

**EC - TYPE EXAMINATION CERTIFICATE**

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 94/9/EC**

- 3 EC - Type Examination Certificate Number: **Baseefa14ATEX0115X**
- 4 Equipment or Protective System: **18mm Range of Sensors**
- 5 Manufacturer: **Synatel Instrumentation Limited**
- 6 Address: **Walsall Road, Norton Canes, Cannock, Staffordshire, WS11 9TB**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. **GB/BAS/TR12.0279/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 60079-0: 2012/A11: 2013 EN 60079-18: 2009**  
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :
- ⓧ **II 2G Ex mb IIC T5 Gb**
  - ⓧ **II 2D Ex mb IIIC T100°C Db Tamb -15°C to +50°C**
  - ⓧ **I M2 Ex mb I Mb**

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **1057**

Project File No. **11/0739**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**SGS Baseefa Limited**

Rockhead Business Park, Staden Lane,  
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601

e-mail [info@baseefa.com](mailto:info@baseefa.com) web site [www.baseefa.com](http://www.baseefa.com)

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

*AP McManney*  
*RS SINCLAIR*

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa14ATEX0115X**

15 **Description of Equipment or Protective System**

The 18mm Range of Sensors consists of:

IXXXXMXXXAI Series of 18mm inductive proximity switches

SXXXXMXXXAI Series of 18mm speed switches

MXXXXMXXXAI 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.

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

16 **Report Number**

GB/BAS/TR12.0278/00

17 **Specific Conditions of Use**

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.

**18 Essential Health and Safety Requirements**

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

**19 Drawings and Documents**

Number	Issue	Date	Description
A3-200812A	0	30/04/14	18mm ATEX/IECEX sensor protection details
A4-301223A	0	27/04/12	18mm cable end
A4-301360A	0	30/04/14	18mm enclosure ATEX/IECEX
A4-301361A	0	30/04/14	18mm enclosure wiring and potting detail
A3-301367A	0	26/06/14	Mk2 18mm Body
A4-301378A	0	28/07/14	18mm end cap
A4-15806A	0	10/04/15	18mm generic label (Synatel)
A4-15807A	0	10/04/15	18mm generic label (Braime Elevator Comps)
A4-15809A	0	10/04/15	18mm generic label (4B Components)

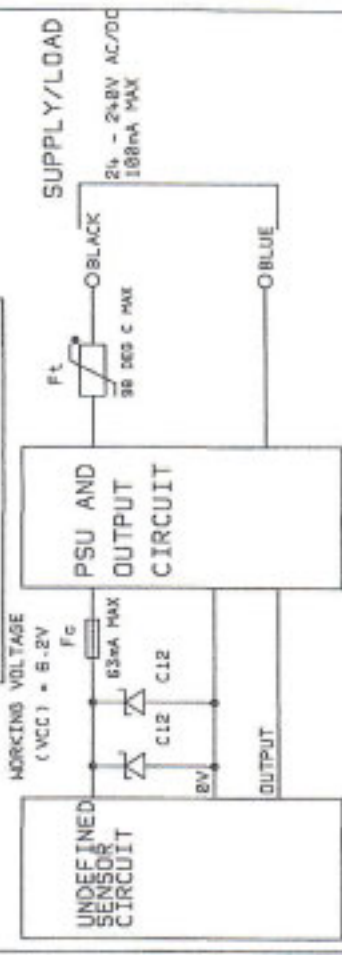
All drawings are held on IECEx BAS14.0061X and common to Baseefa14ATEX0115X

