



*“Made with pride in the USA”*

**Catalog**  
**CCT-08A**  
**Short Version**

**Effective Date:**  
**February 1, 2008**

Supercedes: CCT-07A  
March 1, 2007

# MICRON INDUSTRIES CATALOG CCT-08A

REPLACES CCT-07A

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# THE MICRON EDGE

**While other manufacturers  
treat transformers as  
just one of a variety of  
products, transformers  
are THE major product  
focus for Micron**

**This focus and resulting  
commitment to excellence,  
exemplified in our  
unprecedented 20-year  
warranty<sup>1</sup>, has made  
Micron**

**#1**

**with specifiers of  
transformers  
for over 30 years.**

<sup>1</sup> 20 years applies to all 600 volt class Control Transformer product. LVGP and Medium Voltage are warranted for one year, Power Supplies for five.

# ***TRANSFORMER SELECTION PROCESS***

## ***Determining Inrush and Voltage Requirements***

Selecting a transformer for industrial control circuit applications requires knowledge of the following terms:

**INRUSH VA** is the product of the load voltage (V) multiplied by the current (A) that is required during start-up. It is calculated by adding the inrush VA requirements of all devices (contactors, timers, relays, pilot lights, solenoids, etc.), which will be energized together. Inrush VA requirements are best obtained from the component manufacturer.

**SEALED VA** also called Steady State VA, is the product of the load voltage (V) multiplied by the current (A) that is required to operate the circuit after initial start-up or under normal operating conditions. It is calculated by adding the sealed VA requirements of all electrical components of the circuit that will be energized at any given time. Sealed VA requirements are best obtained from the component manufacturer.

**PRIMARY VOLTAGE** is the voltage available from the electrical distribution system and its operational frequency, which is connected to the transformer supply voltage (H) terminals.

**SECONDARY VOLTAGE** is the voltage required for load operation, which is connected to the transformer load voltage (X) terminals.

Once the circuit variables have been determined, transformer selection is a simple 5-step process as follows:

1. Determine the Application Inrush VA by using the following industry accepted formula.

$$\text{Application Inrush VA} = \sqrt{(\text{INRUSH VA})^2 + (\text{SEALED VA})^2}$$

2. Refer to the Regulation Data Chart. If the primary voltage is basically stable and does not vary by more than 5% from nominal, the 90% secondary voltage column should be used. If the primary voltage varies between 5 and 10%, the 95% secondary voltage column should be used.
3. After determining the proper secondary voltage column, read down until a value equal to or greater than the Application Inrush VA is found. In no case should a lesser figure be used.
4. Read left to the Transformer VA Rating column to determine the proper transformer for the application. As a final check, make sure that the Transformer VA Rating is equal to or greater than the total sealed VA requirements.
5. Refer to the catalog pages to determine the proper catalog number based on the transformer VA and primary and secondary voltage requirements.

**REGULATION DATA CHART**

Transformer VA Rating	Inrush VA at 20% Power factor		
	NEMA / IEC 95% Sec. Voltage	NEMA / IEC 90% Sec. Voltage	NEMA / IEC 85% Sec. Voltage
25 <sup>1</sup>	100 / ----	130 / ---	150 / ---
50 <sup>1</sup>	170 / 190	200 / 220	240 / 270
75 <sup>1</sup>	310 / 350	410 / 460	540 / 600
100 <sup>1</sup>	370 / 410	540 / 600	730 / 810
150 <sup>2</sup>	780 / 850	930 / 1030	1150 / 1270
200 <sup>2</sup>	810 / 900	1150 / 1270	1450 / 1600
250 <sup>2</sup>	1400 / 1540	1900 / 2090	2300 / 2530
300 <sup>2</sup>	1900 / 2090	2700 / 2970	3850 / 4240
350 <sup>2</sup>	3100 / 3410	3650 / 4020	4800 / 5280
500 <sup>2</sup>	4000 / 4400	5300 / 5830	7000 / 7700
750 <sup>2</sup>	8300 / 9130	11000 / 12100	14000 / 15400
1000 <sup>2</sup>	15000 / 16500	21000 / 23000	27000 / 29500
1000 <sup>3</sup>	9000 / 9900	13000 / 14300	18500 / 20300
1500 <sup>3</sup>	10500 / 11500	15000 / 16500	20500 / 22500
2000 <sup>3</sup>	17000 / 18900	25500 / 27300	34000 / 36400
3000 <sup>3</sup>	24000 / 25700	36000 / 38500	47500 / 50200
5000 <sup>3</sup>	55000 / 58800	92500 / 98900	115000 / 122000

To comply with NEMA standards, which require all magnetic devices to operate successfully at 85% of rated voltage, the 90% secondary column is most often used in selecting a transformer. No comparable requirement is available for IEC.

<sup>1</sup> For units with class 105° C insulation system.

<sup>2</sup> For units with class 130° C insulation system.

<sup>3</sup> For units with class 180° C insulation system

## ***INDUSTRY AND INTERNATIONAL STANDARDS***

Micron offers a broad line of standard transformers, each made with the finest materials and workmanship. Laminations of high-grade silicon steel assure optimum performance and the finest quality copper magnet wire assures efficient operation. Insulation materials are of the highest rating available for the temperature class and mounting brackets of heavy gauge steel add strength and stability. All are UL 506 listed (File # E46323) and either C-UL or CSA certified (File # LR27533) and meet NEMA and ANSI requirements.

In response to the change in compliance standards for CE marking of industrial control transformers as required by IEC/EN guidelines, Micron has introduced new GlobalTRAN models in compliance with EN61558-2. This new IEC/EN standard replaces the previous IEC/EN 60742 standard for control power transformers that expired on December 31, 2003. The Micron design engineering department has produced 61558-2 compliant designs that permit the customer to retain mounting layouts used for the previous Micron 60742 designs.

GlobalTRAN® products carry the CE mark, certifying 100% compliance with requirements of EN61558 for Non-Short Circuit Proof Isolating Transformers. GlobalTRAN control transformers feature touch-proof terminals, utilizing either Micron's SafeTouch terminal covers or a touch-proof terminal block, and meet true IP-20 or IP-00 terminal protection ratings as defined by IEC-529.

Of course, all GlobalTRAN products also carry the UL listing and CSA certification.

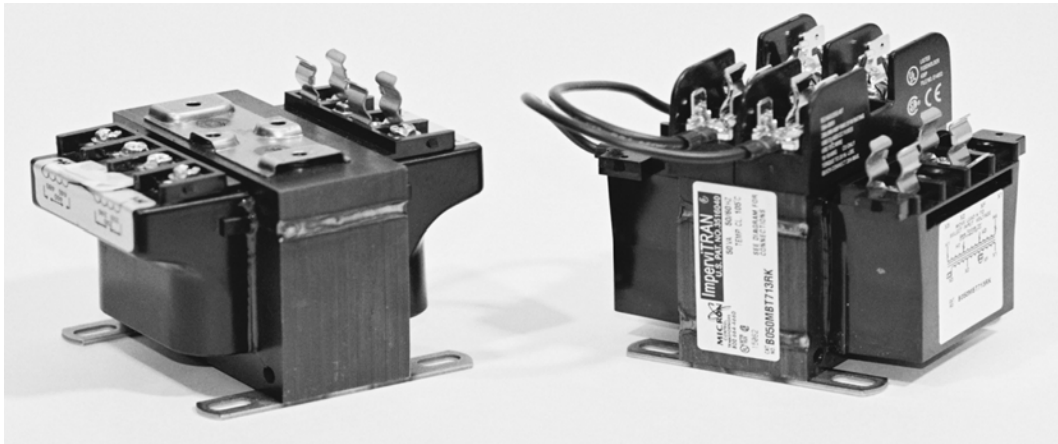
GlobalTRAN is the most reliable and versatile control transformer in the industry today.

*DINergy*™ products are designed to meet the most stringent international specifications for safety and EMI; and are designed to compact dimensions. All carry C-UL certification to UL60950 and UL508 plus the CE mark signifying certification to EN60950, EN 55022B, EN 61000-3-2 and IEC610004-2, 3, 4, 5, 6, 8, 11.

ImperviPOWER 67™ products are designed to meet the most stringent international specifications; and are designed to compact dimensions. All carry certification to UL60950, CSA 22.2, EN60950, EN 55011, EN 6100-6, EN6000-6-2, -4-2, -4-3, -4-4, -4-5, -4-6 and -4-11.

UPC Standards: Micron's base UPC identifier is 784550. Since the individual product identifiers may change with revision levels, contact Micron for the current identifier.

# IMPERVITRAN



## SIMPLY – THE MOST VERSATILE AVAILABLE

ImperviTRAN's feature-laden New Generation design. Developed to address **ALL** customer needs with a product designed in a highly efficient manner. ImperviTRAN designs span over 35 years of market leadership.

### UL/CSA Family Listing

- Absolute flexibility of design for 600 volt class product

### Fully encapsulated coil

- Tough environment-proof construction
- Eases wire routing around the transformer

### Fusion-welded coil terminations instead of solder joints

- Eliminates cold solder joint breakage, improves conductivity
- Provides a lead-free RoHS compliant construction

### Face-on terminal labels with large schematic indicators

- Terminal designations clearly visible to the installer and technician
- Indicators aligned with terminal screws for clarity

### SEMS screw terminal strips as an integral part of the coil bobbin

- Allows bare wire and terminal connection methods
- Easily adaptable to slot, Phillips and hex driver tools
- Robust physical support instead of “floating” terminal strips

### Integral accessory mounting plate on transformer top

- Allows field modification to block-style primary fusing without clip kits
- Reduces SKU count for fused/non-fused applications
- Provides mounting platform for additional items (DIN rail, terminal strips)

### Standard strap brackets or optional mounting plate with angled slots

- Features a superior weld result for vibration-resistant stability
- Offers common mounting template across a wide range of VA sizes
- Alternate plates available for OEM volumes

### IP-20 cover kits available

- Quickly convertible to an IP-20 safety level

**CONTROL TRANSFORMERS**

**GENERAL SPECIFICATIONS:**

STYLE: SERIES 2 IMPERVITRAN  
 APPROVALS: UL/Cul FILE# E46323  
 TEMP CLASS: 105°C/130°C  
 VA SIZES: 50-1500

**STYLE: IMPERVITRAN**  
 APPROVALS: UL LISTED FILE# E46323/ CSA APPROVED FILE# LR27533  
 TEMP CLASS: 105°C/130°C/180°C  
 VA SIZES: 1000-5000

**SUFFIX DESCRIPTION:**

"R" IN SUFFIX DENOTES INSTALLED CLASS "CC" PRIMARY FUSE BLOCK  
 TWO LETTER SUFFIX = TEMP CLASS 105C  
 THREE LETTER SUFFIX ENDING "F" = TEMP CLASS 130C  
 THREE LETTER SUFFIX ENDING "H" = TEMP CLASS 180C

CATALOG NUMBER	VOLTAGE:	
GROUP "A"	VA	AMPS
	PRI: 220x440, 230x460, 240x480	
	SEC: 110/115/120	
B050BTZ13JK	50	0.43
B050BTZ13RB		
B075BTZ13JK	75	0.65
B075BTZ13RB		
B100BTZ13JK	100	0.87
B100BTZ13RB		
B150BTZ13JKF	150	1.30
B150BTZ13RBF		
B200BTZ13JKF	200	1.74
B200BTZ13RBF		
B250BTZ13JKF	250	2.17
B250BTZ13RBF		
B300BTZ13JKF	300	2.61
B300BTZ13RBF		
B350BTZ13JKF	350	3.04
B350BTZ13RBF		
B500BTZ13JKF	500	4.35
B500BTZ13RBF		
B750BTZ13JKF	750	6.52
B750BTZ13RBF		
B1K0BTZ13JKF	1000	8.70
B1K0BTZ13RBF		
B1K5BTZ13JKH	1500	13.04
B1K5BTZ13RBH		
B2K0BTZ13JKH	2000	17.39
B2K0BTZ13RBH		
B3K0BTZ13JXH	3000	26.09
B5K0BTZ13JXH	5000	43.48

CATALOG NUMBER	VOLTAGE:	
GROUP "B"	VA	AMPS
	PRI: 240x480	
	SEC: 24	
B050PU7JK	50	2.08
B050PU7RB		
B075PU7JK	75	3.13
B075PU7RB		
B100PU7JK	100	4.17
B100PU7RB		
B150PU7JKF	150	6.25
B150PU7RBF		
B200PU7JKF	200	8.33
B200PU7RBF		
B250PU7JKF	250	10.42
B250PU7RBF		
B300PU7JKF	300	12.50
B300PU7RBF		
B350PU7JKF	350	14.58
B350PU7RBF		
B500PU7JKF	500	20.83
B500PU7RBF		
B750PU7JXF	750	31.25
B750PU7RCF		

CATALOG NUMBER	VOLTAGE:	
GROUP "C"	VA	AMPS
	PRI: 120x240	
	SEC: 24	
B050LP7JK	50	2.08
B050LP7RB		
B075LP7JK	75	3.13
B075LP7RB		
B100LP7JK	100	4.17
B100LP7RB		
B150LP7JKF	150	6.25
B150LP7RBF		
B200LP7JKF	200	8.33
B200LP7RBF		
B250LP7JKF	250	10.42
B250LP7RBF		
B300LP7JKF	300	12.50
B300LP7RBF		
B350LP7JKF	350	14.58
B350LP7RBF		
B500LP7JKF	500	20.83
B500LP7RBF		
B750LP7JXF	750	31.25
B750LP7RCF		

CATALOG NUMBER	VOLTAGE:	
GROUP "E"	VA	AMPS
	PRI: 550/575/600	
	SEC: 110/115/120	
B050WZ13XK	50	0.43
B050WZ13RK		
B075WZ13XK	75	0.65
B075WZ13RK		
B100WZ13XK	100	0.87
B100WZ13RK		
B150WZ13XKF	150	1.30
B150WZ13RKF		
B200WZ13XKF	200	1.74
B200WZ13RKF		
B250WZ13XKF	250	2.17
B250WZ13RKF		
B300WZ13XKF	300	2.61
B300WZ13RKF		
B350WZ13XKF	350	3.04
B350WZ13RKF		
B500WZ13XKF	500	4.35
B500WZ13RKF		
B750WZ13XKF	750	6.52
B750WZ13RKF		

CATALOG NUMBER	VOLTAGE:	
GROUP "F"	VA	AMPS
	PRI: 208/277	
	SEC: 120	
B050MQ15XK	50	0.42
B050MQ15RK		
B075MQ15XK	75	0.63
B075MQ15RK		
B100MQ15XK	100	0.83
B100MQ15RK		
B150MQ15XKF	150	1.25
B150MQ15RKF		
B200MQ15XKF	200	1.67
B200MQ15RKF		
B250MQ15XKF	250	2.08
B250MQ15RKF		
B300MQ15XKF	300	2.50
B300MQ15RKF		
B350MQ15XKF	350	2.92
B350MQ15RKF		
B500MQ15XKF	500	4.17
B500MQ15RKF		
B750MQ15XKF	750	6.25
B750MQ15RKF		

