

INTRODUCTION

This document explains how to install ABB OVR Surge Protective Devices (SPDs) for RF communication installations:

OVR RF 111421

OVR RF AA1421

OVR RF 441421



1. Safety note:

Warning! Installation by person with electrotechnical expertise only.

Warnung! Installation nur durch elektrotechnische Fachkraft.

Avvertenza! Fare installare solo da un elettricista qualificato.

Avertissement! Installation uniquement par des personnes qualifiées en électrotechnique.

Advertencia! La instalación deberá ser realizada únicamente por electricistas especializados.

2. Before installation

2.1 Be sure that the OVR SPD's bandwidth will not restrict the system.

	Bandwidth
All OVR RF Series	DC-2700 MHz

2.2 Check that signal loss caused by insertion of the unit does not interfere with normal system operation.

	Insertion Loss over Bandwidth
All OVR RF Series	< 0.1 dB

2.3 Ensure that the characteristic impedance of the OVR SPD matches that of the system on to which it is to be installed.

	Impedance
All OVR RF Series	50 Ω

2.4 Ensure the system's maximum line voltage (RMS) never exceeds the maximum working voltage of the OVR SPD. Otherwise the OVR SPD will clamp signal voltages as though they were transient overvoltages.

	Max RF Voltage		Max RF Power
	VPEAK	VRMS	
RFxx1421	280 V	200 V	650 W

Where 'xx' in the table represents connector type (ie '11', '44', 'AA').

Note: Incorrect application may result in damage to the SPD and put the system at risk.

3. Installation

3.1 Series connection

ABB OVR SPDs are connected in series with the RF line.

The dirty, or line side of the OVR SPD should be connected to the cable carrying the incoming transient overvoltages.

The output or clean side of the SPD ensures a transient free signal to the equipment being protected (see Figures 1, 2 & 3).

3.2 SPD location

OVR SPDs are usually located either:

- (a) near to where the line requiring protection enters or leaves the building, or
- (b) close to the equipment being protected (or actually within its control panel).

It is important that the OVR SPD's connection to earth (or SPD earth bond) is kept short (see Section 3.7 - Earthing).



Figure 1:
OVR RF 111421.



Figure 2:
OVR RF AA1421.

Note: Do NOT use power driven screwdrivers to make connections to OVR SPDs. Hand tighten only.

3.3 Enclose the SPD

OVR SPDs should be installed within a panel or enclosure. Ideally, the OVR SPD should be installed within an existing



Figure 3:
OVR RF 441421.



Figure 4:
OVR RF 111421 installed on a coaxial cable running between an antenna and a RF receiver. Note the earth lead (behind the cable tray) attached to the mounting fixture.

