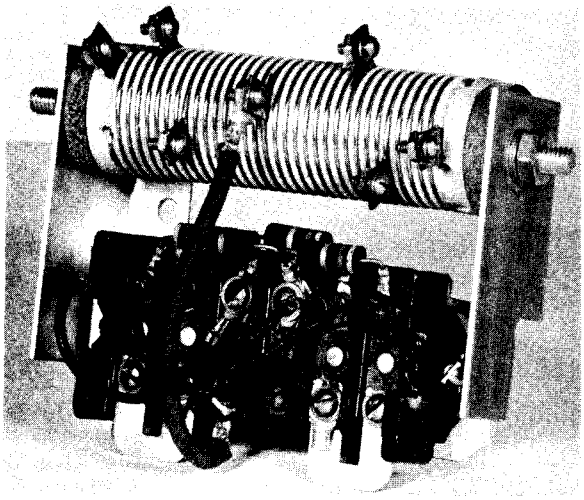
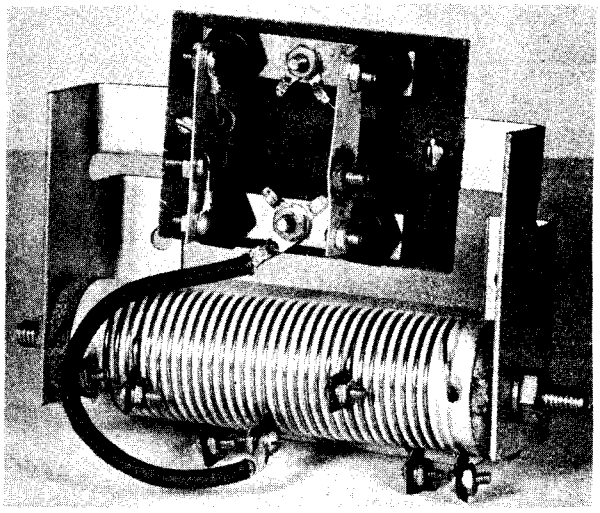
INSTRUCTIONS

