

# Open and Closed Protocol – Bringing clarity to key industry concepts



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Open or closed  
protocol? Making  
an informed choice





# What is the goal of this document?

We know that understanding open and closed protocol is not an open and shut case. These terms are among the most misunderstood in the industry. This leads to confusion and problems that can lead to dissatisfaction with your fire detection system.

Our goal here is to give you a clear, accessible way of understanding what they are and why they are important.

## The basics

Open and closed protocol are terms used to indicate how a fire detection system is operated. It also serves to describe the operating relationship between four key entities:

- Client
- Installer
- Maintainer
- Manufacturer

The terms open and closed protocols are probably the most commonly misunderstood within the fire industry.

## What is meant by open and CLOSED protocol?

An **open protocol** allows vendors' equipment to interoperate without the need for a proprietary interface or gateway. They talk the same language and no translation is needed. A **closed protocol** is one that is proprietary and not open to communication with other products without an interface.

## Are addressable systems open protocol?

Most addressable fire detection systems are as described "systems". The control panel and loop devices are typically manufactured by the same manufacturer. The manufacturer may also provide interfaces that allow for true integration of third party specialist detectors to work on their loops.

## Interpretation within the fire industry

Within the fire industry these terms are used to indicate how the fire detection "system" is supplied and operated between the client, installer, maintainer and manufacturer. This allows for interpretation so it is important to fully understand what you're signing up for. When we look at interoperability as defined with the fire detection industry this is regulated within the European Union as a part of the EN54 suite.

## EN54-13 covers system component compatibility for fire detection and alarm systems

This standard also specifies requirements for the integrity of the fire detection and fire alarm system when connected to other systems. It is applicable to systems where the components are connected to control and indicating equipment and where the components are interconnected by electrical wires.

For fire detection and fire alarm systems that use other means of interconnection (for example optical fibre or radio frequency links), EN54-13 may be used as guidance.



## What is closed protocol?

### The perception is:

- A single manufacturer for support and spares.
- Single installer to access system for updates. Usually the one that installed the system originally.
- The need to use the same installer to add equipment or make changes to the programming.
- System protected with passwords that are not freely available.
- Single choice for provider when service contract is due for renewal.
- Potentially low cost for initial purchase but more expensive to own, due to lack of ongoing competition.



## What is open protocol?

### The perception is:

- Multiple manufacturer for support and spares.
- Product from multiple manufacturers.
- Access system for updates via various routes.
- The ability to add equipment to the system with any install company.
- Password availability when desired.
- Choice when choosing a service provider. Anyone can be appointed.
- Inexpensive to own due to large competition base of installers.





## Managed OPEN Protocol - the reality

A managed protocol system is an extension of open protocol that provides assurances to the client, the following conditions shall apply:

- The client shall not be locked into a single source for support and spares.
- The control equipment, detectors and associated devices shall be considered a system sale and be compliant to EN54-13.
- The client shall be able to access updates for the system through 'selected' approved businesses or direct from the manufacturer.
- The client shall be able to add equipment through 'selected' approved business partners of the manufacturer.
- The client shall be able to obtain the system passwords upon requested from the approved installer to pass on to other maintenance providers.
- The client shall be able to choose a service provider from the manufacturers partner list.





