



## INSTRUCTIONS

GEK-34206A  
Supersedes GEK-34206  
INSERT BOOKLET GEK-34123

### RECLOSING RELAY

#### TYPE NLR21M

#### INTRODUCTION

These instructions are a supplement to Instruction Book GEK-34121, which is included in this book. The combination of the two provides instructions for the NLR21M relay. All information pertinent to the NLR21M that is not covered by this supplement is as indicated in GEK-34123.

#### DESCRIPTION

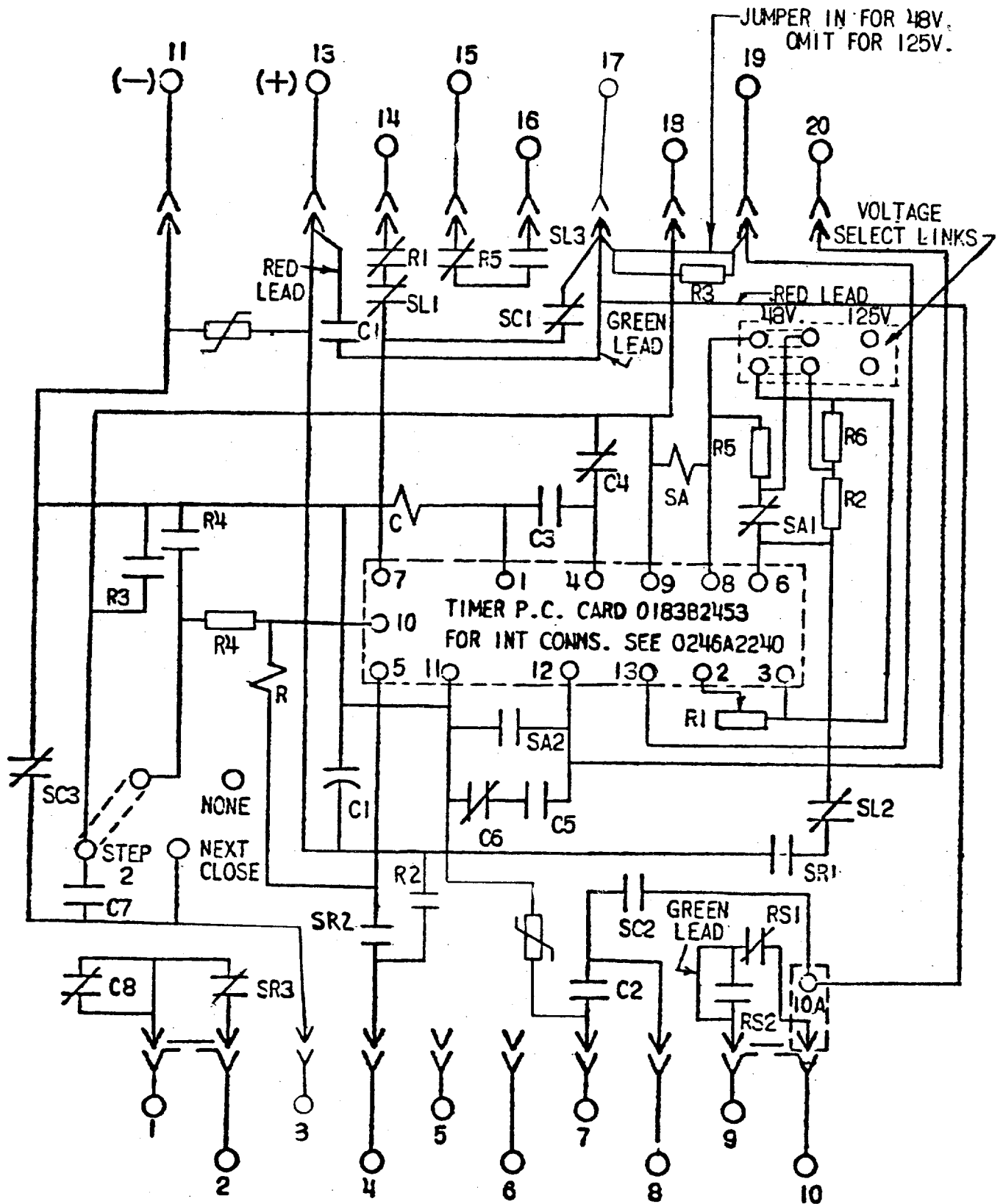
The NLR21M is similar to the NLR21A except it is a dual-rated DC relay and has a fixed instantaneous reclosing lobe. The NLR21M relay contains rated voltage-selecting links to provide means of adjusting the relay to operate on the control voltage available.

Figure 1 shows the internal connections for the NLR21M relay.

Figure 2 shows the external connections for the NLR21M relay.

*These instructions do not purport to cover all details or variations in equipment nor 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.*



○ = POST NO. ON PRINTED CIRCUIT CARD

\*Figure 1A (0246A3328 SH.1[3]) Type NLR21M Internal Connection Diagram

\*Revised since last issue

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			
22NLR21M(-)A	1			
VOLTS DC	48/125			
RESISTANCE IN OHMS				
C COIL	500			
R COIL	600			
SA COIL	70			
R1	1MEG.			
R2	2,000			
R3	1,200			
R4	600			
R5	100			
R6	6,000			
CAPACITANCE VALUE				
C1	1uf			

