GEK-75101

INSTALLATION AND OPERATING INSTRUCTIONS

DRY-TYPE GENERAL PURPOSE TRANSFORMERS

TYPE MV

RECEIVING

Upon receipt of shipment, examine the package for any damage that may have occurred in transit. If the shipping container must be opened outdoors, take proper precautions to prevent the entrance of moisture. While unpacking, examine the product for broken, bent or loose parts, or other damage. If injury from outside sources is evident, file a damage claim with the transportation company and notify the nearest General Electric Apparatus Sales Office.

HANDLING

Provisions for lifting are provided. Because transformers are surprisingly heavy, care should be exercised to check the weight shown on the shipping label to assure adequate capacity of lifting equipment. For safety, spreaders should be used with lifting chains or slings to assure near vertical lift, thereby minimizing stress in the lifting equipment. Lifting means are provided on the top core clamps inside the unit. The unit may be lifted by forks or skidded at the base.

INSTALLATION

PREPARATION

Any accumulation of dirt or dust may be removed by brushing or by blowing dry air on the unit. If moisture is evident by the appearance of rust or mildew, the unit should be dried out by placing it in an oven or by blowing heated air over it. In either case, the temperature should not exceed 110 C (230 F).

MOUNTING

The only foundation necessary is a flat surface or wall strong enough to support the weight of the unit. Regardless of the type of mounting surface, permanent and effective grounding of the metal case is recommended as a safety precaution for personnel. Free circulation of air is essential for the proper operation of all dry-type transformers, therefore, a minimum distance to adjacent structures of three inches is required. The transformer must be mounted upright with the wiring compartment at the bottom. A kit for wall mounting type MV transformers is available.

Dry-type general purpose transformers are cooled by free circulation of surrounding air. Type MV transformers depend upon air to enter the case at the bottom, flow upward over the core-and-coil surfaces, and exit through openings near the top. These transformers will carry full-rated loads continuously when the surrounding air does not exceed 40 C (104 F) and adjacent structures permit free movement of cooling air.

CONNECTIONS

Reference should be made to the wiring diagram and/or nameplate when making electrical connections to the transformer. Do not change connections while the unit is energized. Care must be taken to place all leads to the same load, or from the supply source, through one knockout so that no part of the transformer case is positioned between such leads.

Make certain that all connections are electrically tight so that current-carrying parts are joined under adequate pressure. If aluminum cable is used, adequate preparation of the aluminum cable and protection of the joint is essential.

These general purpose transformers meet the Underwriters Laboratories' requirements for use with 60 C connecting cables.

Dry-type transformers inherently have lower capability than liquid-filled units to withstand voltage surges imposed upon the lines by lightning, switching, or other sources. Therefore, particular care should be taken to provide adequate surge protection to the transformer by means of lightning arresters in any installation where transformers or connecting lines are exposed to such voltages.

General purpose transformers of identical model numbers will operate satisfactorily when connected in parallel or in three-phase banks. They may also be connected as autotransformers for boosting or bucking voltage. However, the use of autotransformers is subject to precautions: secondary circuits supplied by autotransformers may be subjected to exceptionally severe short circuits unless protected by current-limiting means. It is recommended that suitable current-limiting devices be installed, where necessary, to limit the short-circuit current to 25 times the rated current. In all cases the National Electrical Code regulations should be followed.

GENERAL INFORMATION

All General Electric Type MV transformers have built-in capability for overloading in accordance with the table below.

PERMISSIBLE ONCE-DAILY OVERLOADS WITH NORMAL LIFE MAINTAINED

Peak Load Time (Hours)	Peak Load Following and Followed by A Constant Load of		
	90% NPR	70% NPR	50% NPR
1/2	162% NPR	185% NPR	200% NPR
1	138% NPR	148% NPR	152% NPR
2	123% NPR	128% NPR	133% NPR
4	113% NPR	115% NPR	118% NPR
8	106% NPR	107% NPR	108% NPR

NPR—Nameplate Rating

DESCRIPTION

Type MV transformers have a ventilated, encased construction suitable for indoor service and also meet UL weatherproof requirement for outdoor service. A tamper-resistant hardware kit is available for use in outdoor installation. The kit consists of 8 Holt-head screws (which replace factory installed screws) and a tool for their installation. The recommended location of the tamper-resistant screws is as follows: one in each corner of the top cover and one in each lower corner of the front and rear cover plates.

In addition to the tamper resistance provided by the Holt-head screws, the front and back coverplates may be padlocked (one required for each plate). This is accomplished by removing the knockouts located in the bottom center of the front and back cover plates. Then insert the padlock through the corresponding holes in the coverplate and the transformer base.

General purpose transformers are designed to reach rated temperature rise above ambient air temperature when operating continuously at rated voltage, frequency, and load. Serious overheating with resultant fire damage may result if the unit is operated for sustained periods above rated voltage, above rated current*, or lower than rated frequency. However, general purpose transformers having frequency ratings within the range of 25 to 100 hertz may be operated safely at higher than nameplate-rated hertz.

MAINTENANCE

In general, dry-type transformer products have no moving parts. The only maintenance required is periodic inspection of connections and removal of accumulated dust, dirt, and lint.

Additional information relating to the installation and maintenance of general purpose transformers can be found in American National Standards Institute publication C57-94, "Guide for Installation and Maintenance of Dry-type Transformers."

RENEWAL PARTS

Because of the unit structure of these transformers, field repairs are usually uneconomical, and no spare parts and renewal parts are recommended. If conditions of operation dictate the need for standby equipment, a complete spare unit is recommended.

STORAGE

The storage room should be clean and dry and, when possible, without extreme temperature variations. Before placing a dry-type transformer in service after a period of storage, be sure that it is clean and dry by observing the instructions under "Installation."

* Rated current equals rated volt-amperes divided by rated voltage for single-phase units; or for three-phase units, rated volt-amperes divided by rated line-to-line volts, the quotient of which is divided by the square root of three-(1.732).

GENERAL ELECTRIC COMPANY
SPECIALTY TRANSFORMER DEPARTMENT
FORT WAYNE, INDIANA 46804

GENERAL ELECTRIC

1/79 1M

Printed in U.S.A.