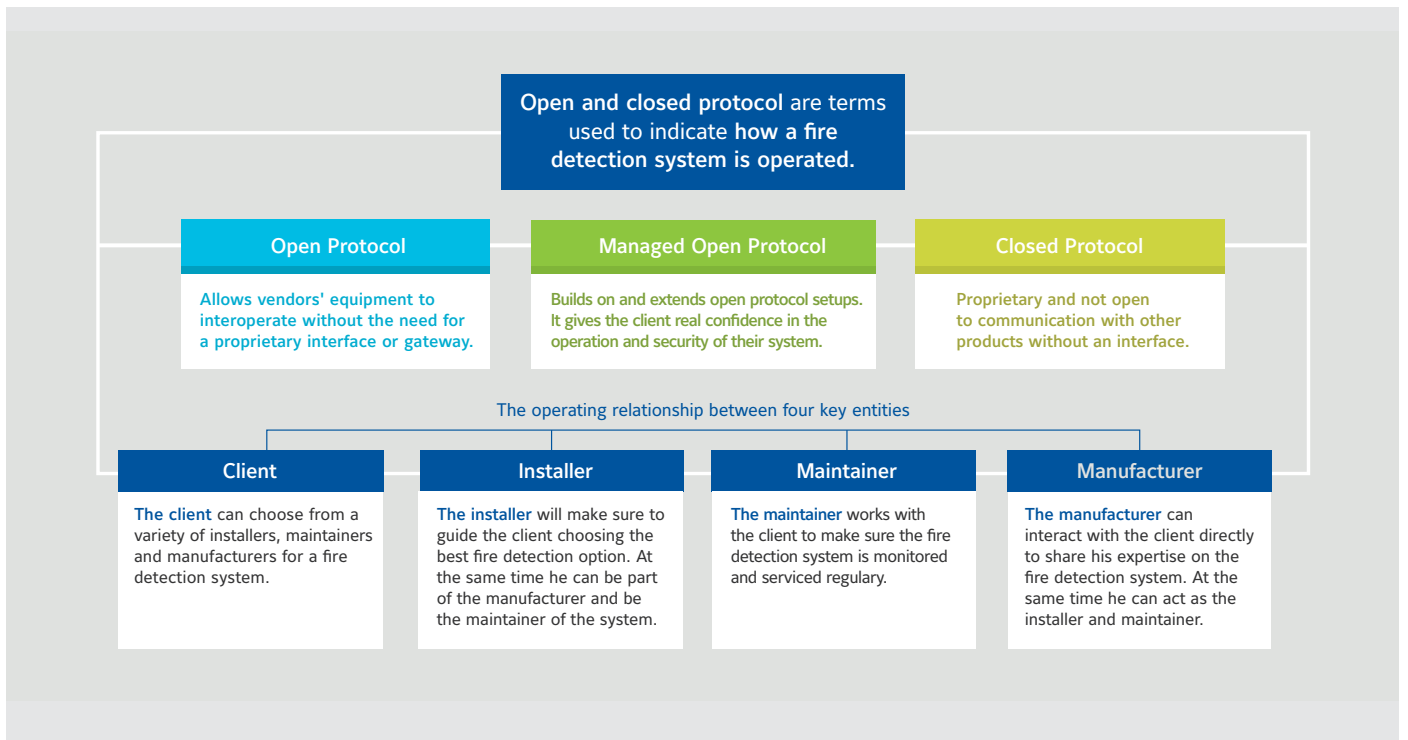
### Use of passwords to control open/closed selection

The use of passwords to manage or maintain a system is ultimately the true indicator if you have a system that is open or closed. Clients should consider how they are purchasing the system, is it an outright or are they signing into a long term maintenance contract.

The use of passwords however and the security of the system has to be maintained. The last thing anyone would want is for an untrained person to be accessing the fire alarm control equipment making changes without understanding the impact these would have. The client has to take some responsibility and the client's designated responsible person could also be

the gatekeeper of his systems engineering passwords. However he must ensure this is written into the supply contract. Another method is to use card credentials such as RFID cards to gain access to the system. The incumbent installer could assign a card to the client's responsible person that provides engineer access labelled as Engineer 2 or Clients Engineer.

This would give the installer the protection that the integrity of the system he is responsible for is maintained, as the use of this card would be identified by the system logs. Finally, these cards could also be kept on site under control of the responsible person and issued to attending engineers in order to complete the agreed maintenance work.



The operating relationship between protocol and stakeholders

## Our open approach to helping you understand the concept of protocols

At Johnson Controls we recognise that clients have the freedom to choose a system or solution that meets their individual needs. We can offer a system that aligns with your choice and we are willing to work with end users and consultants to ensure that the correct performance requirements are delivered at specification stage.

# Talk to us today to learn more

## Paul Ellis

Business Development Manager UK – South

JCI Park  
Grimshaw Lane  
Newton Heath  
Manchester  
M40 2WL  
United Kingdom

+44 (0) 7817 090 255  
Paul.Ellis@jci.com

## Gordon Thomas

Business Development Manager UK – North and Ireland

JCI Park  
Grimshaw Lane  
Newton Heath  
Manchester  
M40 2WL  
United Kingdom

+44 (0) 7817 080 040  
Gordon.Edward.Thomas@jci.com

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