CATALOG NUMBER	VOLTAGE:	
GROUP "G"	VA	AMPS
	PRI: 208/230/460	
	SEC: 115	
B050MBT13XK	50	0.43
B050MBT13RK		
B075MBT13XK	75	0.65
B075MBT13RK		
B100MBT13XK	100	0.87
B100MBT13RK		
B150MBT13XKF	150	1.30
B150MBT13RKF		
B200MBT13XKF	200	1.74
B200MBT13RKF		
B250MBT13XKF	250	2.17
B250MBT13RKF		
B300MBT13XKF	300	2.61
B300MBT13RKF		
B350MBT13XKF	350	3.04
B350MBT13RKF		
B500MBT13XKF	500	4.35
B500MBT13RKF		
B750MBT13XKF	750	6.52
B750MBT13RKF		
B1K0MBT13XKF	1000	8.70
B1K0MBT13RKF		
B1K5MBT13XKH	1500	13.04
B1K5MBT13RKH		
B2K0MBT13XKH	2000	17.39
B2K0MBT13RKH		
B3K0MBT13XKH	3000	26.09
B5K0MBT13XKH	5000	43.48



**CONTROL TRANSFORMERS**

STYLE: SERIES 2 IMPERVITRAN

**STYLE: IMPERVITRAN**

CATALOG NUMBER GROUP "H"	VOLTAGE:	
	VA	AMPS
B050BTW37XX	50	0.53/0.44
B050BTW37RX		
B075BTW37XX	75	0.79/0.65
B075BTW37RX		
B100BTW37XX	100	1.05/0.87
B100BTW37RX		
B150BTW37XXF	150	1.58/1.30
B150BTW37RXF		
B200BTW37XXF	200	2.11/1.74
B200BTW37RXF		
B250BTW37XXF	250	2.63/2.17
B250BTW37RXF		
B300BTW37XXF	300	3.16/2.61
B300BTW37RXF		
B350BTW37XXF	350	3.68/3.04
B350BTW37RXF		
B500BTW37XXF	500	5.26/4.35
B500BTW37RXF		
B750BTW37XXF	750	7.89/6.52
B750BTW37RXF		
B1K0BTWZ37XKH	1000	10.53/8.70
B1K0BTWZ37RKH		
B1K5BTWZ37XKH	1500	15.79/13.04
B1K5BTWZ37RKH		
B2K0BTWZ37XKH	2000	21.05/17.39
B2K0BTWZ37RKH		
B3K0BTWZ37XXH	3000	31.58/26.09
B5K0BTWZ37XXH	5000	52.63/43.48

**GROUP "I"**

	VOLTAGE:	
	VA	AMPS
B050RFD34XJ	50	0.46/0.23
B050RFD34RJ		
B075RFD34XJ	75	0.68/0.34
B075RFD34RJ		
B100RFD34XJ	100	0.91/0.46
B100RFD34RJ		
B150RFD34XJF	150	1.37/0.69
B150RFD34RJF		
B200RFD34XJF	200	1.82/0.91
B200RFD34RJF		
B250RFD34XJF	250	2.28/1.14
B250RFD34RJF		
B300RFD34XJF	300	2.72/1.36
B300RFD34RJF		
B350RFD34XJF	350	3.18/1.59
B350RFD34RJF		
B500RFD34XJF	500	4.55/2.27
B500RFD34RJF		
B750RFD34XJF	750	6.82/3.41
B750RFD34RJF		

CATALOG NUMBER GROUP "J"	VOLTAGE:	
	VA	AMPS
B050-2000-1	50	2.08/0.44
B050-2000-8		
B075-2001-1	75	3.13/0.65
B075-2001-8		
B100-2002-1	100	4.17/0.87
B100-2002-8		
B150-2003-1F	150	6.25/1.30
B150-2003-8F		
B200-2004-1F	200	8.33/1.74
B200-2004-8F		
B250-2005-1F	250	10.42/2.17
B250-2005-8F		
B300-2006-1F	300	12.50/2.61
B300-2006-8F		
B350-2007-1F	350	14.58/3.04
B350-2007-8F		
B500-2008-1F	500	20.84/4.35
B500-2008-8F		
B750-2009-1F	750	31.3/6.5
B750-2009-8F		
B1K0-2010-1F	1000	41.7/8.7
B1K0-2010-8F		

**GROUP "J"**

	VOLTAGE:	
	VA	AMPS
B050MBT713XK	50	2.08/0.44
B050MBT713RK		
B075MBT713XK	75	3.13/0.65
B075MBT713RK		
B100MBT713XK	100	4.17/0.87
B100MBT713RK		
B150MBT713XKF	150	6.25/1.30
B150MBT713RKF		
B200MBT713XKF	200	8.33/1.74
B200MBT713RKF		
B250MBT713XKF	250	10.42/2.17
B250MBT713RKF		
B300MBT713XKF	300	12.50/2.61
B300MBT713RKF		
B350MBT713XKF	350	14.58/3.04
B350MBT713RKF		
B500MBT713XKF	500	20.84/4.35
B500MBT713RKF		

CATALOG NUMBER GROUP "K"	VOLTAGE:	
	VA	AMPS
B050PU1519JJ	50	0.42/0.21
B050PU1519RR		
B075PU1519JJ	75	0.63/0.31
B075PU1519RR		
B100PU1519JJ	100	0.83/0.42
B100PU1519RR		
B150PU1519JJF	150	1.25/0.63
B150PU1519RRF		
B200PU1519JJF	200	1.67/0.83
B200PU1519RRF		
B250PU1519JJF	250	2.08/1.04
B250PU1519RRF		
B300PU1519JJF	300	2.50/1.25
B300PU1519RRF		
B350PU1519JJF	350	2.92/1.46
B350PU1519RRF		
B500PU1519JJF	500	4.17/2.08
B500PU1519RRF		
B750PU1519JJF	750	6.25/3.12
B750PU1519RRF		

**CONTROL TRANSFORMERS**  
**STYLE: IMPERVITRAN**

**CATALOG  
NUMBER  
GROUP "L"**

**VOLTAGE:**  
PRI: 208-600  
SEC: 85-130

	VA	AMPS
B050-0482-1	50	0.38
B050-0482-8		
B100-0483-1	100	0.77
B100-0483-8		
B150-0484-1F	150	1.15
B150-0484-8F		
B250-0485-1F	250	1.92
B250-0485-8F		
B350-0486-1F	350	2.69
B350-0486-8F		
B500-0487-1F	500	3.85
B500-0487-8F		
B750-0488-1F	750	5.77
B750-0488-8F		

**GROUP "M"**

**VOLTAGE:**  
PRI: 240x480, 230x460, 220x440  
SEC: 120x240, 115x230, 110x220

	VA	AMPS
B1K0-0500-3F	1000	8.70/4.35
B1K5-0501-3H	1500	13.04/6.52
B2K0-0502-3H	2000	17.39/8.70
B3K0-0503-3H	3000	26.09/13.04
B5K0-0504-3H	5000	43.48/21.74

**GROUP "N"**

**VOLTAGE:**  
PRI: 240, 347, 380  
SEC: 120x240

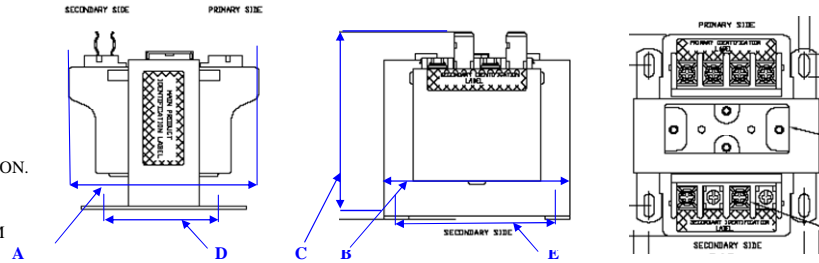
	VA	AMPS
B1K0-0321-3F	1000	8.33/4.17
B1K5-0322-3H	1500	12.50/6.25
B2K0-0323-3H	2000	16.67/8.33
B3K0-0324-3H	3000	25.00/12.50
B5K0-0325-3H	5000	41.67/20.83

**DIMENSIONAL DATA**

NOTES: SERIES 2 TRANSFORMERS 500VA AND LARGER ARE FITTED WITH 6-TERMINAL CONNECTION BLOCKS.

PRIMARY FUSE BLOCK ADDS 1.375" (35MM) TO "C" DIMENSION.

NO SECONDARY FUSE CLIP DEDUCTS 0.50" (12.7MM) FROM "C" DIMENSION.



**(MATCHED DIMENSIONS)**

**CATALOG GROUPS**

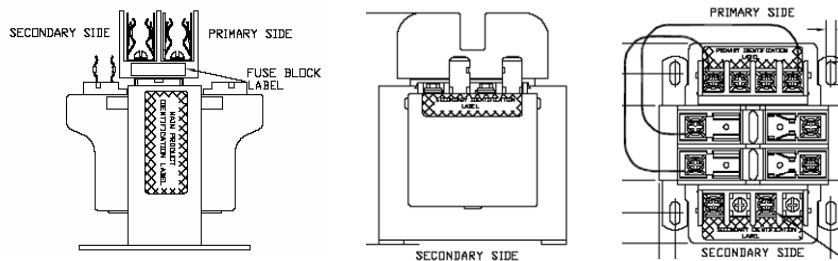
A, B, C, E, F, G\*, H\*, I, K

**VOLTAGE GROUPS**

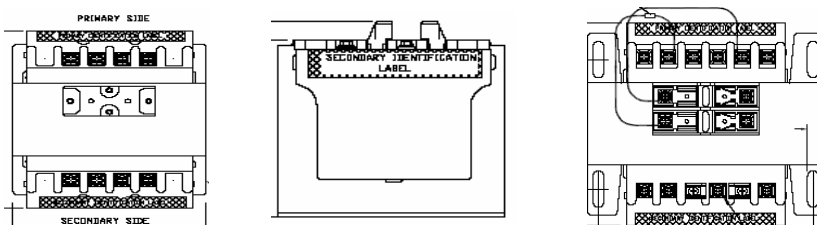
BTZ13, PU7, LP7, WZ13, MQ15, MBT13, BTW37, RFD34, PU1519

VA	A		B		C		D		E		APPROX WEIGHT LBS
	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
50	3.78	96	3.00	76	3.14	79	1.96	50	2.50	64	3.00
75	4.03	102	3.00	76	3.14	79	2.42	62	2.50	64	4.00
100	4.03	102	3.38	86	3.46	86	2.42	62	2.82	71	5.20
150	4.03	102	3.75	95	3.77	96	2.82	71	3.13	79	6.00
200	4.38	111	4.50	114	4.40	112	2.62	67	3.75	95	8.00
250	4.38	111	4.50	114	4.40	112	2.82	71	3.75	95	10.00
300	4.75	121	4.50	114	4.40	112	3.18	81	3.75	95	12.00
350	4.75	121	4.50	114	4.40	112	3.75	95	3.75	95	14.00
500	6.11	155	5.25	133	5.14	131	3.88	99	4.38	111	16.00
750	7.61	193	5.25	133	5.14	131	5.38	137	4.38	111	28.00
* GROUP "G" MATCHES IN 75, 150 & 250VA.											
50	3.78	96	3.00	76	3.14	79	2.21	56	2.50	64	3.50
100	4.00	102	3.38	86	3.46	86	2.62	67	2.82	71	5.70
200	4.38	111	4.50	114	4.40	112	2.82	71	3.75	95	7.00
300	4.75	121	4.50	114	4.40	112	3.75	95	3.75	95	11.00
350	5.75	146	4.50	114	4.40	112	4.72	120	3.75	95	13.00
500	6.11	155	5.25	133	5.14	131	4.38	111	4.38	111	15.00
750	7.61	193	5.25	133	5.14	131	5.87	149	4.38	111	28.00
* GROUP "H" MATCHES IN 200, 250, 300 & 500VA											
50	4.03	102	3.00	76	2.72	69	2.20	56	2.50	64	3.50
75	4.53	115	3.00	76	2.72	69	2.62	67	2.50	64	4.50
100	4.03	102	3.75	95	3.36	85	2.82	71	3.13	79	6.00
150	4.53	115	3.75	95	3.36	85	3.18	81	3.75	95	7.70
350	5.00	127	4.50	114	3.97	101	3.75	95	3.75	95	16.50
750	8.11	206	5.25	133	4.63	118	5.87	149	4.38	111	28.00

**DIAGRAMS BELOW DEPICT INSTALLED PRIMARY FUSING OPTION.**



**DIAGRAMS DEPICT UNITS 500VA AND UP.**



**DIMENSIONAL DATA (KVA SIZES)**

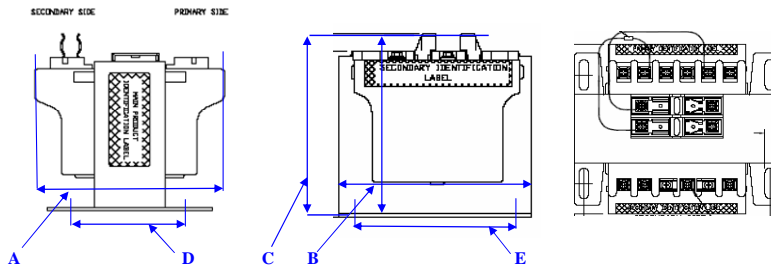
**KVA SIZES CAN EITHER BE SERIES 2 OR IMPERVITRAN**

**DIAGRAMS DEPICT SERIES 2 DESIGN.**

NOTES:  
TRANSFORMERS 500VA AND LARGER ARE FITTED WITH 6-TERMINAL CONNECTION BLOCKS.

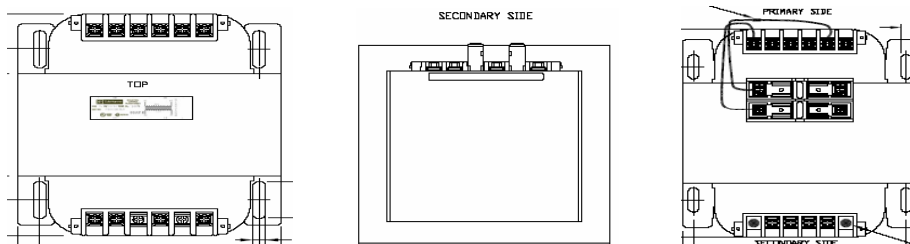
PRIMARY FUSE BLOCK ADDS 1.375" (35MM) TO "C" DIMENSION.

NO SECONDARY FUSE CLIP DEDUCTS 0.50 (12.7MM) FROM "C" DIMENSION.



