

IMR Series

3...15 Watt DC-DC Converter



Input voltage range up to 72 V DC
 1, 2 and 3 outputs up to 30 V DC
 500 V DC I/O electric strength test voltage

- Low cost
- Short circuit proof
- Efficiency up to 82%

Selection chart

| Output 1 | | Output 2 | | Output 3 | | Type | Type | Type |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------------|--------------------|--------------------|
| $U_o \text{ nom}$ | $I_o \text{ nom}$ | $U_o \text{ nom}$ | $I_o \text{ nom}$ | $U_o \text{ nom}$ | $I_o \text{ nom}$ | Input voltage ¹ | Input voltage | Input voltage |
| [V DC] | [mA] | [V DC] | [mA] | [V DC] | [mA] | 9...18 V DC | 18...36 V DC | 36...72 V DC |
| 3.3 | 1500 | - | - | - | - | 12 IMR 6-03-2 | 24 IMR 6-03-2 | 48 IMR 6-03-2 |
| 3.3 | 3000 | - | - | - | - | 12 IMR 15-03-2 | 24 IMR 15-03-2 | 48 IMR 15-03-2 |
| 5 | 500 | - | - | - | - | 12 IMR 3-05-2 | 24 IMR 3-05-2 | 48 IMR 3-05-2 |
| 5 | 1000 | - | - | - | - | 12 IMR 6-05-2 | 24 IMR 6-05-2 | 48 IMR 6-05-2 |
| 5 | 3000 | - | - | - | - | 12 IMR 15-05-2 | 24 IMR 15-05-2 | 48 IMR 15-05-2 |
| 12 | 250 | - | - | - | - | 12 IMR 3-12-2 | 24 IMR 3-12-2 | 48 IMR 3-12-2 |
| 12 | 500 | - | - | - | - | 12 IMR 6-12-2 | 24 IMR 6-12-2 | 48 IMR 6-12-2 |
| 12 | 1250 | - | - | - | - | 12 IMR 15-12-2 | 24 IMR 15-12-2 | 48 IMR 15-12-2 |
| 15 | 200 | - | - | - | - | 12 IMR 3-15-2 | 24 IMR 3-15-2 | 48 IMR 3-15-2 |
| 15 | 400 | - | - | - | - | 12 IMR 6-15-2 | 24 IMR 6-15-2 | 48 IMR 6-15-2 |
| 15 | 1000 | - | - | - | - | 12 IMR 15-15-2 | 24 IMR 15-15-2 | 48 IMR 15-15-2 |
| +5 | 250 | -5 | 250 | - | - | 12 IMR 3-0505-2 | 24 IMR 3-0505-2 | 48 IMR 3-0505-2 |
| +5 | 50 | -5 | 50 | - | - | 12 IMR 6-0505-2 | 24 IMR 6-0505-2 | 48 IMR 6-0505-2 |
| +12 | 125 | -12 | 125 | - | - | 12 IMR 3-1212-2 | 24 IMR 3-1212-2 | 48 IMR 3-1212-2 |
| +12 | 250 | -12 | 250 | - | - | 12 IMR 6-1212-2 | 24 IMR 6-1212-2 | 48 IMR 6-1212-2 |
| +12 | 625 | -12 | 625 | - | - | 12 IMR 15-1212-2 | 24 IMR 15-1212-2 | 48 IMR 15-1212-2 |
| +15 | 100 | -15 | 100 | - | - | 12 IMR 3-1515-2 | 24 IMR 3-1515-2 | 48 IMR 3-1515-2 |
| +15 | 200 | -15 | 200 | - | - | 12 IMR 6-1515-2 | 24 IMR 6-1515-2 | 48 IMR 6-1515-2 |
| +15 | 500 | -15 | 500 | - | - | 12 IMR 15-1515-2 | 24 IMR 15-1515-2 | 48 IMR 15-1515-2 |
| 5 | 2000 | +12 | 200 | -12 | 200 | 12 IMR 15-051212-2 | 24 IMR 15-051212-2 | 48 IMR 15-051212-2 |
| 5 | 2000 | +15 | 200 | -15 | 200 | 12 IMR 15-051515-2 | 24 IMR 15-051515-2 | 48 IMR 15-051515-2 |

¹ 12 IMR 3 and 12 IMR 15 types: output current $I_o \text{ nom}$ see: Application Note - Output Data

Input

| | | |
|---------------|---|--------------|
| Input voltage | continuous range, 12 V | 9...18 V DC |
| | continuous range, 24 V | 18...36 V DC |
| | continuous range, 48 V | 36...72 V DC |
| Protection | reverse input voltage, current limitation | |

Output

| | | |
|------------------|--|------------------|
| Efficiency | | up to 82% |
| Minimum load | recommended | 20% $I_{o\ nom}$ |
| Line regulation | $U_{i\ min}...U_{i\ max}, I_{o\ nom}$ | $\pm 1\%$ |
| Load regulation | $U_{i\ nom}, 0...100\% I_{o\ nom},$ single output models | 2% |
| | dual output models (traching) | 5% |
| | triple output models (traching) | 6% |
| Ripple and noise | $U_{i\ nom}, (20...100\%) I_{o\ nom}$ | 2% $U_{o\ nom}$ |

Protection

| | | |
|---------------------|-------------------------|-------------------|
| Overload protection | $U_{i\ nom},$ full load | 125% $P_{i\ nom}$ |
| No-load protection | | |

Safety

| | | |
|------------------------------|---|----------|
| I/O electric strength test | per EN 60950 | 500 V DC |
| Electromagnetic interference | conducted per EN 55022 with external filter | class B |

