

M286 SERIES

COMPACT, HIGH DENSITY
HIGH EFFICIENCY
SINGLE OUTPUT
UP TO 1500W
AC/DC CONVERTERS



APPLICATIONS

Military, Ruggedized, Telecom, Industrial

SPECIAL FEATURES

- Miniature size
- High efficiency
- MIL-STD-704E Compatible
- MIL-STD-810F Environment
- Input / Output isolation
- Fixed switching frequency (400KHz)
- Inhibit Input
- MIL-STD-461E EMI/RFI filters included
- Limited Inrush Current
- Indefinite short circuit protection with auto-recovery
- Over temperature shutdown with auto-recovery
- Over-voltage protection

ENVIRONMENTAL

Random Vibration: 20Hz to 2KHz, 0.01G2/Hz

Shock: 40g, 11mS, Half Sine

Temperature:

Operating -52°C to +85°C (baseplate)

Storage -55°C to +85°C (ambient)

Humidity: up to HR 100%, incl. condensation

RELIABILITY

MTBF: 100'000Hr (MIL-HDBK-21F, GF, +85°C)

ELECTRICAL SPECIFICATIONS

3 Phase AC Input

Frequency: 50/60/400Hz

Voltage Range: 115±20%VAC (200VAC L-L) Input

Transients: up to 312VAC (line to line) for 100mS

Input Power Factor: 0.85 minimum at full load

Efficiency: 88% minimum at full load

DC Output

Line /Load/Temp Regulation: ±2% around Set Point

Ripple and noise: 150mVp-p (max)

Current limiting: Continuous protection for unlimited time.

Over Temp Protection: Shutdown at baseplate temperature of +95°C (±5°C) with automatic recovery at ±85°C (±5°C)

EMI/RFI:

MIL-STD-461E

CE102, CS101, CS114, CS115, CS116, RE102, RS103

Isolation:

50MOhm/500V between Input to Output

50MOhm/500V between Input to Case

20MOhm/200V between Output to Case

Output Ratings:

DC Voltage Set Point and Output Current rating: Per Model Number (see table on next page)

OUTPUT Set Point and Current Rating

| Model Number | DC Out Set Point | Max Output Current |
|--------------|------------------|--------------------|
| M286-12 | 12 VDC | 60 A |
| M286-15 | 15 VDC | 60 A |
| M286-24 | 24 VDC | 60 A |
| M286-28 | 28 VDC | 54 A |
| M286-32 | 32 VDC | 47 A |

PIN ASSIGNMENT

J2 INPUT CONNECTOR

| PIN No. | Description |
|---------|-------------------|
| A | 115 VAC – PHASE A |
| B | 115 VAC – PHASE B |
| C | 115 VAC – PHASE C |
| D | SPARE |
| E | Safety Ground |

J2 OUTPUT CONNECTOR

| Pin No. | Pin Function |
|---------|--------------|
| 1 | CHASSIS GND |
| 2 | INHIBIT |
| 3 | PARALLEL |
| 4 | SPARE |
| 5 | SPARE |
| 6 | +VOUT |
| 7 | VOUT RTN |
| 8 | BIT |
| 9 | RTN BIT |
| 10 | +VOUT |
| 11 | +VOUT |
| 12 | +VOUT |
| 13 | VOUT RTN |
| 14 | VOUT RTN |
| 15 | VOUT RTN |
| 16 | SPARE |
| 17 | +VOUT |
| 18 | +VOUT |
| 19 | +VOUT |

| Pin No. | Pin Function |
|---------|--------------|
| 20 | +VOUT |
| 21 | VOUT RTN |
| 22 | VOUT RTN |
| 23 | VOUT RTN |
| 24 | SPARE |
| 25 | +VOUT |
| 26 | +VOUT |
| 27 | +VOUT |
| 28 | VOUT RTN |
| 29 | VOUT RTN |
| 30 | VOUT RTN |
| 31 | VOUT RTN |
| 32 | +VOUT |
| 33 | +VOUT |
| 34 | +VOUT |
| 35 | +VOUT |
| 36 | VOUT RTN |
| 37 | VOUT RTN |
| 38 | VOUT RTN |

