Safety Instructions

Installation control diagram
GE2277

VEGACAP 6*.UF

35295

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

I. Intrinsically Safe (Div. 1) Version

CP6a.UFbcZde, Level Measuring Equipment
IS / I,II,III / 1 / ABCDEFG / T5 Ta =80°C, T6 Ta = 70°C; GE2277; Entity; Type 4X 6P*, IP66
I / 0 / AEx ia / IIC / T5 Ta =80°C, T6 Ta = 70°C; GE2277; Entity; Type 4X 6P*, IP66
DIP / II,III / 1 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
NI / I / 2 / ABCD / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
NI / I / 2 / IIC / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II,III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
Entity Parameters:
Reference Control Drawing No. GE2277 for Entity Parameter values.
a = Configuration: 2
b = Version/Temperature range: A, B, C or D
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
e = Cable Entry: N or M

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NI / I / 2 / IIC / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II, III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
Entity Parameters:
Reference Control Drawing No. GE2277 for Entity Parameter values.
a = Configuration: 3 or 4
b = Version/Temperature range: E(only available in configuration option 3), F, or G
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
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S / II, III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
Entity Parameters:
Reference Control Drawing No. GE2277 for Entity Parameter values.
a = Configuration: 5
b = Version/Temperature range: K, L, M, S, U, V, W or T.
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
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NI / I / 2 / ABCD / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
NI / I / 2 / IIC / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II, III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
Entity Parameters:
Reference Control Drawing No. GE2277 for Entity Parameter values.
a = Configuration: 6
b = Version/Temperature range: N or 3.
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
e = Cable Entry: N or M

II. Nonincendive (Div. 2) Version

CP6a.UXbcdef, Level Measuring Equipment
NI / I / 2 / ABCD / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
DIP / II,III / 1 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
I / 2 / AEx nC / IIC / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II,III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
a = Configuration: 2
b = Version/Temperature range: A, B, C or D
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d = Electronics: C, R, T, or Z
e* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
f = Cable Entry: N or M
Special Conditions of Use:
1. *For Division 2, and Zone 2 approvals, the probes are suitable for connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC Hazardous (Classified) Locations.*

CP6a.UXbcdef, Level Measuring Equipment
NI / I / 2 / ABCD / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
NI / I / 2 / AEx nC / IIC / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66

DIP / II,III / 1 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II,III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
a = Configuration: 3 or 4
b = Version/Temperature range: E(only available in configuration option 3), F, or G
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
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DIP / II,III / 1 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
S / II,III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
a = Configuration: 5
b = Version/Temperature range: K, L, M, S, U, V, W or T.
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d = Electronics: C, R, T, or Z
e* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
f = Cable Entry: N or M
Special Conditions of Use:
1. *For Division 2, and Zone 2 approvals, the probes are suitable for connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC Hazardous (Classified) Locations.*

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S / II,III / 2 / EFG / T5 Ta =80°C, T6 Ta = 70°C; Type 4X 6P*, IP66
a = Configuration: 6
b = Version/Temperature range: N or 3.
c = Process Connection: Two digit alphanumeric variable for connections, which represents a LA, NPT, G, TRI- CLAMP, DN or ASME industry type flange with pressure ratings
d = Electronics: C, R, T, or Z
e* = Housing: A, K, 8 (6P rating for housing option K, 8 or V only) or V
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Special Conditions of Use:
1. *For Division 2, and Zone 2 approvals, the probes are suitable for connections to Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G and Class I, Zone 0, Group IIC Hazardous (Classified) Locations.*

FM Approvals
Member of the FM Global Group

Equipment Ratings:

I. Intrinsically Safe (Div. 1) Version

Intrinsically safe, with entity parameters, for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F, G and Class I, Zone 0, Group IIC, in accordance with manufacturer's Control Drawing No. GE2181; Nonincendive for Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC; Suitable for Class II, Division 2, Groups F, G; Dust Ignition Proof for Class II, III, Division 1,Groups E, F, and G Hazardous (Classified) indoor/outdoor (Type 4X 6P*, IP66) Locations.

II. Nonincendive (Div. 2) Version

The following was evaluated as Nonincendive for Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC; Suitable for Class II, Division 2, Groups E, F, G; Dust Ignition Proof for Class II, III, Division 1, Groups E, F, and G Hazardous (Classified) indoor/outdoor (Type 4X 6P*, IP66) Locations.

