



## SERIES: VMS-81 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

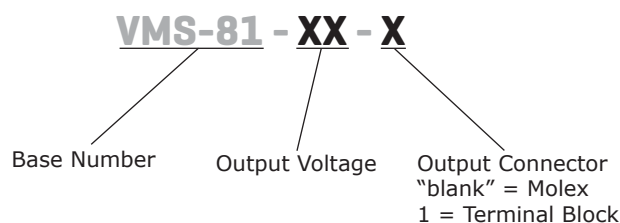
- up to 80 W continuous power
- universal input (90~260 Vac)
- single output from 5~36 V
- input to output 2MOPP
- active power factor correction
- over voltage and over current protections
- full medical safety approvals
- efficiency up to 85%



| MODEL     | output<br>voltage<br>(Vdc) | output<br>current<br>max<br>(A) | output<br>power<br>max<br>(W) | ripple<br>and noise <sup>1</sup><br>max<br>(mVp-p) | efficiency <sup>2</sup><br>typ<br>(%) |
|-----------|----------------------------|---------------------------------|-------------------------------|----------------------------------------------------|---------------------------------------|
| VMS-81-5  | 5                          | 14.0                            | 70                            | 50                                                 | 74                                    |
| VMS-81-7  | 7                          | 11.43                           | 80                            | 70                                                 | 79                                    |
| VMS-81-9  | 9                          | 8.89                            | 80                            | 90                                                 | 81                                    |
| VMS-81-12 | 12                         | 6.66                            | 80                            | 120                                                | 81                                    |
| VMS-81-15 | 15                         | 5.33                            | 80                            | 150                                                | 81                                    |
| VMS-81-18 | 18                         | 4.44                            | 80                            | 180                                                | 82                                    |
| VMS-81-24 | 24                         | 3.33                            | 80                            | 240                                                | 82                                    |
| VMS-81-30 | 30                         | 2.66                            | 80                            | 300                                                | 81                                    |
| VMS-81-36 | 36                         | 2.22                            | 80                            | 360                                                | 81                                    |

Notes: 1. Measured at full load, 90 Vac, 20MHz.  
2. Measured at full load, 230 Vac. Up to 85% max.

### PART NUMBER KEY



## INPUT

| parameter                 | conditions/description                                                                   | min  | typ | max        | units  |
|---------------------------|------------------------------------------------------------------------------------------|------|-----|------------|--------|
| voltage                   |                                                                                          | 90   |     | 260        | Vac    |
| frequency                 |                                                                                          | 47   |     | 63         | Hz     |
| input current             | at 100 Vac, full load<br>at 240 Vac, full load                                           |      |     | 1.2<br>0.4 | A<br>A |
| inrush current            | at 115 Vac, full load, cool start at 25 °C<br>at 230 Vac, full load, cool start at 25 °C |      |     | 28<br>56   | A<br>A |
| leakage current           | at 240 Vac/60 Hz                                                                         |      |     | 0.1        | mA     |
| power factor correction   | at 240 Vac, full load                                                                    | 0.95 |     | 1          |        |
| no load power consumption | at 230 Vac                                                                               |      |     | 0.5        | W      |

## OUTPUT

| parameter               | conditions/description | min | typ  | max | units |
|-------------------------|------------------------|-----|------|-----|-------|
| line regulation         | full load              |     |      | ±1  | %     |
| load regulation         | at 230 Vac             |     |      | ±5  | %     |
| hold-up time            | at 110 Vac, full load  | 16  |      |     | ms    |
| start-up time           | at 100 Vac, full load  | 0.3 |      | 2   | s     |
| temperature coefficient |                        |     | ±0.4 |     | %/°C  |

## PROTECTIONS

| parameter               | conditions/description | min | typ | max | units |
|-------------------------|------------------------|-----|-----|-----|-------|
| over voltage protection | recovers automatically | 112 |     | 132 | %     |
| over current protection | recovers automatically | 110 |     | 150 | %     |

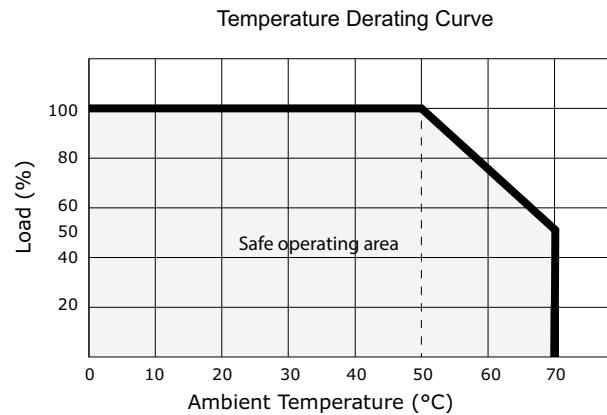
## SAFETY & COMPLIANCE

| parameter                    | conditions/description                                                       | min            | typ | max | units      |
|------------------------------|------------------------------------------------------------------------------|----------------|-----|-----|------------|
| isolation voltage            | input to output (for 1 minute, 10mA)<br>input to ground (for 1 minute, 10mA) | 6,653<br>2,121 |     |     | Vdc<br>Vdc |
| isolation resistance         | at 500 Vdc                                                                   | 50             |     |     | MΩ         |
| safety approvals             | IEC 60601-1, EN 60601-1, UL 60601-1                                          |                |     |     |            |
| conducted emissions          | EN60601-1-2/EN55011 class B                                                  |                |     |     |            |
| radiated emissions           | EN60601-1-2/EN55011 class B                                                  |                |     |     |            |
| harmonics                    | EN61000-3-2 class D                                                          |                |     |     |            |
| ESD                          | IEC61000-4-2, contact ± 6kV/ air ± 8kV                                       |                |     |     |            |
| radiated immunity            | IEC61000-4-(2, 3, 4, 5, 6, 8, 11)                                            |                |     |     |            |
| EFT/burst                    | IEC61000-4-4, ± 2kV                                                          |                |     |     |            |
| surge                        | IEC61000-4-5 line to line: ± 1kV, line to earth: ± 2kV                       |                |     |     |            |
| voltage dips & interruptions | IEC61000-3-3, IEC61000-4-11                                                  |                |     |     |            |
| MTBF                         | MIL-HDBK-217F, at 25°C                                                       | 100,000        |     |     | hours      |
| RoHS compliant               | yes                                                                          |                |     |     |            |