CATALOG (VOLTAGE) GROUP A (BTZ13)	DIMENSIONS INCHES/MM										
	A (MAX)		B		C INCL. FUSE CLIP		D (MAX)		E		APPROX WEIGHT LBS
	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
1000	6.11	155	6.75	172	6.30	160	3.91	99	6.13	156	30.50
1500	8.11	206	6.75	172	6.32	161	6.12	155	6.13	156	50.10
2000	7.75	197	6.75	172	6.28	160	4.97	126	6.13	156	46.00
3000	8.06	205	9.00	229	7.50	191	5.25	133	7.50	191	55.90
5000	10.38	264	9.00	229	7.50	191	7.56	192	7.50	191	84.40
<b>G (MBT13)</b>											
1000	7.44	189	6.38	162	5.42	138	5.09	129	5.31	135	37.00
1500	8.50	216	6.75	172	5.73	146	6.09	155	6.13	156	53.90
2000	8.13	207	6.75	172	5.75	146	5.25	133	6.13	156	42.00
3000	8.56	217	9.00	229	7.50	191	5.75	146	7.50	191	64.50
5000	10.00	254	9.00	229	7.50	191	7.19	183	7.50	191	97.00
<b>H (BTWZ37)</b>											
1000	7.00	178	6.38	162	5.42	138	5.06	129	5.31	135	31.80
1500	7.45	189	6.75	172	6.29	160	5.25	133	6.13	156	44.20
2000	7.56	192	9.00	229	7.80	198	4.81	122	7.50	191	57.70
3000	8.75	222	9.00	229	7.50	191	5.94	151	7.50	191	76.20
5000	11.00	279	9.00	229	7.50	191	8.19	208	7.50	191	127.40
<b>M</b>											
<b>240/480 X 120/240</b>											
1000	7.00	178	5.25	133	4.25	108	5.38	137	4.38	111	26.30
1500	7.00	178	6.75	172	5.75	146	4.25	108	6.13	156	31.00
2000	7.75	197	6.75	172	5.73	146	4.97	126	6.13	156	46.00
3000	8.06	205	9.00	229	7.50	191	5.25	133	7.50	191	56.00
5000	10.00	254	9.00	229	7.50	191	7.19	183	7.50	191	85.40
<b>N</b>											
<b>240,347,380 X 120/240</b>											
1000	7.38	187	6.38	162	5.44	138	5.06	129	5.31	135	29.00
1500	8.13	207	6.38	162	5.44	138	5.06	129	5.31	135	33.30
2000	8.88	226	6.75	172	5.75	146	6.13	156	6.13	156	50.00
3000	8.50	216	9.00	229	7.50	191	5.69	146	7.50	191	74.00
5000	10.38	264	9.00	229	7.50	191	7.56	192	7.50	191	110.00

**DIAGRAMS DEPICT IMPERVITRAN DESIGN.**

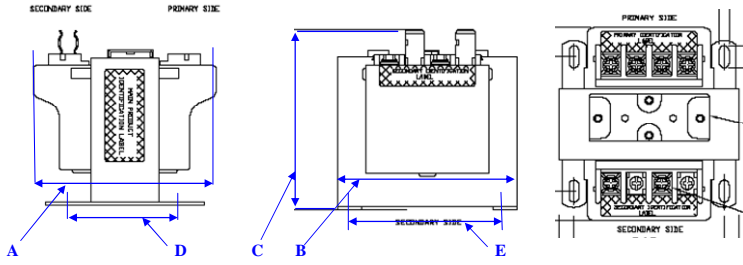


**DIMENSIONAL DATA**

NOTES: SERIES 2 TRANSFORMERS 500VA AND LARGER ARE FITTED WITH 6-TERMINAL CONNECTION BLOCKS.

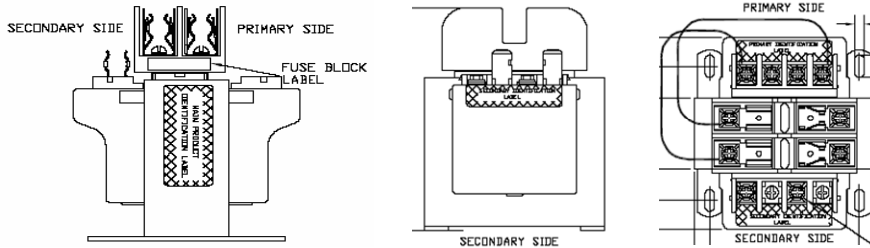
PRIMARY FUSE BLOCK ADDS 1.375" (35MM) TO "C" DIMENSION.

NO SECONDARY FUSE CLIP DEDUCTS 0.50" (12.7MM) FROM "C" DIMENSION.

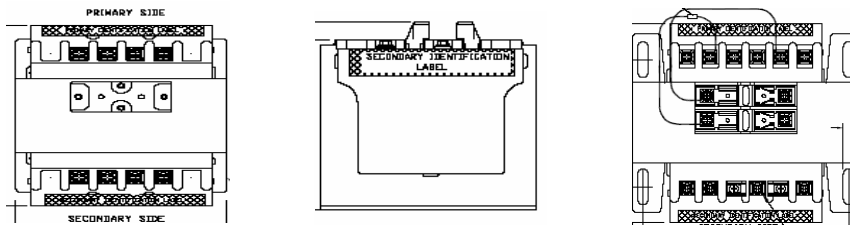


CATALOG (VOLTAGE) GROUP J	DIMENSIONS INCHES/MM										APPROX WEIGHT LBS
	A		B		C		D		E		
	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
B050MBT713XK	3.50	89	3.00	76	3.14	79	2.25	57	2.50	64	3.40
B075MBT713XK	3.50	89	3.38	86	3.44	87	2.44	62	2.82	71	4.80
B100MBT713XK	3.63	92	3.75	95	3.78	96	2.44	62	3.13	79	5.90
B150MBT713XKF	4.00	102	3.75	95	3.78	96	3.19	81	3.13	79	8.00
B200MBT713XKF	4.38	111	4.50	114	4.40	112	3.00	76	3.75	95	9.80
B250MBT713XKF	4.38	111	4.50	114	4.40	112	3.75	95	3.75	95	12.00
B300MBT713XKF	5.19	132	5.25	133	5.14	131	3.88	99	4.38	111	14.00
B350MBT713XKF	5.00	127	5.25	133	5.14	131	3.88	99	4.38	111	15.00
B500MBT713XKF	5.50	140	5.25	133	5.14	131	5.38	137	4.38	111	18.00
<b>J</b>											
B050-2000-1	4.53	115	3.00	76	3.14	79	2.82	71	2.50	64	3.40
B075-2001-1	4.53	115	3.75	95	3.78	96	2.82	71	3.13	79	4.80
B100-2002-1	4.53	115	3.75	95	3.78	96	3.00	76	3.13	79	5.90
B150-2003-1F	5.03	128	3.75	95	3.78	96	3.19	81	3.13	79	8.00
B200-2004-1F	4.38	111	4.50	114	4.40	112	3.00	76	3.75	95	9.80
B250-2005-1F	4.75	121	4.50	114	4.40	112	3.75	95	3.75	95	12.00
B300-2006-1F	6.11	155	5.25	133	5.14	131	3.88	99	4.38	111	14.00
B350-2007-1F	6.11	155	5.25	133	5.14	131	3.88	99	4.38	111	15.00
B500-2008-1F	7.11	181	5.25	133	5.14	131	5.38	137	4.38	111	18.00
<b>L</b>											
B050-0482-1	3.44	87	3.88	99	3.38	86	2.41	61	2.81	71	4.00
B100-0483-1	4.00	102	3.75	95	3.50	89	3.00	76	3.13	79	6.60
B150-0484-1F	4.00	102	4.50	114	4.50	114	2.82	71	3.75	95	8.70
B250-0485-1F	5.75	146	4.50	114	4.50	114	4.38	111	3.75	95	11.40
B350-0486-1F	5.14	131	5.25	133	4.75	121	4.38	111	4.38	111	13.60
B500-0487-1F	7.19	183	5.14	131	4.75	121	5.88	149	4.38	111	17.40
B750-0488-1F	6.50	165	6.75	172	6.00	152	4.25	108	6.13	156	27.50

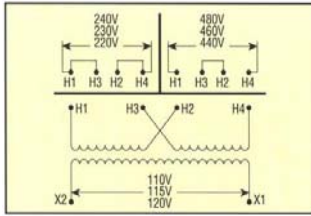
**DIAGRAMS BELOW DEPICT INSTALLED PRIMARY FUSING OPTION.**



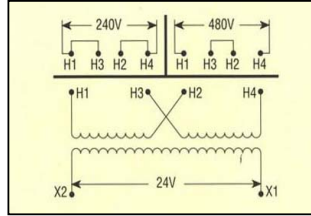
**DIAGRAMS DEPICT UNITS 500VA AND UP.**



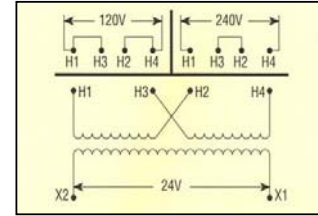
CONNECTION DIAGRAMS



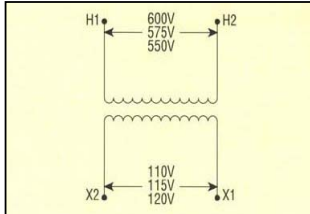
CONNECTION DIAGRAM:  
GROUP "A"



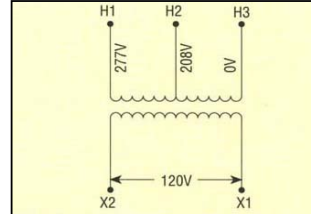
CONNECTION DIAGRAM:  
GROUP "B"



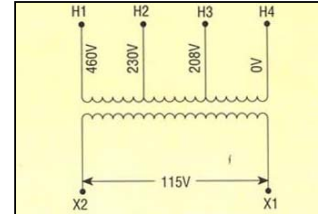
CONNECTION DIAGRAM:  
GROUP "C"



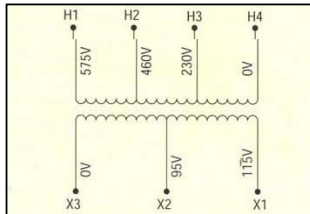
CONNECTION DIAGRAM:  
GROUP "E"



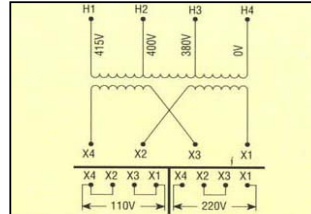
CONNECTION DIAGRAM:  
GROUP "F"



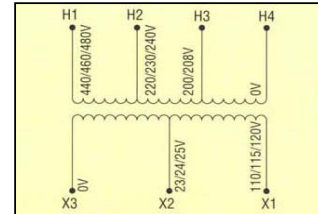
CONNECTION DIAGRAM:  
GROUP "G"



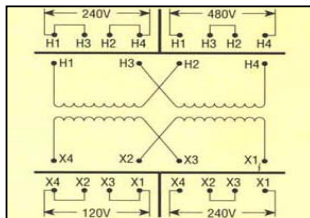
CONNECTION DIAGRAM:  
GROUP "H"



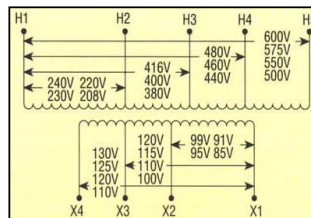
CONNECTION DIAGRAM:  
GROUP "I"



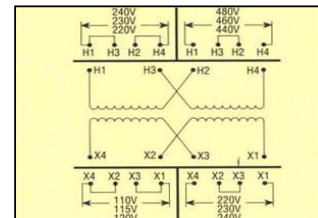
CONNECTION DIAGRAM:  
GROUP "J"



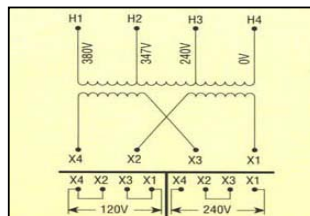
CONNECTION DIAGRAM:  
GROUP "K"



CONNECTION DIAGRAM:  
GROUP "L"



CONNECTION DIAGRAM:  
GROUP "M"



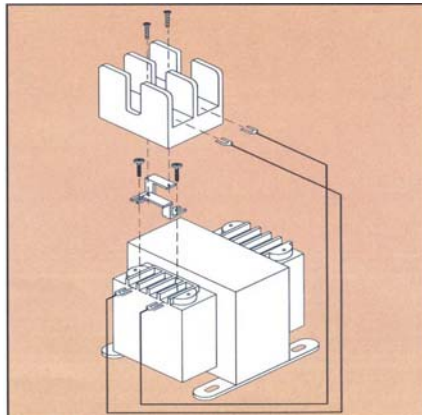
CONNECTION DIAGRAM:  
GROUP "N"

CATALOG NUMBER	CONTROL TRANSFORMER ACCESSORIES	APPROX. WEIGHT	
		LBS	KG
TPTC-2001	IP-20 SAFETOUCH™ COVERS 10PACK 4TERM.	1.0	0.5
TPTC-2002	10PACK 6TERM.	1.0	0.5
TPTC-2006	10PACK UNIVERSAL PRI BLOCK	1.0	0.5
FKTP-1001	PRIMARY CL "CC" FUSE KIT	0.25	0.1
CL. "CC" PRI.	OPTIONAL FACTORY INSTALLED FUSE HOLDERS P/N SUFFIX = RB, RK, RX, RJ, RR RY, RG, RL, RN, RC, -8 *NON-REJECTION VERSION AVAILABLE ON ALL FACTORY INSTALLED PRIMARY FUSEBLOCK OPTIONS	N/A	
1/4 X 1-1/4 SEC.	P/N SUFFIX = JQ, XQ	N/A	
9/16 X 2 SEC.	P/N SUFFIX = JM, XM	N/A	
514-1661-01C	BULK FUSE CLIPS (2 NECESSARY) 13/32 X 1-1/2 (STD)	N/A	
514-1661-02C	(2 NECESSARY) 1/4 X 1-1/4 (OPT)	N/A	
514-1650	BULK JUMPERS J-2	N/A	
514-1652	J-3	N/A	
514-1620-02	Flat	N/A	

TRANSFORMER ACCESSORY INTERCHANGE MATRIX

STANDARD SUFFIX		DUAL PRIMARY FUUSED SUFFIX
JK, JKF, JKH	>>	RB, RBF, RBH
XK, XKF, XKH	>>	RK, RKF, RKH
XX, XXF, XXH	>>	RX, RXF, RXH
XJ, XJF, XJH	>>	RJ, RJF, RJH
JJ, JJF, JJH	>>	RR, RRF, RRH
JM, JMF, JMH	>>	RY, RYF, RYH
XM, JMF, JMH	>>	RG, RGF, RGH
JQ, JQF, JQH	>>	RL RLF, RLH
XQ, XQF, XQH	>>	RN, RNF, RNH
JX, JXF, JXH	>>	RC, RCF, RCH
-1, -1F, -1H	>>	-8, -8F, -8H

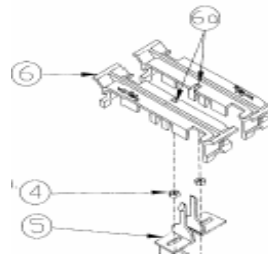
**PRIMARY FUSE KIT # FKTP-1001**  
**SERIES 2 INSTRUCTIONS ON NEXT PAGE**



In addition to factory installed primary fusing capability Micron offers a primary fuse kit for ImperviTRAN and ValuTRAN intended for field installation. The primary fuse kit includes a 2-pole Class "CC" fuse block, instructions and all associated mounting hardware. Additionally, this fuse block will fit most competitive units. To order this kit, use catalog number **FKTP-1001**. The primary fuse kit, when installed, will add a maximum of 11/16" to the transformer "A" dimension and 1-15/16" to the "C" dimension. Installed as indicated.

1. Loosen two outer screws on primary side of transformer. On 6 position shell leave 2 spaces open between brackets.
2. Capture mounting brackets and necessary leads under terminal screws and tighten.  
**Recommended torque 30 in-lbs.**
3. Affix fuse block to mounting bracket with supplied screws.

