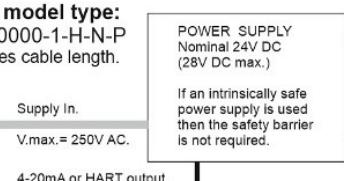


CERTIFICATION DRAWING - DO NOT MODIFY
WITHOUT AUTHORISATION FROM FM APPROVALS.

MicroFlow-I model type:
dR-F-i-xxx-00000-1-H-N-P
where 'x' denotes cable length.



Restriction: Si installé dans des zones 20, 21 ou 22, inspecter régulièrement pour l'accumulation de poussière.
Danger Electro Statique: Nettoyer uniquement avec un chiffon humide.

MicroFlow model type:
dR-F-S-xxx-00000-0-S-N-P
where 'x' denotes cable length.



Restrictions: Ne pas utiliser en présence de ces groupes de produits chimiques: hydrocarbures aliphatiques, cétones, ésters, alcool ou des acides. Si installé dans des zones 21 ou 22, inspecter régulièrement pour l'accumulation de poussière.
Danger Electro Statique: Nettoyer uniquement avec un chiffon humide.

Canada:
Installation must be in accordance with CEC part 1.

The system must not be supplied from, nor contain, under normal or abnormal conditions, a source of potential with respect to earth exceeding 250V rms or 250V DC.

INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES.



CONFIDENTIAL PULSAR PROCESS MEASUREMENT LOGO
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Process Measurement Ltd.

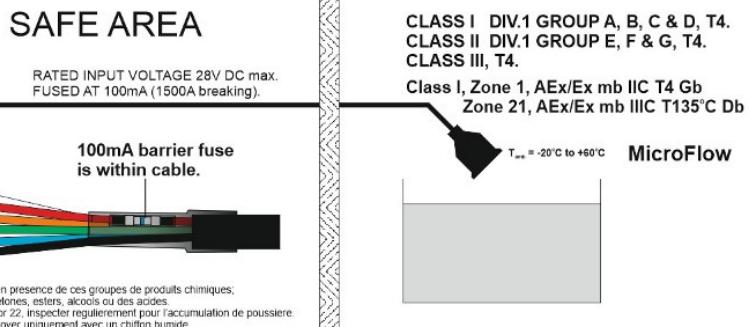
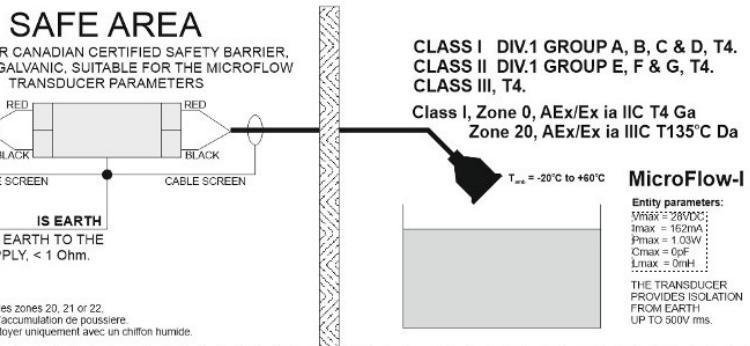
Radio approval, FCC ID: UXS-IPM165F.

Pulsar Process Measurement Inc.

P.O. Box 5177
NiceNville
FL 32578
U.S.A.

Tel: +1 850 279 4882
Fax: +1 850 279 4886

info.usa@pulsar-pm.com
support.usa@pulsar-pm.com
<https://www.pulsar-pm.com>



FM approved

MicroFlow-i (I.S. / AEx/Ex ia)

MicroFlow (AEx/Ex mb)

INSTALLATION MANUAL

Full manuals available at:

<https://www.pulsar-pm.com/support/downloads/manuals.aspx>

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M-MFI-FM-0-001-1P

Pulsar Process Measurement Ltd.

Cardinal Building
Sandys Road
Malvern
Worcestershire
WR14 1JJ
U.K.

Tel: +44 (0) 1684 891371
Fax: +44 (0) 1684 575985

info@pulsar-pm.com
support@pulsar-pm.com
<https://www.pulsar-pm.com>

DESCRIPTION

The MicroFlow range has been specified and designed to meet the demanding requirements of today's process flow measurement applications. The unit is positioned above and at 45 degrees to the flow and measures flow velocity.

Two FM hazardous area approved versions are available:

1. 2 wire loop-powered version with HART protocol and is intrinsically safe (I.S.) AEx/Ex ia.
2. 5 wire RS485 version that is independently powered, encapsulated and with AEx/Ex mb certification.

The 2 wire version can either be used in digital HART mode or as 4-20mA loop powered device. The Microflow loop powered version can be set up using a HART modem with either proprietary HART software such as Pactware or Pulsar Microflow HART PC software.

The RS485 version can be used on a Pulsar FlowCert, velocity interface or Ultimate controller. The sensor can also be used on any Modbus system. Pulsar MicroFlow PC software can be used for set up and diagnostics.

