



# Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
<b>afp - 1208</b>	18-Dec-1998	Number 13	Issue date 1-May-2018	30-Apr-2019

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## Product designation

**Minerva, Model MF614, nom. sens. (S)=0.35 MIC X, ionisation smoke detector**

(Refer to the Schedule/enclosures for further specified details)

## Agent/distributor

Tyco Fire Protection Products  
Level 3, 95 Coventry Street, SOUTHBANK, VIC, AUSTRALIA, 3006

## Registrant

Johnson Controls  
17 Mary Muller Drive, HILLSBOROUGH, CHRISTCHURCH, NEW ZEALAND, 8022

### Producer

Tyco Fire & Security GmbH  
Victor von Bruns-Strasse 21, NEUHAUSEN AM RHEINFALL, SWITZERLAND, 8212

## Conformance criteria and evaluation

The Minerva, Model MF614, nom. sens. (S)=0.35 MIC X, ionisation smoke detector has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 1603.2-1997, 'Automatic fire detection and alarm systems - Point type smoke detectors'.

## Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. The smoke detector is installed and maintained as recommended by the manufacturer.
- ii. The operating temperature range of the detector is -10°C to 70°C
- iii. The smoke detector is used in indoor, dry environments.
- iv. The alarm current range for the detector is 7.0 mA to 67.0 mA.
- v. Compatibility of this fire detector and its base assembly with new or existing control and indicating equipment should be verified prior to installation.

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

David Whittaker  
Executive Officer – ActivFire Scheme



# Schedule to Certificate of Conformity

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## Producer's description

The Minerva, Model MF614, nominal sensitivity (S)=0.35 MIC X, ionisation smoke detector operates on the dual ionisation chamber principle. The smoke detector consists of an Americium 241 ( $< 0.9 \mu\text{C}$ ) radioactive source mounted in an inner reference chamber that is separated by a middle electrode from an outer sensing smoke chamber. A regulated voltage applied across both chambers causes a small current to flow through the ionised air. When smoke enters the chambers, the ionisation current is reduced. The sensing electronics monitors the difference in ionisation current between the inner and outer chamber and then converts small current variations into processable voltage signals. When smoke density reaches a pre-determined level, the detector's circuitry will cause an alarm condition.

The sensitivity of the smoke detector is fixed at the point of manufacture.

The smoke detector has one recessed LED in the cover moulding which is red in colour when the smoke detector is in the alarm condition. Electrical connection to the smoke detector is achieved through the mounting base. Once the detector is in the alarm state, interrupting the power supply is required to reset the detector.

## Technical specification

The following details are a representative extract of the technical specification for the Minerva, Model MF614, nom. sens. (S)=0.35 MIC X, ionisation smoke detector and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

<b>Operating voltage:</b>	16 Vdc to 28 Vdc
<b>Quiescent current:</b>	105 $\mu\text{A}$ (max)
<b>Alarm voltage:</b>	2.5 Vdc to 7.4 Vdc
<b>Alarm current:</b>	67 mA (must be externally limited) @ 5 Vdc @ 55°C (max) 60 mA (must be externally limited) @ 5 Vdc @ 70°C (max)
<b>Nominal sensitivity (S):</b>	0.35 MIC X
<b>Externally powered load current:</b>	50 mA (max)
<b>Temperature rating:</b>	-20°C to +70°C
<b>Ionisation source:</b>	Americium 241, 34 kBq
<b>Relative humidity:</b>	95% R.H. (non condensing)
<b>Alarm indicator colour:</b>	Red
<b>Remote indicator:</b>	Tyco E500 Mk2

Tested base designation	Base + detector circuit type
Minerva, Model M614	Conventional
Tyco, Model 5B	Conventional
Tyco, Model Z134A	Addressable