**IP-20 COVER KIT # TPTC-2006**

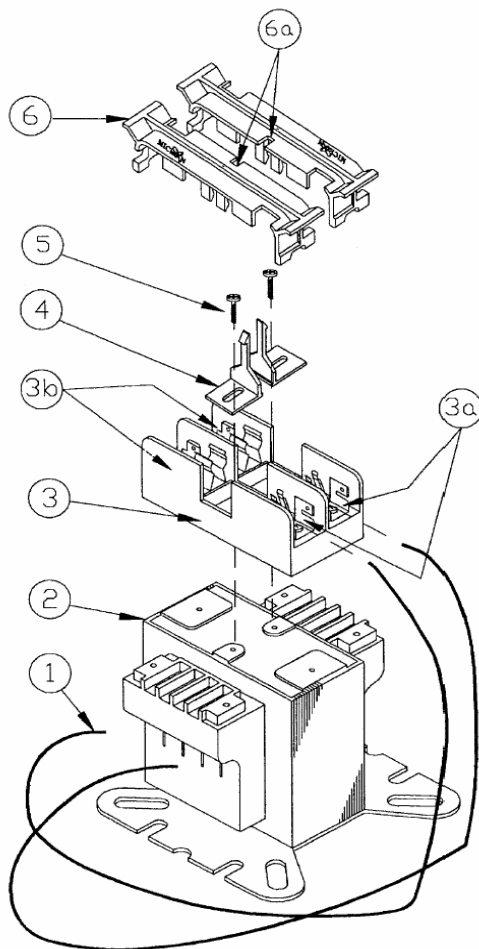


4. Remove two nuts or screws holding primary fuse block to transformer. On FKTP-1001 kits, perform step #5 prior to affixing block to brackets.
5. Install retaining clips in base of fuse block. Secure with nuts or screws as appropriate.
- 6, 6a. Install fuse in cover and snap cover in place. When installed cover cannot be removed without releasing tab from detent (6a). A tip of a pen will suffice.

**GLOBALTRAN ACCESSORIES**

A number of fusing accessories are available for the GlobalTRAN product line. Please contact Micron with your design requirements.



**PRIMARY FUSE KIT # FKTP-1001****SERIES 2 INSTRUCTIONS**

In addition to factory installed primary fusing capability Micron offers a primary fuse kit for units with integral accessory mounting plate (#2) intended for field installation on all catalog standard SERIES 2 units.

The primary fuse kit includes a 2-pole Class "CC" fuse block, instructions and all associated mounting hardware. To order this kit, use catalog number **FKTP-1001**. The primary fuse kit, when installed, will add a maximum of 1-3/8" to the "C" dimension. (as measured from the top of the plate)

Installation instructions.

1. Connect one end of the 2 primary leads (#1) under the appropriate primary terminal screws. Secure screws to 16 in-lbs <500VA and 30 in-lbs 500VA and larger.
2. Insert locking clips (#4) oriented as shown into the fuse block (#3) pockets. **Use caution in choosing screw length if locking clips are not used.**
3. Attach clips and fuse block to accessory mounting plate (#2) using screws (#5). Recommended torque 16 in-lbs.
4. Insert fuses (not supplied) into fuse block followed by fuse fuse block covers (#6) (IF ORDERED) with lock slots (#6a) matching tip of the clips, as shown. Press down until cover locks. **Refer to primary fuse chart for recommended fuses. Cover cannot be removed without releasing tab from detent (#6a). A tip of a pen will suffice.**
5. Connect the other end of the 2 primary leads (#1) under the screws on each of the 2 poles on the fuse block (#3a) and secure to 20 inch-pounds.
6. Apply primary voltage to the opposite end of the fuse block (#3b).

Additionally the mounting plate (#2) can be utilized to mount other accessories such as DIN rail. **Use caution in choosing screw length.**

**UL OVERCURRENT PROTECTION - PRIMARY**

Overcurrent protection on both the primary and secondary sides of transformers are specified in UL 508 and the National Electric Code. The maximum acceptable ratings are shown below. Due to the high inrush currents present when a transformer is initially energized, it is recommended that the primary fuses be time delay, to prevent nuisance trips during start-up

**MAXIMUM ACCEPTABLE RATING OF PRIMARY OVERCURRENT PROTECTION**

Primary Voltage	VA Rating										
	25	50	75	100	150	200	250	300	350	500	750
<b>115</b>	6/10 (1)	1-1/4 (2)	1-8/10 (3-2/10)	2-1/2 (4)	3-1/2 (6-1/4)	5 (8)	5	6-1/4	7-1/2	10	15
<b>120</b>	6/10 (1)	1-1/4 (2)	1-8/10 (3)	2-1/4 (4)	3-1/2 (6-1/4)	5 (8)	5	6-1/4	7	10	15
<b>200</b>	3/10 (6/10)	3/4 (1-1/4)	1-1/8 (1-8/10)	1-1/2 (2-1/2)	2-1/4 (3-1/2)	3 (5)	3-1/2 (6-1/4)	4-1/2 (7-1/2)	5 (8)	6-1/4	9
<b>208</b>	3/10 (6/10)	6/10 (1-1/8)	1 (1-8/10)	1-4/10 (2-1/4)	2 (3-1/2)	2-8/10 (4-1/2)	3-1/2 (6)	4 (7)	5 (8)	6	9
<b>220</b>	3/10 (1/2)	6/10 (1-1/8)	1 (1-6/10)	1-1/4 (2-1/4)	2 (3-2/10)	2-1/2 (4-1/2)	3-2/10 (5-6/10)	4 (6-1/4)	4-1/2 (7-1/2)	5-6/10	8
<b>230</b>	3/10 (1/2)	6/10 (1)	8/10 (1-6/10)	1-1/4 (2)	1-8/10 (3-2/10)	2-1/2 (4)	3-2/10 (5)	3-1/2 (6-1/4)	4-1/2 (7-1/2)	5	8
<b>240</b>	3/10 (1/2)	6/10 (1)	8/10 (1-1/2)	1-1/4 (2)	1-8/10 (3)	2-1/4 (4)	3 (5)	3-1/2 (6-1/4)	4 (7)	5	7-1/2
<b>277</b>	1/4 (4/10)	1/2 (8/10)	8/10 (1-1/4)	1 (1-8/10)	1-6/10 (2-1/2)	2 (3-1/2)	2-1/2 (4-1/2)	3-2/10 (5)	3-1/2 (6-1/4)	5 (9)	6-1/4
<b>380</b>	3/16 (3/10)	3/10 (6/10)	1/2 (8/10)	3/4 (1-1/4)	1-1/8 (1-8/10)	1-1/2 (2-1/2)	1-8/10 (3-2/10)	2-1/4 (3-1/2)	2-1/2 (4-1/2)	3-1/2 (6-1/4)	5-6/10 (9)
<b>400</b>	3/16 (3/10)	3/10 (6/10)	1/2 (8/10)	3/4 (1-1/4)	1-1/8 (1-8/10)	1-1/2 (2-1/2)	1-8/10 (3)	2-1/4 (3-1/2)	2-1/2 (4)	3-1/2 (6-1/4)	5-6/10 (9)
<b>415</b>	15/100 (3/10)	3/10 (6/10)	1/2 (8/10)	6/10 (1-1/8)	1 (1-8/10)	1-4/10 (2-1/4)	1-8/10 (3)	2 (3-1/2)	2-1/2 (4)	3-1/2 (6)	5 (9)
<b>440</b>	15/100 (1/4)	3/10 (1/2)	1/2 (8/10)	6/10 (1-1/8)	1 (1-6/10)	1-1/4 (2-1/4)	1-6/10 (2-8/10)	2 (3-2/10)	2-1/4 (3-1/2)	3-2/10 (5-6/10)	5 (8)
<b>460</b>	15/100 (1/4)	3/10 (1/2)	4/10 (8/10)	6/10 (1)	8/10 (1-6/10)	1-1/4 (2)	1-6/10 (2-1/2)	1-8/10 (3-2/10)	2-1/4 (3-1/2)	3-2/10 (5)	4-1/2 (8)
<b>480</b>	15/100 (1/4)	3/10 (1/2)	4/10 (3/4)	6/10 (1)	8/10 (1-1/2)	1-1/4 (2)	1-1/2 (2-1/2)	1-8/10 (3)	2 (3-1/2)	3 (5)	4-1/2 (7-1/2)
<b>550</b>	1/8 (2/10)	1/4 (4/10)	4/10 (6/10)	1/2 (8/10)	8/10 (1-1/4)	1 (1-8/10)	1-1/4 (2-1/4)	1-6/10 (2-1/2)	1-8/10 (3)	2-1/2 (4-1/2)	4 (6-1/4)
<b>575</b>	1/8 (2/10)	1/4 (4/10)	3/10 (6/10)	1/2 (8/10)	3/4 (1-1/4)	1 (1-6/10)	1-1/4 (2)	1-1/2 (2-1/2)	1-8/10 (3)	2-1/2 (4)	3-1/2 (6-1/4)
<b>600</b>	1/8 (2/10)	2/10 (4/10)	3/10 (6/10)	1/2 (8/10)	3/4 (1-1/4)	8/10 (1-6/10)	1-1/4 (2)	1-1/2 (2-1/2)	1-6/10 (2-8/10)	2-1/4 (4)	3-1/2 (6-1/4)

**PRIMARY CURRENT = TRANSFORMER VA ÷ PRIMARY VOLTS**

If the rated primary current is less than 2 amps, the maximum rating of the overcurrent device is 300% for power circuits, shown above, or 500% for control circuits, shown above in *(brackets)*. If the rated primary current is 2 amps or more, the maximum rating of the overcurrent device is 250%. All figures assume secondary overcurrent protection per UL/NEC.

**UL OVERCURRENT PROTECTION - SECONDARY**

MICRON STANDARD FUSE DIMENSION IS 13/32 X 1-1/2 "MIDGET" FUSE

**MAXIMUM ACCEPTABLE RATING OF SECONDARY OVERCURRENT PROTECTION**

Secondary Voltage	VA Rating										
	25	50	75	100	150	200	250	300	350	500	750
<b>23</b>	1-8/10	3-1/2	5	7	10	12	15	20	20	30	45
<b>24</b>	1-6/10	3-2/10	5	6-1/4	10	12	15	20	20	30	40
<b>25</b>	1-6/10	3-2/10	5	6-1/4	10	12	15	15	20	25	40
<b>90</b>	4/10	8/10	1-1/4	1-8/10	2-1/2	3-1/2	4-1/2	5	6-1/4	9	12
<b>95</b>	4/10	8/10	1-1/4	1-6/10	2-1/2	3-1/2	4	5	6	8	12
<b>100</b>	4/10	8/10	1-1/4	1-6/10	2-1/2	3-2/10	4	5	5-6/10	8	12
<b>110</b>	3/10	3/4	1-1/8	1-1/2	2-1/4	3	3-1/2	4-1/2	5	7-1/2	10
<b>115</b>	3/10	6/10	1	1-4/10	2	2-8/10	3-1/2	4	5	7	10
<b>120</b>	3/10	6/10	1	1-1/4	2	2-1/2	3-2/10	4	4-1/2	6-1/4	10
<b>220</b>	15/100	3/10	1/2	3/4	1-1/8	1-1/2	1-8/10	2-1/4	2-1/2	3-1/2	5-6/10
<b>230</b>	15/100	3/10	1/2	6/10	1	1-1/4	1-6/10	2	2-1/4	3-2/10	5
<b>240</b>		3/10	1/2	6/10	1	1-1/4	1-6/10	2	2-1/4	3-2/10	5

**SECONDARY CURRENT = TRANSFORMER VA ÷ SECONDARY VOLTS**

If the rated secondary current is less than 9 amps, the maximum rating of the overcurrent device is 167%; 9 amps or more, the maximum rating of the overcurrent device is 125%. If 125% does not correspond to a standard fuse rating, the next highest standard rating may be used.

Reference: NEC 430-72(c) exception #2; 450-3(b) 1 & 2; UL 508, 32.7; UL 845, 11.16 & 11.17.

# GLOBALTRAN



**GlobalTRAN** products carry the CE mark, certifying 100% compliance with requirements of EN61558. Additionally all GlobalTRAN products are designed to deliver the full nameplate VA rating.

## Features and Benefits

### Lead -free solder joints

- Provides RoHS compliant construction

### Fully encapsulated coil

- Tough environment-proof construction
- Eases wire routing around the transformer

### Molded terminals as an integral part of the coil

- Easily adaptable to slot and Phillips driver tools
- Robust physical support instead of "floating" terminal strips
- Both 4 and 6 terminals, or the combination, available

### IP-20 level covers installed

- Meets IEC-529 protection rating

### Encapsulated from 25Va through 5KVa

- Establishes product similarity throughout the product range

### Full nameplate VA rating

- Eliminates guesswork

### Largest standard voltage selection in the industry

- Solves "availability problem" for many OEM design-in opportunities

### UL/CSA/CE Family Listing

- Absolute flexibility of special design capability for 600 volt class product

**CE CONTROL TRANSFORMERS**

**GENERAL SPECIFICATIONS:**

**STYLE: IMPERVITRAN**

APPROVALS: UL LISTED FILE# E46323/ CSA APPROVED FILE# LR27533, EN 61558-2-2

TEMP CLASS: 105°C/130°C/180°C

VA SIZES: 50-5000

**SUFFIX DESCRIPTION:**

TWO LETTER SUFFIX = TEMP CLASS 105C

THREE LETTER SUFFIX ENDING "F" = TEMP CLASS 130C

THREE LETTER SUFFIX ENDING "H" = TEMP CLASS 180C

**GLOBALTRAN:**

**GROUP "A"**

**CATALOG**

**NUMBER**

**VOLTAGE:**

PRI: 220x440, 230x460, 240x480

SEC: 110/115/120

	VA	AMPS
B050-2001-GA	50	0.43
B075-2002-GA	75	0.65
B100-2003-GA	100	0.87
B150-2004-GAF	150	1.30
B200-2005-GAF	200	1.74
B250-2006-GAF	250	2.17
B300-2007-GAF	300	2.61
B350-2008-GAF	350	3.04
B500-2009-GAF	500	4.35
B750-2010-GAF	750	6.52
B1K0-2008-GAH	1000	8.70
B1K5-2009-GAH	1500	13.04
B2K0-2010-GAH	2000	17.39
B3K0-2011-GAH	3000	26.09
B5K0-2012-GAH	5000	45.45

**GLOBALTRAN:**

**GROUP "D"**

**CATALOG**

**NUMBER**

**VOLTAGE:**

PRI: 550/575/600

SEC: 110/115/120

	VA	AMPS
B050-2041-GA	50	0.43
B075-2042-GA	75	0.65
B100-2043-GA	100	0.87
B150-2044-GAF	150	1.30
B200-2045-GAF	200	1.74
B250-2046-GAF	250	2.17
B300-2047-GAF	300	2.61
B350-2048-GAF	350	3.04
B500-2049-GAF	500	4.35
B750-2050-GAF	750	6.52

**GROUP "B"**

**VOLTAGE:**

PRI: 240x480

SEC: 24

	VA	AMPS
B050-2011-GA	50	2.08
B075-2012-GA	75	3.13
B100-2013-GA	100	4.17
B150-2014-GAF	150	6.25
B200-2015-GAF	200	8.33
B250-2016-GAF	250	10.42
B300-2017-GAF	300	12.50
B350-2018-GAF	350	14.58
B500-2019-GAF	500	20.83
B750-2020-GAF	750	31.25
B1K0-2028-GAF	1000	41.67

**GROUP "E"**

**VOLTAGE:**

PRI: 380/400/415

SEC: 110x220

	VA	AMPS
B050-2061-GA	50	.46/.23
B075-2062-GA	75	.68/.34
B100-2063-GA	100	.91/.46
B150-2064-GAF	150	1.37/.69
B200-2065-GAF	200	1.82/.91
B250-2066-GAF	250	2.28/1.14
B300-2067-GAF	300	2.72/1.36
B350-2068-GAF	350	3.18/1.59
B500-2069-GAF	500	4.55/2.27
B750-2070-GAF	750	6.82/3.41

**GROUP "C"**

**VOLTAGE:**

PRI: 120x240

SEC: 24

	VA	AMPS
B050-2021-GA	50	2.08
B075-2022-GA	75	3.13
B100-2023-GA	100	4.17
B150-2024-GAF	150	6.25
B200-2025-GAF	200	8.33
B250-2026-GAF	250	10.42
B300-2027-GAF	300	12.50
B350-2028-GAF	350	14.58
B500-2029-GAF	500	20.83
B750-2030-GAF	750	31.25
B1K0-2048-GAF	1000	41.67

