



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx BAS 14.0061X** issue No.: **0** Certificate history: \_\_\_\_\_

Status: **Current**

Date of Issue: **2015-04-23** Page 1 of 3

Applicant: **Synatel Instrumentation Limited**  
Walsall Road  
Norton Canes  
Cannock  
Staffordshire  
WS11 9TB  
United Kingdom

Electrical Apparatus: **18mm Range of Sensors**  
Optional accessory:

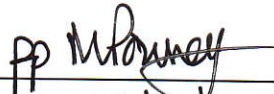

Type of Protection: **Encapsulation**

Marking: **Ex mb IIC T5 Gb**  
**Ex mb IIIC T100°C Db**  
**Ex mb I Mb**  
**Tamb -15°C to +50°C**

Approved for issue on behalf of the IECEx Certification Body: **R S Sinclair**

Position: **Technical Manager**

Signature:  
(for printed version)

  
23/4/15 

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SGS Baseefa Limited**  
Rockhead Business Park  
Staden Lane  
Buxton  
Derbyshire  
SK17 9RZ  
United Kingdom





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Manufacturer: **Synatel Instrumentation Limited**  
Walsall Road  
Norton Canes  
Cannock  
Staffordshire  
WS11 9TB  
**United Kingdom**

Additional Manufacturing location  
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

**IEC 60079-0 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition: 6.0

**IEC 60079-18 : 2009** Explosive atmospheres Part 18: Equipment protection by encapsulation "m"  
Edition: 3

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:  
[GB/BAS/ExTR12.0279/00](#)

Quality Assessment Report:  
[GB/BAS/QAR06.0065/05](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The 18mm Range of Sensors consists of:

IXXXMXXXAI Series of 18mm inductive proximity switches  
SXXXMXXXAI Series of 18mm speed switches  
MXXXMXXXAI Series of 18mm MAGNETIC switches

Alternative type designation for 4B Components Ltd and 4B Braime Elevator Components Ltd:

P100XXXAI Series of 18mm inductive proximity switches  
M100XXXAI Series of 18mm speed switches

The 18mm Range of Sensors are self-contained sensors with a variety of different functions and circuit options contained within a 18mm diameter x 80mm long black plastic moulded enclosure. The enclosure is encapsulated using epoxy resin. The product type is identified in the series and code on the label. The outer surface of the tubular enclosure is threaded M18 x 1.0mm for a length of 60mm starting at the sensor end of the enclosure. Two plastic nuts are supplied to clamp the sensor in a suitable mounting bracket, or the sensor can be clamped direct to a surface by suitable clips.  
See Annex for full description.

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. The supply circuit shall be protected by a suitably rated fuse capable of interrupting a short circuit current of 1500 Amps.
2. Warning: Potential static ignition risk, clean only with a damp cloth.
3. The integral cable shall be terminated in a suitably certified enclosure or in the safe area.
4. For Group I M2 applications the sensor shall only be used in areas with a low risk of impact.
5. For Group I M2 applications the sensor shall be protected from exposure to chemicals such as oils, greases and hydraulic liquids.

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Staden lane, Buxton, Derbyshire  
SK17 9RZ  
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ANNEX to IECEx BAS 14.0061X

Issue No. 0

Date: 2015/04/23

### **Description:**

The 18mm Range of Sensors consists of:  
IXXXMXXXAI Series of 18mm inductive proximity switches  
SXXXMXXXAI Series of 18mm speed switches  
MXXXMXXXAI Series of 18mm MAGNETIC switches

Alternative type designation for 4B Components Ltd and 4B Braime Elevator Components Ltd:  
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The 18mm Range of Sensors are self-contained sensors with a variety of different functions and circuit options contained within a 18mm diameter x 80mm long black plastic moulded enclosure. The enclosure is encapsulated using epoxy resin. The product type is identified in the series and code on the label. The outer surface of the tubular enclosure is threaded M18 x 1.0mm for a length of 60mm starting at the sensor end of the enclosure. Two plastic nuts are supplied to clamp the sensor in a suitable mounting bracket, or the sensor can be clamped direct to a surface by suitable clips.

An integral 2 wire cable is provided for connection to a 12-240V dc or 24-240V ac supply. The sensors may act as a switch with a maximum switching capacity of 200mA in which case they must be connected in series with a suitable load with the same voltage rating as the supply being used, which typically would be a relay.

Alternatively the sensors may be a 4 wire version for connection to a 10-30V DC which contains an output with a switching capacity of 100mA.

The maximum power supplied to the sensor circuit is controlled by a fuse up to 63mA and two parallel zener diodes rated at 7.2V. The normal operating voltage is 6.2V. The input supply is protected by a thermal fuse rated at 98°C.

The 18mm Sensor Unit has an Ingress Protection Rating equivalent to at least IP66.

#### **Variation 1.1**

The Sensors may be fitted with alternative certification labels with one of the following names included:  
4B Components Ltd  
4B Braime Elevator Components Ltd