

Configuration of Industrial-Grade Ring Network Switches



Overview

This publication describes DLR network operation, topologies, configuration considerations, and diagnostic methods. Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes from the Product Compatibility and Download Center at rok. Device Level. It will explore the N-Tron proprietary protocol N-Ring and how it is a step up from IEEE Spanning Tree and Rapid Spanning Tree Protocol (STP, RSTP). Examples for creating a redundant ring are included in this document. Industrial Ethernet Switches Network loops can cause network storms if ring. In the realm of Industrial Internet of Things (IIoT), the significance of robust and reliable networking infrastructure cannot be overstated. Industrial switches, as the core components of this infrastructure, play a pivotal role in establishing and maintaining the integrity of industrial ring. One of the classic ways of enhancing the availability of a PROFINET network segment is to use an MRP ring topology that can compensate the failure of an individual device without impairing the network. According to the currently valid PROFINET standard there might be unintentional failure of an MRP. how to configure the Ring Master and check upon the redundancy protocol status of the swiUnderstanding the benefits of Industrial-Grade Switches Reliability: Industrial switches are built to ensure uninterrupted network connectivity, minimizing downtime and maximizing productivity.

Article Content

Oct 23, 2025

Cisco access switch applications

The workflow for Johnson Controls systems is to use the IP Network Wizard to develop the switch configuration in the branch office, and then load the configuration onto the switch at the

Jul 15, 2025

EtherNet/IP Device Level Ring

A ring with redundant gateways uses multiple switches to provide multiple connections from a ring to the outside network infrastructure (Figure 9). If you need only one connection to the outside network,

Dec 06, 2025

Redundant Ring Technology for Industrial Ethernet Applications

Next, we introduce “redundant ring” technology, and point out the advantages that redundant rings have over traditional systems. In closing, we highlight the key features of industrial Ethernet switches, and

Feb 15, 2026

How Industrial Switches Build Industrial Ring Networks

This article aims to provide a concise yet comprehensive overview of how industrial switches contribute to the formation of industrial ring networks, catering to both traditional industry

Dec 10, 2025

How to Implement Robust Ring Networks using RSTP and eRSTP

Overview This document outlines the recommended parameters of a layer 2 network comprising two levels of interconnecting rings. As shown in Figure 1, a central, "main" ring is built using

Nov 19, 2025

Microsoft Word

Introduction Unlike office Ethernet "star" networks, industrial control applications tend to favour "ring" topology. The "ring" simplifies cabling and provides inherent redundancy. The basic building block for

Apr 11, 2026

Redundant ring network switch configuration for a

Industrial switches play a core role in the subway network, especially the configuration of redundant ring network switches, which plays a decisive role

May 26, 2026

X-Ring Plus Ethernet Industrial Ring Technology

X-Ring Plus resilient ring technology is provided with network operating system 2.0 & is an enhanced version of Case Communications "X-Ring" technology.

Dec 15, 2025

Fiber Optic Ring Redundancy Design for Industrial Ethernet Switches

5. Redundancy Design as the "Lifeline" of Industrial Networks Fiber optic ring redundancy design represents not just a technical choice but an industrial pursuit of "determinacy"—ensuring real-time,

Jun 14, 2026

Industrial Ethernet

Industrial managed switches from B+B SmartWorx deliver redundant, ultra-fast recovery. With features such as IEEE 802.3x flow control, redundant

Oct 02, 2025

Chain and Ring Topologies on the SG550XG and SG350XG Switches

The objective of this document is to explain Chain and Ring topologies, and show you how to configure them physically and in the web-based graphical user interface.

Jul 28, 2025

Step-by-Step Configuration Guide for Industrial Lte Router Ring

Industrial Lte router ring redundancy technology was born precisely to solve such "life-or-death" challenges—it enables networks to self-heal like "blood vessels," completing fault switching within

Jul 27, 2025

Industrial Ring Networks | ERPS | Antaira Technologies

ERPS works by first creating a topology of interconnected nodes forming a ring. Each node has a dedicated set of switch ports known as ring ports programmed with unique attributes used for

Oct 05, 2025

Industrial Ethernet Training 04 Setting up an O-Ring network structure ...

s three switches, we will use only these as an example for a configuration of O-Ring redundancy. First of all, please disconnect all cables and only connect your computer via Ethernet cable to your 8-port

Dec 03, 2025

Industrial Ring Networks | ERPS | Antaira Technologies

Industrial Ethernet switches are critical components in network infrastructures, often used in harsh environments and mission-critical applications. The Ethernet Ring Protection Switching

Aug 11, 2025

PROFINET – MRP Ring:

One of the classic ways of enhancing the availability of a PROFINET network segment is to use an MRP ring topology that can compensate the failure of an individual device without impairing the network.

Nov 10, 2025

Guide to implementing Industrial Grade Switches

In this blog post, we will walk you through the key steps and considerations involved in successfully implementing industrial grade switches to

Aug 30, 2025

rspsupply

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

Aug 02, 2025

Redundancy Protocol Configuration Guide, Cisco

Device Level Ring Components of DLR DLR Topology Multiple Rings Redundant Gateways Cisco IE Switch Support for DLR DLR Feature Interactions

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Industrial Ring Networks | ERPS | Antaira Technologies

ERPS Rings simplify network management by providing a vendor-neutral solution that can be used with industrial switches and ports from multiple vendors. This reduces the complexity of managing

Jan 25, 2026

SCALANCE X-200

Preface Purpose of the Configuration Manual This manual supports you when configuring the SCALANCE X-200 Industrial Ethernet switches. It outlines the technical options provided by a

Dec 14, 2025

Rapid Spanning Tree Protocol in Ring Network Topology

RSTP supports any network topology, provides path redundancy, prevents loops (By Blocking Redundant Path), and provides more benefits than the Ring configuration.

Sep 19, 2025

X-Ring Ethernet Industrial Ring Technology

Case Communications X-Ring provides an Ethernet Ring between Industrial Ethernet switches, running at 10 Mbps, 100 Mbps or 1 Gbps.

May 31, 2026

Rapid Spanning Tree Protocol in Ring Network

In this case, Industrial Ethernet Switches provide some protocols to ensure this service. Ring protocol, HRP, MRP, RSTP are some protocols that can

Jan 19, 2026

Industrial Automation Ring Network Solution

Industrial Automation Ring Network Solution Increase efficiency and ensure network flexibility, performance, security, and resiliency for the industrial network.

Jun 20, 2026

Ethernet Ring Redundancy

This document provides basic background information regarding adding ring redundancy in your wired Ethernet networks. It will explore the N-Tron proprietary protocol N-Ring and how it is a step up from

Contact Us

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