



Technical Information

Prosonic M FMU40/41/42/43

Ultrasonic Level Measurement

Compact transmitters for non-contact level measurement of fluids, pastes and coarse bulk materials



Application

- Continuous, non-contact level measurement in fluids, pastes, sullages and coarse bulk materials
- Flow measurement in open channels and measuring weirs
- System integration via:
 - HART (standard), 4...20mA
 - PROFIBUS PA
 - Foundation Fieldbus
- Maximum measuring range:
 - FMU 40:
 - 5 m in fluids
 - 2 m in bulk materials
 - FMU 41:
 - 8 m in fluids
 - 3,5 m in bulk materials
 - FMU 42:
 - 10 m in fluids
 - 5 m in bulk materials
 - FMU 43:
 - 15 m in fluids
 - 7 m in bulk materials

Features and benefits

- Quick and simple commissioning via menu-guided on-site operation with four-line plain text display
- Envelope curves on the on-site display for simple diagnosis
- Easy remote operation, diagnosis and measuring point documentation with the supplied ToF Tool operating program.
- Suitable for explosion hazardous areas (Gas-Ex, Dust-Ex)
- Linearisation function (up to 32 points) for conversion of the measured value into any unit of length, volume or flow rate
- Non-contact measurement method minimizes service requirements
- optional remote display and operation (up to 20 m from transmitter)
- Installation possible from thread G 1½" or 1½ NPT upwards
- Integrated temperature sensor for automatic correction of the temperature dependent sound velocity

Ordering information

Product structure FMU 40

		Certificates	
	A	Variant for non-hazardous area	
	1	ATEX II 1/2 G or II 2 G; EEX ia IIC T6	
	4	ATEX II 1/2 G or II 2 G; EEX d [ia] IIC T6	
	G	ATEX II 3G EEx nA II T6	
	2	ATEX II 1/2D, Alu blind cover	
	5	ATEX II 1/3D	
	S	FM IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2	
	T	FM XP Cl. I,II,III Div. 1 Gr. A-G	
	U	CSA IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2	
	V	CSA XP Cl. I,II,III Div. 1 Gr. A-G	
	N	CSA General Purpose	
	K	TIS Ex ia II C T6	
	Y	Special certificate	
		Process connection	
	R	G 1½" thread ISO 228	
	N	NPT 1½" - 11,5 thread	
	Y	Special version	
		Power supply/communication	
	B	2 wire, 4...20mA-loop/HART	
	H	4 wire, 10,5...32VDC / 4-20mA HART	
	G	4 wire, 90...253VAC / 4-20mA HART	
	D	2 wire, PROFIBUS PA	
	F	2 wire, Foundation Fieldbus	
	Y	Special version	
		Display / on-site operation	
	1	Without LC display	
	2	With LC display VU 331 incl. on-site operation	
	3	Prepared for remote display FHX 40	
	9	Special version	
		Housing	
	A	Aluminium F12 housing coated to IP 68	
	C	Aluminium T12 housing coated to IP 68; with separate terminal compartment	
	D	Aluminium T12 housing coated to IP 68; with separate terminal compartment; with overvoltage protection	
	9	Special version	
		Screw union/entry	
	2	M20x1.5 screw union	
	3	G 1/2" entry	
	4	NPT 1/2" entry	
	5	M12 PROFIBUS-PA plug-in connector	
	6	7/8" FF plug	
	9	Special version	
FMU 40 -			Product designation

Product structure FMU 41

Certificates	
A	Variant for non-hazardous area
1	ATEX II 1/2 G or II 2 G; EEX ia IIC T6
4	ATEX II 1/2 G or II 2 G; EEX d [ia] IIC T6
G	ATEX II 3G EEx nA II T6
2	ATEX II 1/2D, Alu blind cover
5	ATEX II 1/3D
S	FM IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2
T	FM XP Cl. I,II,III Div. 1 Gr. A-G
U	CSA IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2
V	CSA XP Cl. I,II,III Div. 1 Gr. A-G
N	CSA General Purpose
K	TIIS Ex ia II C T6
Y	Special certificate
Process connection	
R	G 2" thread ISO 228
N	NPT 2" - 11,5 thread
Y	Special version
Power supply/communication	
B	2 wire, 4...20mA-loop/HART
H	4 wire, 10,5...32VDC / 4-20mA HART
G	4 wire, 90...253VAC / 4-20mA HART
D	2 wire, PROFIBUS PA
F	2 wire, Foundation Fieldbus
Y	Special version
Display / on-site operation	
1	Without LC display
2	With LC display VU 331 incl. on-site operation
3	Prepared for remote display FHX 40
9	Special version
Housing	
A	Aluminium F12 housing coated to IP 68
C	Aluminium T12 housing coated to IP 68 with separate terminal compartment
D	Aluminium T12 housing coated to IP 68; with separate terminal compartment; with overvoltage protection
9	Special version
Screw union/entry	
2	M20x1.5 screw union
3	G 1/2" entry
4	NPT 1/2" entry
5	M12 PROFIBUS-PA plug-in connector
6	7/8" FF plug
9	Special version
FMU 41 -	Product designation

