Order Number _____ Serial Number _____

PRODUCT / TEST MANUAL

2V47K11

HIGH IMPEDANCE DIFFERENTIAL RELAY

Issue Level	Date	Summary of changes
A	6/12/00	Initial issue.

Author	Checked & Registered	.pdf file created	Released
ERL	MW	MW	Digitally signed by Michael Williams cn=Michael Williams, ou=Test Room, o=Relay Monitoring Systems, c=AU Date: 2001.06.22 10:14:31 +11'00' Reason: Document is released

1. BROAD DESCRIPTION OF RELAY

The 2V47K11 is a single phase AC High Impedance relay containing a single phase input. The relay measuring element is basically an attracted armature unit powered from a bridge rectifier. A capacitor is connected in series with the operate coil to make the relay insensitive to the DC component of fault current.

2. SPECIFICATIONS

DC AUXILIARY VOLTAGE	40 - 250V DC
AC SENSING VOLTAGE	25 - 325 V AC
AC SENSING CURRENT	< 25mA
OPERATE TIME	< 20 mS at 4 times Vin
AMBIENT TEMPERATURE RANGE	-5 to 55^{O}c

3. TEST EQUIPMENT REQUIRED

Auxiliary DC Power Supply
AC Supply
Digital Voltmeter
Decade Box
Pickup and Dropout Time Measuring Apparatus
High Voltage Test Equipment

4. ASSOCIATED DRAWINGS

165-047-111	Wiring Diagram
165-047-211	Circuit Diagram
660-288-301	Loading Diagram
165-047-709	Front Label

5. HIGH VOLTAGE TESTING

a) Apply 2KV RMS. between the terminal groups as listed in A & B below for 1 minute.

b) Apply three 5KV 1/50usec pulses of each polarity as listed in A & B below.

GROUP A	**GROUP B**
All Terminals	Frame
Inputs	Outputs & Frame

c) Apply three 5KV 1/50usec pulses of each polarity between Aux Supply inputs.

6. CALIBRATION AND TEST PROCEDURE

6.1 Voltage Sensing

a) Apply 40V DC Auxiliary for the flag supply (term 1 & 2).

b) Connect volt source to terminals 3 and 4. A ∅

c) Select on test resistor in series with the coil has to be no greater than 1K8 otherwise relay is too sensitive. Tension contact blades to bring the sensitivity down.

d) Use decade box to calibrate 25 V tap then all other taps and record results trimming the appropriate resistors to obtain scale points.

MIN	MAX	NOM	ACTUAL	UNITS
23.7	26.3	25.0		Volts
71.2	78.8	75.0		Volts
118.7	131.3	125.0		Volts
166.2	183.8	175.0		Volts
213.7	236.3	225.0		Volts
261.2	288.8	275.0		Volts
308.7	341.3	325.0		Volts

6.2 DC Voltage No Operation Test

a) Set A ∅ setting to 25 V and apply 50 V DC.
Check that no operation occurs.

PASS ☐

6.3 Timing Checks

a) Set A ∅ setting to 25 V and apply 100 V AC.

PU time <20 ms _____ ms

7. GENERAL & FUNCTIONAL

a) Check for correct operation of magnetic disc flag.

b) 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