FM Approvals
Member of the FM Global Group

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

BA326C-a-b-c. 2-Wire 4/20mA 3 ½ Digit Indicator
IS/I/1/ABCD/T4 Ta = 60°C; CI326-27; Entity, IP65
IS/I/0/AEx ia IIC/ T4 Ta = 60°C; CI326-27; Entity; IP65
NI/I/2/ABCD/T4 Ta = 60°C; IP65
NI/I/2/IIC/T4 Ta = 60°C; IP65
Entity Parameters:
Terminals 1,2,3 & 4: Vmax = 32V, Imax = 200mA, Pi = 1.2W, Ci = 0.02µF, Li = 0.01mH
Terminals 12 & 13: Vmax = 32V, Imax = 159mA, Pi = 1.2W, Ci = 0.03µF, Li = 0.01mH
Terminals 8 & 9 or 10 & 11: Vmax = 32V, Imax = 159mA, Pi = 1.2W, Ci = 0.02µF, Li = 0.01mH
a = Display at 4 mA XXXX (with decimal point position and polarity)
b = Display at 20 mA XXXX (with decimal point position and polarity)
c = Accessories: Blacklight, Alarms, Lineariser, Scale Card, Bargraph scale and Tag number

Special Condition of Use:
1. Shall be installed in suitable equipment enclosure in accordance with ANSI/ISA S82.01

Equipment Ratings:

Intrinsically safe apparatus for use in Class I, Division 1, Groups A, B, C and D; Class I, Zone 0, AEx ia IIC temperature class T4 at Ta = 60°C in accordance with Entity requirements and Control Drawing CI326-27; Nonincendive for use in Class I, Division 2, Groups A, B, C and D; Class I, Zone 2, Group IIC temperature class T4 at Ta = 60°C Hazardous (Classified) indoor or outdoor (IP65 front panel only) Locations.

FM Approved for:

BEKA associates
Hitchin, Hertfordshire SG5 2DA, United Kingdom

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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3810	2005

