



## INSTRUCTIONS

GEK-34148 A  
Supersedes GEK-34148  
Insert Booklet GEK-34123

RECLOSING RELAY

NLR21G

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GENERAL  ELECTRIC



RECLOSING RELAY

NLR21G

INTRODUCTION

These instructions are supplement to Instruction Book GEK-34123 which is included in this book. The combination of the two provide instructions for the NLR21G relay. All information pertinent to the NLR21G relay which is not covered by this supplement is as indicated in GEK-34123.

DESCRIPTION

The NLR21G relay is similar to the NLR21A relay except that it includes provisions for a fast lockout initiation. The internal connections diagram is shown in Figure 1 of this supplement.

Energizing the fast lockout unit L immediately steps the NLR21G to the lockout position. As the NLR21G steps to the lockout position relay closing signal outputs are blocked.

APPLICATION

The Type NLR21G relay is generally employed when it is desired to place the NLR relay in the lockout position and to prevent any relay closing signal outputs during certain trip conditions, such as supervisory trip, breaker failure trip, and differential relay trip. A typical external connections diagram is shown in Figure 2 of this supplement. Before applying this relay, the APPLICATION section in the attached booklet GEK-34123 should be read.

OPERATING PRINCIPLES

The NLR21G relay operating principles are similar to the NLR21A relay explained in GEK-34123 except as follows:

1. The internal connections are shown in Figure 1.
2. An added telephone relay (L) provides a fast lockout function similar to the fast reset function. When positive DC is applied to terminal 20, the L unit is picked up through SL4 except in the lockout position. A path for current is then provided through SL4, D1, SA1, SA, and L3 which rapidly steps the stepping switch to the lockout position. The L2 contact prevents any relay closing signal output by keeping the C unit de-energized during a fast lockout initiation.

