FM Approvals
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:

InPro2a /b/c/d/e/f/g. pH Electrodes.

IS / I, II, III /1 / ABCDEFG /T6 Ta = 60°C - 53800002; Entity

Input Entity Parameters: V t = 16 V, I t = 50 mA, P Max = 0.25 W, C i = 0.1 µF, L i = 0 mH.

a = sub-family: 2000, 2001, 2002, 2003, 2000i, 2001i, 2002i, 2003i
b = empty or name
c = empty or SG for solution ground
d = a-length
e = temperature sensor: Pt100, Pt1000, Pt3000
f = electrolyte
g = connection

Special Condition for use;

The pH Probe shall be installed in compliance with the mounting, and spacing, and segregation requirement of the ultimate application and is suitable for use with the following InTrac7XX and InFit76X/Y series Probe Holders listed below.

InTrac7XX *1/*2/*3/*4/*5/*6*7*8

XX Sub designation

InTrac776 = Retractable housing for liquid filled pH electrodes
InTrac777 = Retractable housing for gel-filled and polymer electrodes and sensors
InTrac779 = Retractable housing for turbidity sensors
InTrac797 = Retractable housing for gel filled and polymer electrodes and sensors, with double rinsing chamber
InTrac799 = Retractable housing for turbidity sensors, with double rinsing chamber

*1 = operation mode (e.g. M= manual; P= pneumatic; R= pneumatic with pneumatic position indicators; X= pneumatic with Ex inductive position indicators)
*2 = insertion length (070...500 mm)
*3 = wetted material (stainless steel, Hastelloy, titanium or other alloys)
*4 = process adaptation (e.g. flange etc.)
*5 = wetted o-ring material (e.g. Viton, EPDM, Kalrez, Silicon etc.)
*6 = material of cylinder body (stainless steel or conductive Polypropylene)
*7 = connection of rinsing chamber (e.g. Serto and others)
*8 = zero or specials

InFit76X *1/*2/*3/*4/*5/*6*7*8

Sub designation

InFit761 = Housing for pH/redox electrode with solid electrolyte and for 12mm sensors and PG 13.5 thread
InFit764 = Housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (Y = 19 mm - shaft, S = 25 mm -shaft, C = CIP - shaft, K = NPT - shaft)
*3 = Insertion length: (25 – 375mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Position of O-Ring (Nut- Distance in mm)
*8 = Identifier open for special versions (S = Special version, - Standard version)

InFit76Y *1/*2/*3/*4/*5/*6*7

Sub designation

InFit762 = Long housing for pH/redox electrode with polymer electrolyte and for 12mm sensors and PG 13.5 thread
InFit763 = Long housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (F = Turbidity sensor (FSC), L = IND Conductivity sensor, G = 12mm Sensor with PG 13.5 thread, U = Electrode with liquid electrolyte a= 120mm, H = Electrode with liquid electrolyte a= 150mm)
*3 = Insertion length: (400 - 4000mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Identifier open for special versions (S = Special version, - Standard version)

InPro3a /b/c/d/e/f. pH Electrodes.

IS / I, II, III /1 / ABCDEFG /T6 Ta = 60°C - 53800002; Entity

Input Entity Parameters: V t = 16 V, I t = 50 mA, P Max = 0.25 W, C i = 0.1 µF, L i = 0 mH.

a = sub-family: 3100, 3101, 3102, 3103, 3200, 3201, 3202, 3203, 3250, 3251, 3252, 3253, 3100i, 3101i, 3102i, 3103i, 3250i, 3251i, 3252i, 3253i
b = empty or name
c = empty or SG for solution ground
d = a-length
e = temperature sensor: Pt100, Pt1000, Pt3000
f = connection

Special Condition for use;

The pH Probe shall be installed in compliance with the mounting, and spacing, and segregation requirement of the ultimate application and is suitable for use with the following InTrac7XX and InFit76X/Y series Probe Holders listed below.

InTrac7XX *1/*2/*3/*4/*5/*6*7*8

XX Sub designation

InTrac776 = Retractable housing for liquid filled pH electrodes
InTrac777 = Retractable housing for gel-filled and polymer electrodes and sensors
InTrac779 = Retractable housing for turbidity sensors
InTrac797 = Retractable housing for gel filled and polymer electrodes and sensors, with double rinsing chamber
InTrac799 = Retractable housing for turbidity sensors, with double rinsing chamber

*1 = operation mode (e.g. M= manual; P= pneumatic; R= pneumatic with pneumatic position indicators; X= pneumatic with Ex inductive position indicators)
*2 = insertion length (070...500 mm)
*3 = wetted material (stainless steel, Hastelloy, titanium or other alloys)
*4 = process adaptation (e.g. flange etc.)
*5 = wetted o-ring material (e.g. Viton, EPDM, Kalrez, Silicon etc.)
*6 = material of cylinder body (stainless steel or conductive Polypropylene)