| Pin No. | Pin Function |
|---------|--------------|
| 39 | VOUT RTN |
| 40 | +VOUT |
| 41 | +VOUT |
| 42 | +VOUT |
| 43 | VOUT RTN |
| 44 | VOUT RTN |
| 45 | VOUT RTN |
| 46 | VOUT RTN |
| 47 | +VOUT |
| 48 | +VOUT |
| 49 | +VOUT |
| 50 | VOUT RTN |
| 51 | VOUT RTN |
| 52 | VOUT RTN |
| 53 | +VOUT |
| 54 | +VOUT |
| 55 | VOUT RTN |
| | |
| | |

FUNCTIONS AND SIGNALS

+VOUT

The positive terminal of the DC Output voltage.

VOUT RTN

The negative terminal of the DC Output voltage.

CHASSIS GND

Connected to the chassis of the M286.

INHIBIT Input

When shorted ($<1V @ 2mA$) to the VOUT RTN inhibits the DC Output voltage. When Open ($I < 0.1mA$ at $5Vdc$) enables the Output voltage.

PARALLEL Pin

When using two or more identical M286 units in parallel, all PARALLEL Pins should be connected together.

BIT Output

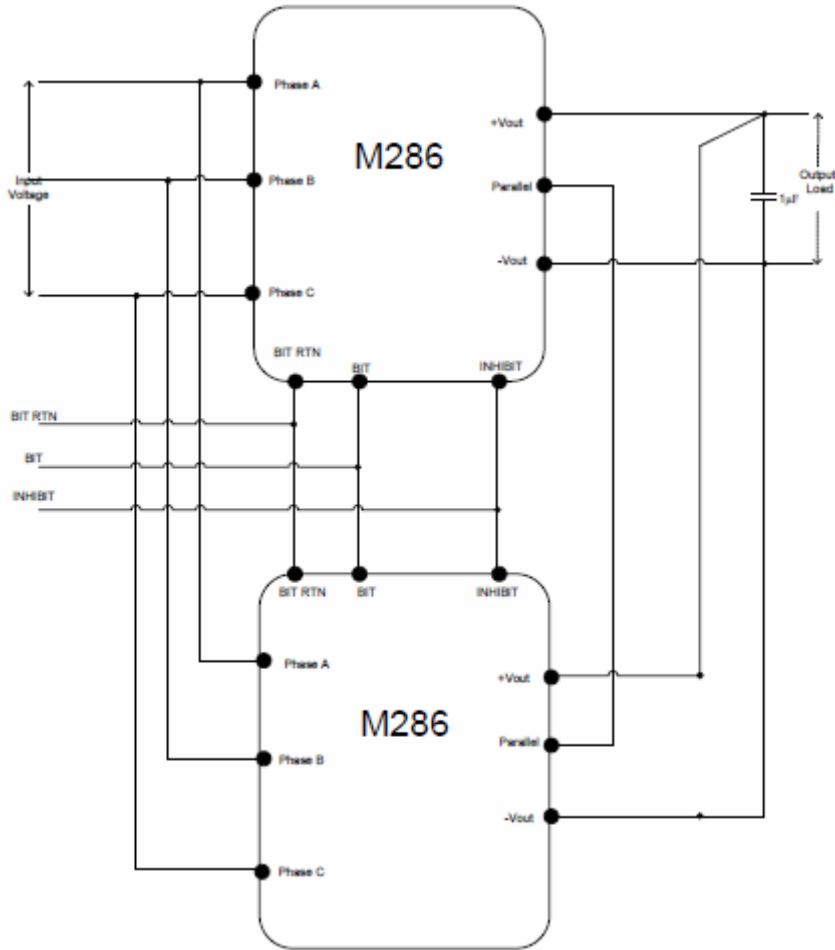
The output side (collector and emitter) of an opto-isolator. Active Low ($V < 0.8V @ 2mA$) when DC output voltage is OK, Open ($I < 0.05mA @ 5V$) when DC output fails.

