Certificate of Compliance

Certificate: 1826252 **Master Contract:** 226176

Project: 2694473 **Date Issued:** February 17, 2014

Issued to: **BARTEC Benke GmbH**

30 Schulstrasse
Gotteszell, D-94239
Germany
Attention: Robert Gerl

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Marin Banu

Issued by: Marin Banu, P. Eng.

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - - For Hazardous Locations - Certified to US Standards

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations Certified to US Standards

Class I, Division 2, Groups A, B, C and D

Class I, Zone 2, Group IIC

Associated equipment for: Class I, Division 1, Groups A, B, C and D

Associated equipment for: Class I, Zone 0, Group IIC

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[Ex ia]

- Hygrophil F 5673 moisture analyzer, input rated 100-240Vac, 50/60Hz, 110VA or 10-36Vdc, 60W, with extra-low voltage input/output signal circuitry, provides intrinsically safe outputs with entity parameters as per installation drawing Fs 5673; Maximum ambient temperature 50°C; Temperature Code T4.

Note: This equipment is certified as a component and in its final application it shall be installed in a suitable enclosure subjected to acceptance of local authority having jurisdiction. The Hygrophil F 5673-105 /-106 module option can be connected only to DT/DTP/HCDT 1510 humidity sensor as intrinsically safe system per above mentioned installation drawing. The final enclosure provides mechanical protection and degree of protection and the features of the Class I, Division 2 respectively Class I, Zone 2 installation requirements (i.e. conduit connection).

Class I, Division 1, Groups B, C and D

Class I, Zone 1, Group IIB+H2

Associated equipment for: Class I, Division 1, Groups A, B, C and D

Associated equipment for: Class I, Zone 0, Group IIC

[Ex ia]

- Hygrophil Power Supply HCDT 1510-100, input rated 24 Vdc, 7.2W, explosionproof interface provides intrinsically safe outputs and supplies intrinsically safe Hygrophil DT/DTP/HCDT 1510 humidity sensor per installation drawing Fs 5673, (page 3, option 2), Maximum ambient temperature 60°C, Temperature Code T4.

Note: The Hygrophil Power Supply HCDT 1510-100 can be connected only to DT/DTP/HCDT 1510 humidity sensor as intrinsically safe system per above mentioned installation drawing. The DT/DTP/HCDT 1510 humidity sensor incorporates also other intrinsically safe connections with entity parameters specified on drawing Fs 1510.

Class I, Division 1, Groups A, B, C and D

Class I, Zone 0, Group IIC

- Hygrophil DT/DTP/HCDT 1510 humidity sensor, input rated 9 to 11 Vdc, 3.6W intrinsically safe with entity parameters as installation drawing Fs 1510; Maximum ambient temperature 60°C; Temperature Code T3, Maximum working pressure 4MPa (580psi), Single Seal

Note: The humidity sensor can be connected only to Hygrophil F 5673-105 /-106 module or to Hygrophil Power Supply HCDT 1510-100 as intrinsically safe system as per above mentioned drawing. The humidity sensor

incorporates the sensor and the measuring unit connected through integral cable which shall be protected against damage by the final installation, in order to maintain intrinsic safety protection of the listed assembly.

- L166x humidity sensor, intrinsically safe with entity parameters for its Pt100 circuit Vmax = 30V, Pmax = 62mW, Ci = 0nF, Li = 0mH, Ambient temperature range -30°C to +60°C, Temperature Code T6, Maximum working pressure 25MPa (3626psi), Single Seal

Note: L166x humidity sensor can be connected to Hygrophil F module 5673-114, Terminals 201 to 205 (PT100)

Note: L166x humidity sensor can be connected to Hygrophil F module 5673-114, Terminals 201 to 205 (PT100) or to Hygrophil F basic 5673-30, Terminals 9 to 13 (PT100).

