80mA | < 40mA | < 60 mA | < 120mA | < 50mA | < 60mA | < 80mA |
| Galvanic isolation | 200V dc between input, output and case | | | | | | | |
| Operating temperature range | -20 to +55°C (derate 3% per °C above 40°C) | | | | | | | |
| Humidity | Max. 95% non-condensing | | | | | | | |
| DC connection | Screw terminals | | | | | | | |
| Maximum cable cross-section | 6 mm ² AWG10 | | | | | | | |
| Weight | 0,42 kg (1 lb) | | | | | | | |
| Dimensions h x w x d | 100 x 113 x 47 mm (4.0 x 4.5 x 1.9 inch) | | | | | | | |
| Standards: Safety Emission Immunity Automotive Directive | EN 60950 EN 61000-6-3, EN 55014-1 EN 61000-6-2, EN 61000-6-1, EN 55014-2 ECE R10-5 | | | | | | | |

See page two for 250 W and 400 W models

| Isolated converters 220 - 280 Watt | Orion-Tr 12/12-18 (220W) | Orion-Tr 12/24-10 (240W) | Orion-Tr 24/12-20 (240W) | Orion-Tr 24/24-12 (280W) | Orion-Tr 24/48-6 (280W) | Orion-Tr 48/12-20 (240W) | Orion-Tr 48/24-12 (280W) | Orion-Tr 48/48-6 (280W) |
|---|---|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| Input voltage range | 8-17V | 8-17V | 16-35V | 16-35V | 16-35V | 32-70V | 32-70V | 32-70V |
| Under voltage shut down | 7V | 7V | 14V | 14V | 14V | 28V | 28V | 28V |
| Under voltage restart | 7,5V | 7,5V | 15V | 15V | 15V | 30V | 30V | 30V |
| Nominal output voltage | 12,2V | 24,2V | 12,2V | 24,2V | 48,2V | 12,2V | 24,2V | 48,2V |
| Output voltage adjust range | 10-15V | 20-30V | 10-15V | 20-30V | 40-60V | 10-15V | 20-30V | 40-60V |
| Output voltage tolerance | +/- 0,2V | | | | | | | |
| Output noise | 2mV rms | | | | | | | |
| Cont. output current at nominal output voltage and 40°C | 18A | 10A | 20A | 12A | 6A | 20A | 12A | 6A |
| Maximum output current (10 s) at nominal output voltage | 25A | 15A | 25A | 15A | 8A | 25A | 15A | 8A |
| Short circuit output current | 40A | 25A | 50A | 30A | 25A | 50A | 30A | 25A |
| Cont. output power at 25°C | 280W | 280W | 300W | 320W | 320W | 280W | 320W | 320W |
| Cont. output power at 40°C | 220W | 240W | 240W | 280W | 280W | 240W | 280W | 280W |
| Efficiency | 87% | 88% | 88% | 89% | 89% | 87% | 89% | 89% |
| Off load current | < 80mA | < 100mA | < 100mA | < 80mA | < 120 mA | < 80mA | < 80mA | < 80mA |
| Galvanic isolation | 200V dc between input, output and case | | | | | | | |
| Operating temperature range | -20 to +55°C (derate 3% per °C above 40°C) | | | | | | | |
| Humidity | Max. 95% non-condensing | | | | | | | |
| DC connection | Screw terminals | | | | | | | |
| Maximum cable cross-section | 16 mm ² AWG6 | | | | | | | |
| Weight | 1,3 kg (3 lb) | | | | | | | |
| Dimensions hwxwd | 130 x 186 x 70 mm (5.1 x 7.3 x 2.8 inch) | | | | | | | |
| Standards: Safety Emission Immunity Automotive Directive | EN 60950 EN 61000-6-3, EN 55014-1 EN 61000-6-2, EN 61000-6-1, EN 55014-2 ECE R10-5 | | | | | | | |

| Isolated converters 360 - 400 Watt | Orion-Tr 12/12-30 (360W) | Orion-Tr 12/24-15 (360W) | Orion-Tr 24/12-30 (360W) | Orion-Tr 24/24-17 (400W) | Orion-Tr 24/48-8,5 (400W) | Orion-Tr 48/12-30 (360W) | Orion-Tr 48/24-16 (380W) | Orion-Tr 48/48-8 (380W) |
|---|--|--------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|-------------------------------|
| Input voltage range | 10-17V | 10-17V | 20-35V | 20-35V | 20-35V | 40-70V | 40-70V | 40-70V |
| Under voltage shut down | 7V | 7V | 14V | 14V | 14V | 28V | 28V | 28V |
| Under voltage restart | 7,5V | 7,5V | 15V | 15V | 15V | 30V | 30V | 30V |
| Nominal output voltage | 12,2V | 24,2V | 12,2V | 24,2V | 48,2V | 12,2V | 24,2V | 48,2V |
| Output voltage adjust range | 10-15V | 20-30V | 10-15V | 20-30V | 40-60V | 10-15V | 20-30V | 40-60V |
| Output voltage tolerance | +/- 0,2V | | | | | | | |
| Output noise | 2mV rms | | | | | | | |
| Cont. output current at nominal output voltage and 40°C | 30A | 15A | 30A | 17A | 8,5A | 30A | 16A | 8A |
| Maximum output current (10 s) at nominal output voltage minus 20% | 40A | 25A | 45A | 25A | 15A | 40A | 25A | 15A |
| Short circuit output current | 60A | 40A | 60A | 40A | 25A | 60A | 40A | 25A |
| Cont. output power at 25°C | 430W | 430W | 430W | 480W | 480W | 430W | 430W | 430W |
| Cont. output power at 40°C | 360W | 360W | 360W | 400W | 400W | 360W | 380W | 380W |
| Efficiency | 87% | 88% | 88% | 89% | 89% | 87% | 89% | 89% |
| Off load current | < 80mA | < 100mA | < 100mA | < 80mA | < 120 mA | < 80mA | < 80mA | < 80mA |
| Galvanic isolation | 200V dc between input, output and case | | | | | | | |
| Operating temperature range | -20 to +55°C (derate 3% per °C above 40°C) | | | | | | | |
| Humidity | Max. 95% non-condensing | | | | | | | |
| DC connection | Screw terminals | | | | | | | |
| Maximum cable cross-section | 16 mm ² (AWG6) | | | | | | | |
| Weight | 12V input and/or 12V output models: 1,8 kg (3 lb) | | | | Other models: 1,6 kg (3.5 lb) | | | |
| Dimensions hwxwd | 12V input and/or 12V output models: 130 x 186 x 80 mm (5.1 x 7.3 x 3.2 inch) Other models: 130 x 186 x 70 mm (5.1 x 7.3 x 2.8 inch) | | | | | | | |
| Standards: Safety Emission Immunity Automotive Directive | EN 60950 EN 61000-6-3, EN 55014-1 EN 61000-6-2, EN 61000-6-1, EN 55014-2 ECE R10-5 | | | | | | | |