IECEX BAS 14.0061X  
Baseefa14ATEX0115X

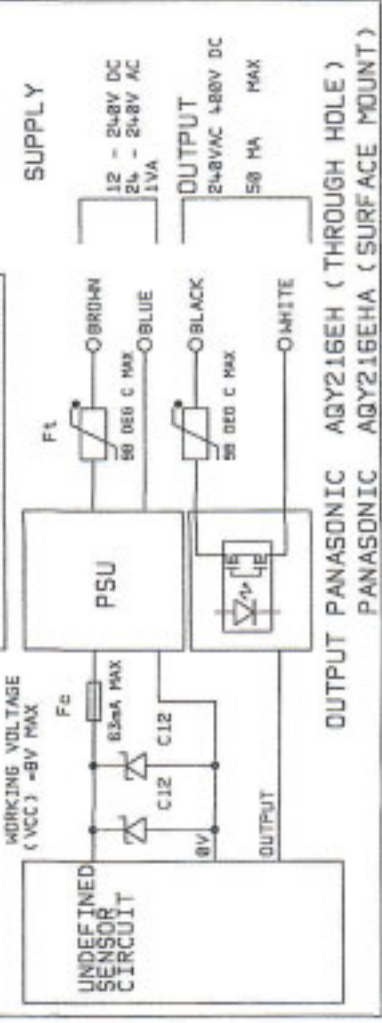


Schedule Drawing  
*L. Brearley*  
L. Brearley

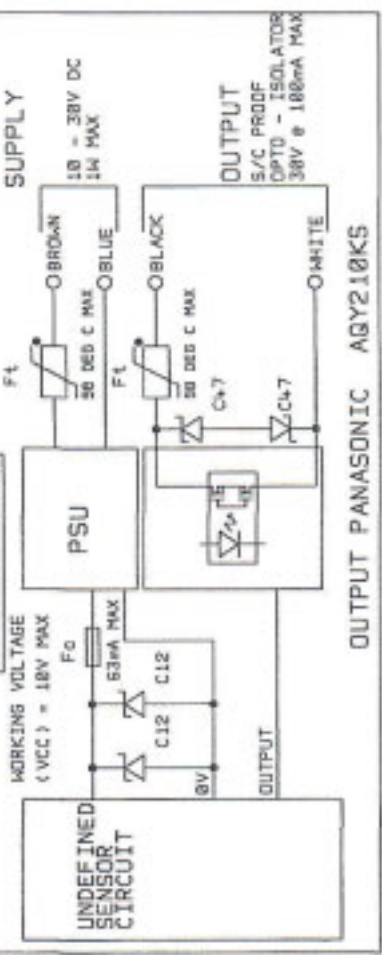
**2 WIRE UNIVERSAL**



**4 WIRE UNIVERSAL**



**4 WIRE DC**



**F<sub>c</sub> - CURRENT PROTECTION FUSE DETAILS**

SCHURTER USSF 1206 FF 50MA PART NUMBER 3413-0002-11  
SCHURTER DMF 125 63MA PART NUMBER 3424-0003-11

**F<sub>t</sub> - THERMAL PROTECTION FUSE DETAILS**

THERMTRON N1F (81C)  
THERMTRON N2F (99C)  
THERMODISCC MICROTEMP) 6LA81093C (93C)  
THERMODISCC MICROTEMP) 6LA81099C (98C)

**UNDEFINED SENSOR CIRCUITS SHALL NOT BE FITTED WITH SWITCHING DEVICES**

ALL DIMENSIONS IN MILLIMETRES UNLESS STATED THIRD ANGLE PROJECTION  
THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
TITLE	18mm ATEX/IECEX SENSOR PROTECTION DETAILS																																																	
ENGINEER	R.A. DRAM R.A. DATE 30.04.14																																																	
SCALE																																																		
APPROVED																																																		
	A3-200812A																																																	

SYNATEL INSTRUMENTATION LIMITED  
CANNOCK, STAFFORDSHIRE.