CONNECTIONS

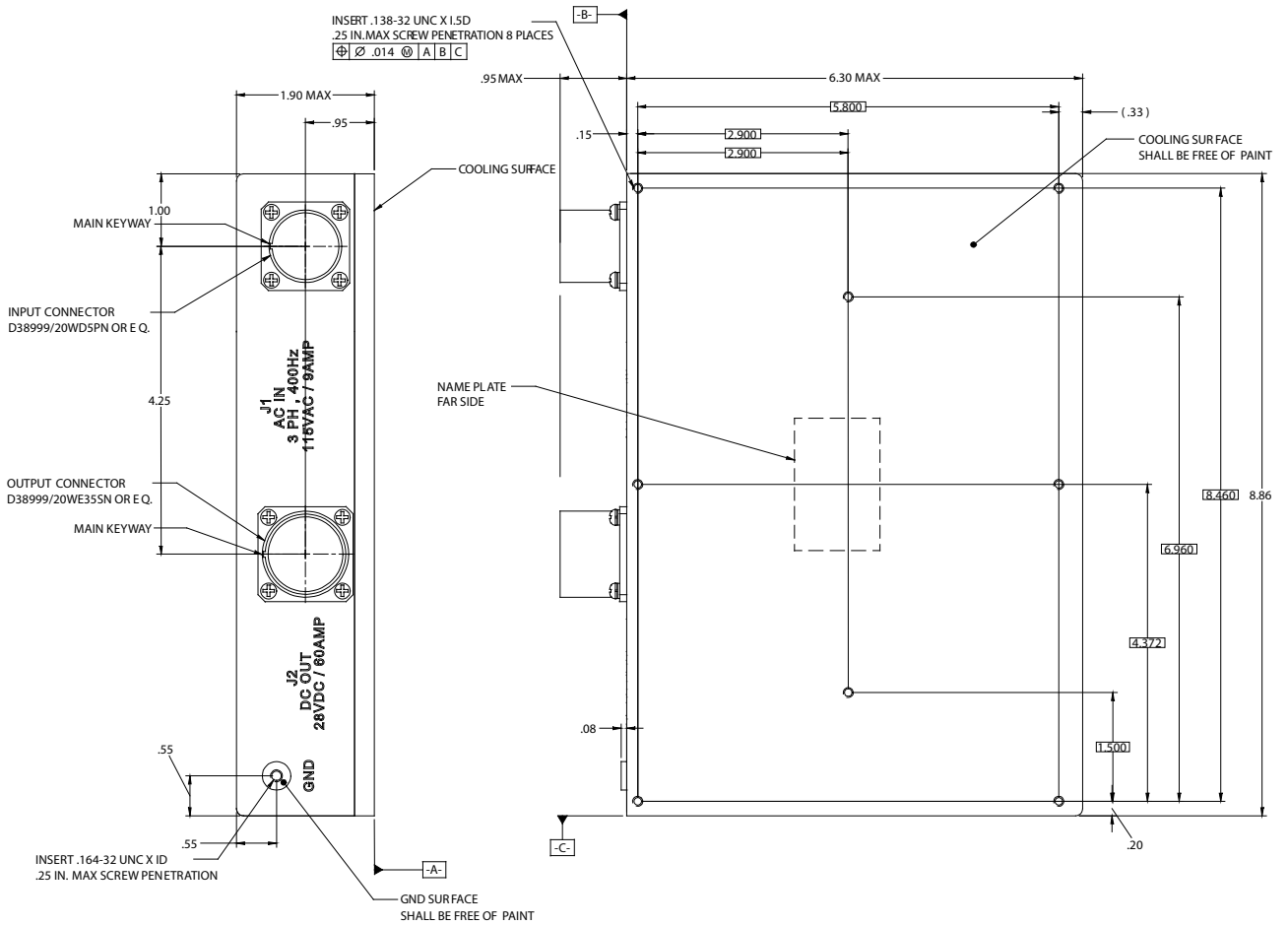
Parallel connection

Parallel connection is used to increase the current by the number of units.

Parallel connection



OUTLINE DRAWING



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
.XX $\pm .02$ IN
.XXX $\pm .01$ IN
3. Weight: approx. 2.95Kg(6.51lb)

*Specifications are subject to change without prior notice by the manufacturer