



- Universal 90-264VAC Input
- High Efficiency
- Improved EMI Performance
- 5656VDC Isolation
- Single, Dual and Triple Outputs
- Full Safety Approvals



| Model Number | Output Voltage | Output Amps FL | Ripple/Noise | Efficiency<br>typ at nom. Input |
|--------------|----------------|----------------|--------------|---------------------------------|
|--------------|----------------|----------------|--------------|---------------------------------|

### SINGLE OUTPUT - PCB Mount

|           |         |       |             |     |
|-----------|---------|-------|-------------|-----|
| ESMA-5000 | 3.3 VDC | 1.25A | 150mV pk-pk | 65% |
| ESMA-5001 | 5 VDC   | 1A    | 150mV pk-pk | 67% |
| ESMA-5022 | 9 VDC   | 0.55A | 150mV pk-pk | 70% |
| ESMA-5002 | 12 VDC  | 0.42A | 150mV pk-pk | 70% |
| ESMA-5003 | 15 VDC  | 0.33A | 150mV pk-pk | 72% |
| ESMA-5018 | 18 VDC  | 0.27A | 150mV pk-pk | 70% |
| ESMA-5005 | 24VDC   | 0.23A | 150mV pk-pk | 72% |

### SINGLE OUTPUT - Chassis Mount

|           |         |       |             |     |
|-----------|---------|-------|-------------|-----|
| ESMC-5000 | 3.3 VDC | 1.25A | 150mV pk-pk | 65% |
| ESMC-5001 | 5 VDC   | 1A    | 150mV pk-pk | 67% |
| ESMC-5022 | 9 VDC   | 0.55A | 150mV pk-pk | 70% |
| ESMC-5002 | 12 VDC  | 0.42A | 150mV pk-pk | 70% |
| ESMC-5003 | 15VDC   | 0.33A | 150mV pk-pk | 72% |
| ESMC-5018 | 18 VDC  | 0.27A | 150mV pk-pk | 70% |
| ESMC-5005 | 24VDC   | 0.23A | 150mV pk-pk | 72% |

### SINGLE OUTPUT - DIN Rail Mount

|               |         |       |             |     |
|---------------|---------|-------|-------------|-----|
| ESMC-5000/DRL | 3.3 VDC | 1.25A | 150mV pk-pk | 66% |
| ESMC-5001/DRL | 5 VDC   | 1A    | 150mV pk-pk | 67% |
| ESMC-5022/DRL | 9 VDC   | 0.55A | 150mV pk-pk | 70% |
| ESMC-5002/DRL | 12 VDC  | 0.42A | 150mV pk-pk | 70% |
| ESMC-5003/DRL | 15VDC   | 0.33A | 150mV pk-pk | 72% |
| ESMC-5018/DRL | 18 VDC  | 0.27A | 150mV pk-pk | 70% |
| ESMC-5005/DRL | 24VDC   | 0.23A | 150mV pk-pk | 72% |



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| Model Number                          | Output Voltage | Output Amps FL | Ripple/Noise     | Efficiency<br>typ at nom. Input |
|---------------------------------------|----------------|----------------|------------------|---------------------------------|
| <b>DUAL OUTPUT - PCB Mount</b>        |                |                |                  |                                 |
| EDMA-5006                             | ±12 VDC        | ±0.21A         | ±150mV pk-pk     | 71%                             |
| EDMA-5007                             | ±15 VDC        | ±0.17A         | ±150mV pk-pk     | 71%                             |
| <b>DUAL OUTPUT - Chassis Mount</b>    |                |                |                  |                                 |
| EDMC-5006                             | ±12 VDC        | ±0.21A         | ±150mV pk-pk     | 71%                             |
| EDMC-5007                             | ±15 VDC        | ±0.17A         | ±150mV pk-pk     | 71%                             |
| <b>DUAL OUTPUT - DIN Rail Mount</b>   |                |                |                  |                                 |
| EDMC-5006/DRL                         | ±12 VDC        | ±0.21A         | ±150mV pk-pk     | 71%                             |
| EDMC-5007/DRL                         | ±15 VDC        | ±0.17A         | ±150mV pk-pk     | 71%                             |
| <b>TRIPLE OUTPUT - PCB Mount</b>      |                |                |                  |                                 |
| ETMA-5009                             | 5 ±12 VDC      | 0.53 ±0.1 A    | 75 ±100 mV pk-pk | 63%                             |
| ETMA-5011                             | 5 ±15 VDC      | 0.41 ±0.1 A    | 75 ±100 mV pk-pk | 61%                             |
| <b>TRIPLE OUTPUT - Chassis Mount</b>  |                |                |                  |                                 |
| ETMC-5009                             | 5 ±12 VDC      | 0.53 ±0.1 A    | 75 ±100 mV pk-pk | 63%                             |
| ETMC-5011                             | 5 ±15 VDC      | 0.41 ±0.1 A    | 75 ±100 mV pk-pk | 61%                             |
| <b>TRIPLE OUTPUT - DIN Rail Mount</b> |                |                |                  |                                 |
| ETMC-5009/DRL                         | 5 ±12 VDC      | 0.53 ±0.1 A    | 75 ±100 mV pk-pk | 63%                             |
| ETMC-5011/DRL                         | 5 ±15 VDC      | 0.41 ±0.1 A    | 75 ±100 mV pk-pk | 61%                             |