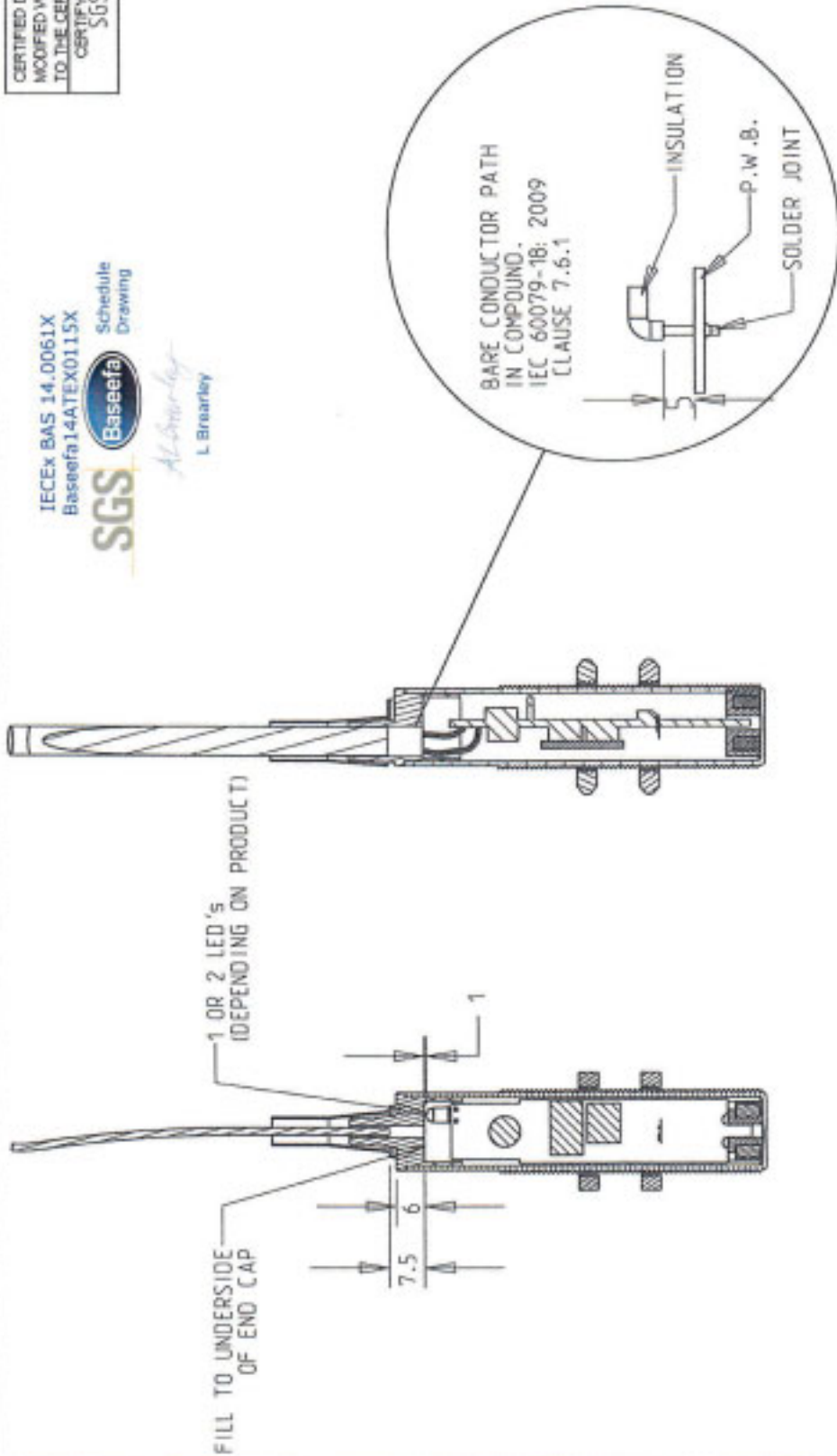


THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION LTD AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION

CERTIFIED DRAWING, NOT TO BE  
MODIFIED WITHOUT REFERENCE  
TO THE CERTIFYING AUTHORITY.  
CERTIFYING AUTHORITY  
SGS BASEEFA