**GROUP "F"**

**VOLTAGE:**

PRI: 208/230/460

SEC: 24/115

	VA	AMPS
B050-2101-GA	50	2.08/44
B075-2102-GA	75	3.13/65
B100-2103-GA	100	4.17/87
B150-2104-GAF	150	6.25/1.3
B200-2105-GAF	200	8.33/1.74
B250-2106-GAF	250	10.42/2.17
B300-2107-GAF	300	12.50/2.61
B350-2108-GAF	350	14.58/3.04
B500-2109-GAF	500	20.83/4.35
B750-2110-GAF	750	31.25/6.52
B1K0-2188-GAH	1000	41.67/8.70

## CE CONTROL TRANSFORMERS

GLOBALTRAN:  
GROUP "G"  
CATALOG  
NUMBER

## VOLTAGE:

PRI: 380

SEC: 24

	VA	AMPS
B050-2051-GA	50	2.08
B075-2052-GA	75	3.13
B100-2053-GA	100	4.17
B150-2054-GAF	150	6.25
B200-2055-GAF	200	8.33
B250-2056-GAF	250	10.42
B300-2057-GAF	300	12.50
B350-2058-GAF	350	14.58
B500-2059-GAF	500	20.83
B750-2060-GAF	750	31.25

GLOBALTRAN:  
GROUP "I"  
CATALOG  
NUMBER

## VOLTAGE:

PRI: 208/230/400/460/575

SEC: 24\*/115/230

	VA	AMPS
B250-2263-GAF	250	10.4/2.2/1.1
B300-2264-GAF	300	12.5/2.6/1.3
B350-2265-GAF	350	14.6/3.0/1.5
B500-2266-GAF	500	20.8/4.3/2.2
B750-2267-GAF	750	31.3/6.5/3.3
B1K0-2268-GAH	1000	41.7/8.7/4.3
B1K5-2269-GAH	1500	13.04/6.52
B2K0-2270-GAH	2000	17.39/8.70
B3K0-2271-GAH	3000	26.09/13.04
B5K0-2272-GAH	5000	43.48/21.74

\* 24 AVAILABLE THROUGH 1Kva

## GROUP "H"

## VOLTAGE:

PRI: 208-600

SEC: 85-130

	VA	AMPS
B250-2283-GAF	250	1.92
B300-2284-GAF	300	2.31
B350-2285-GAF	350	2.69
B500-2286-GAF	500	3.85
B750-2287-GAF	750	5.77
B1K0-2288-GAH	1000	7.69
B1K5-2289-GAH	1500	11.54
B2K0-2290-GAH	2000	15.38
B3K0-2291-GAH	3000	23.08

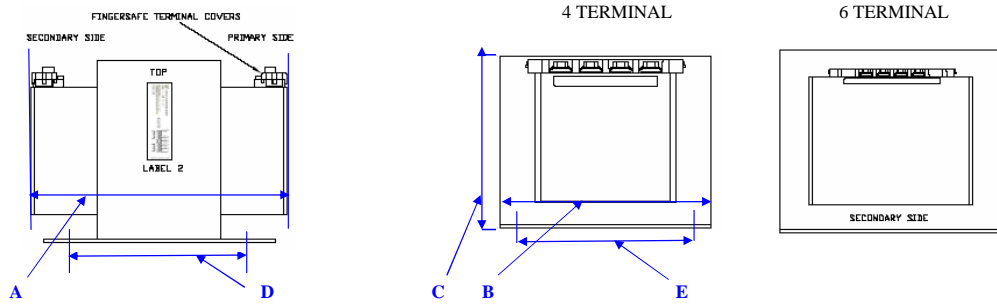
## GROUP "J"

## VOLTAGE:

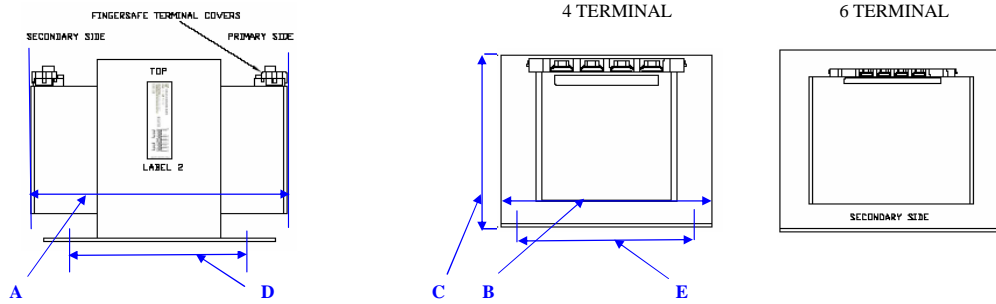
PRI: 230/400/460/575

SEC: 24/115

	VA	AMPS
B250-2243-GAF	250	10.4/2.2
B300-2244-GAF	300	12.5/2.6
B350-2245-GAF	350	14.6/3.0
B500-2246-GAF	500	20.8/4.3
B750-2247-GAF	750	31.3/6.5
B1K0-2248-GAH	1000	41.7/8.7

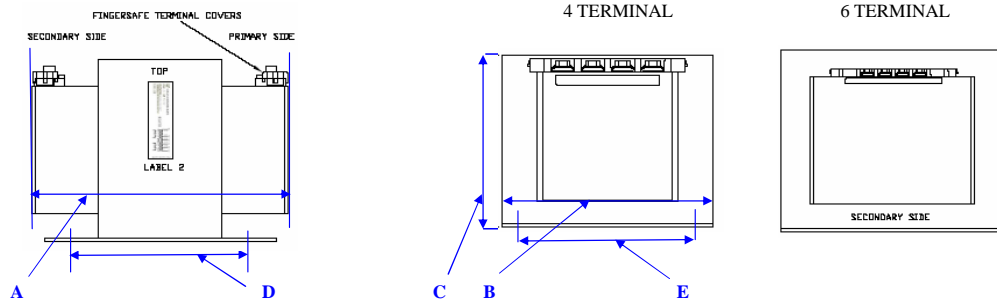


CATALOG GROUPS P/N	DIMENSIONS INCHES (MM)										APPROX WEIGHT LBS
	A		B		C		D		E		
A	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
B050-2001-GA	3.38	86	3.00	76	3.00	76	2.44	61	2.50	64	3.4
B075-2002-GA	3.38	86	3.38	86	3.25	83	2.44	61	2.81	71	4.8
B100-2003-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	79	5.9
B150-2004-GAF	3.75	95	4.50	114	4.00	102	2.44	61	3.75	95	8.5
B200-2005-GAF	3.75	95	4.50	114	4.00	102	2.81	71	3.75	95	10.0
B250-2006-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.0
B300-2007-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.0
B350-2008-GAF	4.88	124	5.25	133	4.50	114	3.38	86	4.38	111	15.0
B500-2009-GAF	5.13	130	5.25	133	4.50	114	4.38	111	4.38	111	20.0
B750-2010-GAF	7.00	178	5.25	133	4.50	114	5.88	149	4.38	111	29.8
B1K0-2008-GAH	6.63	168	6.38	162	5.50	140	3.75	95	5.31	135	35.0
B1K5-2009-GAH	7.31	186	6.75	172	6.00	152	5.00	127	6.13	156	40.0
B2K0-2010-GAH	8.13	203	6.75	172	6.00	152	5.25	133	6.13	156	45.0
B3K0-2011-GAH	8.06	202	9.00	225	8.00	200	5.25	133	7.50	191	65.2
B5K0-2012-GAH	10.00	250	9.00	225	8.00	200	7.19	183	7.50	191	104.8
<b>B</b>											
B050-2011-GA	3.38	86	3.00	76	3.00	76	2.19	56	2.50	64	3.4
B075-2012-GA	3.38	86	3.38	86	3.25	83	2.19	56	2.81	71	4.2
B100-2013-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	80	5.9
B150-2014-GAF	4.00	102	4.50	114	4.00	102	2.44	62	3.75	95	8.5
B200-2015-GAF	3.75	95	4.50	114	4.00	102	2.81	71	3.75	95	10.0
B250-2016-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.0
B300-2017-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.2
B350-2018-GAF	4.50	114	5.25	133	4.50	114	3.38	86	4.38	111	14.9
B500-2019-GAF	5.13	130	5.25	133	4.50	114	3.88	99	4.38	111	19.2
B750-2020-GAF	7.00	178	5.25	133	5.00	127	5.38	137	4.38	111	28.1
B1K0-2028-GAF	7.00	178	6.38	162	6.00	152	3.75	95	5.31	135	30.0
<b>C</b>											
B050-2021-GA	3.38	86	3.00	76	3.00	76	2.19	55	2.50	64	3.4
B075-2022-GA	3.38	86	3.38	86	3.25	83	2.19	56	2.81	71	4.2
B100-2023-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	79	5.9
B150-2024-GAF	3.75	95	4.50	114	4.00	102	2.44	61	3.75	95	8.5
B200-2025-GAF	3.75	95	4.50	114	4.00	102	2.81	70	3.75	95	10.0
B250-2026-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.0
B300-2027-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.2
B350-2028-GAF	4.50	114	5.25	133	4.50	114	3.38	86	4.38	111	14.9
B500-2029-GAF	5.13	130	5.25	133	4.50	114	3.88	99	4.38	111	19.2
B750-2030-GAF	7.00	178	5.25	133	4.50	114	5.88	149	4.38	111	29.8
B1K0-2048-GAF	7.00	178	6.38	162	6.00	152	3.75	95	5.31	135	31.0
<b>D</b>											
B050-2041-GA	3.38	86	3.00	76	3.00	76	2.44	61	2.50	64	3.4
B075-2042-GA	3.38	86	3.38	86	3.25	83	2.44	61	2.81	71	4.8
B100-2043-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	80	5.9
B150-2044-GAF	3.75	95	4.50	114	4.00	102	2.44	61	3.75	95	8.5
B200-2045-GAF	3.75	95	4.50	114	4.00	102	3.00	76	3.75	95	10.0
B250-2046-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.0
B300-2047-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.0
B350-2048-GAF	4.50	114	5.25	133	4.50	114	3.38	86	4.38	111	15.0
B500-2049-GAF	5.13	130	5.25	133	4.50	114	4.38	111	4.38	111	20.0
B750-2050-GAF	7.00	178	5.25	133	4.50	114	5.38	137	4.38	111	28.0



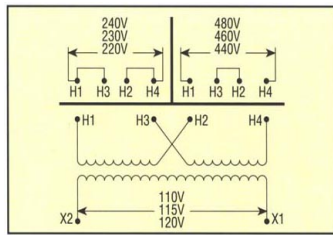
CATALOG GROUPS P/N	DIMENSIONS INCHES (MM)										APPROX WEIGHT LBS
	A		B		C		D		E		
E	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
B050-2061-GA	3.38	86	3.00	76	3.00	76	2.44	61	2.50	64	3.4
B075-2062-GA	3.38	86	3.38	86	3.50	89	2.44	61	2.81	71	4.8
B100-2063-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	79	5.9
B150-2064-GAF	3.75	95	4.50	114	4.00	102	2.44	61	3.75	95	8.5
B200-2065-GAF	3.75	95	4.50	114	4.00	102	3.00	76	3.75	95	10.0
B250-2066-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.0
B300-2067-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.0
B350-2068-GAF	4.75	121	4.50	114	4.00	102	3.75	95	3.75	95	15.0
B500-2069-GAF	5.13	130	5.25	133	4.50	114	4.38	111	4.38	111	20.0
B750-2070-GAF	7.00	178	5.25	133	4.50	114	5.88	149	4.38	111	27.0
<b>F</b>											
B050-2101-GA	3.38	86	3.00	76	3.25	83	2.25	56	2.81	71	4.2
B075-2102-GA	3.38	86	3.38	86	3.50	89	2.44	61	3.13	79	5.9
B100-2103-GA	3.63	92	3.75	95	3.50	89	3.19	81	3.13	79	7.9
B150-2104-GAF	3.75	95	4.50	114	4.00	102	2.81	71	3.75	95	10.0
B200-2105-GAF	4.38	111	4.50	114	4.00	102	3.44	87	3.75	95	12.8
B250-2106-GAF	4.75	121	4.50	114	4.00	102	3.75	95	3.75	95	14.0
B300-2107-GAF	4.88	124	5.25	133	4.50	114	3.88	99	4.38	111	16.8
B350-2108-GAF	4.88	124	5.25	133	4.50	114	3.88	99	4.38	111	19.2
B500-2109-GAF	5.63	143	5.25	133	4.50	114	5.88	149	4.38	111	29
B750-2110-GAF	6.63	168	6.38	162	6.00	152	5.06	129	5.31	135	29.8
B1K0-2188-GAH	7.06	179	6.38	162	6.00	152	5.06	129	5.31	135	30.2
<b>G</b>											
B050-2051-GA	3.38	86	3.00	76	3.00	76	2.19	55	2.50	64	3.5
B075-2052-GA	3.38	86	3.38	86	3.25	83	2.19	56	2.81	71	4.2
B100-2053-GA	3.38	86	3.75	95	3.50	89	2.44	61	3.13	79	5.9
B150-2054-GAF	3.63	91	3.75	95	3.50	89	3.00	61	3.13	79	7.3
B200-2055-GAF	3.75	95	4.50	114	4.00	102	2.81	70	3.75	95	9.6
B250-2056-GAF	4.00	102	4.50	114	4.00	102	3.19	81	3.75	95	11.3
B300-2057-GAF	4.38	111	4.50	114	4.00	102	3.75	95	3.75	95	13.2
B350-2058-GAF	4.50	114	5.25	133	4.50	114	3.88	99	4.38	111	14.9
B500-2059-GAF	5.13	130	5.25	133	4.50	114	3.88	99	4.38	111	19.2
B750-2060-GAF	7.00	178	5.25	133	4.50	114	5.88	149	4.38	111	29.8
<b>H</b>											
B250-2283-GAF	4.25	108	4.50	114	4.00	102	3.44	86	3.75	95	11.4
B300-2284-GAF	4.75	121	4.50	114	4.00	102	3.75	95	3.75	95	13.6
B350-2285-GAF	5.00	127	4.50	114	4.00	102	3.75	95	3.75	95	14.2
B500-2286-GAF	5.50	140	5.25	133	4.25	108	3.88	99	4.38	111	17.4
B750-2287-GAF	7.38	187	5.25	133	4.50	114	5.88	149	4.38	111	27.5
B1K0-2288-GAH	7.00	178	6.38	162	5.50	140	5.06	129	5.31	135	27.9
B1K5-2289-GAH	7.75	199	6.75	171	6.00	152	5.00	127	6.13	156	43.1
B2K0-2290-GAH	7.63	194	9.00	229	8.00	203	4.81	122	7.50	191	56.0
B3K0-2291-GAH	8.56	217	9.00	229	7.63	194	5.75	146	7.50	191	76.2