GEI-77007 E
Supersedes GEI-77007 D

SILICON RECTIFIERS FOR CIRCUIT BREAKER CLOSING SERVICE





GENERAL ELECTRIC

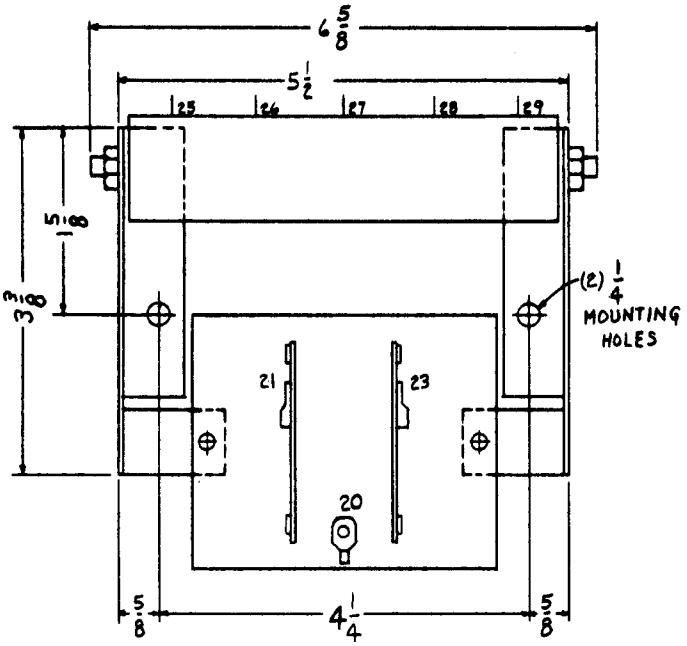


Fig. 1 Schematic of Rectifier Assembly

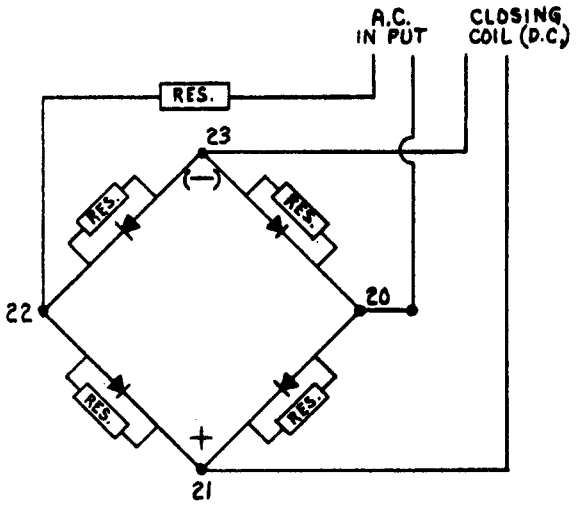


Fig. 2 Rectifier Wiring Diagram

Closing Coil	Closing Coil Resistance Ohms ± 10% at 25°C	Breaker	Resistor Setting In Ohms	Rectifier 0962C0670 G-0003	Drawing 0105C3009 G-0003
WSF 3121578	1.25	AM-5-100, -150	1.0	X	
WSF 3121585	2.05	AM-5-150	2.0		X
WSF 3121887	2.4	AM-5-100	2.25		X
WSF 3128713	.92	AM-7.5-250; AM-15-250; AM-15-500	.75	X	
3128949	5.90	FK-33	4.00		X
3192508	4.53	FK-142	2.5		X
3192507	2.39	FK-143	4.00	X	
6174510 G-3	2.47	AM-5-50	2.5		X
6275005 G-4	2.25	FK-255-20	2.75		X
6275006 G-13	1.25	FK-255-28	1.75	X	
6306720 G-1	.92	AM-7.5-250; AM-15-250; AM-15-500	.75	X	
6306720 G-5	.95	AM-7.5-250; AM-15-150, -250	.75	X	
6306733 G-1	.63	AM-15-500	1.0	X	
6306733 G-2	.560	AM-15-250; AM-7.5-250, -500	.625	X	
6306734 G-1	2.0	AM-5-50	2.0		X
6306734 G-2	2.0	AM-5-50; AM-4.16-75	2.0		X
6306764 G-1	.92	AM-5-250; AM-5-100	.75	X	
6306764 G-3	.92	AM-5-100, -150, -250	.75	X	
6375521 G-2	.93	AM-7.2-250, -500; AM-2.4/4.16-100/150 AM-13.8-150, -250, -500, -750	.75	X	
6375521 G-6	1.58	AM-4.16-150, -250; AM-13.8-150, -250 AM-13.8-500	1.25		X
6375522 G-2	.513	AM-4.16-350	.375	X	
		AM-7.2-250, -500; AM-13.8-750	.625		
6375522 G-4	.66	AM-7.2-250, -500	.5	X	
802B799 G-1	.9	AM-4.16-150, -250; AM-7.2-250, -500 AM-13.8-150, -250, -500	.75	X	
802B799 G-2	1.58	AM-4.16-150, -250 AM-13.8-150, -250, -500	1.25		X

Fig. 3

SILICON RECTIFIERS
FOR CIRCUIT BREAKER CLOSING SERVICE

INTRODUCTION

Silicon rectifier assemblies for circuit breaker closing service are made up of one or more full wave rectifier units and several resistors. The rectifiers are designed for intermittent duty and should only be used on the specific circuit application where their characteristics apply. (See Fig. 3). These rectifiers are of the button type and are hermetically sealed units. When the rectifiers are used outdoors, they should be installed in a weatherproof housing. For indoor use they should be installed in a suitable enclosure.

DESCRIPTION

The silicon rectifier unit assembly for closing service consists of two half wave forward polarity rectifiers and two half wave reversed polarity rectifiers, four 470 ohm one watt resistors and one 2 ohm or one 4 ohm power resistor, all mounted inside a metal box. Fig. 1 shows a schematic view of the rectifier assembly with the physical positions denoted to correspond to the positions shown on the rectifier wiring diagram Fig. 2. For each breaker closing service one rectifier box assembly is required.

ADJUSTMENTS

DO NOT MAINTAIN VOLTAGE ON THE RECTIFIER ANY LONGER THAN IT TAKES TO ELECTRICALLY CLOSE THE BREAKER (20 CYCLES MAXIMUM) OR SERIOUS DAMAGE TO THE RECTIFIER MAY RESULT. For specific breaker application, reference should be made to Fig. 3 and resistor taps Fig. 4 & 5. When the resistance value has been selected and the proper connection made no additional adjustments to the rectifier unit assembly should be made. These units have been tested at the factory and unlike rectifiers of previous design are affected very little by ambient temperature changes.

Fig. 4 (8026938)

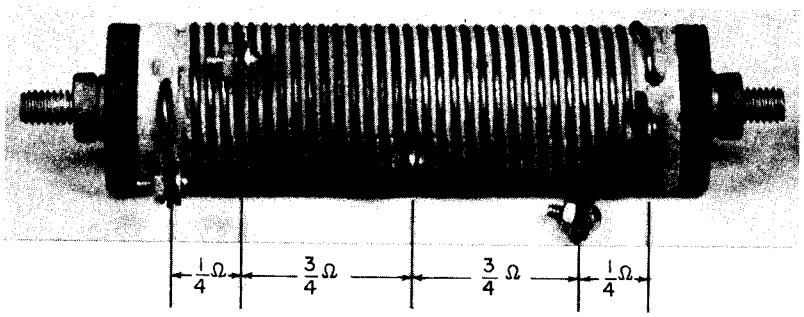


Fig. 4 2 Ohm Resistor

Fig. 5 (8026938)

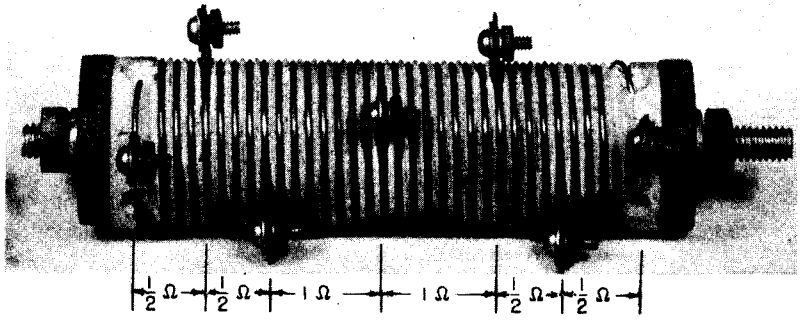


Fig. 5 4 Ohm Resistor

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

To the extent required the products described herein meet applicable ANSI, IEEE and NEMA standards; but no such assurance is given with respect to local codes and ordinances because they vary greatly.