*7 = connection of rinsing chamber (e.g. Serto and others)
*8 = zero or specials

InFit76X *1/*2/*3/*4/*5/*6*7*8

Sub designation

InFit761 = Housing for pH/redox electrode with solid electrolyte and for 12mm sensors and PG 13.5 thread
InFit764 = Housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (Y = 19 mm - shaft, S = 25 mm -shaft, C = CIP - shaft, K = NPT - shaft)
*3 = Insertion length: (25 – 375mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Position of O-Ring (Nut- Distance in mm)
*8 = Identifier open for special versions (S = Special version, - Standard version)

InFit76Y *1/*2/*3/*4/*5/*6*7

Sub designation

InFit762 = Long housing for pH/redox electrode with polymer electrolyte and for 12mm sensors and PG 13.5 thread
InFit763 = Long housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (F = Turbidity sensor (FSC), L = IND Conductivity sensor, G = 12mm Sensor with PG 13.5 thread, U = Electrode with liquid electrolyte a= 120mm, H = Electrode with liquid electrolyte a= 150mm)
*3 = Insertion length: (400 - 4000mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Identifier open for special versions (S = Special version, - Standard version)

InPro4a /b/c/d/e/f. pH Electrodes.

IS / I, II, III /1 / ABCDEFG /T6 Ta = 60°C - 53800002; Entity

Input Entity Parameters: V t = 16 V, I t = 50 mA, P Max = 0.25 W, C i = 0.1 µF, L i = 0 mH.

a = sub-family: 4200, 4201, 4202, 4203, 4250, 4251, 4252, 4253, 4500, 4501, 4502, 4503, 4550, 4551, 4552, 4553, 4800, 4801, 4802, 4803, 4260, 4261, 4262, 4263, 4260i, 4261i, 4262i, 4263i, 4550i, 4551i, 4552i, 4553i, 4800i, 4801i, 4802i, and 4803i
b = empty or name
c = empty or SG for solution ground
d = a-length
e = temperature sensor: Pt100, Pt1000, Pt3000
f = connection

Special Condition for use;

The pH Probe shall be installed in compliance with the mounting, and spacing, and segregation requirement of the ultimate application and is suitable for use with the following InTrac7XX and InFit76X/Y series Probe Holders listed below.

InTrac7XX *1/*2/*3/*4/*5/*6*7*8

XX Sub designation
InTrac776 = Retractable housing for liquid filled pH electrodes
InTrac777 = Retractable housing for gel-filled and polymer electrodes and sensors
InTrac779 = Retractable housing for turbidity sensors
InTrac797 = Retractable housing for gel filled and polymer electrodes and sensors, with double rinsing chamber
InTrac799 = Retractable housing for turbidity sensors, with double rinsing chamber

*1 = operation mode (e.g. M= manual; P= pneumatic; R= pneumatic with pneumatic position indicators; X= pneumatic with Ex inductive position indicators)
*2 = insertion length (070...500 mm)
*3 = wetted material (stainless steel, Hastelloy, titanium or other alloys)
*4 = process adaptation (e.g. flange etc.)
*5 = wetted o-ring material (e.g. Viton, EPDM, Kalrez, Silicon etc.)
*6 = material of cylinder body (stainless steel or conductive Polypropylene)
*7 = connection of rinsing chamber (e.g. Serto and others)
*8 = zero or specials

InFit76X *1/*2/*3/*4/*5/*6*7*8

Sub designation

InFit761 = Housing for pH/redox electrode with solid electrolyte and for 12mm sensors and PG 13.5 thread
InFit764 = Housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (Y = 19 mm - shaft, S = 25 mm -shaft, C = CIP - shaft, K = NPT - shaft)
*3 = Insertion length: (25 – 375mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Position of O-Ring (Nut- Distance in mm)
*8 = Identifier open for special versions (S = Special version, - Standard version)

InFit76Y *1/*2/*3/*4/*5/*6*7

Sub designation

InFit762 = Long housing for pH/redox electrode with polymer electrolyte and for 12mm sensors and PG 13.5 thread
InFit763 = Long housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (F = Turbidity sensor (FSC), L = IND Conductivity sensor, G = 12mm Sensor with PG 13.5 thread, U = Electrode with liquid electrolyte a= 120mm, H = Electrode with liquid electrolyte a= 150mm)
*3 = Insertion length: (400 - 4000mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Identifier open for special versions (S = Special version, - Standard version)

InPro6a /b/c/d/e/f. Dissolved Oxygen Sensors.

