

# Estates and Facilities Alert

## IMMEDIATE ACTION

Ref: EFA/2011/004 (UPDATE)

Issued: 22<sup>nd</sup> December 2011

### Device

High-Voltage (HV) 11KV Switchgear –  
Schneider Electric (Merlin Gerin) Ringmaster  
RN2c, RE2c and RN6c ring main units

UPDATE to EFA/2011/ 004



### Problem

- Potential failure of the Merlin Gerin Ring Main Unit to isolate and Earth as shown on the position indicator window.
- Cable can still be **LIVE** even when switching indicator shows the switch gear in each the positions OFF and EARTH ON.

### Action by

Managers and staff responsible for the procurement, supply, maintenance and asset management of the electrical HV infrastructure and the operating (switching) of electrical High-Voltage equipment.

### Action

The advice given in EFA/2011.004 **is still in force** but has been supplemented by guidance information from Merlin Gerin/Schneider.

Estates staff with MG Ringmaster type RN2c, RN6c and RE2c should follow the guidance in the attached Safety Notice.

If identified as suspect it will be necessary to follow the advice in the attached Safety Notice dated 16/12/11, the guidance document titled Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leeds and to confirm receipt of the Safety Notice

### Contact

Schneider Electric  
Neil Broadley  
Phone: 01132903761

[neil.broadley@schneider-electric.com](mailto:neil.broadley@schneider-electric.com)  
Address: 123 Jack Lane, Leeds, LS10 1BS,

## Problem

1. An incident occurred on the 11<sup>th</sup> October 2011 involving a Ringmaster RN2c ring main unit on the Scottish Power distribution network which also affects the RE2c and RN6c Merlin Gerin) Ringmaster ring main units.
2. Work was being carried out on an overhead cable connected to a Ringmaster RN2c main switch. The switch was operated from the Main ON position through to OFF then to the Earth ON position. [The main electrical contacts inside the switching chamber had remained in the Main ON position whilst the operating mechanism and the position indication had changed through to OFF and through to the Earth ON position]. When the line was subsequently tested before being earthed it was found to be **LIVE**.
3. A bolt had failed and fallen out of the mechanism that connects the output of the mechanism to the drive shaft that controls the movement of the electrical contacts inside the switching device.
4. EFA 2011.004 was issued on 29 November 2011 to give guidance to NHS staff on action to be taken. **This is still in force but note that the contact details have changed on this update.**

## Action

5. Estates staff with MG Ringmaster type RN2c, RN6c and RE2c should check the serial numbers of their equipment against the range of suspect units identified in the Product Safety Notice PSA 111201-318 .
6. If identified as suspect it will be necessary to follow the requirements in the Safety Notice, the guidance document titled "Ringmaster Compact Ringswitch Mechanism Drive Bolt Medium Voltage Division Leeds" and to complete the confirmation of receipt of the Product Safety Notice.
7. Estates staff should ensure their Authorised Persons (HV), their HV maintainers and Merlin Gerin liaise to carry out the necessary works at the earliest opportunity. This is unlikely to be until late January 2012
8. **At each site EFA 2011.004 can only be cancelled once all actions identified in this EFA 2011.004 (UPDATE) have been completed.**

## Suggested Onward Distribution

- Risk Manager
- Estates Directors,
- Facilities Directors,
- Primary Care organisations
- HV service providers
- Ambulance Stations,
- All Maintenance Estates Managers
- HV Authorised Persons (AP)
- Director of Estates and Facilities

## Additional information for Scotland

The above sections of this Alert were compiled by NHS Wales Shared Services Partnership – Facilities Services and distributed nationally without modification.

**Note:** Health Facilities Scotland operates a database and warning system for high voltage equipment in NHSScotland and information on this problem has already been issued through DSSR Consulting Engineers. However, responsible persons must ensure that the actions contained in this alert have been carried out.