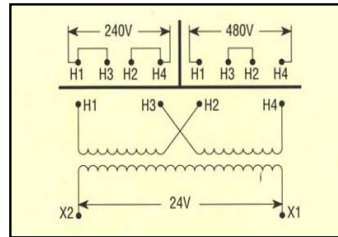


CATALOG GROUPS P/N	DIMENSIONS INCHES (MM)								APPROX WEIGHT LBS		
	A		B		C		D			E	
I	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	
B250-2263-GAF	4.75	121	4.50	114	4.00	102	4.75	121	3.75	95	14.9
B300-2264-GAF	5.25	133	4.50	114	4.00	102	4.75	121	3.75	95	17.4
B350-2265-GAF	5.38	137	5.25	133	4.50	114	4.38	111	4.38	111	17.8
B500-2266-GAF	5.63	168	5.25	133	4.50	114	5.88	149	4.38	111	26.6
B750-2267-GAF	7.44	189	6.38	162	6.00	152	5.06	129	5.31	135	32.5
B1K0-2268-GAH	7.75	199	6.75	171	6.25	159	5.00	127	6.13	156	44.0
B1K5-2269-GAH	7.75	199	6.75	171	6.00	152	5.00	127	6.13	156	45.4
B2K0-2270-GAH	7.63	194	9.00	229	7.63	194	4.81	122	7.50	191	58.6
B3K0-2271-GAH	8.75	222	9.00	229	7.63	194	5.94	151	7.50	191	92.9
B5K0-2272-GAH	10.44	265	9.00	229	7.63	194	7.63	194	7.50	191	127.4
<b>J</b>											
B250-2243-GAF	4.75	121	4.50	114	4.00	102	3.75	95	3.75	95	14.3
B300-2244-GAF	5.00	127	4.50	114	4.00	102	4.75	121	3.75	95	15.8
B350-2245-GAF	5.13	130	5.25	133	4.50	114	3.88	99	4.38	111	16.5
B500-2246-GAF	5.75	146	5.25	133	4.50	114	4.88	124	4.38	111	20.5
B750-2247-GAF	7.00	178	6.38	162	6.00	152	5.06	129	5.31	135	28.8
B1K0-2248-GAH	8.13	207	6.38	162	6.00	152	5.06	129	5.31	135	34.9

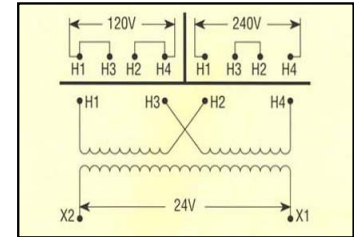
CONNECTION DIAGRAMS - GLOBALTRAN



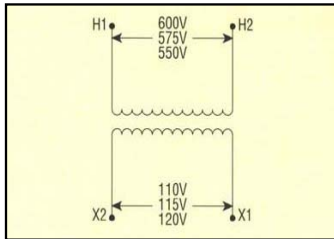
CONNECTION DIAGRAM:  
GROUP "A"



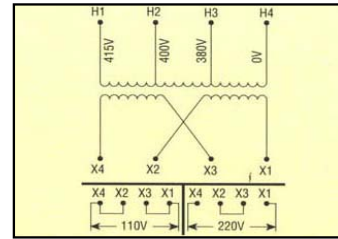
CONNECTION DIAGRAM:  
GROUP "B"



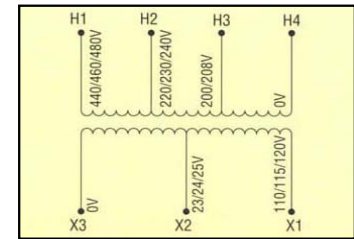
CONNECTION DIAGRAM:  
GROUP "C"



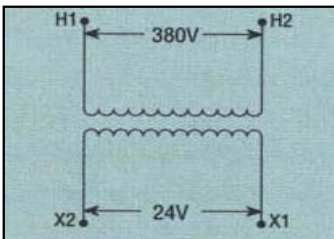
CONNECTION DIAGRAM:  
GROUP "D"



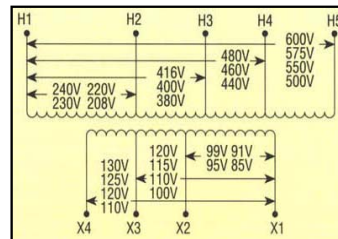
CONNECTION DIAGRAM:  
GROUP "E"



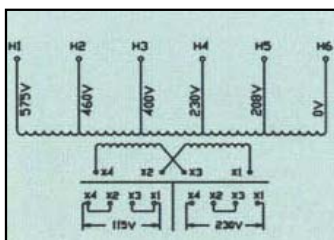
CONNECTION DIAGRAM:  
GROUP "F"



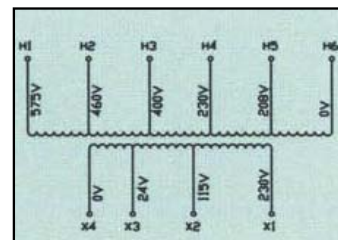
CONNECTION DIAGRAM:  
GROUP "G"



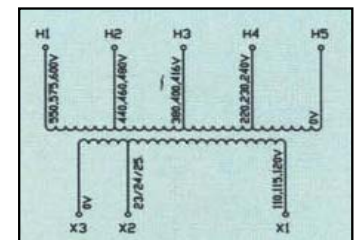
CONNECTION DIAGRAM:  
GROUP "H"



CONNECTION DIAGRAM:  
GROUP "I"  
Above 1 Kva

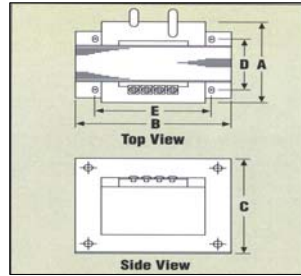


CONNECTION DIAGRAM:  
GROUP "I"  
Through 1 Kva



CONNECTION DIAGRAM:  
GROUP "J"

**MEDIUM VOLTAGE CONTROL TRANSFORMERS**



**Micron medium voltage control transformers have:**

- \* 130° C Insulation system.
- \* 24" Minimum primary lead length.
- \* 60Hz.
- \* HIPOT - 7,400 volts for 2400 primary.
- \* HIPOT - 11,500 volts for 4160 and 2400 primaries.
- \* 750 VA - Epoxy impregnated coils.
- \* 1 KVA and larger - Epoxy potted primary coils.

**DIMENSIONS**

CONTROL TRANSFORMERS: CATALOG NUMBER	MEDIUM VOLTAGE OUTPUT		DIMENSIONS INCHES (MM)										APPROX. WEIGHT LBS	
	VA	AMPS	A		B		C		D		E			
VOLTAGE:			IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM
	*PRI: 4200 PRI: 2400 SEC: 120													
H750-0030	*	750	6.25	6.63	168	6.38	162	5.81	148	5.25	133	5.31	135	30.5
H750-0031		750	6.25	6.63	168	6.38	162	5.81	148	5.25	133	5.31	135	30.7
	*PRI: 4160 PRI: 2400 SEC: 120/240													
H1K0-0010		1000	8.33/4.17	6.25	159	7.56	192	6.38	162	3.50	89	5.63	143	31.3
H1K0-0015	*	1000	8.33/4.17	6.25	159	7.56	192	6.38	162	3.50	89	5.63	143	31.1
HN1K5F1519P		1500	12.50/6.25	7.00	178	9.00	229	7.63	194	4.25	108	6.50	165	53.7
HN1K5G1519P	*	1500	12.50/6.25	7.00	178	9.00	229	7.63	194	4.25	108	6.50	165	52.2
HN2K0F1519P		2000	16.67/8.33	7.94	202	9.00	229	7.63	194	5.19	132	6.50	165	65.4
HN2K0G1519P	*	2000	16.67/8.33	7.94	202	9.00	229	7.63	194	5.19	132	6.50	165	58.2
HN3K0F1519P		3000	25.00/12.50	9.75	248	9.00	229	7.63	194	7.00	178	6.50	165	99.9
HN3K0G1519P	*	3000	25.00/12.50	9.75	248	9.00	229	7.63	194	7.00	178	6.50	165	101.0



## Micron DINergy™ MDP SERIES

### Plastic Case DIN Rail Power Supplies



- Low cost industrial power solution
- Wide range input voltage
- Adjustable output voltage
- Over load and short circuit protection
- EMI compliant with EN55022, FCC15
- Attractive small form plastic case
- DC-OK visual indicator LED
- Over voltage protection
- EN61000-3-2 compliant
- UL508, UL60950 and CE certification

Model	Output voltage	Adjust range	Output current	Total power
MDP15-24-1	24 V	22-28 V	0.68 - 0.54 A	15W
MDP15-12-1	12 V	10-14 V	1.50 - 1.07 A	
MDP30-24-1	24 V	22-28 V	1.25 A	30W
MDP30-15-1	15 V	14-18 V	2 A	
MDP30-12-1	12 V	10-14 V	2.5 A	
MDP30-5-1	5 V	4.5-5.5 V	4 A	20W
MDP50-48-1	48 V	46-52 V	1.09 - 0.96 A	50W
MDP50-24-1	24 V	22-28 V	2.27 - 1.79 A	
MDP50-12-1	12 V	10-14 V	5.00 - 3.57 A	

*Note:* Products are rated for industrial environments and are not to be used nor are warranted in aerospace, medical or lifesafety applications.

## GENERAL SPECIFICATIONS

Input voltage	100-240 VAC, +6%, -10%	Connector Size	12-22 AWG
Input Frequency	47-63 HZ	Connector Types:	Standard Screw Terminations
Power Factor	TBD	Installation Clearance requirements	25mm above and below; 15mm in front .
Harmonic Emissions	Conforms to EN61000-3-2	Operating Temperature	-10 to 45 Degrees °C, Full Power; to 60 Degrees °C with derating'.
Hold-Up time	16 ms	Mounting Direction	Vertical
DC Input Voltage	240-300VDC,+/-15%	Visual Indication	1 Green LED for DC OK
Inrush Current	< 25A@120vac, cold start	Over voltage Protection	Auto-restart limited to 105-150%.
Input Current	0.8A max.	Internal Fuse	Yes
Efficiency	Up to 85% at 230VAC ( 15W:75% at 230VAC )	MTBF	TBD
Overload Condition	Above 105%~150% Hiccup mode		
Short Circuit Protection	Continuous, Hiccup mode automatic recovery		

Regulation (Line + Load +Temperature Drift)	+2.5%(+3%@5V)	Warranty	2 Years
Ripple and Noise	1 %(80mV@5V)	Humidity	5 - 95% RH non-condensing
DC OK LED	Yes	Vibration	IEC68-2-6
Start Up delay	1~2s at 120vac	Shock	IEC 68-2-7
Reverse Voltage	<35 VDC at 24V	Certification	UL508 Listed
Construction	Industry standard plastic case for cost & DIN Connector ;		UL60950-1
Coating or Color Unit	TBD		CE (EMC/LVD)
Front Panel Label	Mylar	EMC Emissions	EN55022B , FCC part15 B
		EMC Immunity	EN55024
		RoHS	Yes

### *Mechanical/Physical Specifications*

Model	Width	Length	Height	Weight
MDP15	22.5mm ( 0.89" )	100mm ( 3.94" )	90mm ( 3.54" )	
MDP30				
MDP50	40mm ( 1.57" )	100mm ( 3.94" )	90mm ( 3.54" )	

Model	Connectors	Pins	Type	Wire Size
MDP15	Input AC ( 3 )	N, L, Ground	Screw Terminal	12-22 AWG
	Output DC ( 2 )	+, -	Screw Terminal	12-14 AWG
MDP30	Input AC ( 3 )	N, L, Ground	Screw Terminal	12-22 AWG
	Output DC ( 2 )	+, -	Screw Terminal	12-14 AWG
MDP50	Input AC ( 3 )	N, L, Ground	Screw Terminal	12-22AWG
	Output DC ( 4 )	+ ,+, -, -	Screw Terminal	12-14AWG

\* Micron Industries Corporation reserves the right to make changes at any time without prior notification.

(24-09-2007 ver A )

Micron Industries Corporation  
777 Church Road  
Elmhurst, IL 60126 USA



## MD60 Series 60W DINergy™ Power Supply

### Features

- ✧ Compact size, high efficiency and DIN Rail mounting
- ✧ 60°C rated provides full power/no derating required
- ✧ 100-240VAC wide-range auto-selection input
- ✧ Overcurrent, shortcircuit, and overvoltage protection
- ✧ DC OK LED status indicator
- ✧ Parallel operation capable
- ✧ Power boost available for large load start demand
- ✧ Safety meets UL508, UL60950 and IEC60950
- ✧ CE EN61000-3-2 compliant active PFC filtering
- ✧ EMI meets FCC15 B, EN55022 B and CISPR22 B
- ✧ High reliability, MTBF>200,000 hrs
- ✧ Operating temperature: -10°C to 70°C
- ✧ 5 year warranty



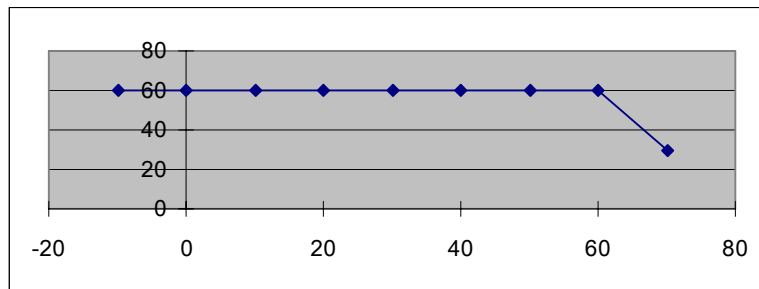
Micron DINergy™ units are suitable for process control systems, mechanical equipment, transport equipment, vending service equipment, building automation, and electronic/electrical instrumentation.

### Specifications

Model	MD60-12-1	MD60-24-1	MD60-48-1
Input Voltage	Rated 100-240VAC		
	Range 85-264VAC		
Input Current	0.7A/240VAC, 1.3A/100VAC		
Frequency	50-60Hz, ±6%		
Inrush Current	Typ.<25A		
Earth Leakage Current	<3.5mA		
Start-up Time	<1S		
Rated Output Voltage/Current	12VDC/4.5A	24VDC/2.5A	48VDC/1.25A
Output Set Point	12.5±0.5%	24.5±0.5%	48.5±0.5%

Output Voltage Regulation	10-16VDC	22-28VDC	46-52VDC
Rated Output Current	4.5-3.8A	2.5-2.1A	1.25-1.15A
Min. Output Current	0A	0A	0A
Output Peak Current	120% of rated output current		
Efficiency	86%/230V	86%/230V	87%/230V
Ripple & Noise	<=100mV		
Load Regulation	1%		
Voltage Regulation	0.5%		
Temperature Coefficient	0.02%/°C		
Hold-up Time	>=20mS		
Transient Overshoot	Load is changed from 50% to 100% step by step at a rate of 0.2A/μS, overshoot<500mV		
Reverse Voltage Immunity	<16V	<35V	<63V
Safety	UL60950, UL508, EN60950		
EMC	FCC 15B, EN55022 B, EN61000-3-2, IEC61000-4-2,3, 4, 5, 6,8& 11		
Reliability	MIL HDBK 217F, 200,000hrs		
Case Safety Standard	IEC60529, IP 20		
Pollution Standard	EN50178 Class 2		
Electrical Surge Protection	UL60950 Class I, PE is connected to ground		
Outside Dimension	1.97 (50.0) × 4.13 (105.0) × 4.88 (124.0)		
Weight	490g (0.89 lb)		

#### Temperature Corresponding Curve (T-P) (Output power 60W)



#### Protection

Method	Threshold	Mode
Fuse	3.15AT, 250V	Fast blow
Shortcircuit Protection	Automatic Recovery	Automatically recovers in normal operation after failure is removed.
Overcurrent Protection	125-135% of rated output	
Overvoltage Protection	110-130% of rated output	

Micron Industries Corporation  
January 19, 2006

MD602P72006





## MD120 Series 120W DINergy™ Power Supply

- ✧ Compact size, high efficiency and DIN Rail mounting
- ✧ 60° ambient rated design, no derating necessary
- ✧ 100-240VAC wide-range auto-selection input
- ✧ Overcurrent, shortcircuit, and overvoltage protection
- ✧ DC OK LED Indicator w/remote indicator contact
- ✧ Adjustable DC output voltage
- ✧ Power boost for unusual start-up loading
- ✧ Parallel operation capable for power and redundancy
- ✧ Safety meets UL508, UL60950 and IEC60950
- ✧ CE EN61000-3-2 compliant active PFC filtering
- ✧ EMI meets FCC15 B, EN55022 B and CISPR22 B
- ✧ High reliability, MTBF>200,000 hrs
- ✧ Operating temperature: -10°C to 70°C
- ✧ 5 year warranty



### Applications

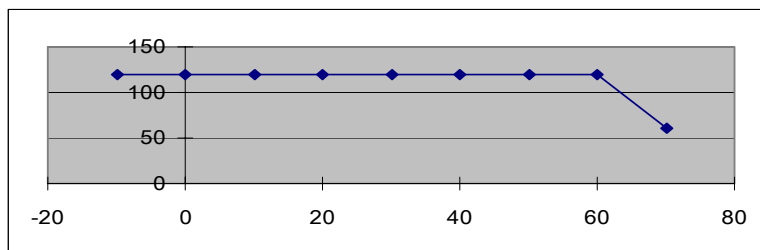
Micron DINergy™ units are suitable for industrial and commercial process and control systems, office facilities, telecom equipment, mechanical equipment, transport equipment, service and building automation, and electronic and electrical instrumentation.