**INPUT SPECIFICATIONS**

|                      |                              |
|----------------------|------------------------------|
| Input Voltage Range  | 90-264 VAC (100-240VAC nom.) |
| Frequency Range      | 47-63 Hz                     |
| Inrush Current, typ: | 20A@115V, 40A@230V Input *   |
| Leakage Current      | <300mA@264Vac,50Hz           |

**OUTPUT SPECIFICATIONS**

|                                   |  |
|-----------------------------------|--|
| Voltage and Current               | See Selection Chart  |
| Load Regulation (Note7)           | Single/Duals $\pm 3\%$ ,<br>Triple: $0.5 / \pm 0.5\%$ (max)                            |
| Line Regulation (Note 8)          | Single 0.1~1%, typ<br>Duals $\pm 0.3\sim 1\%$ , typ<br>Triple: $0.6 / \pm 0.2\%$ (max) |
| Cross Regulation (Note 11)        | Duals 2%<br>Triple NA / $\pm 0.1\%$  |
| Preset Accuracy (Note 9)          | Single $\pm 1\%$<br>Duals: $\pm 1.5\%$<br>Triples: $1\% / \pm 5\%$                     |
| Temperature Coefficient           | $\pm 0.03\%/^{\circ}\text{C}$  |
| Ripple/Noise (Note 1, 2, 10)      | See Selection Chart  |
| Over Voltage Protection           | Clamp *  |
| Short Circuit Protection (Note 3) | Continuous, self-recovering *  |
| Hold Up Time                      | 30 mS, typ (Nom. Input, 100% load)   |

**GENERAL SPECIFICATIONS**

|                     |  |
|---------------------|--|
| Isolation (Note 4)  | 5656VDC Input-Output   |
| Efficiency          | See Selection Chart  |
| Switching Frequency | 100Khz, (fixed, typical)                                     |
| Safety UL/cUL:      | ANSI/AAMI ES60601-1 3rd ed.<br>CSA C22.2 No. 60601-1 3rd ed. |
| UL-EU:              | EN60601-1 3rd ed.  |
| CB:                 | IEC60601-1 3rd ed.   |
| CE:                 | EN60601-1-2  |
| EMC                 | EN55011 Class B  |

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

**PHYSICAL SPECIFICATIONS**

|                |                             |
|----------------|-----------------------------|
| Size PCB Mount | 2.29L" x 1.77W" x 0.85H"    |
| Chassis Mount  | 3.77L" x 2.16W" x 1.0H"     |
| Din Rail       | 3.77L" x 2.16W" x 1.42H"    |
| Case Material  | Rynite, 94V-0 Rated         |
| Construction   | Encapsulated. Soft Pot      |
| Weight         |                             |
| PCB / CHA      | 4 oz (113g) / 8.5 oz (241g) |
| Din Rail       | 11.5 oz (326g)              |

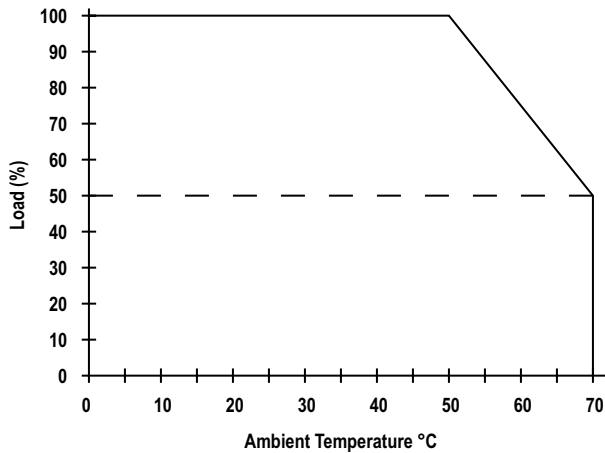
**ENVIRONMENTAL SPECIFICATIONS**

|                            |                                 |
|----------------------------|---------------------------------|
| Oper. Temperature (Note 5) | 0 to +50°C (See Derate)         |
| Storage Temperature        | -25 to +71°C *                  |
| Relative Humidity          | 0 to +95%, non-cond *           |
| MTBF                       | (Mil Std 217, 25°C) 270,000 Hrs |

