

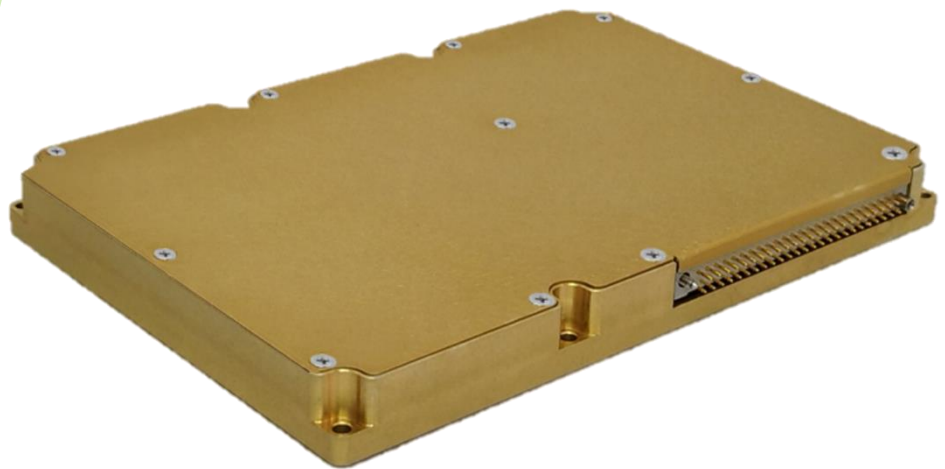


OHM  
POWER  
SOLUTIONS

# M450FN

479Watt

**Five Isolated Outputs**  
DC/DC Converter



## Features:

- Designed to meet MIL-STD-1275D
- High Efficiency – up to 88%
- Fully protected for Over Load/Short, Over-voltage and Over-Temperature
- Five isolated outputs
- Base Plate cooling
- No external EMI filter needed

## Typical applications:

- Military
- Ruggedized
- Telecom
- Industrial



| General specification              |                                                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DC Input</b>                    |                                                                                                                                             |
| Input voltage range                | 16-33V <sub>DC</sub>                                                                                                                        |
| Input Per MIL-STD-1275D            | Including 100V for 50ms                                                                                                                     |
| Protection                         | Reverse Polarity Protection                                                                                                                 |
| <b>DC Output</b>                   |                                                                                                                                             |
| Output voltage / Current           | See table below                                                                                                                             |
| Line Load & Temperature regulation | < +/-2%                                                                                                                                     |
| Current limit on each output       | 115% - 145% of rated current                                                                                                                |
| OVP                                | Over-Voltage on each output - Non-latch type                                                                                                |
| Turn on Transient                  | No turn on transient                                                                                                                        |
| <b>Isolation</b>                   |                                                                                                                                             |
| Input to Output:                   | 100 V <sub>DC</sub>                                                                                                                         |
| Input to Case:                     | 100 V <sub>DC</sub>                                                                                                                         |
| Output to Case:                    | 100 V <sub>DC</sub>                                                                                                                         |
| <b>Interface</b>                   |                                                                                                                                             |
| Control Signals                    | TTL logic enable                                                                                                                            |
| Inhibit Signals                    | <b>ON/OFF</b> = Open, P.S. is <b>OFF</b> .<br><b>ON/OFF</b> = GND P.S. is <b>ON</b> (GND is isolated).<br>Pin #37 for input voltage sensing |
| External Sync                      | Optional                                                                                                                                    |
| <b>Environmental</b>               |                                                                                                                                             |
| Operating Temperature              | -40°C to +80°C Base plate                                                                                                                   |
| Over-Temperature protection        | to +100°C with auto recovery at +90°C                                                                                                       |
| Shock & Vibration                  | per MIL-STD-810E                                                                                                                            |
| EMI-RFI                            | per MIL-STD-461E                                                                                                                            |
| <b>Mechanical</b>                  |                                                                                                                                             |
| Size L x H x W (mm)                | 168 x 16 x 116.8                                                                                                                            |
| Weight (grams)                     | 430                                                                                                                                         |
| Cooling                            | Base plate                                                                                                                                  |
| Input / Output connector           | 50 PIN Airborne P/N M55302/61-A50 or Eq.                                                                                                    |