IECEX BAS 14.0061X  
Baseefa14ATEX0115X  
**SGS Baseefa** Schedule Drawing

*L. Brearley*  
L. Brearley



TOLERANCE  $\pm 0.1\text{mm}$  UNLESS STATED

FILE	SUFFIX	Mod	ISSUE										THRO ANGLE	DESCRIPTION	
			1	2	3	4	5	6	7	8	9	10			
															18mm ENCLOSURE WIRING & POTTING DETAIL
															DRAWN BY
															DATE
															APPROVED
															FG.
															30-04-14

DIMENSIONS IN MILLIMETRES  
SCALE 0.7500 RA





THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION LTD AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION

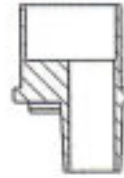
CERTIFIED DRAWING, NOT TO BE  
MODIFIED WITHOUT REFERENCE  
TO THE CERTIFYING AUTHORITY.  
CERTIFYING AUTHORITY  
AUTHORISED PERSON

IECEX BAS 14.0061X

Baseefa14ATEX0115X

SGS Baseefa Schedule Drawing

*L. Breenley*  
L. Breenley



SECTION A-A



FILLED WITH ENCAPSULANT  
AT TIME OF POTTING. THE  
POTTING SHALL BE 0.5mm  
BELOW THE SURFACE OF  
THE END CAP.

MATERIAL :- EMS CHEMIE NATURAL LV-3(F1) QMFZ8 E53898

TOLERANCE ±0.1mm UNLESS STATED

FILE	SUFFIX	REV	ISSUE	ISSUE	ISSUE	ISSUE	ISSUE	ISSUE	ISSUE	THIRD ANGLE	DESCRIPTION			
											DIMENSIONS IN MILLIMETRES			DATE
			1	2	3	4	5	6	7	☉	18mm	END CAP	DATE	APPROVED
										SCALE	1000	RA	FG.	28-07-14

THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION LTD AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION

SUPPLY	XXXXXXXXXX
SERIES	XXXXXX
CODE	XXX-XXX

**SYNATEL**  
**INSTRUMENTATION LTD**  
 GB - www.synatel.co.uk  
 IECEX BAS 14.0061X  
 Baseefa14ATEX0115X  
 Ex II 2G Ex mb IIC T5 Gb  
 Ex II 2D Ex mb IIC T100°C Db 20XX  
 Ex IM2 Ex mb Mb  
 Tamb -15°C to +50°C IP66 1180  
 Made in England

Warning: Potential static ignition risk, clean only with a damp cloth.  
 Refer to manual for connection/setting details.

- MATERIAL : >  
 LIGHTHOUSE (U.K.) LTD  
 Vinyl + Ribbon
- CPMR40 - RC Black  
 " 41 " White  
 " 42 " Red  
 " 43 " Blue  
 " 44 " Green  
 " 45 " Yellow  
 " 46 " Orange
- " 08 Grey  
 " 09 Brown  
 " 10 Beige  
 " 11 Purple  
 " 17 Violet  
 " 18 Light Blue  
 " 19 Ochre  
 " 21 Mirror Silver
- Polyester + Ribbon
- CPMSP01 White CPM5940 - RC Black  
 " 02 Yellow " 41 " White  
 " 03 Green " 42 " Red  
 " 04 Red " 43 " Blue  
 " 05 Blue " 44 " Green  
 " 06 Black " 45 " Dark Green  
 " 51 Silver Grey

SUBSTITUTE "X's" IN SUPPLY BOX WITH PRODUCT OPERATING VOLTAGE  
 SUBSTITUTE "X's" IN SERIES BOX WITH PRODUCT NAME  
 SUBSTITUTE "X's" IN CODE BOX PRODUCT STOCK CODE AND ISSUE STATUS

