

# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM17US0134X
3. **Equipment:** *PILOTREK Series Microwave Level Transmitter*  
**(Type Reference and Name)** *Level Transmitter*
4. **Name of Listing Company:** NIVELCO Process Control Co.
5. **Address of Listing Company:** Dugonics u. 11  
1043, Budapest  
Hungary
6. The examination and test results are recorded in confidential report number:  
  
3060257 dated 11<sup>th</sup> August 2017
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
FM 3600:2011, FM 3610:2015, FM 3611:2016, FM 3615:2006, FM 3810:2005, ANSI/IEC 60529:2004
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. **Equipment Ratings:**  
  
Explosionproof and Intrinsically Safe for Class I, Division 1, Group C and D: Temperature Class T6  
Ta = -20°C to +60°C hazardous (classified) locations, Type IP67.  
  
Nonincendive for Class I, Division 2, Group C and D: Temperature Class T6 Ta= -20°C to +60°C hazardous (classified) locations, Type IP67.

**Certificate issued by:**

J.E. Marquedant  
VP, Manager, Electrical Systems

11 August 2017

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

# SCHEDULE



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11. The marking of the equipment shall include:

Class I, Division 1, Group C, D, T6 Ta = -20°C to +60°C, IP67

Class I, Division 2, Group C, D, T6 Ta = -20°C to +60°C, IP67

12. **Description of Equipment:**

The PILOTREK Series Microwave Level Transmitter is based on the measurement of time of flight of the microwave burst. The propagation speed of microwave impulses is practically the same in air, gases and in vacuum, independently from the process temperature and pressure, so the measured distance is not affected by the physical parameters of medium to be measured. The level transmitter induces microwave impulses a few nanoseconds long in the antenna and a part of the energy of the emitted signals is bounced (reflected) back from the measurement surface depending on the measured media. The time of flight of the reflected signal is measured and processed by the electronics, and then this is converted to distance, level or volume proportional data. The product features a two compartment enclosure made of Aluminium EN-AC 43100 with a rigid Stainless Steel 316Ti probe Horn and Parabolic body styles. The enclosure is accessed through two ½" Npt threaded entries.

Operation Temperature Ranges:

The ambient operating temperature range of the PILOTREK Series is -20°C to 60°C. The maximum process temperature is -30°C to 180°C. The maximum working pressure is 25 bar (363psi).

Electrical data:

The electronic connection has the following values:

Maximum voltage = 35VDC, Maximum current = 22 mA, Um = 250 V.

**WaS-1bc-d PILOTREK Microwave Level Transmitter**

a = Function: E, G, H or J.

b = Antenna/Diameter: 1, 2, 4, 5, 8 or 9.

c = Process Connection: 0, N, 2, 3, 4, 5, A, B, C, D, J, K, L or M.

d = Output/Ex: A or B

13. **Specific Conditions of Use:**

1. The PILOTREK Series is not to be used or installed in Ketone atmospheres.
2. The risk of electrostatic discharge shall be minimized at installation, following the direction given in the instruction.
3. Contact the original manufacturer for information in the dimensions of flameproof joints.
4. For Field connections, use cable rated 20°C greater than Maximum Ambient Temperature.
5. For installation of the PILOTREK rated as Class I, Division 1, Groups C and D, seal all threaded entries within 18 inches of enclosure with suitably rated sealing components.
6. The enclosure contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken during installation to prevent impact or friction effects.
7. The temperature ranges corresponding to each temperature code rating are specified in the Manual, drawing #wes1404a0600s.
8. The installer shall consider the effect of process temperature and ensure that the maximum specified ambient temperature of +60°C is not exceeded.
9. PILOTREK units using the nonincendive protection method shall be used in a non-flammable liquid process or without directly inserting the probe inside the process/pipeline.

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**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
11 <sup>th</sup> August 2017	Original Issue.

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