*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.*

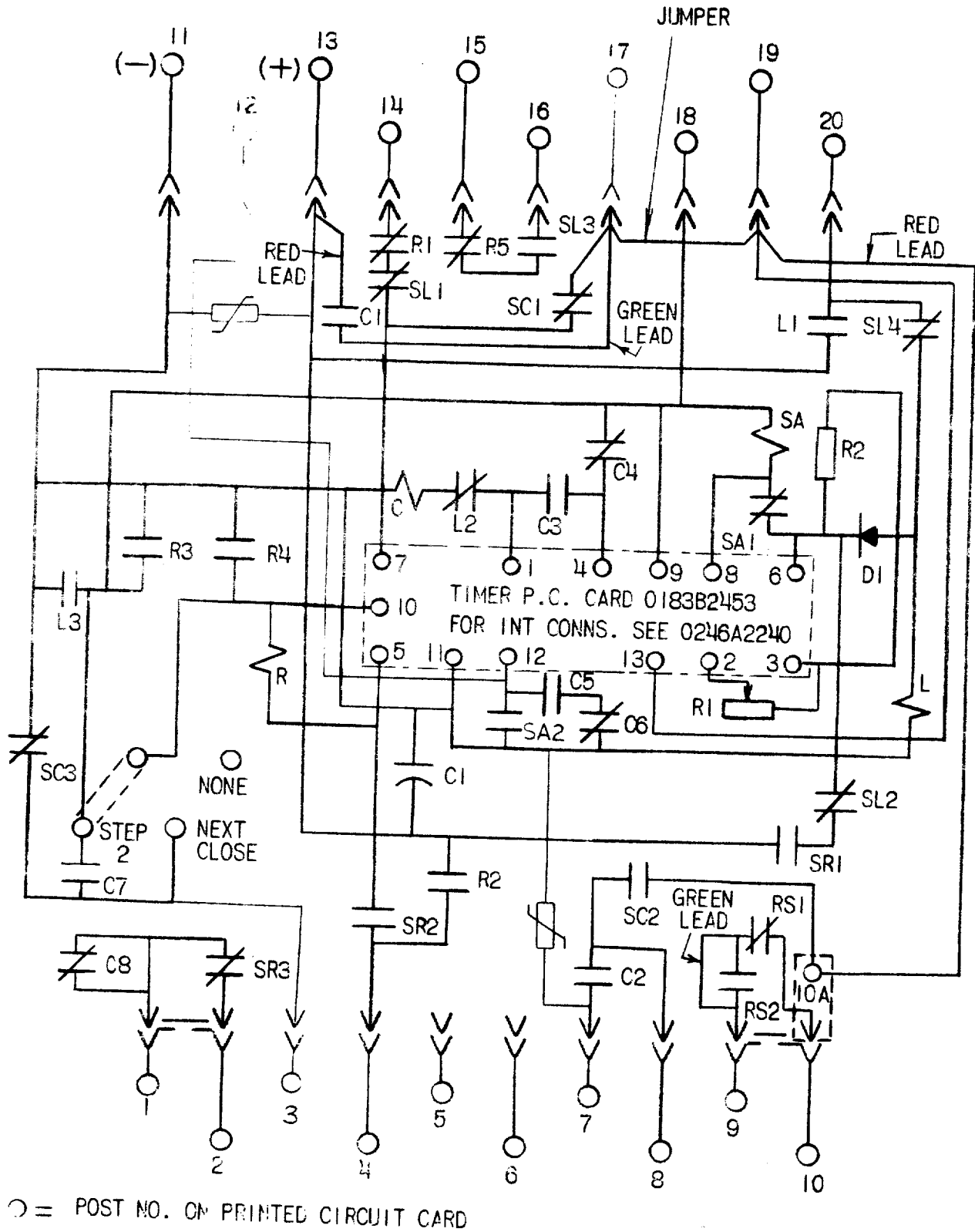


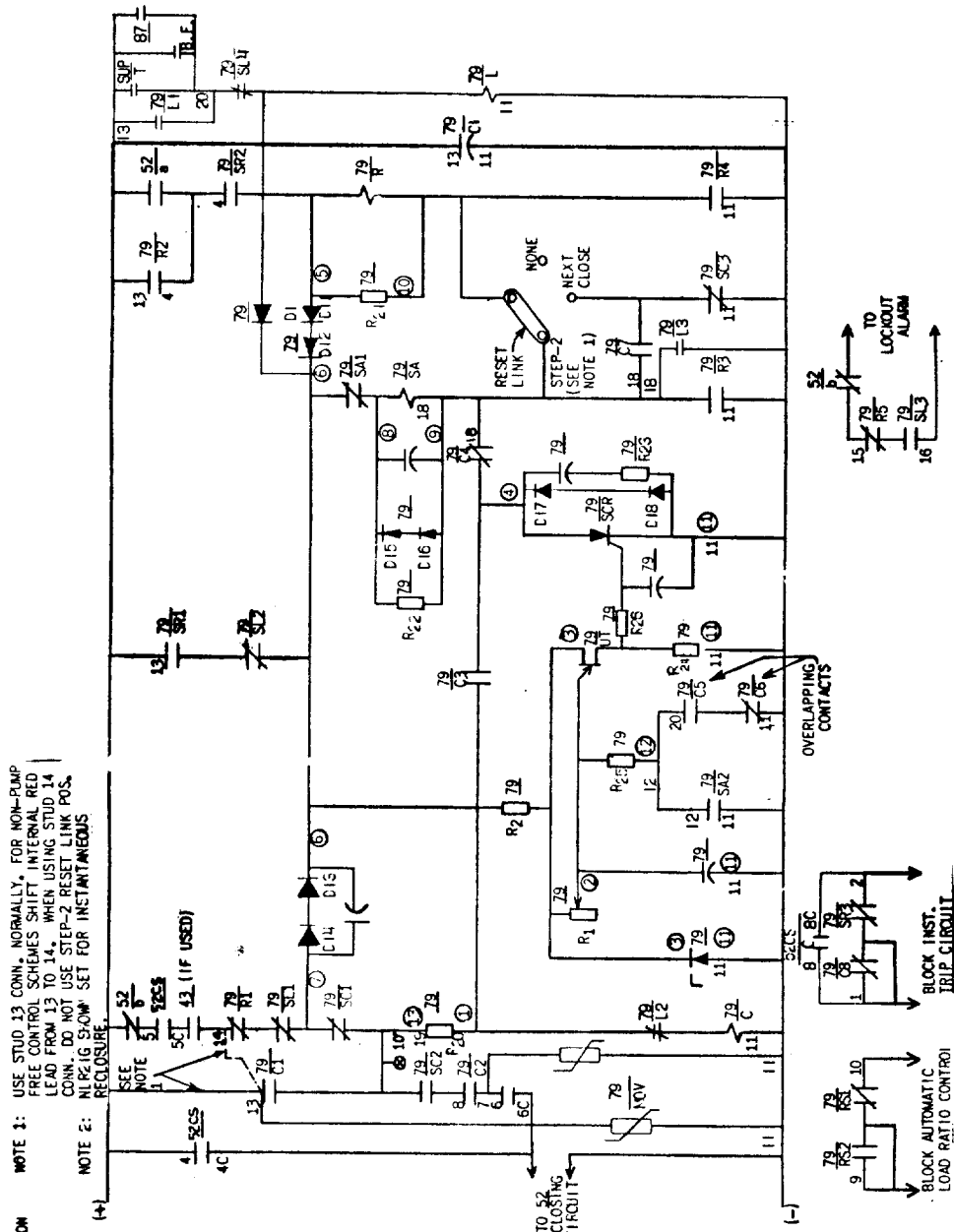
FIG.1 (246A3335-3 Sh.1) Type NLR21G Internal Connections Diagram