IECEX BAS 14.0061X  
 Baseefa14ATEX0115X



*L. Breenley*  
 L Breenley

Abrasion Guard CPMR47-RC		TOLERANCE ±0.1mm UNLESS STATED	
FILE	SUFFIX Mod	ISSUE	ISSUE
		1	2
		3	4
		5	6
		7	8
		9	10
		11	12
		13	14
		15	16
		17	18
		19	20
		21	22
		23	24
		25	26
		27	28
		29	30
		31	32
		33	34
		35	36
		37	38
		39	40
		41	42
		43	44
		45	46
		47	48
		49	50
		51	52
		53	54
		55	56
		57	58
		59	60
		61	62
		63	64
		65	66
		67	68
		69	70
		71	72
		73	74
		75	76
		77	78
		79	80
		81	82
		83	84
		85	86
		87	88
		89	90
		91	92
		93	94
		95	96
		97	98
		99	100

DESCRIPTION	
18mm GENERIC LABEL (SYNATEL)	
DRAWN BY	DATE
F.O.	10-04-5

THIRD ANGLE	
SCALE	DESIGN
1000	RA

DIMENSIONS IN MILLIMETRES	
SCALE	DESIGN
1000	RA

THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION LTD AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION

SUPPLY	XXXXXXXXXX
SERIES	XXXXXX
CODE	XXX-XXX

**Braine Elevator Components Ltd.**  
UK - www.go4b.co.uk

IECEX BAS 14.0061X  
Baseefa14ATEX0115X  
Ex II 2G Ex mb IIC T5 Gb  
Ex II 2D Ex mb IIC T100°C Db  
Ex IM2 Ex mb Mb  
Tamb -15°C to +50°C IP66  
1180  
CE

Made in England

Warning: Potential static ignition risk, clean only with a damp cloth. Refer to manual for connection/setting details.

Synatel, Staffs. WS11 9TB UK www.synatel.co.uk

SUBSTITUTE "X's" IN SUPPLY BOX WITH PRODUCT OPERATING VOLTAGE  
SUBSTITUTE "X's" IN SERIES BOX WITH PRODUCT NAME  
SUBSTITUTE "X's" IN CODE BOX PRODUCT STOCK CODE AND ISSUE STATUS

IECEX BAS 14.0061X  
Baseefa14ATEX0115X



*L. Breaufley*  
L. Breaufley

- MATERIAL : >
- LIGHTHOUSE (U.K.) LTD
- viny1 + ribbon
- CPMR40 - RC Black
  - " 41 " White
  - " 42 " Red
  - " 43 " Blue
  - " 44 " Green
  - " 45 " Yellow
  - " 46 " Orange
  - " 08 Grey
  - " 09 Brown
  - " 10 Beige
  - " 11 Purple
  - " 17 Violet
  - " 18 Light blue
  - " 19 Ochre
  - " 21 Mirror Silver
- polyester + ribbon
- CPMSR40 - RC Black
  - " 41 " White
  - " 42 " Red
  - " 43 " Blue
  - " 44 " Green
  - " 45 " Dark Green
  - " 51 Silver Grey

Abrasion Guard		CPMR47-RC	TOLERANCE ±0.1mm UNLESS STATED	
FILE	SUFFIX	Mod	THIRD ANGLE	DESCRIPTION
			☉	10mm GENERIC LABEL (BRAINE ELEVATOR COMPS)
			SCALE	DRAWN BY
			1000	F.G.
			DES. AUTH.	DATE
			RA	APPROVED
				10-04-15

CPMR40 - RC Black

CPMR47-RC

THIS DRAWING REMAINS THE PROPERTY OF SYNATEL INSTRUMENTATION LTD AND MUST NOT BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION

SUPPLY	XXXXXXXXXX
SERIES	XXXXXX
CODE	XXX-XXX

**4B COMPONENTS LTD.**  
Morton, Illinois, 61550 USA  
www.go4b.com/usa

IECEX BAS 14.0061X  
Baseefa14ATEX0115X  
Ex II 2G Ex mb IIC T5 Gb  
Ex II 2D Ex mb IIC T100°C Db 20XX  
Ex I M2 Ex mb Mb  
Tamb -15°C to +50°C IP66 1180  
Synatel, Staffs, WS11 9TB UK www.synatel.co.uk

Made in England

Warning: Potential static ignition risk, clean only with a damp cloth. Refer to manual for connection/setting details.

