technical datasheet

# Tofino™ 9211-ET-HN3

## Honeywell Modbus Read-only Firewall

- industrial network protection
- simple installation
- 10/100Mbs Ethernet
- preloaded Modbus Read-Only configuration
- field upgradable
- power supply redundancy
- Class I /Div 2 and Zone 2 rated
- DIN-rail mounting

**The Tofino™ HMRF Honeywell Modbus Read-only Firewall (HMRF)** is a new and unique solution from Honeywell, MTL and Byres Security that addresses the important issue of protecting Safety Integrated Systems from malicious or accidental disruptions.

**Instead of the standard, highly complex,** "IT-style" firewall that requires highly-trained staff to install it, the Tofino™ HMRF device only requires a field technician to attach power and two network cables and then walk away. The Tofino™ HMRF is preconfigured to filter network traffic between the Experion control network and the Safety System allowing the Expirion to only read SIS data and to respond to time synchronization requests.

**The system has the flexibility to protect** a small plant with a single controller, or a multi-national organization with thousands of critical devices scattered around the globe. The Tofino™ HMRF security appliance is designed to sit between Honeywell's Experion control and safety critical networks, protecting them both from harmful traffic.

**The Tofino™** HMRF is a layer-7 stateful firewall that ensures proper protection of a safety network from viruses or hackers that may penetrate the plant via laptops, USB storage devices and other means.

**Configuration is not required** - the Tofino™ HMRF starts up ready to protect the safety network. All Tofino™ security appliances are field-upgradeable via the secure USB upgrade process where files are both encrypted for confidentiality and signed for integrity.

**The Tofino™** HMRF will provide details on all network traffic conditions and anomalies to the Honeywell system, via standard Honeywell reporting features.

**Redundant power supply inputs** enable the user to reduce the risk of power failure to the module.

**Industrially Hardened** - The Tofino™ HMRF is designed for industrial environments having a 27 year MTBF, –40°C to + 70°C operating temperature ratings and Class I /Div 2 (Zone 2) hazardous area approvals.

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## SPECIFICATIONS

### Tofino™ HMRF Security Appliance

**Honeywell Part No.**
51154724-200
**MTL Model No.**
9211-ET-HN3
**Description**
Tofino™ HMRF Two Port Security Appliance
**Protected Devices**
Unlimited

### COMMUNICATIONS

**Ethernet Ports**
Two IEEE 802.3 BASE-T ports (auto sensing or manual)
10 or 100Mbs, full or half-duplex
Auto Tx/Rx sensing
**USB-2 Ports (Load updates/Save diagnostics)**
Two

### POWER (+ redundant power + power fail)

**Power Inputs**
Two (dual redundant)
**Operating Voltage**
24V nominal (9V – 32V)
**Current Consumption at 24 VDC**
< 170mA typ.
< 350mA max.
**Power Fail Inputs**
Two
**Connections**
Screw cage-clamp 24...12AWG, 0.2...2.5mm$^2$

### SERVICE

**Indicators**
Power, Fault, Event, Mode
Link Activity and Speed
**Config Switch**
Load configuration from USB storage or
Save log files to USB storage

### ENVIRONMENTAL

**Temperature Specifications**

| | |
|---|---|
| Operating | –40°C to +70°C |
| Storage/Transport | –40°C to +85°C |

**Relative Humidity**
10% to 90% (non-condensing)

### MECHANICAL

**Protection Class**
IP 20
**Mounting**
35mm DIN rail or panel mounting
**Dimensions (W x H x D) mm**
146 x 138 x 42
**Weight**
0.36 kg
**Vibration and Shock**

| | |
|---|---|
| IEC 60068-2-6 | 1g @ 20-500Hz |
| IEC 60068-2-27 | 30g for 11ms shock |
| EN 61326 | EMC Annex A Industrial Locations |
| EN 61010-1 | |

