

Can industrial switches be used to form a ring network



Overview

In a ring network configuration, industrial switches are interconnected in a circular fashion, creating a closed-loop communication path. Each switch serves as a node in the network, facilitating the transmission of data packets between devices attached to it. N-Ring is a high speed proprietary protocol developed by N-Tron to provide consistent healing times of ~30 milliseconds, many times faster than RSTP's one to two second heal time. N-Ring will prevent disruptions in even the fastest control networks. Originally developed by the Telecom industry for Metro-Ethernet topologies, today, ERPS is primarily used in industrial networks to. Ring redundancy is a network setup where industrial devices form a closed loop, not a single line. This design lets traffic keep flowing even if one link breaks. N-Ring requires an N-Tron managed switch (700. This solution builds a basic two-layer ring network architecture designed to decrease complexity, enhance security, and increase efficiency and operating uptime for your industrial network. Which Industrial Ethernet switches can be operated as redundancy manager and standby master in a ring?

This entry shows which Industrial Ethernet switches can be used in ring topologies with media redundancy and support the redundancy manager and standby master functions.



Article Content

Jan 04, 2026

Ethernet Ring Redundancy – HMS Support Portal

N-Ring requires an N-Tron managed switch (700, 7000, NT5000, and NT24k) to be configured as a Ring Manager and can support

Nov 03, 2025

Ring Redundancy Protocols for Industrial Ethernet Networks

In industrial automation, network reliability is critical to ensuring uninterrupted operations. Redundancy ring protocols provide fault

Oct 07, 2025

Building Network Redundancy: Why Ring Topology Matters in

Learn why ring topology is vital for network redundancy in industrial Ethernet networks. Discover how it enhances reliability,

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Industrial Ring Networks | ERPS | Antaira Technologies

The Ethernet Ring Protection Switching (ERPS) protocol is a powerful technology and service that can be used on industrial switches

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Ring Protocol MRP (IEC 62439-2) | Media Redundancy Protocol

In a ring network, each Ethernet switch is connected to a minimum of two other switches to form a ring. Ease of set-up and high

Feb 21, 2026

Fiber Optic Ring Redundancy Design for Industrial Ethernet Switches

Fiber Optic Ring Redundancy Design for Industrial Ethernet Switches: In-Depth Practice in Building the "Self-Healing Heart" of

Sep 18, 2025

Ring topology

Double redundant ring topology The double redundant ring topology can increase protection against failure and exceeds the

Mar 28, 2026

Redundant Ring Technology for Industrial Ethernet Applications

In closing, we highlight the key features of industrial Ethernet switches, and show how to select the redundant ring switch that

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Embedded Switch Technology Reference Architectures

Prior to the embedded switch technology, the traditional EtherNet/IP network topologies were switch-centric, using Layer 2 access

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networking

I have a network of 15 switches which are all connected together throughout a building (1 per floor) via daisy chain

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How many access switches can be configured in a single ring

Hi, In one of the network design presented to me by the consultant for a manufacturing plant environment, the no. of

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Proprietary Ring Topologies in Automation Networks | DigiKey

In fact, select manufacturers claim much better recovery times for their proprietary ring networks sometimes to

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Which Industrial Ethernet switches can be operated as redundancy ...

This entry shows which Industrial Ethernet switches can be used in ring topologies with media redundancy and

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Building Fault-Tolerant Industrial Ring Networks with Ethernet Ring ...

Industrial Ethernet switches are critical components in network infrastructures, often used in harsh environments and mission-critical

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Why must the industrial field use industrial ring network switches?

1. Harsh industrial site environment Since Ethernet was designed at the beginning, it was not based on industrial network

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Industrial Switch: Understanding Industrial Ethernet Switch ...

An industrial Ethernet switch is a type of network switch designed to operate in harsh industrial environments. Oil rigs, railways,

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X-Ring Ethernet Industrial Ring Technology

Case Communications X-Ring provides an Ethernet Ring between Industrial Ethernet switches, running at

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Building Fault-Tolerant Industrial Ring Networks with Ethernet Ring ...

The Ethernet Ring Protection Switching (ERPS) protocol is a powerful technology and service that can be used on industrial switches

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Industrial Automation Ring Network Solution

This solution builds a basic two-layer ring network architecture designed to decrease complexity, enhance security, and increase

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Ring network structure – Visiotech

Having to use all the ones in the ring with this function. For example our XS-SWI1006H-M120, which is Industrial and managed and

Mar 30, 2026

Real-time Redundant Ring Switch Industrial Ethernet Switch

Introduction The Real-time Redundant Ring Switch offers fault-tolerant industrial Ethernet with ring network topology. The built-in ICP

Feb 04, 2026

Ethernet on a ring

If you are considering a network design that has a ring topology and you desire to use Ethernet, then you should first

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How Industrial Switches Build Industrial Ring Networks

This article aims to provide a concise yet comprehensive overview of how industrial switches contribute to the

Oct 31, 2025

Guide to implementing Industrial Grade Switches

Choose between ring or star topologies based on the specific requirements of your

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What do's and don'ts on a ring network : r/networking

This is in case the root starts going off you can set another switch to 20480 overriding the root. The don't on a ring network (unless

Nov 14, 2025

Ring network

A ring network is a network topology in which each node connects to exactly two other nodes, forming a

Jan 22, 2026

Ring Redundancy in Industrial Networks for OT Reliability

Ring redundancy is a network setup where industrial devices form a closed loop, not a single line. In an industrial ring

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