### Specifications

Model	MD120-12-1	MD120-24-1	MD120-48-1
Input Voltage	Rated 100-240VAC		
	Range 85-264VAC		
Input Current	0.6A/240VAC, 1.3A/110VAC	0.7A/240VAC, 1.6A/110VAC	
Frequency	50-60Hz, ±6%		
Inrush Current	Typ.<15A		
Earth Leakage Current	<3.5mA		
Start-up Time	<1S		
PFC/Harmonics	>0.95/Meets EN61000-3-2		
Rated Output Voltage/Current	12VDC/8A	24VDC/5A	48VDC/2.5A
Output Pre-regulation (Set Point)	12.5±0.5%	24.5±0.5%	48.5±0.5%

Output Voltage Regulation	10-16VDC	22-28VDC	46-52VDC
Rated Output Current	8-6A	5-4.3A	2.5-2.3A
Min. Output Current	0A	0A	0A
Output Peak Current	120% of rated output current		
Efficiency	86%/230V	88%/230V	88%/230V
Ripple & Noise	<=100mV		
Load Regulation	1%		
Voltage Regulation	0.5%		
Temperature Coefficient	0.02%/°C		
Hold-up Time	>=20mS		
Transient Overshoot	Load is changed from 50% to 100% step by step at a rate of 0.2A/μS, overshoot<500mV		
Reverse Voltage Immunity	<16V	<35V	<63V
Safety	UL60950, UL508, EN60950		
EMC	FCC 15B, EN55022 B, EN61000-3-2, IEC61000-4-2,3, 4, 5, 6,8& 11		
Reliability	MIL HDBK 217F, 200,000hrs		
Case Safety Standard	IEC60529, IP 20		
Pollution Standard	EN50178 Class 2		
Electrical Surge Protection	UL60950 Class I, PE is connected to ground		
Outside Dimension	2.56 (65.0) × 4.13 (105.0) × 4.89 (124.0)		
Weight	750g (1.37 lb)		

#### Temperature Corresponding Curve (T-P) (Output power 120W)



#### Protection

Method	Threshold	Mode
Fuse	3.15AT, 250V	Delay
Shortcircuit Protection	Automatic Recovery	Automatically recovers to normal operation after failure is removed.
Overcurrent Protection	125-135% of rated output	
Overvoltage Protection	110-130% of rated output	
Overheat Protection	95°C	

Micron Industries Corporation

January 19, 2006

MD1202P42006



## MD240 Series 240W DINergy™ Power Supply

### Features

- ✧ 100-240VAC wide-range autoselect input
- ✧ Compact size, high efficiency and DIN Rail mounting
- ✧ Active PFC meets EN61000-3-2
- ✧ Overcurrent, shortcircuit, overvoltage and overheat protection
- ✧ DC OK LED and active output terminal for remote status check
- ✧ Power boost available for start up load demand
- ✧ Parallel operation (increase output power or redundant operation)
- ✧ UL508, UL60950 and IEC60950
- ✧ EMI meets FCC15 B, EN55022 B and CISPR22 B
- ✧ High reliability, MTBF>200,000 hrs
- ✧ 5 year warranty



### Applications

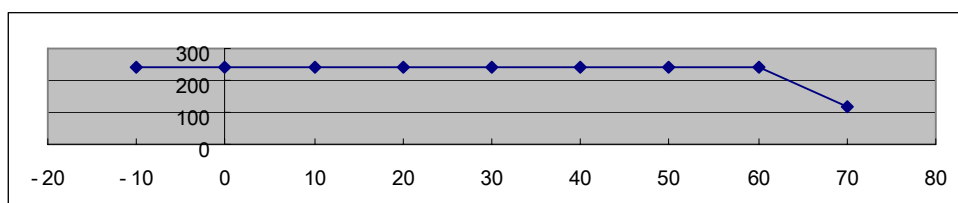
Micron DINergy™ power supplies are suitable for process control systems, mechanical equipment, transport equipment, vending service equipment, building automation, and electronic/electrical instrumentation.

### Specifications

Model	MD240-12-1	MD240-24-1	MD240-48-1
Input Voltage	Rated 100-240VAC		
	Range 85-264VAC		
Input Current	3A/100VAC, 1.3A/240VAC	3.5A/100VAC, 1.6A/240VAC	
Frequency	50-60Hz, ±6%		
Inrush Current	Typ.<15A		
Earth Leakage Current	<3.5mA		
Start-up Time	<1S		
PFC/Harmonics	>0.95/Meets EN61000-3-2		
Rated Output Voltage/Current	12VDC/15A	24VDC/10A	48VDC/5A
Output Pre-regulation (Set Point)	12.5±0.5%	24.5±0.5%	48.5±0.5%

Output Voltage Regulation	10-16VDC	22-28VDC	46-52VDC
Rated Output Current	15-11.3A	10-8.6A	5-4.6A
Min. Output Current	0A	0A	0A
Output Peak Current	120% of rated output current		
Efficiency	86%/230V	88%/230V	88%/230V
Ripple & Noise	<=100mV		
Load Regulation	1%		
Voltage Regulation	0.5%		
Temperature Coefficient	0.02%/°C		
Hold-up Time	>=20mS		
Transient Overshoot	Load is changed from 50% to 100% step by step at a rate of 0.2A/μS, overshoot<500mV		
Reverse Voltage Immunity	<16V	<35V	<63V
Safety	UL60950, UL508, EN60950		
EMC	FCC 15B, EN55022 B, EN61000-3-2, IEC61000-4-2,3, 4, 5, 6,8& 11		
Reliability	MIL HDBK 217F, 200,000hrs		
Case Safety Standard	IEC60529, IP 20		
Pollution Standard	EN50178 Class 2		
Electrical Surge Protection	UL60950 Class I, PE is connected to ground		
Outside Dimension	3.43 (87.0) × 5.13 (130.0) × 4.88 (124.0)		
Weight	1,300g (2.37 lb)		

#### Temperature Corresponding Curve (T-P) (Output power 240W)



#### Protection

Method	Threshold	Mode
Fuse	6.3AT, 250V	Delay
Shortcircuit Protection	Automatic Recovery	Automatically recovers to normal operation after failure is removed.
Overcurrent Protection	125-135% of rated output	
Overvoltage Protection	110-130% of rated output	
Overheat Protection	105°C	

Micron Industries Corporation  
January 19, 2006

MD2402P42006



## MD480 Series 480W DINergy™ Power Supply

### Features

- ✧ 100-240VAC wide-range auto-select input (no switches)
- ✧ Compact size, high efficiency and DIN Rail mounting
- ✧ 60°C rated design, -10° through 70°C operating range
- ✧ Active PFC meets EN61000-3-2
- ✧ Overcurrent, shortcircuit, overvoltage, overheat protection
- ✧ DC OK LED and active output terminal for remote check
- ✧ Power boost provided for large start up demand
- ✧ Parallel for increased output power or redundant operation
- ✧ Safety meets UL508, UL60950 and IEC60950
- ✧ EMI meets FCC15 B, EN55022 B and CISPR22 B
- ✧ High reliability, MTBF>200,000 hrs
- ✧ 5 year limited warranty



### Applications

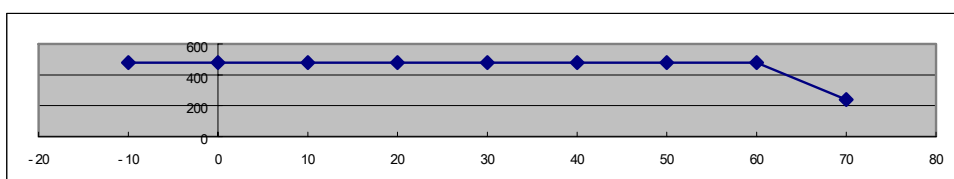
Micron DINergy™ power supplies are suitable for process control systems, mechanical equipment, transport equipment, vending service equipment, building automation, and electronic/electrical instrumentation.

### Specifications

Model	MD480-24-1	MD480-36-1	MD480-48-1
Input Voltage	Rated 100-240VAC		
	Range 85-264VAC		
Input Current	6.3A/100VAC, 2.6A/240VAC		
Frequency	50-60Hz, ±6%		
Inrush Current	Typ.<30A		
Earth Leakage Current	<3.5mA		
Start-up Time	<1S		
PFC/Harmonics	>0.95/Meets EN61000-3-2		
Rated Output Voltage/Current	24VDC/20A	36VDC/13.3A	48VDC/10A
Output Pre-regulation (Set Point)	24.5±0.5%	36.5±0.5%	48.5±0.5%

Output Voltage Regulation	22-28VDC	34-40VDC	46-52VDC
Rated Output Current	20-17.1A	13.3-12A	10-9.2A
Min. Output Current	0A	0A	0A
Output Peak Current	125% of rated output current		
Efficiency	90.4%/230V	90.5%/230V	90.7%/230V
Ripple & Noise	<=100mV		
Load Regulation	1%		
Voltage Regulation	0.5%		
Temperature Coefficient	0.02%/°C		
Hold-up Time	>=20mS		
Transient Overshoot	Load is changed from 50% to 100% step by step at a rate of 0.2A/μS, overshoot<500mV		
Reverse Voltage Immunity	<35V	<63V	<63V
Safety	UL60950, UL508, EN60950		
EMC	FCC 15B, EN55022 B, EN61000-3-2, IEC61000-4-2,3, 4, 5, 6,8& 11		
Reliability	MIL HDBK 217F, 200,000hrs		
Case Safety Standard	IEC60529, IP 20		
Pollution Standard	EN50178 Class 2		
Electrical Surge Protection	UL60950 Class I, PE is connected to ground		
Outside Dimension	6.14 (156.0) × 4.96 (126.0) × 5.12 (130.0)		
Weight	2,250g (4.73 lb)		

Temperature Corresponding Curve (T-P) (Output power 480W)



#### Protection

Method	Threshold	Mode
Fuse	12AT, 250V	Delay
Shortcircuit Protection	Automatic Recovery	Automatically recovers after cause is removed.
Overcurrent Protection	125-135% of rated output	
Overvoltage Protection	110-130% of rated output	
Overheat Protection	90°C±5°C	

Micron Industries Corporation  
January 19, 2006

MD4802P42006



## MD-PSRM DINergy™ Power Supply Diode Module for Redundant Configuration

(Available December 2006)



Micron DINergy™ power supplies can be connected in parallel to provide redundant rated output power and voltage for fail-safe requirements. To achieve this, a user may connect two identical Micron units with equal output voltage settings, connecting a Micron redundancy module MD-PSRM to prevent back-feeding or looping in the event of failure of one of the units. The MD-PSRM consists of a diode array and sensing/switching components enclosed within a DIN rail mounting metal case, and is equal in size to a 60w DINergy power supply.

- ✧ Common appearance with DINergy™ power supply family
- ✧ Compact size and DIN Rail mounting

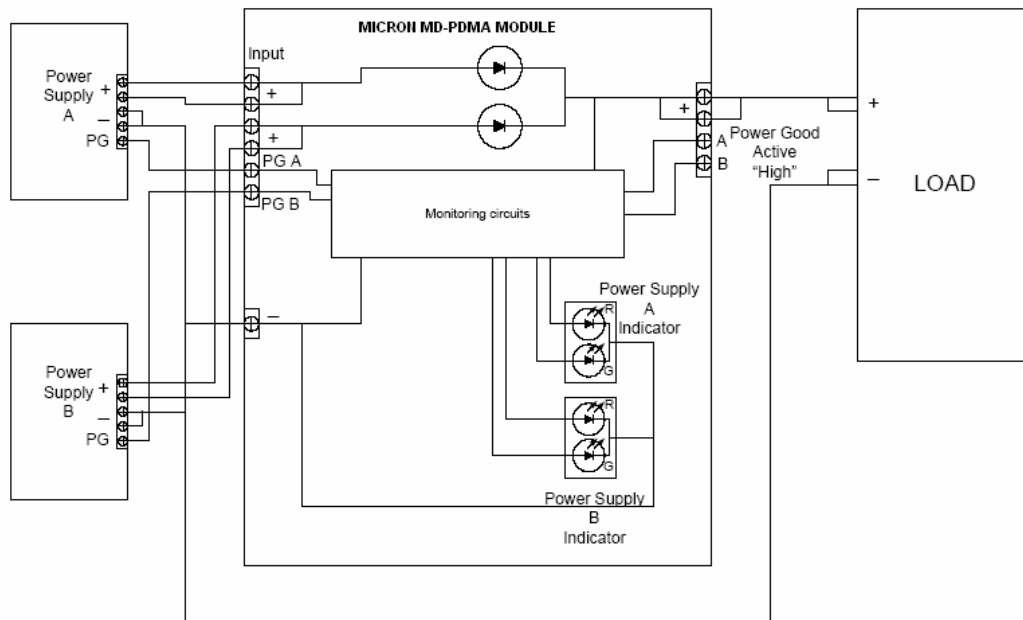
Outside Dimension in.(mm)	1.97 (50.0) × 4.13 (105.0) × 4.88 (124.0)
Weight	275g (0.50 lb)

To increase reliability of system, use two power supplies of the same model for redundancy operation. Use load connection wires of the same gauge and length. Set the output voltages of all units to the same values. Connect decoupling diode module MD-PSRM to the positive outputs of the paralleled units. In normal state, each unit provides 50% of load current. When failure occurs on the circuit of the unit 1, unit 2 is able to immediately and automatically replace unit 1 to continue the operation at 100% rated current. The same will be true if the failure occurs on circuit of unit 2.

## Mounting Method

A TS35/7.5 or TS35/15 rail of certain length corresponding to the width of the unit is provided for convenient DIN rail mounting.