FM Approved for:

VEGA Grieshaber KG
Postfach 1142
D-77757 Schiltach, Germany

Ohmart Vega Corporation
4241 Allendorf Drive
Cincinnati, OH 45209

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

Class 3600	1998
Class 3610	1999
Class 3611	2004
Class 3810	2005
ANSI/ISA-12.12.02	2003

Original Project ID: 3022694 Approval Granted: June 22, 2006

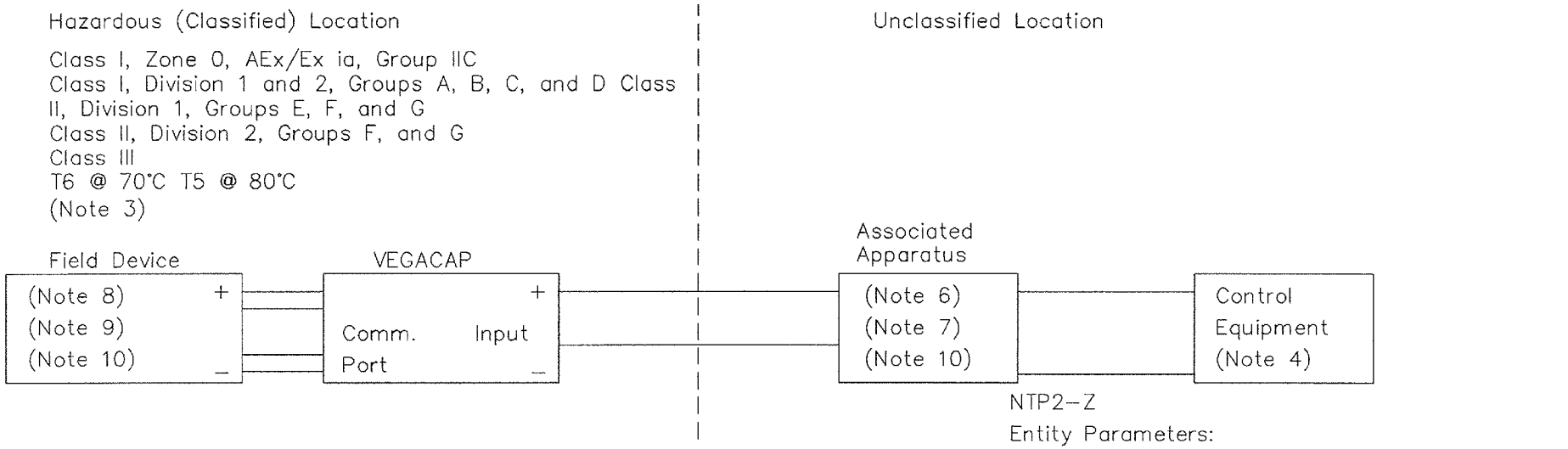
Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
070505	July 17, 2007		
071002	October 30, 2007		
3031022	February 5, 2009		

FM Approvals LLC

J. E. Marquedant
Group Manager, Electrical

5 February 2009
Date



Pi (W)	Ta (C°)
0.72	60°C
0.64	70°C
0.42	80°C

Notes:

1. The Intrinsic Safety Entity concept allows the interconnection of two Intrinsically safe devices FM Approved and entity parameters not specifically examined in combination as a system when:
   Uo or Voc or Vt $\leq$ Vmax, Io or Isc or It $\leq$ Imax, Ca or Co $\geq$ Ci + Ccable, La or Lo $\geq$ Li + Lcable, Po $\leq$ Pi.
2. For Division 2 installations, the Associated Apparatus is not required to be FM or Approved under Entity Concept if the VEGACAP 60 Series is installed in accordance with the National Electrical Code® (ANSI/NFPA 70) or Canadian Electrical Code, for division 2 wiring methods excluding Nonincendive field wiring.
3. Dust–tight conduit seal shall be used when installed in Class II and Class III environments.
4. Control equipment connected to the Associated Apparatus shall not use or generate more than 250 Vrms or Vdc.
5. Division 1 installations should be in accordance with ANSI/ISA RP12.06.01"Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code® (ANSI/NFPA 70) or Canadian Electrical Code.
6. For Division 1 installations, the configuration of associated Apparatus shall be FM Approved under Entity Concept.
7. Associated Apparatus manufacturer's installation drawing shall be followed when installing this equipment.
8. The configuration of Field Device must be FM Approved under Entity Concept.
9. The Field Device manufacturer's installation drawing shall be followed when installing this equipment.
10. The VEGACAP 60 Series are FM Approved for Class I, Zone 0, applications. If connecting AEx[ib] Associated Apparatus or AEx ib I.S. Field Device to the VEGACAP 60 Series the I.S. circuit is only suitable for Class I, Zone 1, and is not suitable for Class I, Zone 0 or Class I, Division 1, Hazardous (Classified) Locations.
11. No revision to drawing without prior Approval by FM Approvals.

OHMART B/M NUMBER	VE210308–FM
DRAWING NUMBER	GE2277–FM
OHMART VEGA	4241 Allendorf Drive Cincinnati, Ohio 45209 USA
INSTALLATION CONTROL DIAGRAM: VEGACAP 60 SERIES FM DIVISION 1 INSTRUMENTS	

MADE FROM	DRAWN BY/DATE	CHECKED BY/DATE	
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