\*FIGURE 1B (0165B2638 SH. 2 [2]) Type NLR21M Internal Connections Diagram

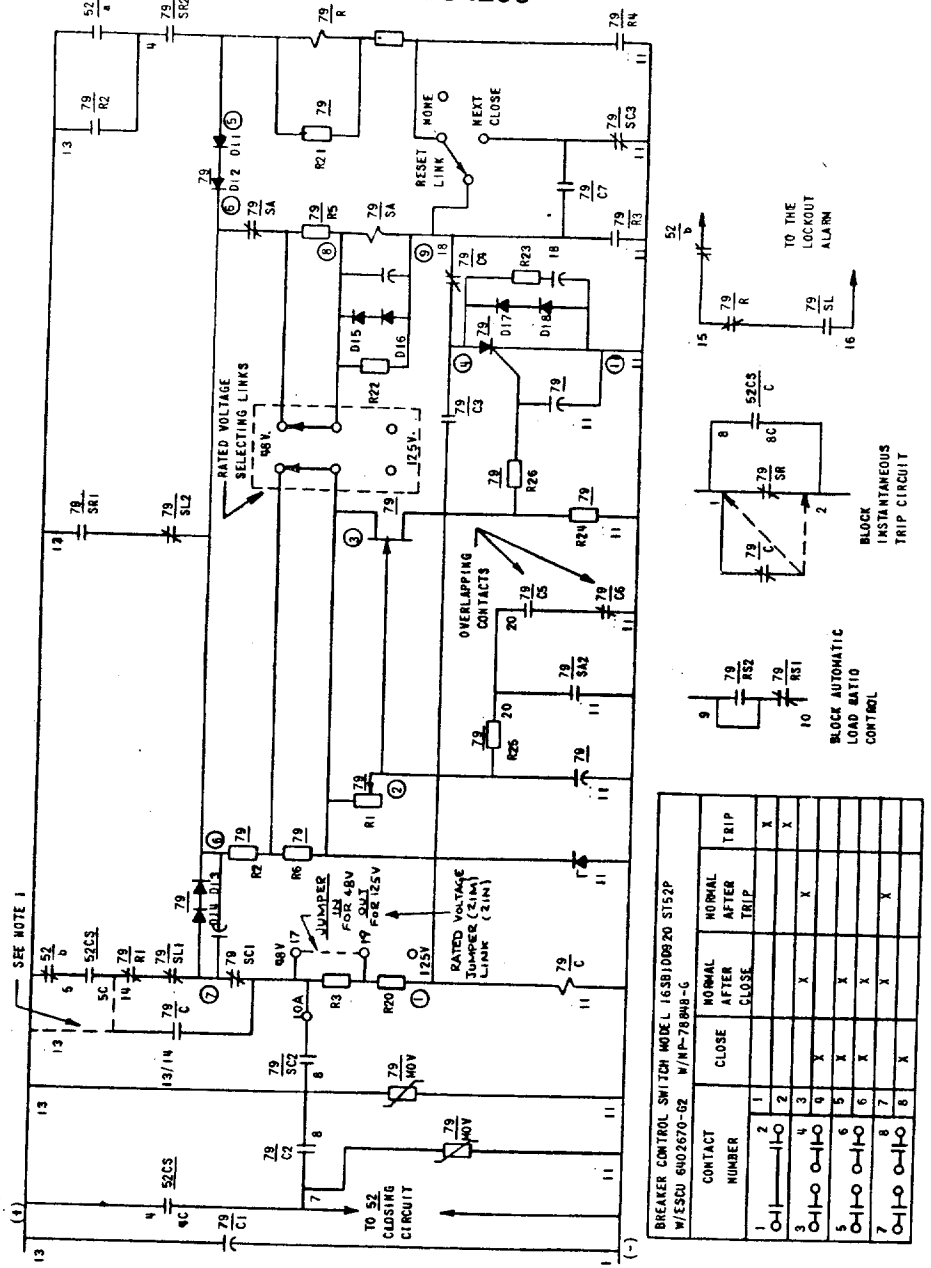
\*Revised since last issue

NOTE 1: USE STUD 13 CONNECTION NORMALLY FOR NON-PUMP  
 FREE CONTROL SCHEMES SHIFT INTERNAL RED LEAD FROM  
 13 TO 14 WHEN USING STUD 14 DO NOT USE STEP 2  
 RESET POSITION.  
 NOTE 2: NLR21M SET FOR INSTANTANEOUS RECLOSURE

CAM OPERATED CONTACTS	RESET STEP 0	STEPS 1-34	LOCKOUT STEP 35
SR	X	X	X
SR	X	X	X
SR	X	X	X
SC	X, AND 3 NON-ADJACENT STEPS		
SR	OPEN WHEN SC-1S X		
SR	X IN ANY 4 ADJACENT STEPS		
SR	OPEN WHEN RS-1S X		

DEVICE NO.	INCL. ELEM.	DESCRIPTION
52CS	SR	CONTROL SWITCH
52		AC CIRCUIT BREAKER
79	NLR	AC RECLOSING RELAY
	C	CLOSING UNIT
	R	RESETTING UNIT
	RS	CAM OPER. AUX-FUNCTION SW
	SA	ARMATURE OF STEPPING SWITCH
	SC	CLOSING CONT'S OF STEPPING SWITCH
	SL	LOCKOUT CONT'S OF STEPPING SWITCH
	SR	RESETTING CONT'S OF STEPPING SWITCH

DESCRIPTION OF DEVICE	INTERNAL	OUTLINE
NLR21M	02M43328	K-6209272
NLR21M	02M43334	K-6209272



BREAKER CONTROL SWITCH MODEL 165B100820 S152P  
 W/ESCU 6402670-02 W/IN-78948-G

CONTACT NUMBER	CLOSE AFTER	NORMAL AFTER TRIP	TRIP
1			X
2			X
3	X		
4	X		
5	X	X	
6	X	X	
7	X	X	
8	X	X	

\*Figure 2 (0165B2638-1) Type NLR21M External Connections Diagram

\*Revised since last issue