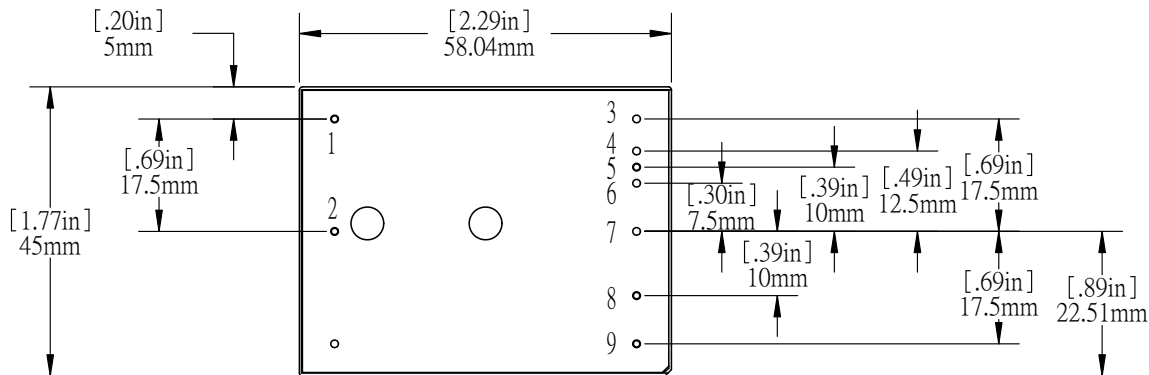
**NOTES**

- All measurements should be made directly at the terminals of the power supply.
- Ripple and Noise depend upon output voltage as specified par particular model.
- Short Circuit Protection is self-recovering when overcurrent condition is removed.
- Isolation for up to 1minute duration.
- Specified for free-air convection cooling.
- Minimum load is NOT required for proper operation. However, auxiliary outputs should be reduced as a function of primary output minimum load or load regulation will be higher.
- Load regulation measured from 20% to FL.
- Line regulation measured from 90VAC to 264VAC.
- Preset accuracy measured at nominal load, 120 VAC input.
- O/P noise measured directly at pins/terminals at nom. load, 0.1uF bypass, pk-pk @20MHz bandwidth.
- Cross Reg.: Measured output (5V for Triples) at nominal load with the other output(s) varied between 60% to 100% load.
- 100% Production Tested.