### How to report adverse incidents

Incidents relating to estates and facilities equipment in Scotland should be reported to the Incident Reporting & Investigation Centre (IRIC) as soon as possible. Further information about reporting incidents can be found in CEL 43 (2009).

Enquiries and adverse incident reports in Scotland should be addressed to:

#### Incident Reporting & Investigation Centre

Health Facilities Scotland  
**NHS National Services Scotland**  
Gyle Square  
1 South Gyle Crescent  
Edinburgh EH12 9EB

Helpline: 0131 275 7575

Fax: 0131 314 0722

Email: [nss.irc@nhs.net](mailto:nss.irc@nhs.net)

Report forms can be downloaded from the HFS website at

<http://www.hfs.scot.nhs.uk/online-services/incident-reporting-and-investigation-centre-irc/how-to-report-adverse-incidents/>

Alternatively, further information and printed incident report forms are available from IRIC at the address above.

**DATE:** 16/12/2011

**TO:** Contractors or Purchasers of Schneider Electric Ringmaster ring main unit Switchgear

**FROM:** Mr. Neil Broadley

**SUBJECT:** Ringmaster RN2c, RE2c and RN6c ring main unit, manufactured between 17 November 2006 and 31 October 2009.



**DELIVER IMMEDIATELY TO THE RESPONSIBLE PERSON IN YOUR ORGANIZATION**

**Product Safety Notice Reference Number: PSA-111201-318**

Schneider Electric UK has become aware of a potential operational issue with the Ringmaster ring main unit manufactured between 17 November 2006 and 31 November 2009.

#### **Operational issue**

The Ringmaster ring main unit is comprised of two load break switches and a tee-off circuit breaker. We have become aware of a potential issue with the operation of the load break switches where it is possible for the mechanical drive between the operating mechanism and the main contact drive shaft to become disconnected. Consequently, the operation of the mechanism and its position indication may not represent the position of the main electrical contacts inside the switching device. Should this occur and standard industry de-energization practice is not followed, the potential for **Death, Serious Personal Injury and/or Property Damage** exists.

#### **Dates of manufacture of affected Ringmaster**

Our investigation has determined that equipment manufactured between 17 November 2006 and 31 November 2009 is affected with serial numbers between 100204905 and 100811684.

#### **Serial number of affected Ringmaster**

We ask that you check your records to confirm if you have any Ringmasters in the date or serial number range given above and identify their location which will help to speed up the intervention programme when we validate the recommended corrective action.

### **Recommended additional action for safe operation**

If you are required to operate a Ringmaster ring main unit then we recommend that you read and follow the advice below.

It is your duty to always follow Governmental, Local and Industry electrical safe workplace regulations and practices. We are urgently developing the appropriate corrective action, but until it is available we recommend the following action is followed by all persons who are required to operate any Ringmaster ring main unit in the affected period of manufacture.

1. Use a properly rated voltage and reliable sensing device to confirm the switch contacts are open.
2. Ensure that a safety earth is applied to both ends of a cable that is connected to one or more Ringmaster ring main units,
3. In situations where 2 earth connections cannot be applied, e.g. direct cable connection to a transformer or on radial circuits, a separate and additional HV Point of Isolation (POI) shall be established at another location on the network to ensure there is no safety risk following the potential failure of a single Ringmaster ring switch.

In addition, it is possible to quickly and easily check that the ring switch mechanism is operating correctly by carrying out a simple visual check of the mechanism before and after each operation.

If the Ringmaster is fitted with a motorpack that is used in a remote operation network control scheme, the remote operation facility must be disabled during this inspection and preferably the motorpack should be removed until the Ringmaster has been repaired.

Details of the visual check are explained in the attached document.

### **Recommended action if you have identified a suspect Ringmaster**

If you suspect you have a Ringmaster where the mechanism and indication is disconnected from the main drive shaft and the internal contacts - Do Not operate the Ringmaster and contact the local Schneider office or your local contact person.