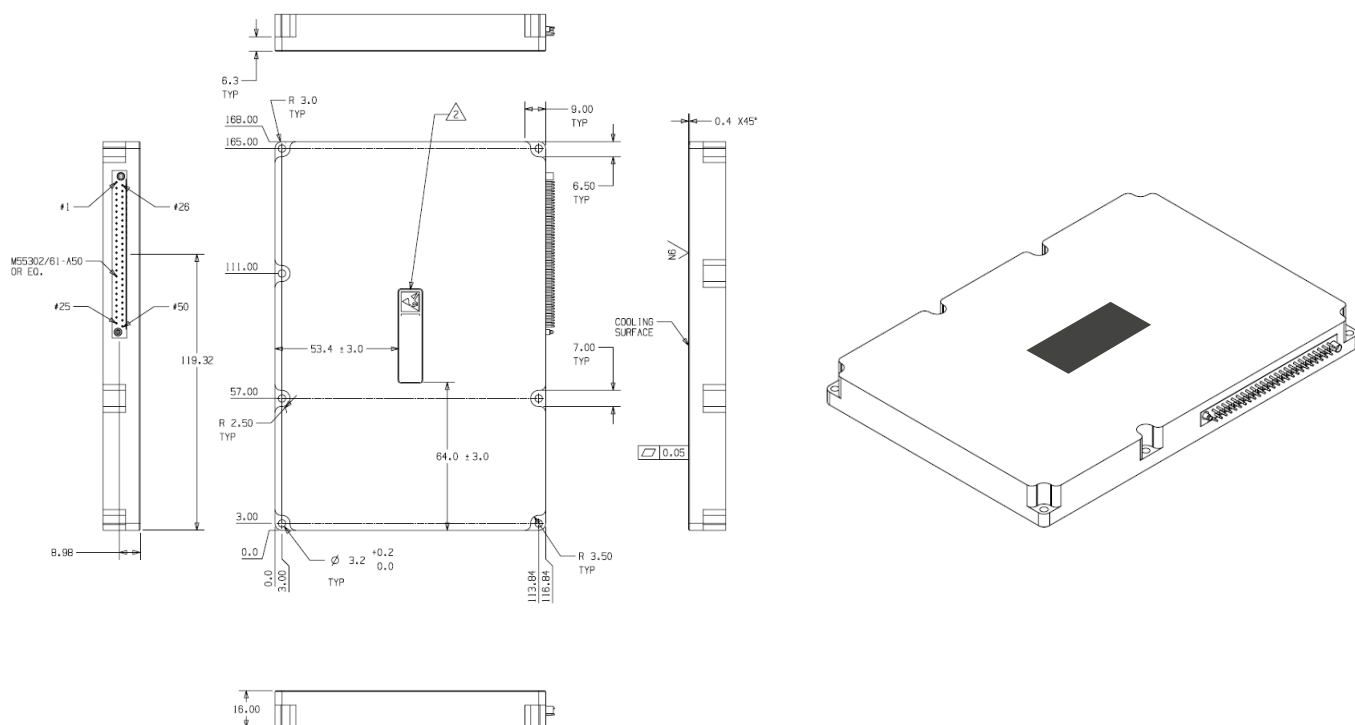
## Ordering Information

| MODEL # | OUTPUT # | INPUT Voltage (V) | OUTPUT Voltage (V) | OUTPUT Current (A) | POWER (W) | POWER TOTAL (W) | R&N (mV) |
|---------|----------|-------------------|--------------------|--------------------|-----------|-----------------|----------|
| M450FN  | 1        | 24                | 3.3                | 7.5                | 24.75     | 493             | 50       |
|         | 2        |                   | 5                  | 4.5                | 22.5      |                 | 50       |
|         | 3        |                   | 5                  | 3                  | 15        |                 | 50       |
|         | 4        |                   | 6                  | 2                  | 12        |                 | 50       |
|         | 5        |                   | 28                 | 15                 | 420       |                 | 50       |

## PIN – Assignment

| PIN # | PIN Function | PIN # | PIN Function | PIN # | PIN Function |
|-------|--------------|-------|--------------|-------|--------------|
| 1     | VIN          | 18    | +3.3V_RTN    | 35    | PS_ON_RTN    |
| 2     | VIN          | 19    | +6V_OUT      | 36    | SYNC_RTN     |
| 3     | VIN          | 20    | +27V_RTN     | 37    | IVS          |
| 4     | VIN          | 21    | +27V_RTN     | 38    | -5V_RTN      |
| 5     | VIN          | 22    | +27V_RTN     | 39    | +5.3V_OUT    |
| 6     | VIN_RTN      | 23    | +27V_OUT     | 40    | +5.3V_RTN    |
| 7     | VIN_RTN      | 24    | +27V_OUT     | 41    | +3.3V_OUT    |
| 8     | VIN_RTN      | 25    | +27V_OUT     | 42    | +3.3V_RTN    |
| 9     | VIN_RTN      | 26    | VIN          | 43    | +3.3V_RTN    |
| 10    | GND_EARTH    | 27    | VIN          | 44    | +6V_RTN      |
| 11    | PS_ON        | 28    | VIN          | 45    | +27V_RTN     |
| 12    | SYNC         | 29    | VIN          | 46    | +27V_RTN     |
| 13    | -5V_OUT      | 30    | VIN_RTN      | 47    | +27V_RTN     |
| 14    | +5.3V_OUT    | 31    | VIN_RTN      | 48    | +27V_OUT     |
| 15    | +5.3V_RTN    | 32    | VIN_RTN      | 49    | +27V_OUT     |
| 16    | +3.3V_OUT    | 33    | VIN_RTN      | 50    | +27V_OUT     |
| 17    | +3.3V_OUT    | 34    | VIN_RTN      |       |              |

## Outline Drawing



Note: Specifications are subject to change without prior notice by the manufacturer.  
Additional configurations and modifications available. Contact us for more details.