## MICRON MD-PSRM CONNECTION DIAGRAM/SCHEMATIC



Micron Industries Corporation  
800-664-4660  
info@microntransformers.com  
www.microntransformers.com

MDPSRM2P42006





DIN Rail DC-Sag UPS with Backup Battery

## Micron *DINergy*™

### DIN Rail

### DC-Sag-UPS Module

**24VDC, 10 Amp  
External Battery Option**

#### KEY FEATURES

- No-Maintenance Sag Protection
  - Optional External Backup Battery Pack. Up to 10 minutes (extra Battery Packs available separately)
  - Industrial Design and Construction; Compact Size with Rugged Metal Case
  - Standard DIN Mounting
  - 700 msec. Backup at 10A, (no Ext. Battery)  
4 min. Backup at 10A (with Ext. Battery)
- No fans for high MBTF
  - "DC OK" Signal
  - "CHARGING" Indicator LED
  - Circuit and Damage Protection
  - Meets:  
UL/C-UL, EN 50081-2, EN 61000-6-2

#### DESCRIPTION

DC Power is a critical energy to most automation solutions today. Loss of power can collapse data communication, diminishing product and process quality, and system productivity. Micron gives customers the ability to increase this 24Volt DC availability by the use of its DC Sag Buffer/UPS product. The DC-Sag Buffer/UPS (Sag Buffer plus Uninterruptible Power Supply) can help equipment ride through many nuisance sags and help provide orderly shutdown in a more sustained power loss. .

The DC Sag Buffer/UPS uniquely takes the guesswork out of power availability to DC control systems and equipment, especially where power issues are difficult to quantify. Featuring a unique two stage Sag-buffer plus optional Battery back-up function, customers can tailor their power availability needs from milliseconds to minutes depending on their environment, location, or equipment.

The DC Sag Buffer/UPS features a 24V buffer stage that protects against one of the most common forms of power quality problems: the sag. Using maintenance-free, ultra capacitors, the unit can provide up from 700ms to 10 seconds of hold-up (load dependent). For increased hold-up time, an integral battery charger allows the user to add batteries for hold-up up from 4 - 10 minutes. Customers can purchase the unit for sag protection, and if longer run times are required, buy the optional DIN Rail mount battery packs.

The DC Sag Buffer/UPS is a compact, highly reliable solution to DC availability. The life expectancy of the product is extremely high when compared to its AC UPS competition due to its Industrial temperature range, zero fans, a lower component count, and the optional/replaceable batteries.

The DC Sag Buffer/UPS complements a broad range of Industrial DC Power Supplies to gives its customers the ultimate in DC power reliability.

**MODEL SELECTION GUIDE**

DCSagUPS Model	Configuration	Rating	Battery
MDBPS-1024L	DC-UPS (with External Battery)	10 Amps / 2.6 AH	Sealed Lead Acid
MDBPS-(tbd)	DC-UPS Module only	10 Amps	N/A
MDBPS-BATTERYL24	External Battery only	10 Amps / 2.6 AH	Sealed Lead Acid

**SPECIFICATIONS**

NOTE: Products are rated for industrial environments and are not to be used nor are warranted in aerospace, medical or life safety applications.

**GENERAL (DC-UPS with External Battery)**

Operating Temperature	0 to +75 C
Storage Temperature	-15 to +75 C
Relative Humidity (25C)	≤ 95%RH, non-condensing

Weight	2.5 lbs (1.13 kg): DC-UPS 6.0 lbs (2.7 kg): Ext. Batt.
Vibration / Shock	2.3g, 90min / 30g
Certifications	Meets: UL/C-UL(60950) EN 50081-2, EN 61000-6-2

## ELECTRICAL

### DC-UPS Module (1)

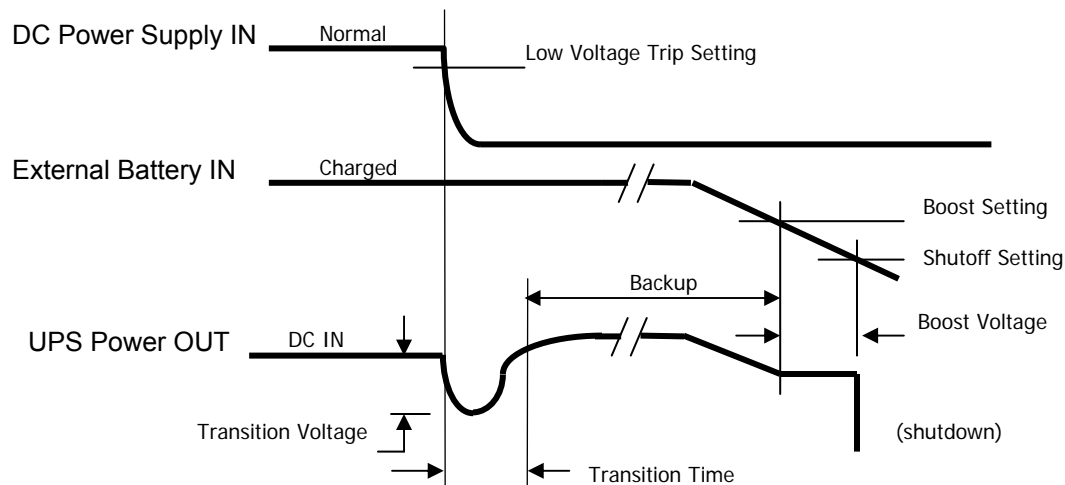
Rated DC Input	24 VDC +/- 5%, 11 A (Internal usage: < 1 A)	DC Output Transition	< 0.8 ms, with < -10% DC output drop
Rated DC Output	24 VDC +/- 10%, 10 A	DC Output Protection	Front Access Fuse, 12A
Charger Output (1)	27.3 VDC, ≤ 0.5 A	Battery Status	" CHARGING " LED " DC OK " Signal (open collector, 5 mA)
Charging Time (1)	4 Hr. max.	Connections	See Mechanical Dwg.
Low Voltage Trip Points (falling / recovering)	22.7 VDC / 22.8 VDC	MTBF	> 500,000 Hrs
Low Voltage Boost	≥ 22.1 VDC	Warranty	2 years
Low Voltage Shutdown	≤ 19.8 VDC Battery & ≤ 22.3 VDC DC Input		

### External Battery Module (1)

Battery Type	Sealed Lead Acid	Connectors	See Mechanical Dwg.
Rating	24VDC, 2.6 AH / 20 Hr	Warranty	1 Year

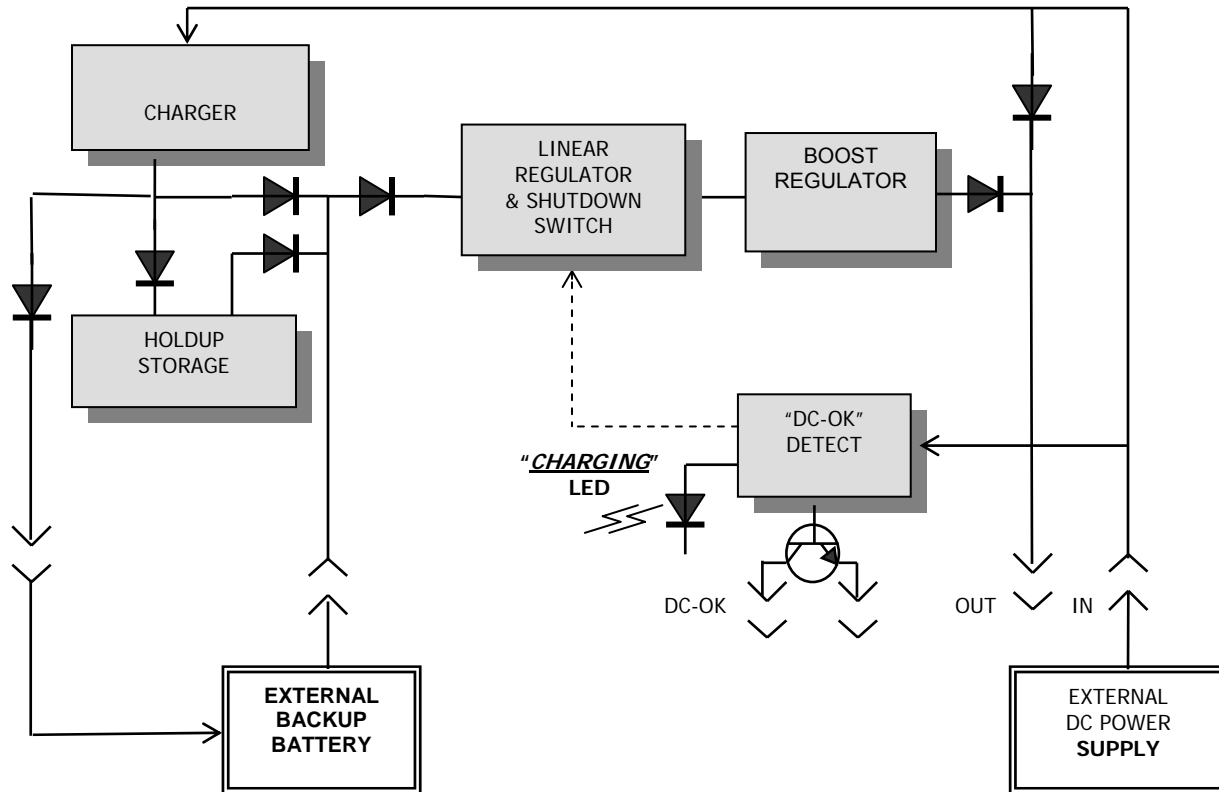
(1) For Battery protection against damage, the external charger source connected to the Sealed Lead Acid Backup Battery module must only be the DC-UPS model MDBPS-1024L charger.

### OUTPUT TRANSITION (supply power to battery power; at 10 Amps load)



### OUTPUT CURRENT HOLD TIME

Output Load Current	No External Battery	With External Battery
5 Amps	2 sec	10 min
10 Amps	0.7 sec	4 min

**BLOCK DIAGRAM**

**OPERATION**

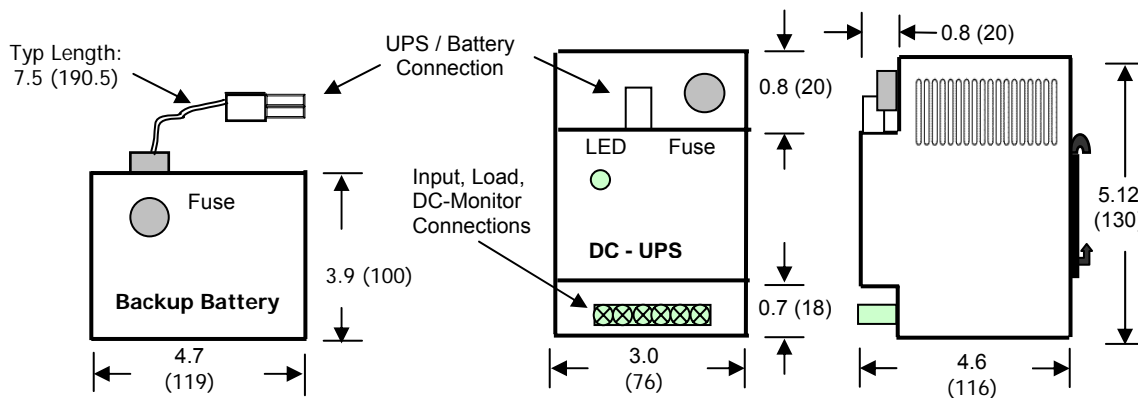
As shown in the diagram above, the 24 VDC Input External Power Supply feeds the Charger. The Charger charges the Holdup Storage capacitor and the (optional) External Backup Battery. When the DC Input voltage becomes low, the DC-UPS switches the DC Output to the Battery source. The Linear Regulator and Boost Regulator work together to convert the energy of the Holdup Storage and Backup Battery to a regulated Holdup output voltage.

- **NORMAL** – When the 24 VDC Input power source is normal and above the low voltage trip point, the DC Input voltage is routed to the DC Output terminals.
- **LOW VOLTAGE** – When the 24 VDC Input power source fails or a transient occurs below the “Boost” trip point, the DC-UPS switches to the Internal Storage or optional Backup Battery source. The Linear Regulator and Boost Regulator maintain the DC Output energy at the Boost Voltage.
- **SHUTDOWN** – When the Holdup Buffer storage capacitor or (optional) External Backup Battery falls below the “Automatic Shutdown” point, the DC-OK Detection circuit automatically shuts off the DC Output. This protects the Battery from persistent overload and possible damage.
- **RECOVERY** – If Input power source should recover, the Holdup circuit will resume normal operation and the Charger will resume charging the External Backup Battery.

**BATTERY STATUS**

LED	DC OK Signal
ON – Normal DC Input, Backup source is charging	CONDUCTING (5ma) – DC Input is Normal.
OFF – Low Voltage DC Input, Backup source is not charging	OPEN (Bvce 36V) – DC Input is not Normal.

**MECHANICAL** (not to scale)



**CONNECTIONS**

TERMINAL	DESCRIPTION
IN 24V	24 VDC External Power Input (+/-).
OUT 24V	24 VDC Output Load (+/-).
DC-OK	Open Collector output signal (+/-).
UPS / Battery Cable	24 VDC (+/-) between UPS and Battery only.



Micron Industries Corporation  
777 Church Road  
Elmhurst, IL 60126

Main: 630 516-1222  
Sales: 800 664-4660  
Tech Support: 800 664-4660  
Fax: 630 516-1820

Website:  
General Email:  
Sales & Quotation Email:

<http://www.microntransformers.com>  
[info@microntransformers.com](mailto:info@microntransformers.com)  
[sales@microntransformers.com](mailto:sales@microntransformers.com)



**Power where you need it!**  
**MICRON ImperviPOWER 67 Series**  
**IP-67 Power Supplies**



**Micron ImperviPOWER 67™ Power Supply Selection Guide**

Model	Output Power (Watts)	Input Voltage (VAC)	Output Voltage (VDC)	Efficiency Rating	Ambient Temp Rating	Size WxDxH(mm)
MIP67-50-24	50	90-264	24	≥88%	-40C to +50C	166x85x35
MIP67-100-24	100	90-264	24	≥88%	-40C to +50C	166x85x35

**CONSULT MICRON FOR FACTORY AVAILABILITY**

**ALL UNITS HAVE AN ISOLATION RATING OF 3.3KVAC**

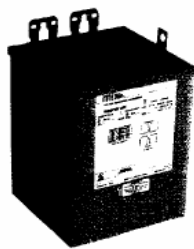
**CONTACT MICRON FOR SPECIFIC DETAILS ON THE IMPERVIPOWER 67 LINE**

## DRY TYPE TRANSFORMERS GENERAL INFORMATION



**Single Phase  
Type 1-E Encapsulated**

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.



**Three Phase  
Type 3-E Encapsulated**

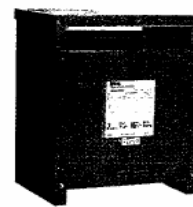
Type 3-E resin encapsulated, 3-phase transformers are available in ratings of 3-75 kVA. Its totally enclosed non-ventilated enclosure makes the 3-E ideally suited for outdoor as well as indoor locations. Type 3-E transformers utilize the 185°C insulation system with 115°C rise. 3-E transformers 3-15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

Units installed outdoors must be mounted in upright position.



**Single Phase  
Type 1-V Ventilated**

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.



**Three Phase  
Type 3-V Ventilated**

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	55°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.**

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 <sup>0</sup> Sound Level in db <sup>0</sup>
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.

<sup>0</sup> Applies to general purpose transformers only.

Micron can provide a general purpose or buck-boost transformer to satisfy your industrial or commercial application. Please refer to Catalog number LVGP-904 for further information



**Micron Industries Corporation**  
**777 North Church Road**  
**Elmhurst, IL 60126**  
**Phone: 800-664-4660**  
**FAX: 630-516-1820**  
**[www.microntransformers.com](http://www.microntransformers.com)**