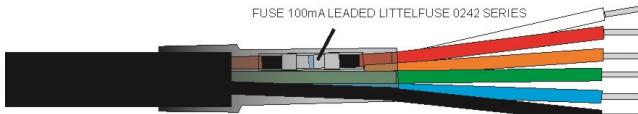
Standard cable lengths 10, 20 or 30m. Process connection: 1" NPT. A range of mounting brackets are available. Operating temperature: -20 to +60°C, Ingress Protection: IP68.

Hazardous Area Installation

MicroFlow models are FM, IECEx and ATEX certified, check label for approval details. There are two different versions:

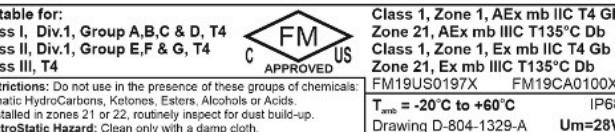
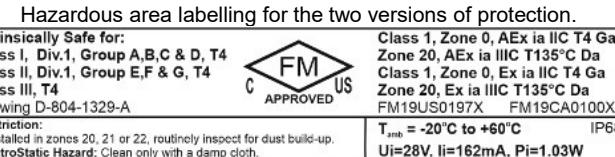
I.S. certified to II 1 G AEx/Ex ia IIC T4 Ga & II 1 D AEx/Ex ia IIIC T135°C Da for use in Division 1 / Zones 0, 1, 2, 20, 21, 22 applications (Zener or Galvanic safety barrier required), and another certified to II 2 G AEx/Ex mb IIC T4 Gb & II 2 D AEx/Ex mb IIIC T135°C Db suitable for use in Division 1 / Zones 1, 2, 21, 22 (no barriers required). Certain special conditions apply:

Refer to the installation drawing & labels for chemical compatibility. AEx/Ex ia version – This model has a 2 core screened cable, Red (+) and Black (-) and is loop powered 4-20mA HART compatible. AEx/Ex mb version – This model must be supplied from apparatus that provides protection from prospective short circuit currents up to 1500A. This fuse is fitted in the safe area end of the cable.

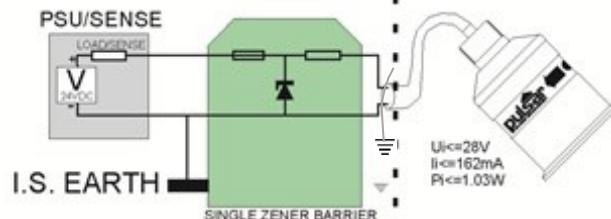


Wiring Detail for AEx mb version

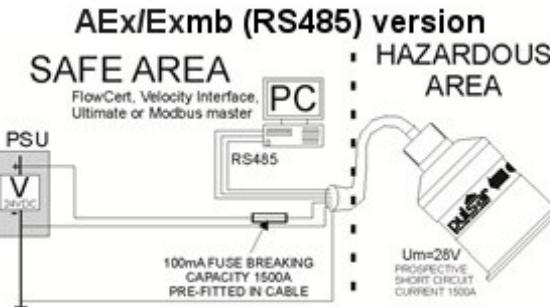
Colour	Description	Limits
RED	DC Power +ve	28V DC max.
BLACK	DC 0V	
ORANGE	RS485+	
WHITE	RS485-	
BLUE	RS485 COMMON	
GREEN	Cable Screen	



AEx/Exia(IIS) version, 4-20mA mode. SAFE AREA HAZARDOUS AREA



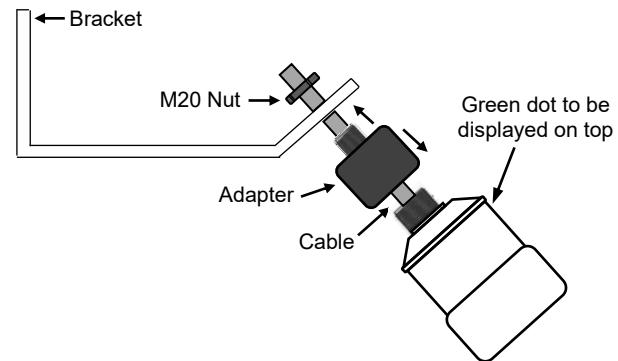
SINGLE ZENER BARRIER CURRENT SENSED IN +ve



GENERAL INSTALLATION

The MicroFlow should be installed directly above the flow with the axis at 45 degrees to the flow to be measured. It should be on a clear straight section. Mount at a height of 250mm above maximum liquid level or up to two times the channel width from minimum liquid level, whichever is greater but less than 3m. For further details on Microflow or MicroFlow-i installation and setup, please refer to the relevant sensors instruction manual.

The MicroFlow is mounted by the 1" NPT thread on the cap, using a 45° angled bracket an adapter and M20 nut as shown in the picture below:



MicroFlow Dimensions

