

# Field Mag Flow Meter Specification Sheet

### Applies to the following models:

Field Mag 3000 (FM3)

Field Mag 5000 (FM5)

The Field Mag 3000 utilizes our ProComm Go electronics which allows AC or DC power with battery backup or straight battery operation with pulse and 4-20mA outputs with an accuracy of +/-1.0% of reading.

The Field Mag 5000 utilizes our ProComm electronics which allows AC or DC power with Modbus, pulse and 4-20mA outputs with an accuracy of +/- 0.5% of reading.

### **Applications**

These Field Mag models are specifically designed for Water Transfer, Produced Water, and Mining operations where rugged and quick connections are needed with the added benefit of higher temperature ratings and exotic electrode materials. Our epoxy liner ensures long life even in slurry applications.

- Well transfers
- Pond transfers
- Produced Water
- Blending Applications
- Water Treatment
- Biocide skids

- Dewatering
- Slurries
- Tailings
- Effluent
- Raw Water
- Surface Water









### **Performance Advantages**

Field Mag 3000 and 5000 are flow measurement products curated to the mining and water transfer industries. Offered with the ever-popular grooved end fittings and removable feet for stability, the Field Mag series eliminates the hassle of traditional full-bore mag meter installation and transportation. The Field Mag series features McCrometer's proprietary fusion-bonded epoxy rather than a rubber or plastic liner, guaranteed against tearing and delamination for the lifetime of the meter. This durable, highly rugged flow instrument gives operators and technicians peace of mind that their metering investment will withstand harsh environments and a multitude of flow applications.

### **Advantages of Using Grooved End Connections Versus Flanges**

Ideal for water transfer, produced water and mining applications, grooved end connections provide greater ease and speed of installation, lower installation costs, and less down time during installation. The decrease in weight recognized by the removal of two sets of flanges and grooved end adapters is revolutionary.

### Differences Between the Field Mag 3000 and Field Mag 5000

	Field Mag 3000	Field Mag 5000					
Converter	ProComm GO 3000	ProComm 5000					
Coating	3M 135 Gray E	poxy (200F)					
Sizes	1.5" – 24"	1.5" – 24"					
End connections	Grooved end (285 PSI), ANSI #150 (285 PSI), ANSI #300 (500 PSI), AWWA Class D (150 PSI)						
Converter power	Battery, AC/DC with battery backup	AC / DC					
Electrodes	SS or Hastelloy	Electrodes					
<b>Hazardous location</b>	Class I, Div	vision2					
Outputs	4-20mA, pulse	Modbus, 4-20mA, pulse, Hart					







### **Signal Converters**

The signal converter allows the measurements, functional programming, and data reporting to be communicated through the display and outputs. There are two different converter models used in various applications. Both converters are available as either meter mount or remote mount. Their specifications are listed in detail on page 12.

#### ProComm GO 3000 Converter

The Field Mag 3000 flow meter is accompanied by the ProComm GO 3000 electronics and is battery powered, ideal for remote installations and locations with unreliable power sources.

- Output options include pulse and 4-20mA
- Datalogger
- Optional Class 1 Div 2
- Battery powered with optional AC/DC with battery backup
- Offering ±1% accuracy
- DIY battery replacement and in-field converter programming available via USB cable and laptop
- 5-year full meter warranty, 5-year battery life
- · Rated to 200F for high temperatures
- CRN (ANSI), CE, UL certifications

#### ProComm 5000 Converter

The Field Mag 5000 is offered with the ProComm 5000 electronics, offering greater accuracy and more sophisticated output options for users needing superior system integration and data collection.

- Output options include Hart, ModBus, 4-20mA, pulse
- Datalogger and optional AMI/AMR
- Optional Class 1 Div 2
- AC/DC powered
- ±0.5% standard accuracy
- · Bi-directional flow available
- Rated to 200F for high temperatures
- CRN (ANSI), CE, UL, CSA certifications

#### **Quality Manufacturing**

Field Mag flow meters are manufactured to the highest standard available for mag meters. The grooved end connection design permits use in a wide range of applications while maintaining a full ANSI #150 pressure rating of 285 PSI. The fabricated tube is stainless steel with either ANSI flanged or grooved end connections and is lined with an NSF approved, fusion bonded epoxy material.

