



Order Number

Serial Number

PRODUCTION TEST MANUAL

3Y31K4

REED REPEAT

Issue Level	Date	Summary of changes
A	25/01/00	Initial issue.
B	12/11/09	Update according to quote spec. Q59/09
C	11/11/10	Review update

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1. BROAD DESCRIPTION OF RELAY

The 3Y31K4 is a dual element high speed relay with operate times less than 2 ms at the nominal voltage of 125 VDC

2. SPECIFICATIONS

DC Auxiliary Supply	125 VDC -30% + 10%
Supply Burden (At 125V DC)	Approx 2.7W
Speed of operation	Less than 2 ms @ 125 VDC.
Operating Contacts	Two normally open per element

3. ASSOCIATED DRAWINGS

182-031-104 Wiring Diagram
690-211-201 Circuit Diagram

4. TEST EQUIPMENT REQUIRED

DC Auxiliary Supply
Ammeter
HV Test Equipment
Doble Test Set
Jig294: 3Y31K4 Test Jig

5. HIGH VOLTAGE TESTING

- a) Apply 2kV RMS 50Hz between terminal Groups 1 and 2 in Table 1 for 1 minute.
- b) Apply 1kV RMS 50Hz between the terminals for one minute in Table 2

TABLE 1

GROUP 1	GROUP 2
1,12,7,6,9,4	5, 8,10,2,11,3
7,6,8,5,11,3	1,12,4, 9,10,2
1, 12, 8, 5,10,2	9, 4,11,3

TABLE 2

GROUP 1	GROUP 2
9, 10,8,11	4,2,5,3

6. TEST PROCEDURE

Before performing any of the following tests connect the coils of the relay to a 50 Hz supply for approximately 15 seconds. This flattens out any plating burrs that may cause sticking.

- a) Using a device for measuring operate time connect the auxiliary supply to relay 1
- b) For reed relay 1, measure the operate time at the minimum voltage specification (87.5V). This should be less than 3 ms. Record results for both contacts.
- c) Repeat b) for reed relay 2. **Note: If all results are less than 2ms, proceed to step e).**

	Relay 1	Relay 2
Nominal	3 ms	3ms
Actual	<input type="text"/>	<input type="text"/>

- d) Repeat b) and c) above but with voltage at nominal (125 VDC). This should be less than 2ms.

	Relay 1	Relay 2
Nominal	2 ms	2ms
Actual	<input type="text"/>	<input type="text"/>

- e) With each reed relay energised in turn, ensure that the operated burden is less than 2.7W - i.e. <21.6mA.

Check

- f) For reed relay 1, measure the drop out time at the maximum voltage specification (137.5V),. This should be less than 3ms. Record results for both contacts.
- g) Repeat f) for reed relay 2.

	Relay 1	Relay 2
Nominal	3 ms	3ms
Actual	<input type="text"/>	<input type="text"/>

7. GENERAL & FUNCTIONAL

Check that the relay is electrically sound and mechanically robust as per Standard Inspection & Test Schedule 903-000-026.

PASS

TESTED BY: _____ DATE: _____

8. CONNECTION DIAGRAM

