INSTRUCTIONS

TLS9000
MODULAR RELAY SYSTEM
FOR
TRANSMISSION LINE PROTECTION

INTRODUCTION

This instruction book, together with insert booklet GEK-86638, forms the instructions for the TLS9000 series relays.

DESCRIPTION

The TLS9000 modular relays are similar to the TLS1000 modular systems. The features that make the two different lie in the output contacts and the DLA point locations. These two distinguishing features are evident in the elementary diagrams (Figures 1, 2 and 3 of this book), and the logic diagrams (Figures 4, 5, 6 and 7 of this book).

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.
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Tripping Scheme - Two Zone
LEGEND:
CC1 - 1POLE RECEIVER INPUT
CC2 - 2POLE RECEIVER INPUT (IF USED)
CC3 - 3POLE RECEIVER INPUT
CC4 - PERM. RCVR OR ZONE ACC. INPUT (IF USED)
CC5 - REMOTE SELECTION OF 3POLE TRIP MODE
CC6 - CHANNEL FAILURE ALARM INPUT FOR LINE PICKUP
CC7 - EXT. 3 POLE DIRECT TRIP WITH RECLOSE INITIATION
CC8 - EXT. 3 POLE DIRECT TRIP WITHOUT RECLOSE INITIATION
CC9 - REMOTE CONTACT TO DISABLE ALL TRIP OUTPUTS
CC10 - REMOTE CONTACT TO RESET TARGET LIMPS
CC11 - INHIBIT UV INPUT FOR BUS SIDE POTENTIAL OR FOR
CC12 - PHASE SELECTION WITH PHASE IDENTIFIED CHANNELS (IF USED)

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PIN ASSIGNMENT

1. GROUND
2. 3 POLE SELECTED
3. ANY TRIP BUS
4. OUT-OF-STEP BLOCK
5. CHANNEL TRIP
6. FAULT DETECTOR
7. TRIP PERMISSION
8. POTENTIAL FUSE FAILURE
9. K1-NN40-1
10. K2-NN40-2
11. K1-NN40-1
12. K2-NN40-2
13. BLOCK RECLOSING
14. SPARE
15. SPARE

Figure 2F (0183B3678-1, Sh. 6) Elementary Diagram TLS9002
Hybrid/Permissive Single Pole
Tripping Scheme - Two Zone
Figure 3A (0183B3679-0, Sh. 1) Elementary Diagram TLS9003
Hybrid/Permissive Single Pole
Tripping Scheme - Three Zone
LEGEND:
CC1 - 1 POLE RECEIVER INPUT
CC2 - 1 DT Receiver Input (If Used)
CC3 - 3 POLE RECEIVER INPUT
CC4 - Perm. Recl or Zone ACC. Input (If Used)
CC5 - Remote Selection of 3 Pole Trip Mode
CC6 - Channel Failure Alarm Input for Line Pickup
CC7 - Ext. 3 pole direct trip with reclose initiation
CC8 - Ext. 3 pole direct trip without reclose initiation
CC9 - Remote Contact to disable all trip outputs
CC10 - Remote Contact to reset target lamps
CC11 - CC12 - Inhibit if input for Bus side potential or for
CC13 - Phase selection with phase identified channels (IF used)

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Hybrid/Permissive Single Pole Tripping Scheme - Three Zone
PIN ASSIGNMENT

1  GROUND
2  ZONE 1 TRIP
3  ZONE 2 TRIP
4  ZONE 3 TRIP
5  ANY M2
6  ANY MG2
7  ANY TRIP BUS
8  CHANNEL TRIP
9  TRIP PERMISSION
10  FAULT DETECTOR
11  BLOCK RECLOSING
12  OUT-OF-STEP BLOCKING
13  PT FUSE FAILURE
14  NOT USED
15  NOT USED

Figure 3F (0183B3679-1, Sh. 6) Elementary Diagram TLS9003
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LEGEND:
CC1 - 1 POLE RECEIVER INPUT
CC2 - CTY RECEIVER INPUT (IF USED)
CC3 - 3 POLE RECEIVER INPUT
CC4 - PERM. RCVR OR ZONE ACC. INPUT (IF USED)
CC5 - REMOTE SELECTION OF 3 POLE TRIP MODE
CC6 - CHANNEL FAILURE ALARM INPUT FOR LINE PICKUP
CC7 - EXT. 3 POLE DIRECT TRIP WITH RECLOSE INITIATION
CC8 - EXT. 3 POLE DIRECT TRIP WITHOUT RECLOSE INITIATION
CC9 - REMOTE CONTACT TO DISABLE ALL TRIP OUTPUTS
CC10 - REMOTE CONTACT TO RESET TARGET LAMPS
CC11 - 
CC12 - INHIBIT LV INPUT FOR BUS SIDE POTENTIAL OR FOR
CC13 - PHASE SELECTION WITH PHASE IDENTIFIED CHANNELS (IF USED)

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NOTE: BACK PLATE WIRE 0285ABB12G2
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