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Additional Information concerning the Ampcontrol OMA Earth Fault Lockout/Loss of Vacuum Relay System

The following Conditions of Safe Use apply

1. The following input parameters are to be taken into account in the installation

A, N, EFLO Trip, EFLO LOV, L1, L2 and L3		
U_m =	132	V
	5	A
	30	V DC

CCMA Modules Terminals VcmA, VcmB, VcmC wrt Earth		
U_m =	132	V

	CCMA 1KV Terminals A, B, C	CCMA 415V Terminals A, B, C	CCMA 100V Terminals A, B, C
U_m =	1,100 V	456.5 V	110V

2. The OMA Earth Fault Lockout / Loss of Vacuum Relay and CCMA Modules are considered as having the following output parameters, **when the ALL external circuits are suitably de-energized**;

OMA Terminals A, N, EFLO, CONT AUX, EFLO RESET, LOV		
U_o =	3.7	V
I_o =	0.6	mA
P_o =	0.4	mW
C_i =	1,500	µF
L_i =	Negligible	

OMA Terminals L1, L2, L3 wrt Earth		
U_o =	3.7	V
I_o =	0.4	mA
P_o =	0.3	W
C_o =	3000	µF
L_o =	1.0	H
L/R =	274	mH/Ω
C_i =	1.481	µF
L_i =	Negligible	

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CCMA 1KV (most onerous combination)		
U_o =	40.2	V
I_o =	1.02	mA
P_o =	5.1	mW
C_o =	1.59	µF
L_o =	1.0	H
L/R =	274	mH/Ω
C_i =	Negligible	
L_i =	Negligible	

CCMA 415 KV (most onerous combination)		
U_o =	40.2	V
I_o =	2.54	mA
P_o =	12.8	mW
C_o =	1.59	µF
L_o =	1.0	H
L/R =	8	mH/Ω
C_i =	Negligible	
L_i =	Negligible	

CCMA 110V (most onerous combination)		
U_o =	40.2	V
I_o =	10.84	mA
P_o =	54.5	mW
C_o =	1.59	µF
L_o =	1.0	H
L/R =	25	mH/Ω
C_i =	Negligible	
L_i =	Negligible	

Note: The above load parameters apply where:

a. The external circuit contains no combined lumped inductance Li and capacitance Ci greater than 1% of the above values. or
b. The inductance and capacitance are distributed as in a cable. or
c. The external circuit contains only lumped inductance or only lumped capacitance in combination with a cable.

In all other situations, e.g. the external circuit contains combined lumped inductance and capacitance, up to 50% of each of the inductance and capacitance values is allowed.

3. The apparatus must be installed in either a non-hazardous area or within a suitably certified Group I flameproof (Ex d) enclosure.

4. The enclosure is made from a plastic material which may be a potential electrostatic charging hazard. The apparatus is fitted with a warning notice that requires the user to clean the surface only with a damp cloth.

5. The apparatus contains a single non-rechargeable cell. This must be taken in to account when the apparatus is installed within a flameproof (Ex d) enclosure.

6. The battery is only to be replaced by the manufacturers with another VARTA CR ½ AA Lithium Manganese Dioxide battery in a non-hazardous area. The body of the battery must be sleeved with insulation having a minimum radial insulation thickness of 1.0 mm.

7. The CCMA modules terminals A, B, C must only be connected directly to the L1, L2, L3 terminals of the OMA Earth Fault Lockout / Loss of Vacuum Relay System via a separate cable or via a multicore cable that has the circuits protected by an earthed screen.

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8. The OMA Earth Fault Lockout / Loss of Vacuum Relay and the CCMA modules are to be installed in a non-hazardous area.

Manufacturer's Documents

Title:	Drawing No.	Rev. Level:	Date:
OMA EFLO/LOV RELAY SYSTEM CONNECTION DIAGRAM	OMA-Z-015	0	2008/09/19
OMA EARTH FAULT & LOSS OF VACUUM ASSEMBLY DETAILS PART No. - 110097	OMA-Z-013	1	2008/10/16
OMA IECEX V3 EFLO/LOV RELAY CASE LABELLING PART No. - 110235	OMA-Z-012	1	2008/10/16
EFLO/LOV Relay – Power Supply	OMA-Z-009 Sheet 2 of 4	2	2008/10/16
EFLO/LOV Relay – LOV Circuit	OMA-Z-011 Sheet 4 of 4	2	2008/10/16
EFLO/LOV Relay – Timer and EFLO Circuit	OMA-Z-010 Sheet 3 of 4	2	2008/10/16
OMA_V3.PrjPCB	OMA-Z-014 Sheets 1 to 5	1	2008/10/16
OMA RELAY-V3 TOP BOARD	OMA-Z-008 Sheets 1 to 3	2	2008/11/05
OMA RELAY-V3 POWER BOARD	OMA-Z-007 Sheets 1 to 3	2	2008/11/05
OMA RELAY-V3 INTERFACE BOARD	OMA-Z-006 Sheets 1 to 3	2	2008/11/05
CABLE CONNECTION MODULE TYPE A, 110V DIMENSIONS AND MARKING	CCMA-Z-009	3	2008/10/21
CABLE CONNECTION MODULE TYPE A, 415V DIMENSIONS AND MARKING	CCMA-Z-006	3	2008/10/21
CABLE CONNECTION MODULE TYPE A, 1kV DIMENSIONS AND MARKING	CCMA-Z-003	3	2008/10/21
CABLE CONNECTION MODULE TYPE A, 415V ARTWORK	CCMA-Z-004	0	2004/05/18
CABLE CONNECTION MODULE TYPE A, 110V ARTWORK	CCMA-Z-007	0	2004/05/18
CABLE CONNECTION MODULE TYPE A, 1000V ARTWORK	CCMA-Z-001	0	2004/05/18
CABLE CONNECTION MODULE TYPE A, 1000V CONSTRUCTION DETAILS	CCMA-Z-002	0	2004/05/18
CABLE CONNECTION MODULE TYPE A, 110V CONSTRUCTION DETAILS	CCMA-Z-008	0	2004/05/18
CABLE CONNECTION MODULE TYPE A, 415V CONSTRUCTION DETAILS	CCMA-Z-005	0	2004/05/18