Product structure FMU 42

Certificates	
A	Variant for non-hazardous area
1	ATEX II 1/2 G EEX ia IIC T6
4	ATEX II 1/2 G EEX d [ia] IIC T6
G	ATEX II 3G EEx nA II T6 (in preparation)
S	FM IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2
T	FM XP Cl. I,II,III Div. 1 Gr. A-G
U	CSA IS Cl. I,II,III Div. 1 Gr. A-G / NI Cl. I Div. 2
V	CSA XP Cl. I,II,III Div. 1 Gr. A-G
N	CSA General Purpose
K	TIIS Ex ia II C T6 (in preparation)
Y	Special certificate
Process connection	
M	mounting bracket FAU20
P	DN80/ANSI 3"/JIS10K80, PP, Universal flange
Q	DN80/ANSI 3"/JIS10K80, PVDF, Universal flange
S	DN80/ANSI 3"/JIS10K80, 316L, Universal flange
T	DN100/ANSI 4"/JIS16K100, PP, Universal flange
U	DN100/ANSI 4"/JIS16K100, PVDF, Universal flange
V	DN100/ANSI 4"/JIS16K100, 316L, Universal flange
Y	Special version
Power supply/communication	
B	2 wire, 4...20mA-loop/HART
H	4 wire, 10,5...32VDC / 4-20mA HART
G	4 wire, 90...253VAC / 4-20mA HART
D	2 wire, PROFIBUS PA
F	2 wire, Foundation Fieldbus
Y	Special version
Display / on-site operation	
1	Without LC display
2	With LC display VU 331 incl. on-site operation
3	Prepared for remote display FHX 40
9	Special version
Housing	
A	Aluminium F12 housing coated to IP 68
C	Aluminium T12 housing coated to IP 68, with separate terminal compartment
D	Aluminium T 12 housing coated to IP 68, with separate terminal compartment; with overvoltage protection
Y	Special version
Gland/Entry	
2	M20x1.5 gland
3	G 1/2" entry
4	NPT 1/2" entry
5	M12 PROFIBUS-PA plug
6	7/8" FF plug
9	Special version
Sealing Sensor/Flange	
2	VITON flat sealing
3	EPDM flat sealing
9	special version
Additional options	
A	Additional options not selected
FMU 42 -	Product designation

Product structure FMU 43

Certificates	
A	Variant for non-hazardous area
2	ATEX II 1/2 D or II 2 D, Aluminium Deckel
5	ATEX II 1/3 D or II 3 D, Sichtdeckel
M	FM DIP Class II, III, Div. 1, Gr. E,F,G NI
N	CSA General Purpose
P	CSA DIP, Class II, III, Div. 1, Gr. E,F,G NI
Y	Special version
Process connection/material	
P	Flange DN 100/ANSI 4"/JIS 16K100, PP (universal slip-on flange included)
S	Flange DN 100/ANSI 4"/JIS 16K100, SS 316TI (universal slip-on flange included)
K	Without slip-on flange/without mounting bracket (customer mounting equipment)
M	With mounting bracket
Y	Special version
Power supply/communication	
H	4 wire, 10,5...32VDC / 4-20mA HART
G	4 wire, 90...253VAC / 4-20mA HART
D	2 wire, PROFIBUS PA
F	2 wire, Foundation Fieldbus
Y	Special version
Display / on-site operation	
1	Without LC display
2	With LC display VU 331 incl. on-site operation
3	Prepared for remote display FHX 40
9	Special version
Housing	
A	Aluminium F12 housing coated to IP 68
9	Special version
Screw union/entry	
2	M20x1.5 screw union
3	G 1/2" entry
4	NPT 1/2" entry
5	M12 PROFIBUS-PA plug-in connector
6	7/8" FF plug
9	Special version
FMU 43 -	Product designation

Scope of delivery

- Instrument according to the version ordered
- "ToF Tool FieldTool Package (2 CD-ROMs: Program CD-ROM, Utility CD-ROM)
- Operating manual according to the communication version
- for certified instrument versions: Safety Instructions, Control- or Installation drawings
- for FMU 40 *R**** and FMU 41 *R****: counter nut (PC)
- for FMU 40/41: sealing ring (EPDM)
- for gland M20x1.5:
 - 1 cable gland for 2-wire instruments
 - 2 cable glands for 4-wire instruments
 The cable glands are mounted on delivery.

广州晋合水处理设备有限公司



地 址：广东省广州市海珠区工业大道333号华新园区7幢218
电 话：020-88191905
传 真：020-61139917
邮 编：510300
邮 箱：jinhewater@jinhewater.com
网 址：<http://www.jinhewater.com>

Endress+Hauser 
People for Process Automation