

# RJSPC

## Unmanaged or ring industrial Ethernet switch - 5 fast ports

### Industrial ethernet switch for harsh environment

#### Rugged & waterproof switch

Amphenol offers a small size 5 ports waterproof Ethernet switch that can withstand a variety of extreme conditions - low & high temperatures, shocks & vibrations, dust particles or even liquid immersion. This is an easy way to make the Ethernet networks of your manufacturing site, automation or control units deterministic.

#### Amphenol IP68 industrial ring switch

Amphenol IP68 ring Ethernet switch is a combination of very fast, fault-tolerant network redundancy Sixnet technology and IP68 sealed & rugged packaging, specifically designed for the harshest environments.

Rings self-configure and just run, without any complex configuration.

The switch board is sealed within a waterproof IP68 polyester enclosure suitable for highly corrosive environments.

The polyester material is glass fiber reinforced. This makes it very rugged against shocks and vibration.

The I/O interfaces are waterproof & rugged RJ45 connectors from the RJ FIELD plastic circular series.

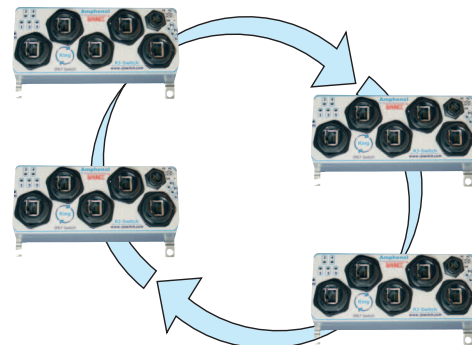
#### Industrial applications

- Factory automation
- Robotics
- Process control
- Transportation systems
- Data acquisition & transmission

#### Key features

- Ring switch networking features (managed features available!)
  - Real-Time ring for ultra-fast fault-tolerant loops
    - recovery time of 30 ms + 5 ms per hop!
  - Modbus monitoring over Ethernet
    - ideal for deterministic systems and PLCs
  - Real-time traffic prioritization (QoS and CoS)
    - assure delivery of real-time data
    - improve network utilization
    - user settable priority assignments
  - Advanced switch features
    - user configurable port settings
    - port mirroring for traffic diagnostics
    - pre-configurable for Plug-And-Play simplicity

**Note:** for ATEX version, see page 138.



- 1 LEDs indicating activity, link status, datarate (10/100 Mbps)
- 2 LED indicating ring status
- 3 5 rugged IP68 RJ Field Ethernet ports
- 4 Real-time ring feature
- 5 IP68 polyester enclosure reinforced with glass fiber
- 6 OK power & ring status
- 7 LEDs indicating power
- 8 Redundant power inputs
- 9 OK contact output

## IP68 UNMANAGED & RING SWITCH FEATURES

### IEEE Ethernet standards

IEEE 802.3	10 Mbps Ethernet
IEEE 802.3u	100 Mbps Fast Ethernet
IEEE 802.3x	Full-Duplex with Flow Control
IEEE 802.1p standard	QoS/CoS - Quality/Class of service for ring model only

### Regulatory approvals

EMI emissions	EN55022, FCC part 15, ICES-003
EMC immunity	IEC61326-1, IEEE C37.90
Shocks	IEC60068-2-27
Vibrations	IEC60068-2-6
Free Fall	IEC60068-2-32

### Ethernet features

Ports	5 shielded RJ45 ports 10/100BaseTX
Ethernet switch type	Intelligent store & forward
Full / Half Duplex	Configurable
RJ45 speed	10 or 100 Mbps auto-negotiation
RJ45 MDI/MDIX	Auto-crossover connection
RJ45 TD and RD polarity	Auto-polarity
Typical latency	16 us + frame time @ 10 Mbps (varies on load and settings) 5 us + frame time @ 100 Mbps
MAC addresses supported	2048
Memory bandwidth	3.2 Gbps
Ethernet isolation	1500 Vrms 1 minute
Ring features (for Ring model only)	Link loss recovery time: 30 ms plus 5 ms per hop Maximum switches in ring: 50+ Dual ring support

### Power supply

Input power (typical)	ES: 2,4 W ; RS: 2,7 W
Redundant inputs	10-30 VDC; 10-50 VDC for EP models

### Status reporting (for ring model only)

"OK" contact output	Output current: 0.5 A max
"OK" contact State	OFF when a fail occurs ON when power and switching is OK

### Environmental

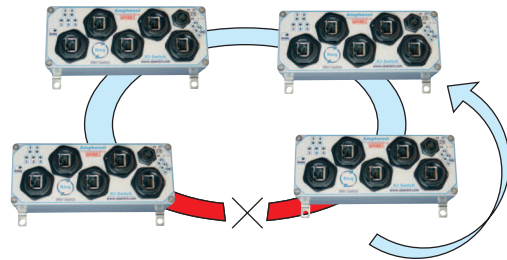
Operating temperature	- 40°C to +75°C
Storage temperature	- 40°C to +85°C

Weight	0.54 kg
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## Real-Time ring switches

Amphenol Real-Time ring switches combines the Plug&Play simplicity of an unmanaged switch with high performances of Sixnet Ring managed switches.