### **Future corrective action**

We will contact you again when our recommended corrective action is available including advice on how to arrange for the corrective action to be carried out.

### **Details of Ringmaster products not affected**

This Safety Notice **DOES NOT** apply to the following equipment,

1. Ringmaster RN2c, RN6c and RE2c **tee-off circuit breaker** manufactured between 2000 to 2011
2. Ringmaster RMR single function switch and circuit breakers type CE2, CE6, CN2 and SN6 manufactured between 1996 to 2011
3. Ringmaster type RN2 all types manufactured between 1991 and 2000.

If you are not the actual user of this equipment or have sold the equipment to a third party we request that you immediately forward this notice to the organization or persons to whom you sold this equipment for them to take immediate action.

If you forward this notification to a third party we ask that you notify us to whom you have passed this notification to enable us to contact them and follow up regarding this notification.

We regret any concern and inconvenience that this Product Safety Notice may cause you or your customers.

If you have any questions about this Product Safety Notice please contact your local Schneider Electric office.

In the meantime we ask that you confirm in writing that you have received this Product Safety Notice and are preparing to take the appropriate action to prevent the risk of personal injury or property damage.

Please sign and date the attached form and send an original copy to the writer.

Regards,

Neil Broadley  
Quality Manager  
Schneider Electric Ltd  
123 Jack Lane,  
Hunslet  
Leeds  
LS10 1BS

Telephone No : +4411329033761  
Email : neil.broadley@schneider-electric.com

Enclosures:

1. Reply slip
2. Description of visual inspection before and after operation

Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

**Introduction**

The inspection procedure applies only to **Ringmaster type RN2c, RN6c and RE2c** that were manufactured from 17 November 2006 to 31 October 2009 with serial numbers between 100204905 and 100811684.

**This procedure does not apply to Ringmaster type RN2c, RN6c and RE2c outside these dates of manufacture or serial number range.**

**This procedure applies only to the inspection of the ring switches. We recommend this procedure is carried out BEFORE AND AFTER each operation of one or both of the ring switches.**

The date of manufacture and serial number can be found on the product data plate on the front of all the Ringmaster ring main units. Refer the photo below.

**IMPORTANT: If a Motorpack has been fitted it must be switched OFF in the RTU before this inspection is carried out.**

**We recommend that the Motorpack is left switched OFF to prevent the Motorpack from being remotely operated until the Ringmaster has been repaired.**

**It is recommended to check both RSW1 (left hand) and RSW2 (right hand) ring switch at the same time even if it is only required to operate one of the ring switches after the inspection.**



Year and month of manufacture

Serial number

Data plate on the LV cabinet of the Ringmaster


Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

**1. Health, Safety & Environment**

**This inspection can be carried out whilst the equipment is still energized. None of the external covers are being removed and NO MANUAL OPERATION shall be carried out during the inspection.**

**We recommend that only one person carries out the inspection at any one time and wears the appropriate Personal Protective Equipment required to enter an electrical substation.**

**2. Tools**

	
Telescopic Mirror	Torch

**3. Parts to be Inspected**

Ref	Part Number	Description	Qty
1	4807713**	M8X60 CAP HD Bolt	2
2	2C83144**	SPECIAL NUT M8X12 Long	2
3	2C83128**	Drive Spacer (26.5mm Long)	2