### Hazardous Area Approvals

**Location of equipment**
Safe area or see table in APPROVALS section

### Tofino™ Preconfigured Enforcer Firewall LSM for Modbus TCP and SNTP

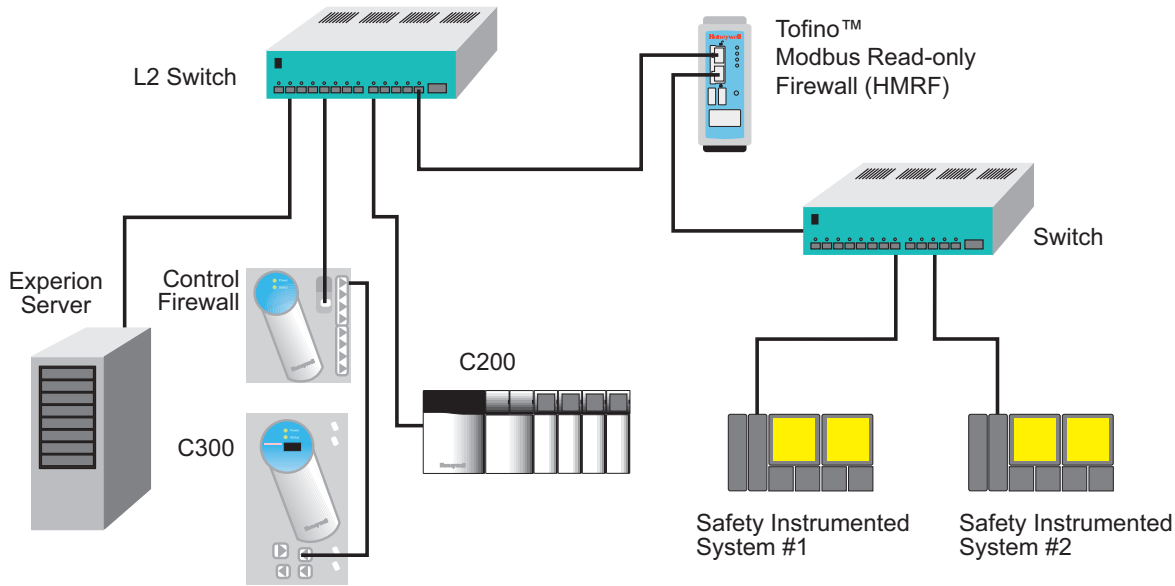
**Description**
Tofino™ Stateful Firewall Module and Modbus TCP Enforcer Module
**Type**
Stateful Firewall with Deep Packet Inspection
**Layers Filtered**
Layers 2-7 with predefined Modbus and Simple Network Time Protocol (SNTP) rules
**Firewall Rules**
- Modbus Read commands from Experion to SIS
- Modbus Read replies from SIS to Experion
- SNTP Time requests from SIS to Experion
- SNTP Time replies from Experion to SIS
- Rate Controlled ARP

**Throughput**
1000 Modbus TCP Frames per second
**Network Statistics**
Automatic reporting of traffic statistics to Honeywell Experion stations

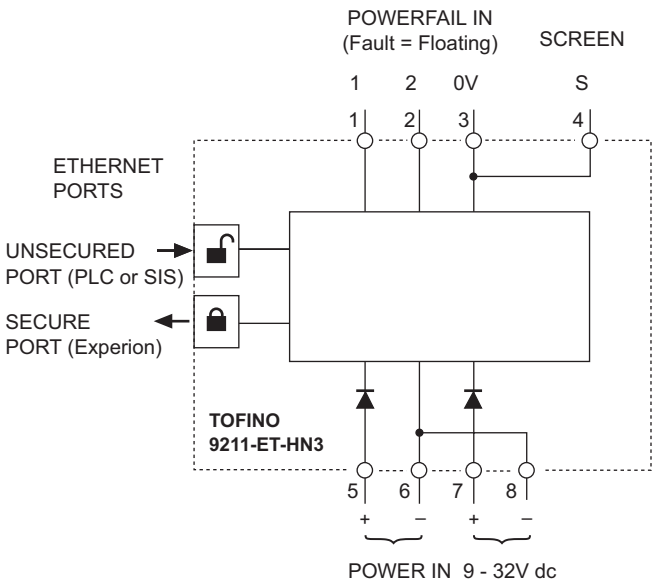
Tofino™ HMRF is a trademark of Byres Security Inc.