Original Project ID: 3008833 Approval Granted: September 29, 1997

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
101217	March 16, 2011		

FM Approvals LLC

Timothy J. Adam
Technical Team Manager

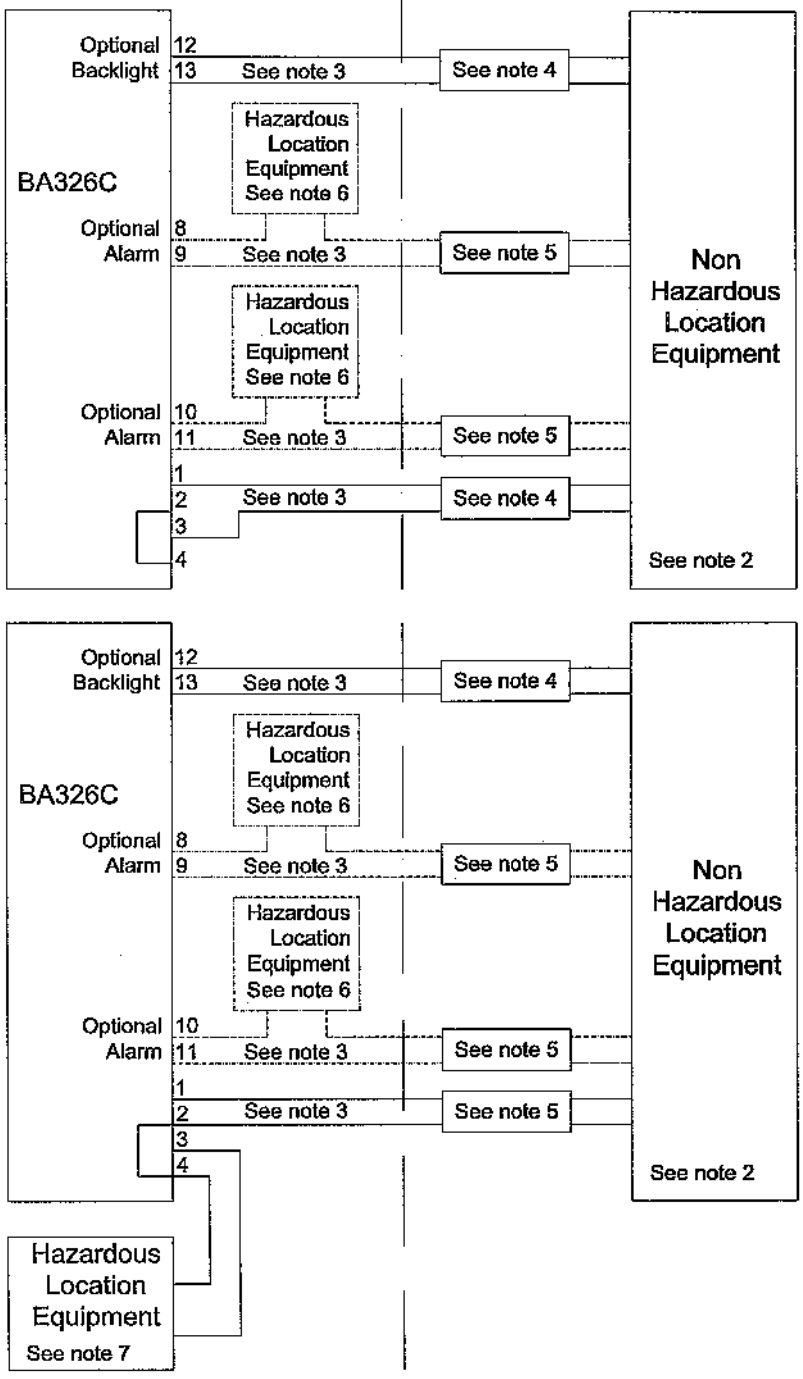
March 16, 2011
Date

HAZARDOUS LOCATION

NON-HAZARDOUS LOCATION

Class I Division 1 Groups A, B, C & D
or Class I, Zone 0 or 1, Groups IIC
T4 Ta = 60°C
See Note 6

See note 1



BA326C
Entity parameters

Terminals 1,2,3 & 4
Vmax = 32V
Imax = 200mA
Pmax = 1.2W
Ci = 0.02µF
Li = 0.01mH

Terminals 12 & 13
Vmax = 32V
Imax = 159mA
Pmax = 1.2W
Ci = 0.03µF
Li = 0.01mH

Terminals 8,9,10 & 11
Vmax = 32V
Imax = 159mA
Pmax = 1.2W
Ci = 0.02µF
Li = 0.01mH

Notes

1. The associated protective barriers must be FMRC Approved and the manufacturer's installation drawings must be followed when installing this equipment.

2. The non-hazardous location equipment connected to the associated protective barriers must not use or generate more than 250Vrms or Vdc.

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Title: BA326C COMBINED INDICATOR FACTORY MUTUAL CONTROL DRAWING

Drawn	Checked	Scale
AC		

Drawing No. C1326-27
Sheet 1 of 3

3. Wire each pair separately or together with individually grounded screens to prevent shorting between pairs. Installation should be in accordance with ANSI/ISA RP 12.6 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code ANSI/NFPA 70.

4. One single channel or one two channel associated protective barrier or galvanic isolator with entity parameters meeting the following requirements :

Voc or Vt	equal to or less than	Vmax
Isc or It	equal to or less than	Imax
Po	equal to or less than	Pmax
La	equal to or greater than	Lcable + Li
Ca	equal to or greater than	Ccable + Ci

5. One single channel or one two channel associated protective barrier or galvanic isolator with entity parameters meeting the following requirements :

CAUTION : THESE REQUIREMENTS MUST BE FOLLOWED FOR NEW INSTALLATIONS OR MODIFICATIONS TO EXISTING INSTALLATIONS.

Voc or Vt	equal to or less than	The lowest Vmax of the FMRC Approved apparatus installed in the respective loop.
Isc or It	equal to or less than	The lowest Imax of the FMRC Approved apparatus installed in the respective loop.
Po	equal to or less than	The lowest Pmax of the FMRC Approved apparatus in the respective loop.
La	equal to or greater than	The sum of the cable inductances and the internal inductance of Li of each FMRC Approved apparatus installed in the respective loop.
Ca	equal to or greater than	The sum of the cable capacitance and the internal capacitance of Ci of each FMRC Approved apparatus in the respective loop.

6. If connected to AEx [ib] associated protective barrier or galvanic isolator, the BA326C is only suitable for Class I, Zone 1 of 2 hazardous locations.

7. Hazardous location equipment may be simple apparatus or FMRC Approved equipment with entity parameters meeting the requirements of **note 5**.

8. The BA326C is also FMRC Approved as non-incendive for Class I, Division 2 Groups A, B, C and D hazardous (classified) location without connection to associated protective barriers when installed per the National Electrical Code (ANSI/NFPA 70) and the voltages do not exceed 32Vdc.

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Drawing No. CI326-27
Sheet 2 of 3

9. When mounting the BA326C, to maintain the IP65 front panel rating :

Minimum panel thickness should be : 2mm (0.08 inches) Steel
3mm (0.12 inches) Aluminium

Outside panel finish should be smooth, free from particle inclusions, runs or build-up around cut-out.

Panel cut-out should be 43.5 x 136.0mm -0.0 +0.5
(1.71 x 5.35 inches -0.00 +0.02)

Edges of panel cut-out should be deburred and clean.

Each panel mounting clip should be tightened to between : 20 and 22cNm (1.77 to 1.95 in lb)

Note : Four panel mounting clips are required.

10. Enclosures in which the BA326C indicator is installed should meet requirements of ANSI/ISA S82.02.01

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Title: BA326C COMBINED INDICATOR
FACTORY MUTUAL
CONTROL DRAWING

Drawn	Checked	Scale
AC		

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