IS / I, II, III /1 / ABCDEFG /T6 Ta = 60°C - 53800002; Entity

Input Entity Parameters: V t = 16 V, I t = 50 mA, P Max = 0.25 W, C i = 0.1 µF, L i = 0 mH.

a = sub-family: 6800, 6810, 6820, 6830, 6900, 6910, 6950, 6960, 6850i, 6900i, 6950i
b = empty or name
c = diameter of the sensor
d = a-length
e = empty or name
f = 8-digit code for material, membrane type, construction, connection

Special Condition for use;

The Dissolved Oxygen Sensors shall be installed in compliance with the mounting, and spacing, and segregation requirement of the ultimate application and is suitable for use with the following InTrac7XX and InFit76X/Y series Probe Holders listed below.

InTrac7XX *1/*2/*3/*4/*5/*6*7*8

XX Sub designation

InTrac776 = Retractable housing for liquid filled pH electrodes
InTrac777 = Retractable housing for gel-filled and polymer electrodes and sensors
InTrac779 = Retractable housing for turbidity sensors

InTrac797 = Retractable housing for gel filled and polymer electrodes and sensors, with double rinsing chamber

InTrac799 = Retractable housing for turbidity sensors, with double rinsing chamber

*1 = operation mode (e.g. M= manual; P= pneumatic; R= pneumatic with pneumatic position indicators; X= pneumatic with Ex inductive position indicators)
*2 = insertion length (070...500 mm)
*3 = wetted material (stainless steel, Hastelloy, titanium or other alloys)
*4 = process adaptation (e.g. flange etc.)
*5 = wetted o-ring material (e.g. Viton, EPDM, Kalrez, Silicon etc.)
*6 = material of cylinder body (stainless steel or conductive Polypropylene)
*7 = connection of rinsing chamber (e.g. Serto and others)
*8 = zero or specials

InFit76X *1/*2/*3/*4/*5/*6*7*8

Sub designation

InFit761 = Housing for pH/redox electrode with solid electrolyte and for 12mm sensors and PG 13.5 thread
InFit764 = Housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (Y = 19 mm - shaft, S = 25 mm -shaft, C = CIP - shaft, K = NPT - shaft)
*3 = Insertion length: (25 – 375mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Position of O-Ring (Nut- Distance in mm)
*8 = Identifier open for special versions (S = Special version, - Standard version)

InFit76Y *1/*2/*3/*4/*5/*6*7

Sub designation

InFit762 = Long housing for pH/redox electrode with polymer electrolyte and for 12mm sensors and PG 13.5 thread
InFit763 = Long housing for pH/redox electrode with liquid electrolyte

*1 = Protective cage (W = with; N = without)
*2 = Sensor housing connection (F = Turbidity sensor (FSC), L = IND Conductivity sensor, G = 12mm Sensor with PG 13.5 thread, U = Electrode with liquid electrolyte a= 120mm, H = Electrode with liquid electrolyte a= 150mm)
*3 = Insertion length: (400 - 4000mm)
*4 = wetted parts (metallic material or conductive plastic material)
*5 = Process Connection (e.g. flange etc.)
*6 = Wetted O-Ring Material (FKM (Viton), EPDM, FFKM (Kalrez), MVQ (Silicon))
*7 = Identifier open for special versions (S = Special version, - Standard version)

InPRO725X *1/*2/*3

IS / I, II, III /1 /ABCDEFG /T6 Ta = 60°C - 53800003ME; Entity

Input Entity Parameters: V t = 16 V, I t = 150 mA, P Max = 0.155 W, C i = 900 pF, L i = 0.3 mH.

Sub-family InPRO7250 = Standard inductive conductivity sensor with PEEK / PFA jacket

Sub designation

*1 = Sensor Type: HT, ST, VP, PFA
*2 = Temperature sensor: (Pt100, Pt1000)
*3 = Cable length for sensors with fixed cables in meters

Equipment Ratings:

Intrinsically safe, with Entity parameters, for use in Class I, II, III, Division 1, Groups A, B, C, D, E F, G hazardous (classified) locations in accordance with manufacturer's Control Drawing.

FM Approved for:

Mettler-Toledo GmbH, Process Analytics
Im Hackacker 15, CH-8902 Urdorf, Switzerland

FM Approvals®
Member of the FM Global Group

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

Class 3600	1998
Class 3610	1999
Class 3810	1989
Supplement #1	1995

Original Project ID: 3021227 Approval Granted: June 17, 2004

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3022594	February 28, 2005		
3023397	July 21, 2005		
060705	September 19, 2006		
071219	October 3, 2008		

FM Approval LLC

Timothy Adam
Technical Team Manager

October 3rd, 2008
Date