- Real-Time fault-tolerant Ring  
Recovery time of 30 ms + 5 ms per hop!
- Real-Time traffic prioritization (QoS & CoS)  
Assure delivery of real-time data
- Available Managed features  
User configurable port settings  
Port mirroring for traffic diagnostics  
Pre-configurable for Plug & Play simplicity



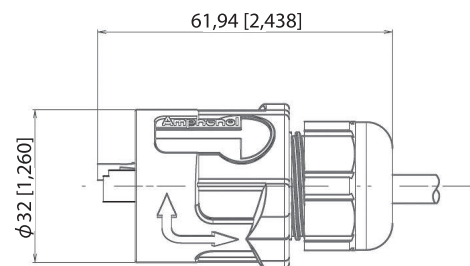
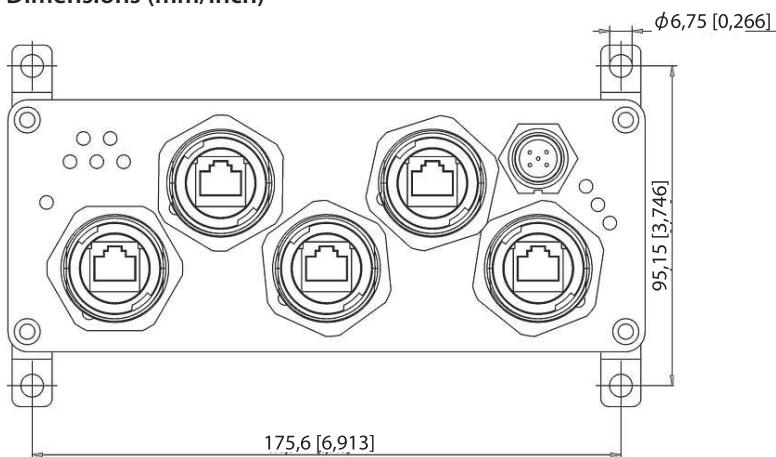
The use of such switches provides a fast network and avoids faults. When a break occurs, the switch instantly transfers data to new path. The link loss recovery is 30 ms plus 5 ms times the number of Ring switches in the ring. For example, 10 ring switches will recover in less than 80 ms. Rings can be pre-configured to "just run". They don't need an assigned IP address. But if you like, you can fine tune the performance of the ring by using a simple Windows wizard (which is free).

Ring networks can be divided into multiple "sub-rings" which enhance reliability and recovery speed through small ring paths.

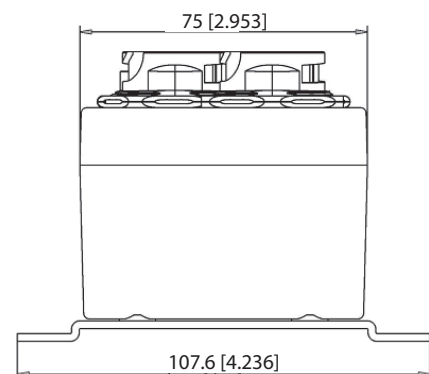
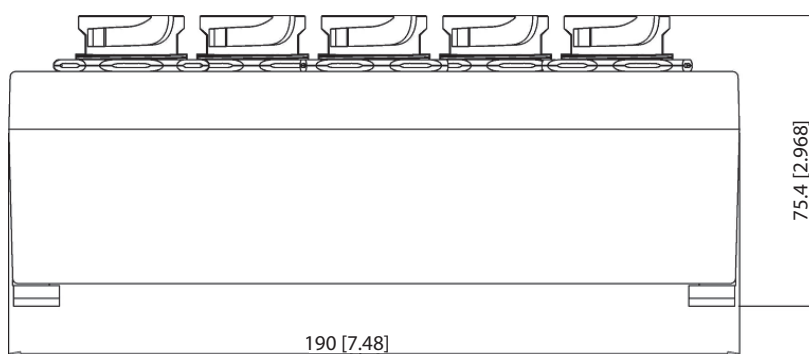
The prioritization of messages assures delivery of real-time data. Some applications need to force no-real-time data (such as video information) to lower priority and force critical real-time data at higher priority. Network utilization is improved.

**This combination of Ethernet technology associated with rugged and sealed protective enclosure is the ideal solution to deliver deterministic performance to your industrial systems even in the harshest environment!**

### Dimensions (mm/inch)



Accessory: Plugs for RJ45 ports



## Part number code

Series	RJS-PC	5ES	1	
IP68 RJ-Switch, with polyester body				
<b>Type of electronics</b>				
5RS: 5 ports 10/100 Mbps, Ring switch				
5ES: 5 ports 10/100 Mbps, Unmanaged switch				
<b>Connectors</b>				
1: RJ45 ports, 10/100BaseT(X)				
1CAPS: caps are attached on both power and data receptacles				
<b>Military rated protection</b>				
Blank: Industrial protection (standard order)				
EP: extended power protection exceeds MIL-STD-1275 (special order)				

Example: IP68 Ethernet ring switch, 5 ports 10/ 100 Mbps, with caps attached on the receptacles: RJS-PC-5RS-1CAPS

**Note:** the Ring model is pre-set for 1 ring enabled on the ports 4 and 5. You may change the configuration by using the free windows configuration tool. Simply choose the desired pair of ports for your new enabled ring.

**FREE WINDOWS CONFIGURATION TOOL**  
Download it at [www.rjswitch.com](http://www.rjswitch.com)

### Accessories



■ P/N: **RJF PC5 PWR**  
Plug for power port  
Sealing protection: IP68



■ P/N: **RJF RB 6**  
Plug for RJ45 ports  
Sealing protection: IP68

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