		
M8 x 60mm cap head bolt	Drive spacer	Special nut



Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

**4. Inspection of Ringmaster as described below**

4.1 Ringmaster ring main Unit



4.2 Ringswitch I and 2

**Do not operate the either of Ringswitch mechanisms from their current service position**



4.3 Open the LV cabinet and search for loose pieces of hardware in all accessible locations



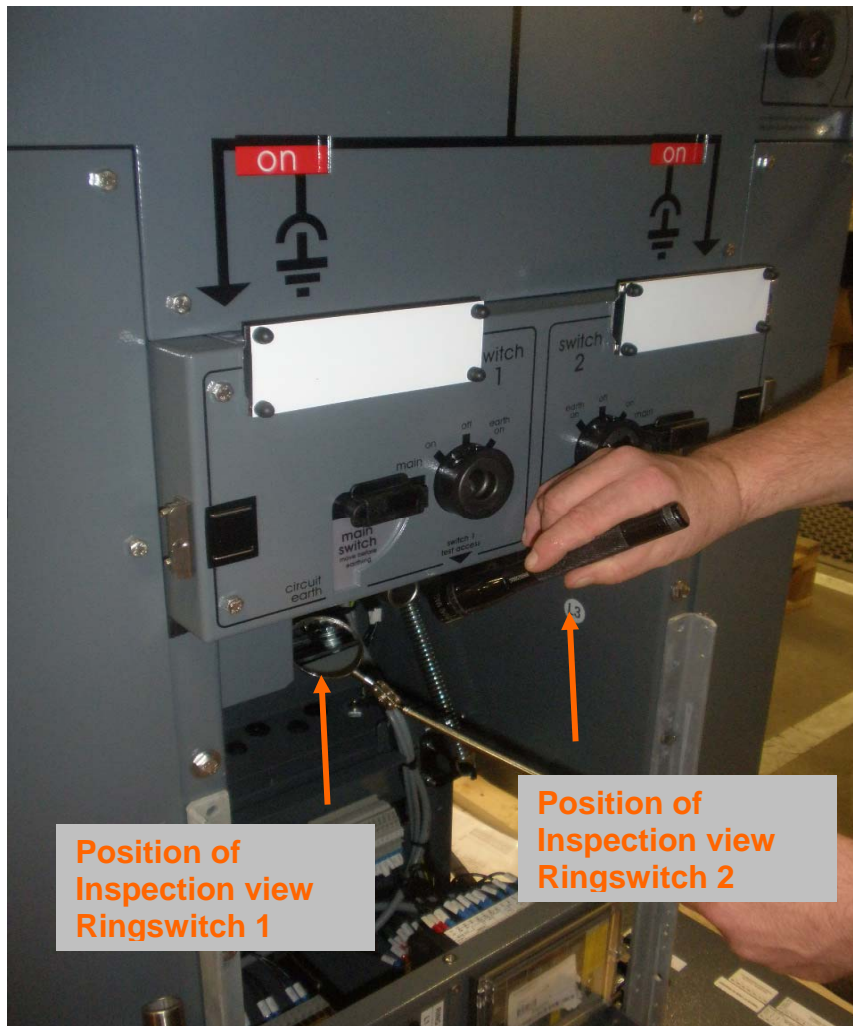
Title

Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection  
Medium Voltage Division Leads

4.4 Check the parts to be inspected are still correctly located in Ring switch 1 drive shaft using a mirror and torch

4.5 Repeat the check for the correct location of hardware on Ring switch 2

**If any of the parts to be inspected described below cannot be seen or is not in the positions shown in the photos STOP and DO NOT operate the Ringmaster.**

