

DINergy™ Industrial DIN Rail Power Supplies



Micron DINergy™ Power Supply Selection Guide

Model	Output Power (Watts)	Output Voltage (VDC)	Voltage Adj. Range	Output Current (A)	Peak Current (A)	Input Voltage (VAC)	Size WxDxH(mm)
MDP30-24-1	30	24	22 - 28	1.25	1.70	90-255	22.5X100X90
MDP30-15-1	30	15	14 - 18	2.0	2.70	90-255	22.5X100X90
MDP30-12-1	30	12	10 - 14	2.5	3.40	90-255	22.5X100X90
MDP30-5-1	30	5	4.5 - 5.5	4.0	5.40	90-255	22.5X100X90
MDP50-24-1	50	24	22 - 28	2.27 - 1.79	3.09	90-255	32X102X90
MDP50-12-1	50	12	10 - 14	5.0 - 3.57	6.80	90-255	32X102X90
MD60-24-1	60	24	22 - 28	2.5	3.0	85-264	50x105x124
MD60-12-1	54	12	10 - 16	4.5	5.4	85-264	50x105x124
MD60-48-1	60	48	46 - 52	1.3	1.5	85-264	50x105x124
MD120-24-1	120	24	22 - 28	5.0	6.0	85-264	65x105x124
MD120-12-1	96	12	10 - 16	8.0	9.6	85-264	65x105x124
MD120-48-1	120	48	46 - 52	2.5	3.0	85-264	65x105x124
MD240-24-1	240	24	22 - 28	10.0	12.0	85-264	87x124x130
MD240-12-1	180	12	11 - 14	15.0	18.0	85-264	87x124x130
MD240-48-1	240	48	46 - 52	5.0	6.0	85-264	87x124x130
MD480-24-1	480	24	22 - 28	20.0	24.0	85-264	156x126x130
MD480-36-1	480	36	34 - 40	13.0	16.0	85-264	156x126x130
MD480-24-1	480	48	46 - 52	10.0	12.0	85-264	156x126x130
MD-PDMA	480	24	N/A	20.0 MAX	24.0 MAX	85-264	50x105x124
REDUNDANCY DIODE MODULE							
MD-VSB240-24-1	240	24	N/A	10.0	N/A	24VDC	76X116X130
VOLTAGE SAG BUFFER		+/-10%				+/-5%	
MD-LAB-DINBRKTA	N/A	24	N/A	3.4AH/20HF	N/A	N/A	145X77X143
MD-LAB-DINBRKTE	N/A	24	N/A	1.3AH/20HF	N/A	N/A	95X81X105
MD-DINBRKTA	BRACKET ASSEMBLY FOR 3.4AH SLA						145X77X143
MD-DINBRKTB	BRACKET ASSEMBLY FOR 1.3AH SLA						95X81X105



PMA, PCMA, PMAS, PCMAS, PMN & PCMN encapsulated designs feature reduced stand-by power consumption and are available in various power ranges from 5 watts – 100 watts. The primary voltage range of 90 -264 Vac / 100 -353 Vdc with available single, dual or triple output voltages makes these the logical choice for PCB and chassis mount applications in otherwise hostile environments.

The PCMA5C power supply has been specifically designed to operate at -55°C and is available at a power rating of 100 watts @ 24Vdc.



PCMed / PCMedmed encapsulated designs for medical applications are available in power ranges of from 15 watts – 100 watts. The primary voltage range of 90 -264 Vac / 100 -353 Vdc with single output selections for PCB and chassis mount applications where EN/UL 60 601-1/EN/UL 60 950-1 (2nd Edition) is necessary.

Protected from vibration and the environment, the HMA, HMG, HMN, encapsulated DIN-Mount designs are available in power ranges of 15 and 30 watts with single, dual or triple output voltages. The HSA design is available through 120 watts with choices of multiple outputs through 48Vdc. The HSAC variant is certified to operate at -55°C as well.

The HSD product is a DC/DC DIN-Mount device in power ratings of 15 and 30 watts.

...MTM Power DC/DC converters for vehicles and industrial applications...



... For rugged vehicular or industrial applications, MTM Power DC/DC converters are available as a standard with single dual or triple outputs in various power ranges and if required as customized devices. Featuring isolation up to 4 kVac and available in metal or plastic case.