STEPPING SWITCH CONTACTS

CONTACTS	SWITCH CONTACTS		
	RESET	STEPS 1-34 INC.	LOCKOUT
SL (≠)	CLOSED	CLOSED	OPEN
SL (⊕)	OPEN	OPEN	CLOSED
SR (⊕)	OPEN	CLOSED	CLOSED
SR (≠)	CLOSED	OPEN	OPEN
SC (≠)	CLOSED BY ADJUSTABLE CAMS IN ANY 3 NON-ADJACENT STEPS		
SC (⊕)	CLOSED WHEN SC CONTACTS (≠) ARE OPEN		
SA (⊕)	CLOSED WHEN STEPPING SW. COIL IS ENERGIZED		
SA (≠)	OPEN WHEN STEPPING SW. COIL IS ENERGIZED		

MODEL	FORM			
12NLR21G(-)A	1			
VOLTS	125			
RESISTANCE IN OHMS				
C COIL	3,600			
R COIL	3,600			
L COIL	3,600			
SA COIL	400			
R1	1 MEG.			
R2	8,000			
CAPACITANCE VALUE				
CI	1uf			

FIG. 1 (0246A3335-2 SH. 2) Type NLR21G Internal Connections Diagram



**NOTE 1:** USE STUD 13 CONN. NORMALLY. FOR NON-PUMP FREE CONTROL SCHEMES SHIFT INTERNAL RED LEAD FROM 13 TO 14 WHEN USING STUD 14 CONN. DO NOT USE STEP-2 RESET LINK POS. NLR216 SLOW SET FOR INSTANTANEOUS RE-CLOSURE.

**NOTE 2:** NLR216 SLOW SET FOR INSTANTANEOUS RE-CLOSURE.

**NUMBERS ON CONTACTS (79/R1, 79/SC1, ETC) ARE ARBITRARILY ASSIGNED FOR IDENTIFICATION PURPOSES.**

STEP	STEP NO.	STEPS	CAPACITY
1	1-34	1-34	TER 35
2	35-68	35-68	TER 35
3	69-102	69-102	TER 35
4	103-136	103-136	TER 35
5	137-170	137-170	TER 35
6	171-204	171-204	TER 35
7	205-238	205-238	TER 35
8	239-272	239-272	TER 35
9	273-306	273-306	TER 35
10	307-340	307-340	TER 35
11	341-374	341-374	TER 35
12	375-408	375-408	TER 35
13	409-442	409-442	TER 35
14	443-476	443-476	TER 35
15	477-510	477-510	TER 35
16	511-544	511-544	TER 35

DEVICE	TYPE	INCL.	DESCRIPTION
1	SE	✓	CONTROL SWITCH
2	SE	✓	AC CIRCUIT BREAKER
3	SE	✓	AC RE-CLOSING RELAY
4	SE	✓	CLOSING UNIT
5	SE	✓	RESETTING UNIT
6	SE	✓	STOP
7	SE	✓	STOP
8	SE	✓	STOP
9	SE	✓	STOP
10	SE	✓	STOP
11	SE	✓	STOP
12	SE	✓	STOP
13	SE	✓	STOP
14	SE	✓	STOP
15	SE	✓	STOP
16	SE	✓	STOP

DESC. OF DEVICE	INT. CONN.	EXT. CONN.
1	✓	✓
2	✓	✓
3	✓	✓
4	✓	✓
5	✓	✓
6	✓	✓
7	✓	✓
8	✓	✓
9	✓	✓
10	✓	✓
11	✓	✓
12	✓	✓
13	✓	✓
14	✓	✓
15	✓	✓
16	✓	✓

FIG. 2 (0165B2635-0) Type NLR216 External Connections Diagram





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