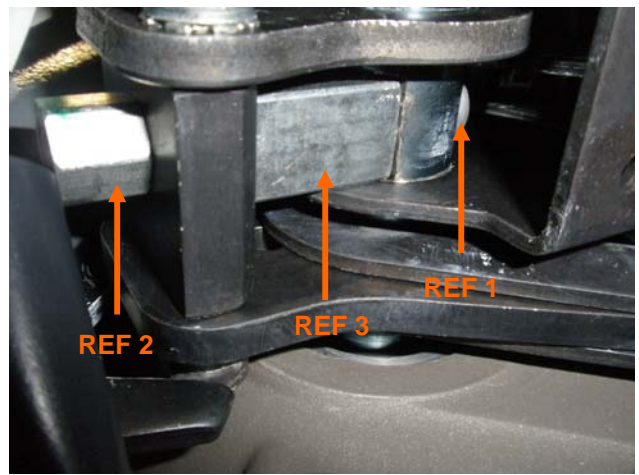


Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

4.6 RSW1 Service position **Main selected**  
**Main ON**



4.7 Correct view of hardware **Main selected**  
**Main ON**

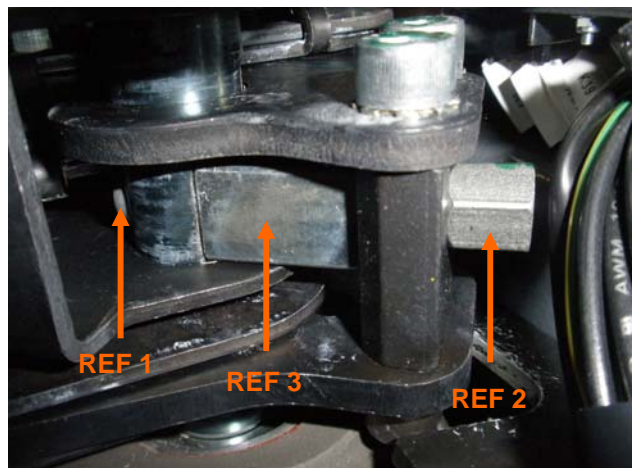


**Main ON**

4.8 RSW2 Service position **Main selected**  
**Main ON**



4.9 Correct view of hardware **Main selected**  
**Main ON**



**Main ON**

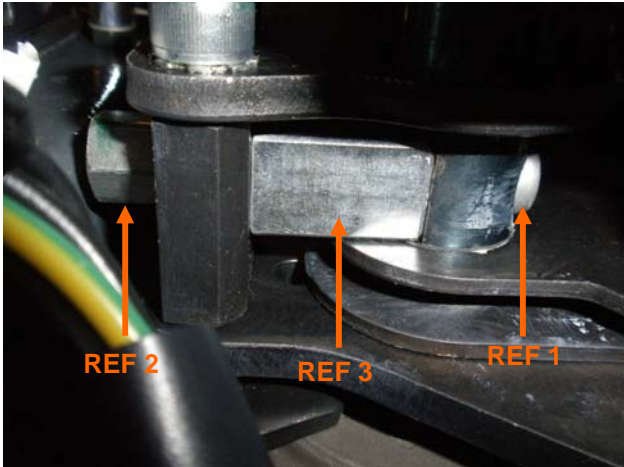
Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

**4.10 RSW1 Service position Main selected OFF**



A photograph of a control panel for RSW1. At the top, there is a green indicator light labeled 'off'. Below it is a white label. Further down, there is a 'main switch' indicator with a black and white sliding switch. An orange arrow points upwards from the bottom of the panel towards the 'main switch' area, with the text 'Direction of view' next to it.


**4.11 Correct view of hardware Main selected OFF**



A close-up photograph of the hardware mechanism. Three orange arrows point to specific components labeled 'REF 1', 'REF 2', and 'REF 3'. 'REF 1' points to a bolt head, 'REF 2' points to a metal plate, and 'REF 3' points to a curved metal part.

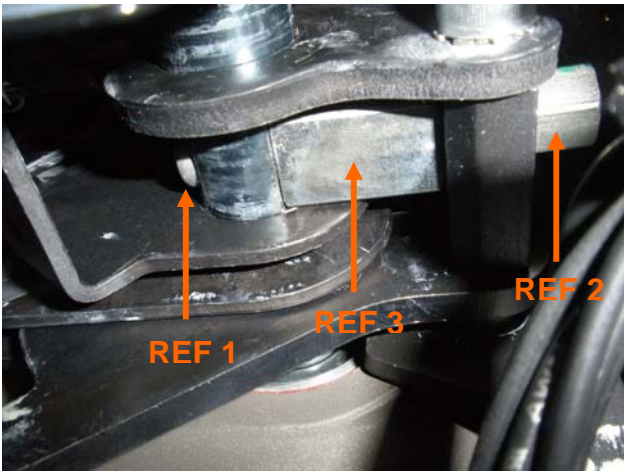
**OFF**

**4.12 RSW2 Service position Main selected OFF**



A photograph of a control panel for RSW2. It features a green indicator light labeled 'off', a white label, and a 'main switch' indicator with a black and white sliding switch. An orange arrow points upwards from the bottom of the panel towards the 'main switch' area, with the text 'Direction of view' next to it.