#### **Isolated Power and Signal**

The power and signal between the converter and sensor are isolated and placed in separate cables giving superior resistance to electrical signal noise compared to single cable designs. An added benefit from the dual cable design is a maximum cable length of up to 500ft.

#### Installation

Field Mag flow meter installation is similar to placing a short length of flanged or grooved end pipe in the line since there is no protrusion or restriction within the sensor. The meter can be installed vertically flowing up, horizontally, or inclined flowing up on either the suction or discharge lines.

Electromagnetic flow meters cannot normally be installed on the suction side of the pump due to potential issues regarding the liner. Since the Field Mag utilizes the Fusion Bonded Epoxy Ultraliner, there is no risk of delamination experienced by other flow meters.

The meter must have a full pipe of liquid for proper operation. Fluid must be grounded to the downstream flange of the sensor via internal grounding electrodes.

The meter needs to be located a minimum distance before and after flow disturbances, such as elbows, pumps, partially opened valves, and changes in pipe diameter. The uneven flow created by these obstructions can vary with each system.

The minimum distance is measured in pipe diameters (D). To ensure accuracy locate the sensor upstream and downstream of flow disturbances as follows:

1D upstream / 0D downstream

All blending and chemical injection should be done early enough so the flow media is thoroughly mixed prior to entering the measurement area.





#### **Meter Grounding Recommendations**

Grounding the meter body for safety according to national (NEC) or local electrical codes is recommended on ALL meter installations.

All Field Mag flow meter installations require minimum grounding with a 12-gauge ground wire to an earth ground.

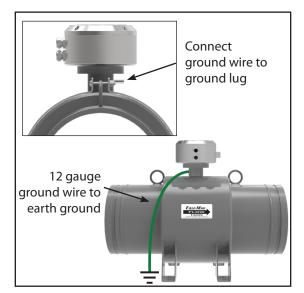
#### Flanged end meters

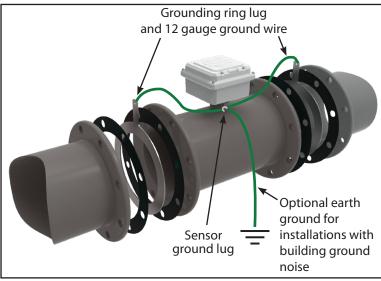
When installing into a PVC or plastic pipe system, grounding rings for flanged meters are recommended for all sizes. Flanges on the Field Mag sensor have a non-conductive coating and may not require grounding rings. For best performance, McCrometer provides grounding rings for all sizes.

For best performance, grounding the fluid column is recommended when the meter is installed in an electrically noisy environment, such as with VFD pumps or nearby electrical systems with insufficient grounding.

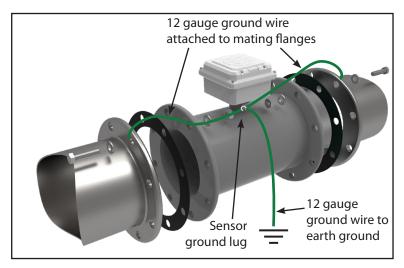
#### **Grooved end meters**

Grooved end meters do not require grounding rings and only require a ground wire connecting the ground lug to a ground.





#### **Recommended method of grounding**



Alternative method of grounding with conductive or uncoated pipe





## **Field Mag Flow Meter Specifications**

All specifications apply to both Field Mag 3000 and Field Mag 5000 models except where noted.

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Measurement Method

Electromagnetic flow based on Faraday's law

Directionality

Forward and reverse flow indication and forward, reverse, net totalization are standard with all meters

**Pipe Sizes** 

Model FM3: 1.5" – 12" Model FM5: 1.5" – 24"

**Body Style** 

Grooved end: Available as both FM3 and FM5 in sizes 4" - 12"

ANSI Flanged:

Available as both FM3 in sizes 1.5" - 12" and FM5 in sizes 1.5" - 12"

Materials

Carbon steel, stainless steel, epoxy liner

Liner

3M 135 Gray Epoxy (200F)

**Electrodes** 

Type 316 stainless steel, Hastelloy optional

**Electrical Connections** 

Compression gland seals

Quick-Connect

**Signal Converter** 

Field Mag 3000: ProComm Go 3000 Field Mag 5000: ProComm 5000

**Converter Mount** 

Either meter mount or remote mount

• Standard:

25'/7.6 m McCrometer supplied submersible cable with each remote

mount unit.

