PRODUCT / TEST MANUAL

2C83K1

OVERCURRENT & EARTH FAULT RELAY

Order Number

RMS Serial Number

Vaasa Serial Number

Issue	Date	Summary of changes
A	10/10/00	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: 2001.04.19 13:43:13 +11'00' Reason: Document is released

1. BROAD DESCRIPTION

The 2C83 overcurrent & earth fault relay is a non directional current measuring protection relay incorporating both definite and inverse time characteristics. The relay can be programmed either by using the front panel display or by connecting a PC to the front panel programming port.

2. SPECIFICATIONS

STATUS INPUT 48 Volts DC +/- 10%

ACCURACY

Overcurrent Stage	+/- 2% of setting
Residual Current stage	+/- 2% of set value or 0.3% of rated value.

AUXILIARY SUPPLY 40 - 275 V DC Switchmode power supply

RESET TIME Electronic reset time is between 20 and 50 millisecond. Output relay dropout time is less than 20 millisecond and removal of auxiliary supply will reset the relay in this time.

INSULATION WITHSTAND In accordance with, IEC 60255-5:2KV RMS between input and frame, output and frame, and output and input. 1.2/50 5KV impulse between each terminal and earth, between circuits not normally connected together and between terminals of the same circuit.

NOISE IMMUNITY Withstands the high frequency interference test detailed in IEC 60255-5.

OUTPUT CONTACTS The relay is fitted with 5 N/O + 1 N/C contacts as standard.

OUTPUT RELAY CONTACT RATINGS

Trip contacts (2N/O)

Rated Voltage	250V AC or DC
Carry continuously	5A
Make	2000W /VA
Break	50W DC L/R=40ms

Alarm contacts (3 N/O + 1 N/C)

Rated voltage	250V AC or DC
Carry continuously	5A
Make	2000W /VA

COMMUNICATION **RS232**

3. TEST EQUIPMENT REQUIRED

DC Auxiliary Supply, Digital Voltmeter, Oscilloscope, High Voltage Test Equipment , Current source

4. ASSOCIATED DRAWINGS

159-083-101 Wiring Diagram
VPJ140 factory test report
VPJ140 factory insulation report

5. HIGH VOLTAGE TESTING

a) Apply 2KV RMS 50 Hz between terminal groups 1 and 2 in Table 1 for 1 minute.

b) Apply 3 pulses of each polarity of 5 Kv 1/50 between terminal groups 1 & 2 in Table 1

Group 1	Group 2
55,56,5,7,29,30,35,36,41,42	47,48,49,50,9 to 23,26,28,25,27 + E
55,56,5,7,47,48,49,50	29,30,35,36,41,42,26,28,25,27 + E
55,56,29,30,41,42,49,50,26,28 + E	5,7,35,36,47,48,9 to 23,25,27
29,30,47,48,26,28,25,27	41,42,9 to 23 + E

Table 1

6. FUNCTIONAL CHECKS

6.1 Apply nominal volts to the DC input, ensure the display on the front panel powers up and reports "setting".

6.2 Ensure the relay "Power on" LED is lit and the are no errors reported by the error LED.

6.3 Operate the front panel menu navigation buttons ensuring that the buttons perform the correct directional control.

6.4 Check that the relay operates at the correct level (refer to factory calibration sheet)

6.5 Repeat this test for all other current inputs, select appropriate current magnitude as per the factory sheet to suit the relative inputs ie current stage, earth fault stage

6.6 Connect PC to RS232 port and ensure correct operation, (Use Vepset software). Down load Test1.vps to unit under test.

6. FUNCTIONAL CHECKS (Cont)

6.7 Check all output relay contacts.

A1	I>	2.5 Amp	250A	500/5	Contacts 21 - 23
T1	I>	2.5 Amp	5.0 secs		Contacts 26 - 28
A2	Io>	0.05 Amp	5A	100/1	Contacts 17 - 19
T2	Io>	0.05Amp	1.0 secs		Contacts 25 - 27
A3	Digital Input		48 VDC		Contacts 13 - 15
P/S fail alarm					Contacts 9 - 11

6.8 Check analogue output with terminal 3 being positive.

6.9 Check that the relay is electrically sound and mechanically robust as per Standard Inspection & Test Schedule 903.000.026.

6.10 Check that the completed Vaasa test & calibration sheet is appended to this manual.

CHECK ☐

TESTED BY :_____DATE :_____

8. CONNECTION DIAGRAM