Environmental

| | | |
|-----------------------|--------------------------|--------------|
| Operating temperature | $U_{i\ nom}, I_{o\ nom}$ | -10...50°C |
| Storage temperature | non operational | -40...100°C |
| Relative humidity | non condensing | 95% |
| MTBF | per MIL-HDBK-217F, N2 | >3'000'000 h |

Options

| | | |
|----------------------------|---|----|
| Extended temperature range | -25...71 °C, ambient, operating, IMR 3, IMR 6 | -7 |
|----------------------------|---|----|

IMR Series

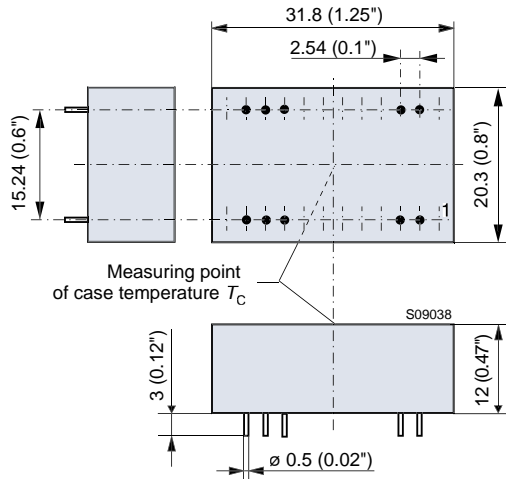
3...15 Watt DC-DC Converter

Mechanical data

Tolerances ± 0.3 mm (0.012") unless otherwise indicated.



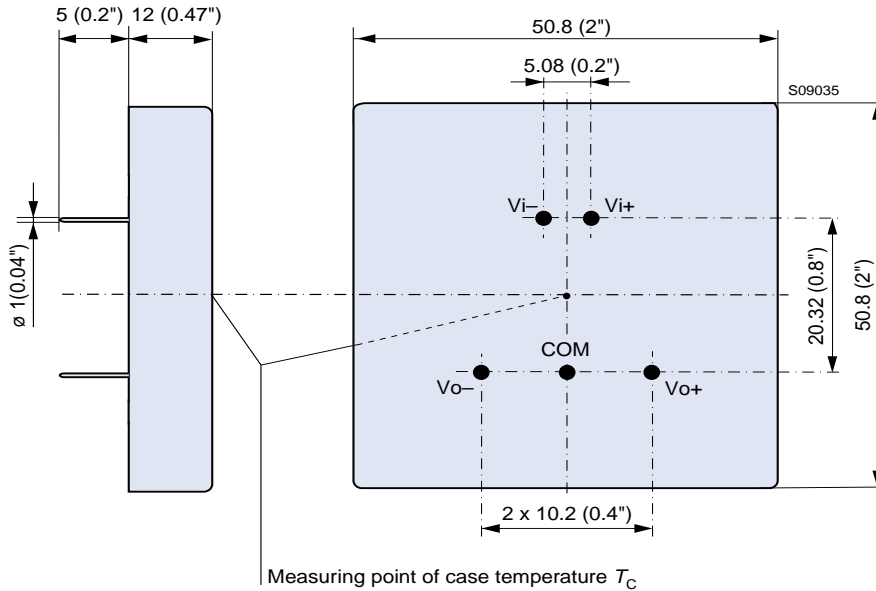
IMR 3



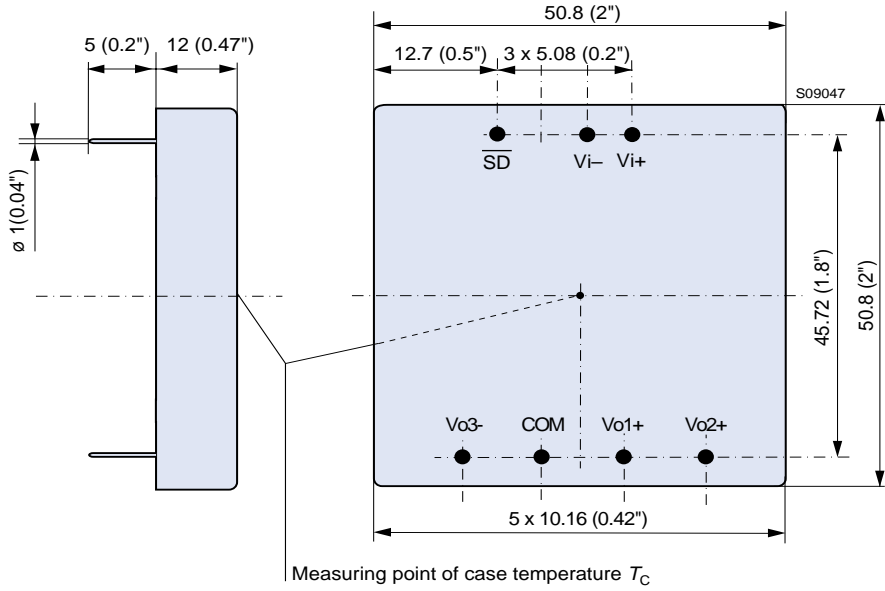
Pin allocation IMR 3

| Pin | Single output unit | Dual output unit |
|-----|--------------------|------------------|
| 2 | Vi- | Vi- |
| 3 | Vi- | Vi- |
| 9 | n.c. | COM |
| 11 | n.c. | Vo- |
| 14 | Vo+ | Vo+ |
| 16 | Vo- | COM |
| 22 | Vi+ | Vi+ |
| 23 | Vi+ | Vi+ |

IMR 6



IMR 15



Accessories

DIN and chassis mounting bracket.