IP Fire Series™ Intelligent Fire Controls

- **RTR-1, RTR-2**
- **RTR-3, EPROT-1**
- **EPROT-7**

Description

The architecture of an IPF Series™ fire control network is comprised of a series of IP-based distributable modules. These modules include alternate configurations of analog loop and NAC circuit modules (ALM-xy), standard display modules (SDM), annunciator control modules (ACM) and other specialized modules noted in other documents.

Two IPF Series™ modules may be connected directly together (by use of a straight-through or cross-over cable) to form a single fire network system consisting of a VPM and an ALM-xy module. Additional modules require the use of switches/routers (RTR-1, RTR-2).

For installations requiring maximum redundancy, the RTR-1 is a fully managed switch capable of supporting Spanning Tree Protocol (STP) and Mesh Networking. STP allows the network design to include redundant links. Redundant links provide automatic backup paths (routes) to modules if an active link fails. A managed switch utilizing STP prevents the possibility of creating 'bridge loops' or other issues that could develop with redundant path networks. Depending on the system design, use of the RTR-1 will exceed Class A requirements.

The RTR-2 is a cost effective lightly managed switch designed to cover most application needs.

The RTR-3 is a combination copper/fiber-optic switch for communication up to 2 or 40 kilometers (depending on model) with optional mode and connector-type selections.

The RTR-1,RTR-2 and RTR-3 are UL 864/9th edition listed for use on the IP Fire Series™ network.

RTR's are connected directly to modules when located in the same cabinet. For external wiring, Ethernet Protection Boards (EPROT) are utilized to protect the RTR switches and SDM/ALM/ACM modules from electrical overloads that can occur from external surges on the Ethernet network.

The EPROT-1 board's single connection is used at the individual module location. The EPROT-7 is designed to connect at the RTR switch.

In addition to standard Ethernet field wiring protection, the EPROT-7 provides ground fault supervision on the field wiring and requires connection to the 24V Non-Resettable System Supply.

Features

- **RTR-1 is a managed switch used when redundant communication links are required. RTR-1 supports Spanning Tree Protocol and Mesh Networking**
- **RTR-2 is a cost effective lightly managed switch for module integration**
- **RTR-3 is a combination copper/fiber-optic switch**
- **Listed for UL 864/9th edition**
- **May be packaged in IPF and REM cabinetry along with system modules or remotely in own enclosure**
- **EPROT-1 Ethernet Protection Card protects system modules from external surges on network**
- **EPROT-7 Ethernet Protection Card protects RTR modules from external surges on network**
- **RTR-1, RTR-2, EPROT-1 and EPROT-7 may be used as necessary to support network topology**
- **Module capacity: no limit**
- **Green/RoHS Compliant**

Listings

UL File: S24573
CSFM: Pending
MEA: Pending

Product	Data Sheet Number	Rev/Revision Date
IPF Series™ RTR	1030	1.3/ 5/1/2009

Engineer Specification

The contractor shall furnish and install, where indicated on the plans, RTR-2 lightly managed switches/routers to provide for internal or remote connection of distributed IP based system modules, RTR-1 managed switch/routers to also accommodate Spanning Tree Protocol and Mesh Networking for system redundancy, RTR-3 copper/fiber-optic switches/routers for communication between modules for up to 2 or 40 kilometers and Ethernet Protection Cards to protect system modules (EPROT-1) and RTR's (EPROT-7) from electrical overloads due to electrical surges on external wiring. The RTR-1 shall be capable of supporting Spanning Tree Protocol (STP) and Mesh Networking to allow the network design to include redundant links that provide for automatic backup paths if an active link fails. The RTR-1 shall provide for redundant loops and eliminate the possibility of bridge loops. The RTR-1, RTR-2, EPROT-1, EPROT-7 must be UL listed and UL listed as compatible with the AsBuilt IP Fire Series fire network controls. The lightly managed routers, managed routers and Ethernet Protection Cards shall be As Built Engineered Systems part numbers RTR-1, RTR-2, RTR-3-xx, EPROT-1, EPROT-7.

Technical Data

RTR-1
Managed Switch/Router
Quiescent Power Draw: 175 mA
Alarm Power Draw: 175 mA

RTR-3
Copper/Fiber-optic Switch/Router
Power Consumption All Models:
7W typical/9W max

RTR-2
Lightly-Managed Switch/Router
Quiescent Power Draw: 100 mA
Alarm Power Draw: 100 mA

Ethernet Protection Cards

EPROT-1: 1 wired input/1 RJ45 output
EPROT-7: 7 wired inputs/7 RJ45 outputs

Ordering Information

Part Number	Data Sheet	Description
RTR-1	1030	Managed Switch/Router for Redundant Networks
RTR-2	1030	Lightly Managed Switch/Router
RTR-3-1FF-SC	1030	100 Base-FX-SC, Multi-mode, 1 SC type connector
RTR-3-1FF-SSC	1030	100 Base-FX-SSC, Single-mode, 1 SC type connector
RTR-3-1FF-SSCL	1030	100 Base-FX-SSCL, Single-mode, 1 SC type connector
RTR-3-1FF-ST	1030	100 Base- FX-ST, Multi-mode, 1 SC type connector
RTR-3-1FF-SST	1030	100 Base-FX-ST, Single-mode, 1 SC type connector
RTR-3-2FF-SC	1030	100 Base-FX-SC, Multi-mode, 2 SC type connectors
RTR-3-2FF-SSC	1030	100 Base-FX-SSC, Single-mode, 2 SC type connectors
RTR-3-2FF-SSCL	1030	100 Base-FX-SSCL, Single-mode, 2 SC type connectors
RTR-3-2FF-ST	1030	100 Base- FX-ST, Multi-mode, 2 SC type connectors
RTR-3-2FF-SST	1030	100 Base-FX-ST, Single-mode, 2 SC type connectors
EPROT-1	1030	Ethernet Protection card for VPM/SDM/AL modules
EPROT-7	1030	Ethernet Protection Switch for RTR-1, RTR-2

Related Modules, Accessory Cards and Cabinets

VPM/SDM	1010	VPM/SDM Configuration and Display Modules
ALM	1020	Analog SLC and NAC Circuits
IPF/IPF-XL	1050	IPF-xy, IPF-XL Pre-Configured Systems
Cabinets	1045	IPF-xy, IPF-XL and REM- Cabinet Options

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