*The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.*

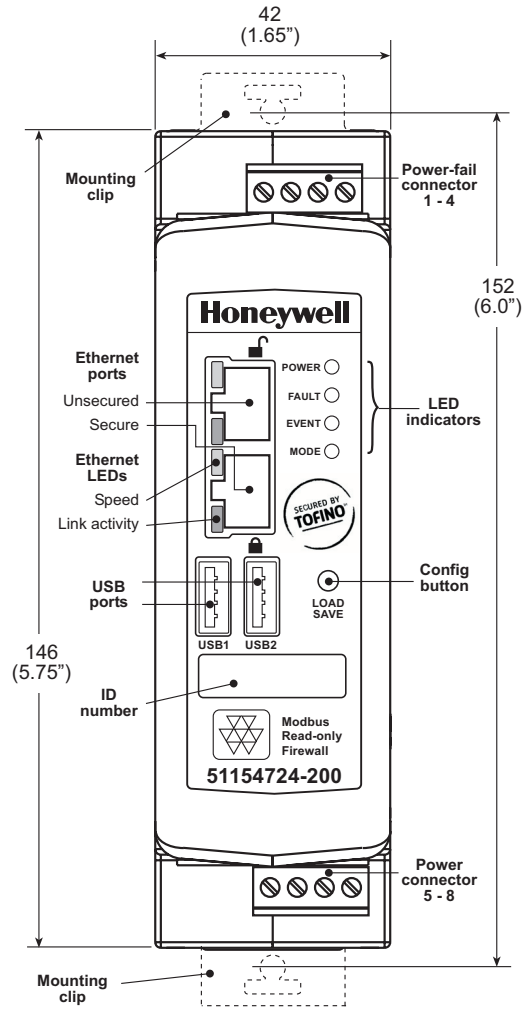
## TYPICAL APPLICATION METHOD



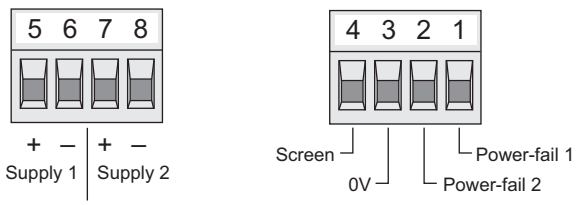

## CONNECTION DIAGRAM




## DIMENSIONS & PANEL DETAILS




## POWER & POWER-FAIL CONNECTIONS

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## APPROVALS

**For the latest certification information visit: http://www.mtl-inst.com/support/certificates/**

**9211-ET-HN3 - Tofino™ HMRF Industrial Security Appliance**

| **Region** | **Europe** | **USA** | **Canada** |
|---|---|---|---|
| **Authority** | **ATEX** | **FM** | **FM** |
| **Standard** | EN 60079-15:2005 | Class 3600 1998<br>Class 3611 2004<br>Class 3610 2005 | CAN/CSA E60079-0 2002<br>CAN/CSA E60079-15 2002<br>C22.2 No. 1010-1 2004 |
| **Approved for** | Ⓔx II 3 G Ex nA nC IIC T4 | Non-incendive for Class I, Div. 2 Grps A-D; Zone 2 AEx nC IIC T4 Ta=70°C | Non-sparking for Class I, Div. 2 Grps A-D; Zone 2 Ex nL IIC T4 Ta=70°C |
| **Certificate Numbers** | MTL07ATEX9211X | 3029914 | 3029914C |

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