**4.13 Correct view of hardware Main selected OFF**



A close-up photograph of the hardware mechanism. Three orange arrows point to specific components labeled 'REF 1', 'REF 2', and 'REF 3'. 'REF 1' points to a bolt head, 'REF 2' points to a metal plate, and 'REF 3' points to a curved metal part.

**OFF**

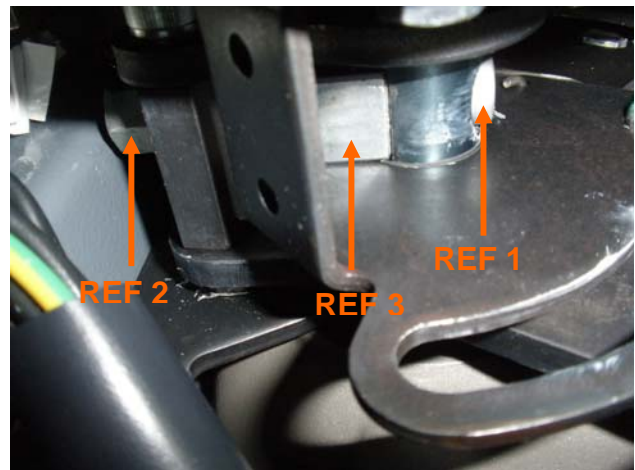


Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

4.14 **RSW1** Service position **Earth selected OFF**



4.15 Correct view of hardware  
**Earth selected OFF**

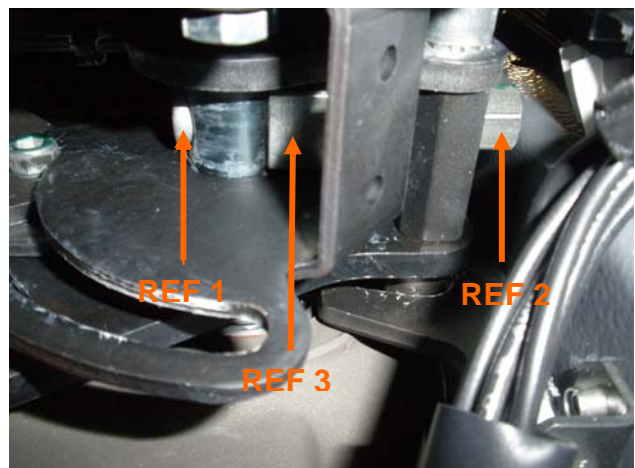


**OFF**

4.16 **RSW2** Service position **Earth selected OFF**



4.17 Correct view of hardware  
**Earth selected OFF**



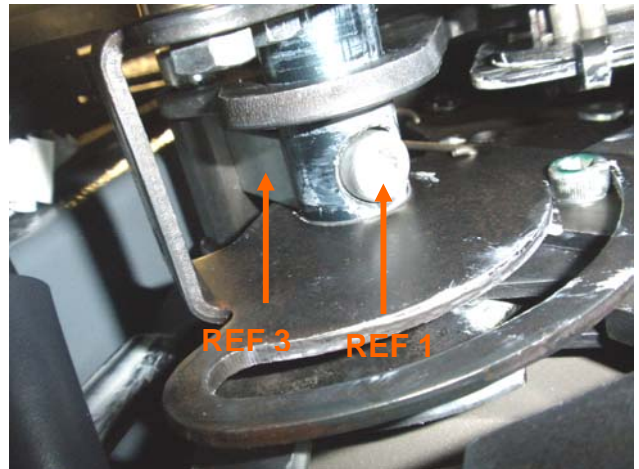
**OFF**

Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

4.18 RSW1 Service position **Earth selected**  
**Earth ON**



4.19 Correct view of hardware  
**Earth selected Earth ON**

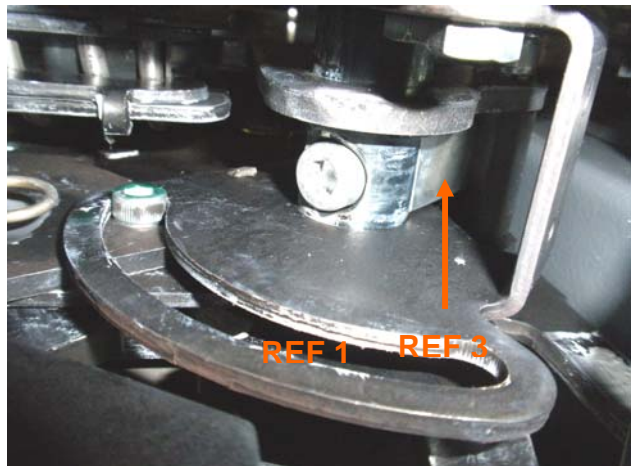


**Earth  
ON**

4.20 RSW1 Service position **Earth selected**  
**Earth ON**



4.21 Correct view of hardware  
**Earth selected Earth ON**



**Earth  
ON**

Title
Ringmaster Compact Ringswitch Mechanism Drive Bolt Inspection Medium Voltage Division Leads

**5.0 After the inspection has been carried out the LV cabinet door should be closed.**

**WARNING - IF THE PARTS TO BE INSPECTED ARE NOT FOUND IN THE CORRECT LOCATION THE RINGMASTER MUST NOT BE OPERATED.**

**Please follow the instructions in the Ringmaster Product Safety Notice for further action to be taken.**

# Confirmation of Receipt of Product Safety Notice

## Ringmaster ring main unit PSA-111201-318

### Please fill in this form and:

Mail to: Schneider Electric  
Neil Broadley  
+441132903761  
Schneider Electric Office  
123 Jack Lane,  
Leeds, LS10 1BS,  
West Yorkshire,  
United Kingdom

Fax to: **OR**  
Neil Broadley  