## ENVIRONMENTAL

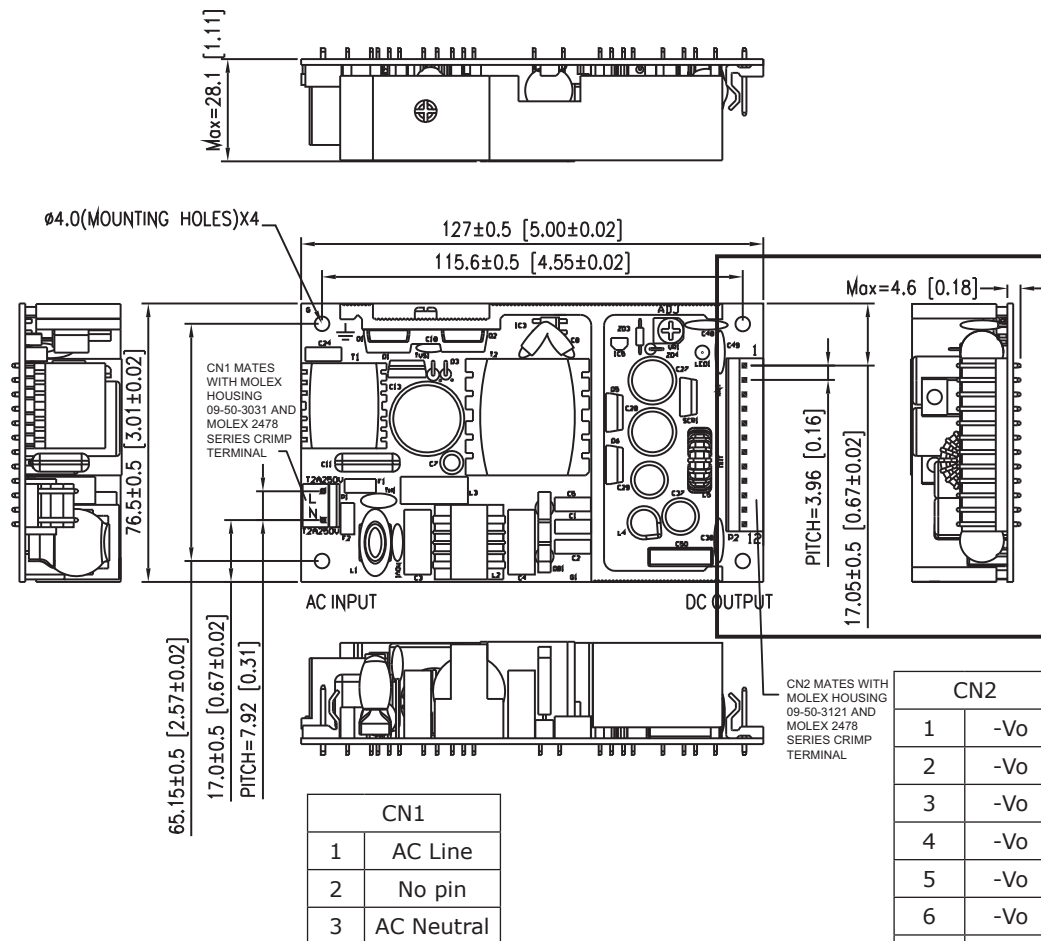
| parameter             | conditions/description | min | typ | max  | units |
|-----------------------|------------------------|-----|-----|------|-------|
| operating temperature | see derating curve     | 0   |     | 70   | °C    |
| storage temperature   |                        | -40 |     | 85   | °C    |
| operating humidity    |                        | 0   |     | 95   | %     |
| storage humidity      |                        | 0   |     | 95   | %     |
| operating altitude    |                        |     |     | 3000 | m     |

## DERATING CURVES

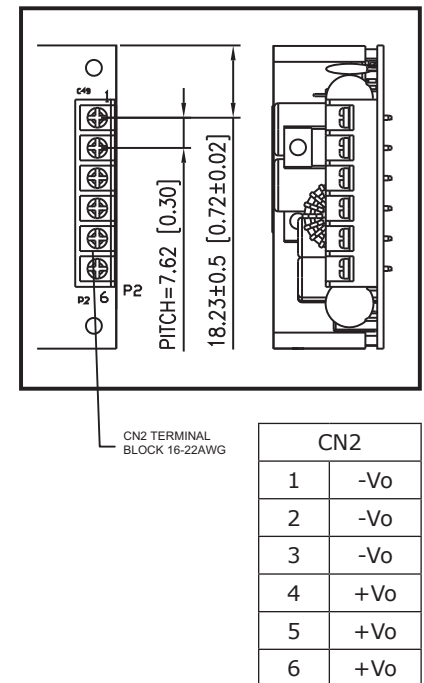


## MECHANICAL DRAWING

units: mm[inches]



Optional



## REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 07/19/2013 |

The revision history provided is for informational purposes only and is believed to be accurate.

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