



Member of the FM Global Group

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

KFa-DWB-Ex1.b.c Rotation Speed Limit Alarm

NI / I / 2 / ABCD / T4 Ta= 60°C
I / 2 / AEx nC IIC / T4 Ta = 60°C
AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity
I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

a = Input Voltage D2, A5, A6.
b = Display Option D or blank.
c = 485 (with RS485) or blank.

KFU8-DWB-Ex1.b.c Rotation Speed Limit Alarm

NI / I / 2 / ABCD / T4 Ta= 60°C
AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity
I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.
c = 485 (with RS485) or blank.

KFa-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)

NI / I / 2 / ABCD / T4 Ta= 60°C
I / 2 / AEx nC IIC / T4 Ta = 60°C
AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

a = Input Voltage D2.

b = Display Option D or blank.

c = 485 (with RS485) or blank.

KFU8-UFC-Ex1.b.c Rotation Speed Converter (Digital or Analog converter)

NI / I / 2 / ABCD / T4 Ta= 60°C

AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.

c = 485 (with RS485) or blank.

KFa-UFT-Ex2.b.c Universal Logic Controls

NI / I / 2 / ABCD / T4 Ta= 60°C

I / 2 / AEx nC IIC / T4 Ta = 60°C

AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3, 4 & 6	10.1	13.5	-	-	34	2.87	195
Terminals 1 & 4, 3 & 6	-	-	10.1	27.0	68	2.87	46

a = Input Voltage D2.

b = Display Option D or blank.

c = 485 (with RS485) or blank.

KFU8-UFT-Ex2.b.c Universal Logic Controls

NI / I / 2 / ABCD / T4 Ta= 60°C

AIS / I,II,II / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3, 4 & 6	10.1	13.5	-	-	34	2.87	195
Terminals 1 & 4, 3 & 6	-	-	10.1	27.0	68	2.87	46

b = Display Option D or blank.

c = 485 (with RS485) or blank.

KFa-DU-Ex1.b.c Timer

NI / I / 2 / ABCD / T4 Ta= 60°C

I / 2 / AEx nC IIC / T4 Ta = 60°C

AIS / I,II,III / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

a = Input Voltage D2, A5, A6.

b = Display Option D or blank.

c = 485 (with RS485) or blank.

KFU8-DU-Ex1.b.c Timer

NI / I / 2 / ABCD / T4 Ta= 60°C

AIS / I,II,III / 1 / ABCDEFG - 16-538FM-12; Entity

I / 0 / [AEx ia] IIC - 16-538FM-12; Entity

Entity Parameters	V _o (V)	I _o (mA)	V _t (V)	I _t (mA)	P _o (mW)	C _a (uF)	L _a (mH)
Terminals 1 & 3	10.10	13.5	-	-	34	2.87	195

b = Display Option D or blank.

c = 485 (with RS485) or blank.

Special Conditions of Use:

1. The apparatus shall be installed within an enclosure meeting the requirements of Class I, Division 2/Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70).

Equipment Ratings:

Non-incendive for Class I, Division 2, Groups A, B,C and D; Class I, Zone 2, Group IIC, T4 in an ambient of 60°C; Associated Intrinsically Safe apparatus for connection to Class I,II,III, Division 1 Groups A, B, C, D, E, F and G; alternatively for Class I, Zone 1, AEx [ia] Group IIC; indoor hazardous (Classified) locations.

FM Approved for:

Pepperl & Fuchs GmbH
Mannheim, Germany



Member of the FM Global Group

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

Class 3600	2011
Class 3610	2010
Class 3611	2004
Class 3810	2005

Original Project ID: 3009603

Approval Granted: January 19, 2001

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3027459	November 2, 2006		
061115	November 20, 2006		
RR201062	June 10, 2015		

FM Approvals LLC

J.E. Marquedant
Manager of Electrical Systems

10 June 2015

Date