

Order Number

Serial Number

PRODUCTION TEST MANUAL

3A52K1

FEEDER-TRANSFORMER RELAY

Issue Level	Date	Summary of changes
A	15/06/00	Initial issue.
B	31/10/00	Polarity check of SR & DL diodes added
C	5/01/01	Additional tests added for the SR element
D	24/05/01	New Tfa: Issue B and email 23/05/01.
E	17/08/2009	Update for Megger Testing of insulation
F	08/02/2012	Wording update to 2. d) & 3. f)

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MVL	MD	MD	

1. ASSOCIATED DRAWINGS

Test for approval 62505 Issue D 17/08/01

2. HIGH VOLTAGE TESTING

- a) Apply 2kV RMS 50Hz between terminal Groups 1 and 2 in Table 1 for 1 minute.
- b) Apply three 5kV 1/50us pulses of each polarity between terminal Groups 1 and 2 in Table 1.

TABLE 1

GROUP 1	GROUP 2
5,17,14,13,6	All others & frame
20,19	All others & frame
10-12	All others & frame
2,3,4,7,8,9	All others & frame

- c) Apply 1kV RMS 50Hz between terminal Groups 1 and 2 in Table 2 for 1 minute.

TABLE 2

GROUP 1	GROUP 2
2,4,5,8,9,10,12,17	3,6,7,11,13
OPERATED POSITION: 2,4,10,11	OPERATED POSITION: 7,8,9,12

- d) Check that the insulation resistance measured with a 500V megger is greater than 200MΩ and steady between all terminal groups in Table 1 and Table 2.

3. TEST PROCEDURE

SR Element

- a) Measure resistance between terminals 13 & 14. This should be 770 Ω +/- 10%
- b) Measure resistance between terminal 5 & 6 (relay operated). This should be 22 Ω +/- 10%.
- c) Check that pickup is less than 65 VDC
- d) Check that drop out time at 110 VDC is greater than 290 ms
- e) Reverse the polarity on the terminals making terminal 14 negative and apply 100V DC. Ensure the relay does not operate. This test ensures the integrity of the diode.
- f) Check operation Voltage and Current Coils:
 First apply 30V between terminal 14 (+) and 17 (-), then temporarily apply (-) to pin 13. Relays should pick-up and remain picked-up. Then apply 30V between 5 (+) and 6 (-) for a few seconds only: Relay should remain picked-up.
 Reverse polarity of the 30V injection, i.e. 5 (-) and 6 (+): The relay should drop-out.

PASS

DL Element

- a) Measure the resistance between terminal 19 & 20. This should be 547Ω (a & b) +/- 10%.
- b) Check that pickup is less than 50 VDC
- c) Check the operate time between terminals 2 & 9 is less than 65ms, measured at 110 VDC.
- d) Check that the release time is greater than 160 ms from 110 VDC
- e) Reverse the polarity on the terminals making term 20 negative and apply 100V DC for a short time only. Ensure the relay does not operate. This test ensures the integrity of the diode.

PASS

4. GENERAL & FUNCTIONAL

- a) Check that the relay is engraved with stock-code number 62505
- b) Check that the relay is shockproof and that the flag reset mechanism operates correctly.
- c) Check that the relay is electrically sound and mechanically robust as per Standard Inspection & Test Schedule 903-000-026.

PASS

TESTED BY: _____ DATE: _____