+1132903710

Email to: **OR**  
neil.broadley@schneider-electric.com

Your name, company name and address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone or email address: \_\_\_\_\_

### Please tick one or several boxes:

We have received the Notice and will follow the recommended action for all Ringmaster manufactured between 1<sup>st</sup> November 2006 and 31<sup>st</sup> November 2009

If you suspect that you have found a Ringmaster with a disconnected mechanism to drive shaft you will contact the local Schneider office and advise what you have found

If any Ringmaster was sold or installed at your customer(s) site below please confirm that you have sent a copy of this Notice to each customer.

This Product Safety Notice does NOT affect me, therefore please remove me from your mailing list

I, the undersigned, confirm that we (company which purchased the equipment) have been informed of the PSA 111201-318, referring to the Schneider Electric Ringmaster Products.

I understand that I have the responsibility to inform my company's customers who have purchased the Schneider Electric Ringmaster product, within the notification period.

Name \_\_\_\_\_ Signature \_\_\_\_\_

Schneider Electric will support you as best as practicable through this period and you are welcome to contact your local Schneider Electric office who will be happy to help you.



# Confirmation of Receipt of Product Safety Notice

## Ringmaster ring main unit PSA-111201-318

If you would prefer that we contact your customers, please provide their details below.  
Please attach additional sheets if required.

Company Name	Company Name
Contact/Phone #	Contact/Phone #
Street	Street
City	City
Country & Postal Code	Country & Postal Code

Company Name	Company Name
Contact/Phone #	Contact/Phone #
Street	Street
City	City
Country & Postal Code	Country & Postal Code