Sensor Cable Lengths

• Optional: Up to 500'/152.4 m, or 25'/7.6 m max for battery powered.

• **Quick Connect:** Available in standard cable lengths: Feet: 25, 50, 75, 100, 125, 150, 175, 200, 500

Meters: 7.6, 15.25. 22.5, 30.5, 38.1, 45.75, 53.3, 61, 152.4

Custom cable lengths at additional cost.

### **Performance and Operational Specifications**

Operating Temperature

-10 to 93°C (14 to 200°F)

Storage Temperature

-15 to 93°C (5 to 200° F)

**IP Rating** 

• Quick Connect (IP67 with remote converter)

Compression gland seals (IP67 with remote converter)

Sensor Subsersibility
Depth

With standard strain relief cable: 9 m (30 ft.)
With optional quick connect cable: 1.8 m (6 ft.)

**Pressure Rating** 

Grooved End and ANSI #150 (285 psi), ANSI #300 (500 psi)

**Velocity Range** 

0.2 to 32 FPS

• FM3: Battery powered: 1% of measured value ±0.006 ft/s (±0.0018 m/s)

FM5: Standard: +/- 0.5% of measured value ±0.006 ft/s (±0.0018 m/s)
 Optional: +/- 0.2% of measured value ±0.006 ft/s (±0.0018 m/s)

Accuracy

**IMPORTANT NOTICE ON FLOW METER ACCURACY:** The flow meter, the cable and the electronics are factory calibrated for accuracy as a single unit. Changing the cable length with the Splice Kit changes the accuracy of the meter and invalidates the calibration certificate.

Multiple point wet flow calibration of every complete flow tube with its signal converter. If desired, the tests can be witnessed by the customer. The McCrometer test facilities are traceable to the National Institute of Standards & Technology. Uncertainty relative to flow is  $\pm 0.15\%$ .





## **Field Mag Flow Meter Specifications (cont.)**

**Repeatability**  $\pm 0.05\%$  or  $\pm .0008$ ft/s ( $\pm 0.25$ mm/s), whichever is greater

**Head Loss** None. No obstruction in line and no moving parts

Conductivity 5 μs/cm

Pipe Run Requirements 1D upstream / 0D downstream

#### **Other Specifications**

#### Standard model:

- ISO 9001:2015 certified quality management system
- Certified by MET to UL 61010-1
- Certified to NSF / ANSI Standards\*

# Certifications and Approvals

#### **HL Model:**

- ISO 9001:2015 certified quality management system
- Certified by MET to UL 61010-1 and MET C22.2 No. 61010-1-04
  - Class I, Division 2, Groups A-D, T5
  - Class I, Zone 2, IIC T5
- · Certified to NSF / ANSI Standards\*

#### \* Field Mag is certified by IAPMO R&T to NSF/ANSI 61 for material safety and NSF/ANSI 372 for low lead content.

#### **System Options**

- Additional sensor cable up to 475'
- · Annual verification / calibration
- DC powered converter (10-35 VDC, 21 W)
- Meter mounted converter
- Extended warranty

# Meter Options and Accessories

- ANSI flanges
- Special lay lengths, including ISO standard lay lengths
- Quick connect cable fittings
- Converter sun shield
- · Battery or battery-solar powered converter