RENEWAL PARTS

It is recommended that sufficient renewal parts be carried in stock to enable the prompt replacement of any worn, broken, or damaged parts. A stock of such parts minimizes service interruptions caused by breakdowns, and saves time and expense. When continuous operation is a primary consideration, more renewal parts should be carried, the amount depending upon the severity of the service and the time required to secure replacements.

Renewal parts which are furnished may not be identical to the original parts, since improvements are made from time to time. The parts which are furnished, however, will be interchangeable.

ORDERING INSTRUCTIONS

1. ALWAYS SPECIFY THE COMPLETE NAMEPLATE DATA OF THE RECTIFIER BOX ASSEMBLY.
2. SPECIFY THE QUANTITY, CATALOG NUMBER (IF LISTED), REFERENCE NUMBER (IF LISTED), AND DESCRIPTION OF EACH PART ORDERED, AND THIS BULLETIN NUMBER.
3. STANDARD HARDWARE, SUCH AS SCREWS, BOLTS, NUTS, WASHERS, ETC., IS NOT LISTED IN THIS BULLETIN. SUCH ITEMS SHOULD BE PURCHASED LOCALLY.
4. FOR PRICES, REFER TO THE NEAREST OFFICE OF THE GENERAL ELECTRIC COMPANY.

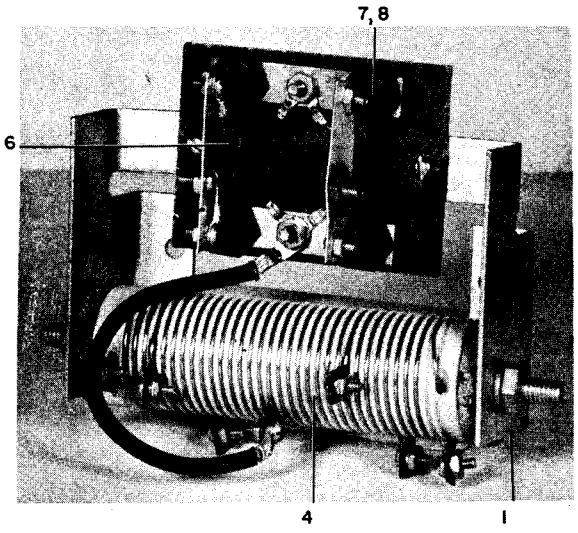


Fig. 6

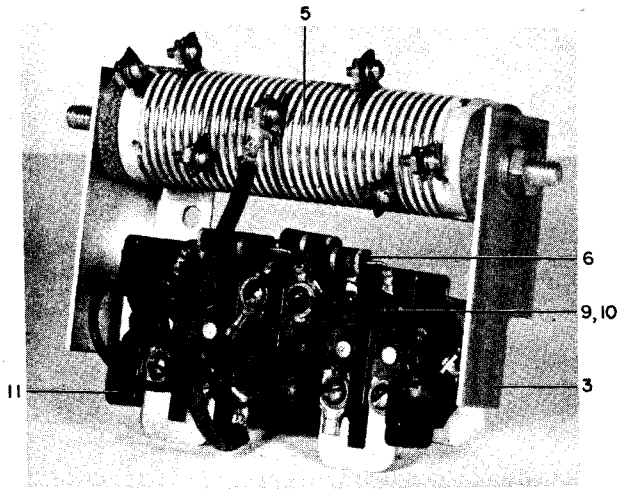


Fig. 7

NO.	DRAWING NUMBER	FIG.	QUAN./BOX	DESCRIPTION
1	0962C0670 G-0003*	6	1	Rectifier Box Assembly with a 2 Ω Resistor
3	0105C3009 G-0003*	7	1	Rectifier Box Assembly with a 4 Ω Resistor
4	0107B9580 G-0001	6	1	2 Ω Resistor
5	0107B9580 G-0002	7	1	4 Ω Resistor
6	0105C3009 P-0010	6,7	4	470 Ω Resistor
7	A36MX16	6	2	Rectifier Forward Polarity
8	A37MX16	6	2	Rectifier Reverse Polarity
9	4JA20BX8	7	2	Rectifier Forward Polarity
10	4JA21BX8	7	2	Rectifier Reverse Polarity
11	0684C0642 G-0001	7	1	Terminal Board

* This rectifier includes a drip shield and an adapter plate for existing copper oxide rectifier installations.

12-62