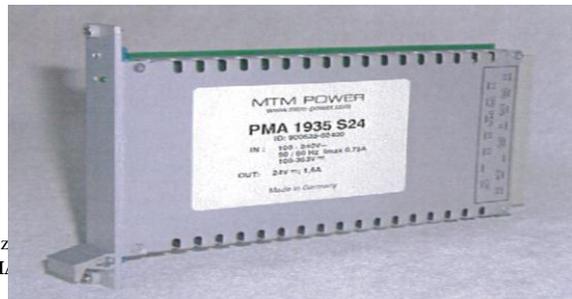
PMG/PCMG encapsulated DC/DC designs are available in power ratings of 15 and 30 watts and with up to three output voltages.

PMD/PCMD encapsulated DC/DC designs through 400 watts or the **PCMDS** (space saving) through 650 watts for vehicular applications.

PMD encapsulated DC/DC designs for industrial applications with power ratings from 1 watt – 350 watts.



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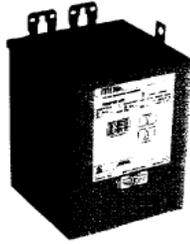


DRY TYPE TRANSFORMERS

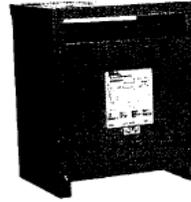
GENERAL INFORMATION



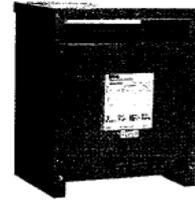
**Single Phase
Type 1-E Encapsulated**



**Three Phase
Type 3-E Encapsulated**



**Single Phase
Type 1-V Ventilated**



**Three Phase
Type 3-V Ventilated**

Type 1-E general purpose transformers are single phase, resin encapsulated designs suitable for indoor or outdoor applications. Its totally-enclosed, non-ventilated enclosure make it ideally suited for use in areas that contain dust, moisture, or corrosive fumes. Available in ratings through 25 kVA type 1-E transformers can be mounted in any position for indoor installations and in upright positions only for outdoor installations.

Type 3-E resin encapsulated, 3-phase transformers are available in ratings of 3-75 kVA. Its totally enclosed non-ventilated enclosure makes the 3-E ideally suited for outdoor as well as indoor locations. Type 3-E transformers utilize the 185°C insulation system with 115°C rise. 3-E transformers 3-15 kVA are T-T connected.

Units installed outdoors must be mounted in upright position.

1-V general purpose transformers are single phase ventilated units designed primarily for indoor locations (also for outdoor for 600 volt class with the addition of weathershields). The 1-V utilizes a 220°C insulation system with 150°C. rise and is available in ratings of 15-167 kVA.

The 3-phase 3-V ventilated dry-type is available in ratings of 15-750 kVA. Its 220°C insulation system (150°C. rise) is self-extinguishing. 3-V enclosures are designed for indoor locations (or outdoors for 600 volt class with addition of weathershields).

General Information

Industry Standards

All Micron dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE standards. All 600 volt class transformers are UL listed unless otherwise noted.

Seismic Qualified

The Micron family of dry-type distribution transformers is seismically tested, seismically qualified and exceeds requirements of the Uniform Building Code (UBC) and California Code Title 24.

Frequency

Micron standard dry-type distribution transformers are designed for 60 Hertz operation. Transformers required for other frequencies must be specifically designed.

Overload Capability

Short term overload is designed into transformers as required by ANSI. Basically, dry-type distribution transformers will deliver 200% nameplate load for one-half hour; 150% load for one-hour; and 125% load for four-hours without being damaged provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System & Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	65°C	10°C	105°C
40°C	80°C	30°C	150°C
40°C	115°C	30°C	185°C

The following pages provide listings for standard transformer ratings and styles.
For other ratings or styles not shown, or for special enclosure types (including stainless steel) contact Micron.

① Applies to general purpose transformers only.

The design life of transformers having different insulation systems is the same — the lower temperature systems are designed for the same life as the higher temperature systems.

Sound Levels

All Micron 600 volt class dry-type distribution transformers are designed to meet NEMA ST-20 levels listed here.

kVA	NEMA Average ^① Sound Level in dB ^a
0 - 9	40
10 - 50	45

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. Micron recommends external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs.

Series-Multiple Windings

Series-multiple windings consist of 2 similar coils in each winding which can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "X" or "/" between the voltage ratings, such as primary voltage of "120/240" or "240 X 480". If the series-multiple winding is designated by an "X", the winding can be connected *only* for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 X 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), or 240 (series), or 240 with a 120 mid-point.

Micron can provide a general purpose or buck-boost transformer to satisfy your industrial or commercial application. Please refer to Catalog number LVGP-09A for further information