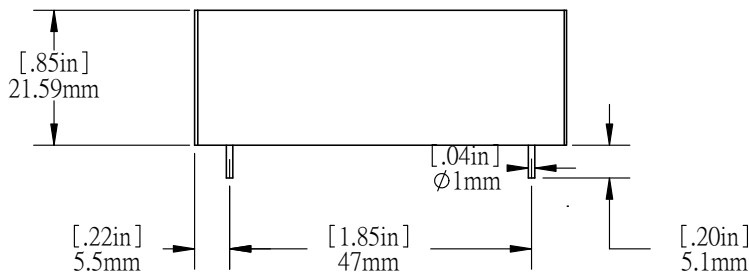
### OUTPUT DERATING CURVE



### MECHANICAL DIMENSIONS



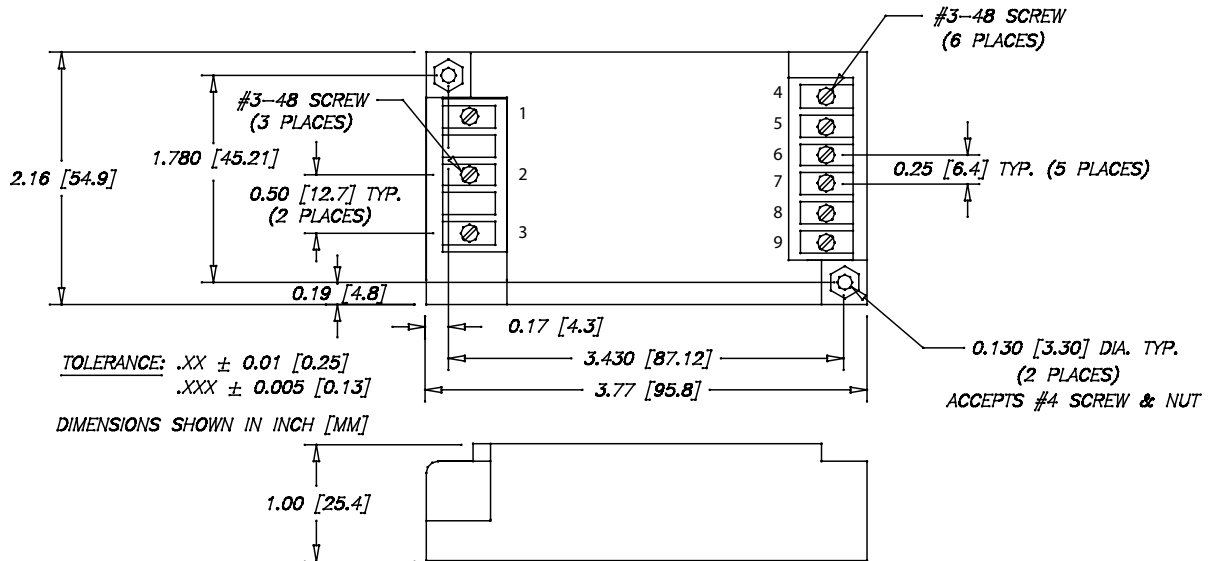
PIN-OUT VIEWED FROM BOTTOM



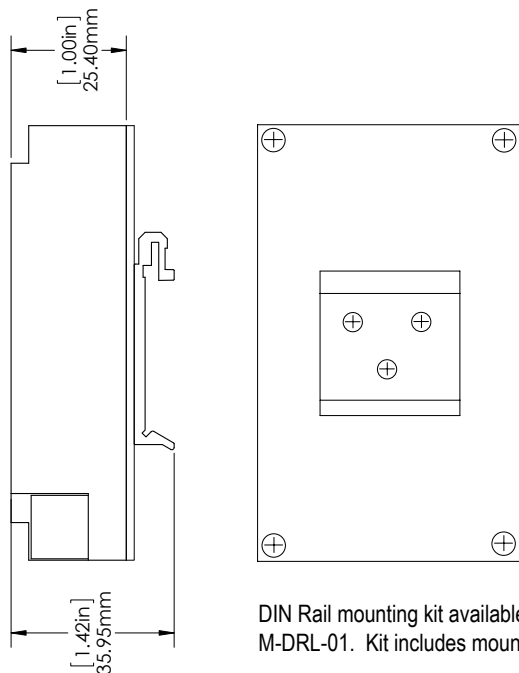
Tolerance : .XX ± 0.508mm [ 0.02in]  
 .XXX ± 0.254mm [ 0.01in]

| Model Type/Pin# | Single | Dual   | Triple |
|-----------------|--------|--------|--------|
| 1               | ACL    | ACL    | ACL    |
| 2               | ACN    | ACN    | ACN    |
| 3               | No Pin | No Pin | +Vout  |
| 4               | No Pin | No Pin | Com    |
| 5               | +Vout  | +Vout  | No Pin |
| 6               | No Pin | No Pin | -Vout  |
| 7               | No Pin | Com    | +5Vout |
| 8               | -Vout  | -Vout  | +5VRTN |
| 9               | No Pin | No Pin | No Pin |

### MECHANICAL DIMENSIONS - CHASSIS MOUNT



### MECHANICAL DIMENSIONS - DIN RAIL



DIN Rail mounting kit available for Chassis-mount modules, specify part # M-DRL-01. Kit includes mounting plate, DIN Rail clip and assembly hardware.

#### Model

| Type / Pin# | Single | Dual | Triple |
|-------------|--------|------|--------|
|-------------|--------|------|--------|

|   |       |       |        |
|---|-------|-------|--------|
| 1 | ACN   | ACN   | ACN    |
| 2 | N/C   | N/C   | N/C    |
| 3 | ACL   | ACL   | ACL    |
| 4 | N/C   | N/C   | N/C    |
| 5 | -Vout | -Vout | +5VRTN |
| 6 | -Vout | Com   | +5Vout |
| 7 | +Vout | Com   | -Vout  |
| 8 | +Vout | +Vout | Com    |
| 9 | N/C   | N/C   | +Vout  |