MATERIAL : >  
LIGHTHOUSE (U.K.) LTD  
viny1 + ribbon

- CPMR40 - RC Black
- " 41 " white
- " 42 " Red
- " 43 " Blue
- " 44 " Green
- " 45 " Yellow
- " 46 " Orange
- " 08 Grey
- " 09 Brown
- " 10 Beige
- " 11 Purple
- " 17 Violet
- " 18 Light blue
- " 19 Ochre
- " 21 Mirror Silver

Polyester + Ribbon

- CPMSR40 - RC Black
- " 41 " white
- " 42 " Red
- " 43 " Blue
- " 44 " Green
- " 45 " Dark Green
- " 51 Silver Grey

SUBSTITUTE "X's" IN SUPPLY BOX WITH PRODUCT OPERATING VOLTAGE  
SUBSTITUTE "X's" IN SERIES BOX WITH PRODUCT NAME  
SUBSTITUTE "X's" IN CODE BOX PRODUCT STOCK CODE AND ISSUE STATUS

IECEX BAS 14.0061X  
Baseefa14ATEX0115X



*Alwyn*  
L. Beasley

Abrasion Guard		CPMR47-RC		TOLERANCE ±0.1mm UNLESS STATED	
FILE	SUFFIX	Mod	ISSUE	ISSUE	ISSUE
			1	2	3
			4	5	6
			7		
THIRD ANGLE			DESCRIPTION		
DIMENSIONS IN MILLIMETRES			18mm GENERIC LABEL (48 COMPONENTS)		
SCALE		DESIGN	DATE	APPROVED	
1:1000		RA	F.G.	10-04-15	



## DECLARATION OF CONFORMITY

We, the undersigned, on behalf of Synatel Instrumentation Limited, hereby declare the products listed below conform to the relevant provisions of the legislation, as well as pertinent clauses of the standards and other normative documents mentioned herein.

DOC2018005A

**EQUIPMENT DESCRIPTION** : 18 MM AI SERIES OF INDUCTIVE PROXIMITY SWITCHES  
**PRODUCT NAMES** : IXXMXXXAI, SXXXMXXXAI, MXXXMXXXAI

**ATEX DIRECTIVE** 2014/34/EU

CERTIFICATE No. : Baseefa14ATEX0115X  
ISSUED BY : SGS Baseefa,, Staden Lane, Buxton, Derbyshire, SK17 9RZ  
NOTIFIED BODY NO. : 1180

CATEGORIES : II 2G Ex mb IIC T5 Gb  
II 2D Ex mb IIIC T100°C Db  
I M2 Ex mb Mb  
Tamb -15°C to 50°C , IP66

BS EN 60079- 0:2012 Explosive Atmospheres- General requirements

The following harmonized standards and other technical specifications were used in support of this declaration:

BS EN 60079-18:2009 Equipment protection by encapsulation 'm'

Has been compared with

EN60079-18:2015 +A1:2017 Equipment protection by encapsulation "m"

Essential Health and Safety Requirements of the above directives are conformed to using the standards listed and a review which shows the state of technological progress is not materially affected.

### SPECIFIC CONDITIONS OF USE

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.

### LOW VOLTAGE DIRECTIVE 2014/35/EU

BS EN 61010-1 :2010 General safety requirements for electrical equipment  
BS EN60332-1-1 :2004 Single cable flame propagation test

### EMC DIRECTIVE 2014/30/EU

BS EN 61000-6-3 :2007 Electromagnetic Compatibility - General Emission Standard  
BS EN 61000-6-1 :2007 Electromagnetic Compatibility - General Immunity Standard

### RoHS DIRECTIVE 2011/65/EU

Restriction Of The Use Of Certain Hazardous Substances In Electrical And Electronic Equipment Is Conformed To As Set Out In ANNEX II Of The Directive.

NAME : D.Wheat

POSITION: Director

SIGNED:

DATE: 10th January 2018