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups B, C and D

Class I, Zone 1, Group IIB+H2

- Hygrophil Power Supply HCDT 1510-101, input rated 100-240Vac, 50/60Hz, 140W max, Maximum ambient temperature 60°C, Temperature Code T4.
- Hygrophil Power Supply HCDT 1510-102, input rated 18-36Vdc, 70W max, Maximum ambient temperature 60°C, Temperature Code T4.

Class I, Division 2, Groups A, B, C and D

Class I, Zone 1, Group IIC

- Peltier Cooler HCDT 5985-103, input rated 15.5Vdc, 3.9A, Maximum ambient temperature 60°C, Temperature Code T3.

Note: This equipment is certified as a component and in its final application the peltier cooler shall be installed on the wall of user provided enclosure, with the heatsink outside, while the cooling rod and suitable wiring shall be protected against damage by user enclosure. The final installation is subjected to acceptance of local authority having jurisdiction.

Class I, Division 2, Groups A, B, C and D

Class I, Zone 2, Group IIC

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Associated equipment for: Class I, Division 1, Groups A, B, C and D

Associated equipment for: Class I, Zone 0, Group IIC

[Ex ia]

- Hygrophil F basic 5673-30 moisture analyzer input rated 10-36Vdc, 15W, with extra-low voltage input/ output signal circuitry, provides intrinsically safe outputs with entity parameters as per installation drawing Fs 5673 basic; Maximum ambient temperature 50°C; Temperature Code T4. Enclosure IP 66 and Type 4X

Note: This equipment must be installed according with the wiring method allowed be the CEC and NEC and accepted by the Local Authorities having jurisdiction.

Class I, Division 1, Groups B, C and D

Class I, Zone 1, Group IIB+H2

Associated equipment for: Class I, Division 1, Groups A, B, C and D

Associated equipment for: Class I, Zone 0, Group IIC

[Ex ia]

- Peltier Controller Ex 1510-104, input rated 100-240Vac, 50/60Hz, 140W max, Maximum ambient temperature 60°C, Temperature Code T4.
- Peltier Controller Ex 1510-105, input rated 18-36Vdc, 70W max, Maximum ambient temperature 60°C, Temperature Code T4.

Note: The Peltier Controller Ex 1510-104 / -105 can be connected only to DT/DTP/HCDT 1510 humidity sensor as intrinsically safe system per above mentioned installation drawing Fs 1510.

APPLICABLE REQUIREMENTS

CSA C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II

CSA C22.2 No. 142-M1987 - Process Control Equipment

CSA C22.2 No. 157-M1992 - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations

CSA C22.2 No. 213-M1987 - Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations

CSA Std C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations

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CSA Std. C22.2 No 94-M91(R 2006) - Special Purpose Enclosures

CAN/CSA-C22.2 No. 60529:05 (R 2010) - Degrees of protection provided by enclosures (IP Code)

UL Std No. 916:1998 - Energy Management Equipment

UL Std No. 913:2006 - Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, and III, Division 1, Hazardous (Classified) Locations

UL Std No. 1604:1994 - Electrical Equipment for Use in Class I and II, Division 2; Class III Hazardous (Classified) Locations

UL Std No. 1203:2006 - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations

ANSI/ISA 12.12.01-2007 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

ISA 12.27.01-2003 - Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids

UL Std No. 50 (Edition 10) - Enclosures for Electrical Equipment

ANSI/IEC 60529-2004 - Degrees of protection provided by enclosures (IP Code)

UL Std. No. 60079-0:2009 - Electrical Apparatus for Explosive Gas Atmospheres - Part 0:General requirements

UL Std. No. 60079-1:2009 - Electrical Apparatus for Explosive Gas Atmospheres - Part 1:Flameproof equipments “d”

UL Std. No. 60079-18:2002 - Electrical apparatus for explosive gas atmospheres. Part 18:Encapsulation “m”.

UL Std. No. 60079-11:2009 - Electrical Apparatus for Explosive Gas Atmospheres - Part 11:Intrinsically safe “i”

UL Std. No. 60079-15:2009 - Electrical Apparatus for Explosive Gas Atmospheres - Part 15: Nonincendive equipments “n”