#### FM3:

- 4-20mA
- Pulse

#### **Output Options**

#### FM5:

- Modbus
- 4-20mA
- Pulse
- Hart

#### Warranty

Meter: 2 year warranty
Liner: Lifetime guarantee



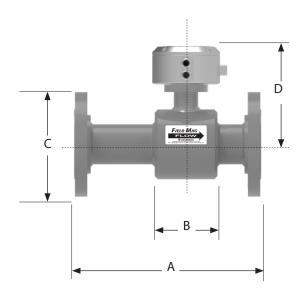


## **Flow Meter Dimensions and Weights**

### 11/2" to 3" Models

	Flow Ranges		DIMENSIONS (Lay Lengths)										
Pipe Size	(0.2 to 32 EPS)		Ą	В		C							
(Nominal	Min-Max GPM	<b>CL150</b> ANSI 150#	<b>CL300</b> ANSI 300#		<b>CL150</b> ANSI 150#	<b>CL300</b> ANSI 300#	<b>CL150</b> ANSI 150#	<b>CL300</b> ANSI 300#	<b>CL150</b> ANSI 150#	<b>CL300</b> ANSI 300#			
1 1/2"	1.29-200	11	not offered	4.5	5.0	not offered	6.5	not offered	45	not offered			
2"	1.29-200	11	14	4.5	6.0	6.5	6.5	7.25	45	70			
2 ½"	3.25-510	13.4	not offered	4.5	7.0	not offered	7.0	not offered	50	not offered			
3"	3.25-510	13.4	15.5	4.5	7.5	8.25	7.0	7.75	55	80			

<sup>\*</sup> For remote mount meters, add 4 lbs for ProComm converter.







## **Dimensions and Weights (cont.)**

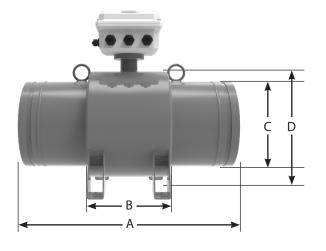
### 4" to 12" Grooved End Body Style

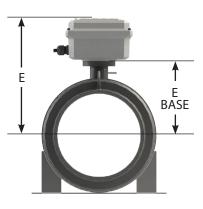
			Dir	nensions (l	Converter Height				
Pipe Size	Meter	Flow Ranges GPM	A**	В	C	D	E***		
(Nominal)	Pipe ID	Min - Max*	Lay Length	Shield Length	Flange OD	Shield OD	FM3 (PCGO)	FM5 (PROCOMM)	
4"	4.26	8 - 1,140	16.4	5.625	4.5	6.625	9.2	12.0	
6"	6.357	19 - 2,660	17.6	6.375	6.625	8.625	10.2	13.0	
8"	8.329	33 - 4,870	20.25	7.875	8.625	10.75	11.2	14.0	
10"	10.25	52 - 7,670	24	9.125	10.75	12.75	12.2	15.0	
12"	12.25	74 - 11,180	25.2	9.75	12.75	15	13.4	16.2	

- \* Flow range is standard minimum 0.2 to maximum 32 fps.
- \*\* For remote mount meters, add 4 lbs for ProComm converter.
- \*\*\* E dimension equals E Base plus converter height. See table below right.

Height to Converter Mount								
	E Base							
4"	5.063							
6"	6.063							
8"	7.125							
10"	8.125							
12"	9.25							

Height: PCGO Converter	4.1
Height: ProComm Converter	6.92





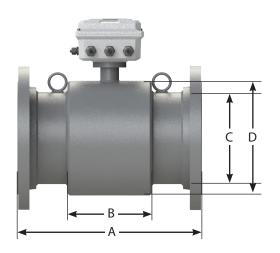


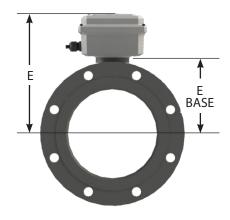
## **Dimensions and Weights (cont.)**

### 4" to 12" Flanged End Body Style

	Flour Don woo		DIMENSIONS (Lay Lengths)										Est. Shipping Weight (lbs.)*			
Pipe Size	Flow Ranges (0.2 to 32 FPS)		Α			В			C							
(Nominal)	Min-Max GPM	<b>AWWA</b>	AN	ISI	<b>AWWA</b>	AN	ISI	<b>AWWA</b>	AN	ISI	<b>AWWA</b>	AN	ISI			
		150# Class D	150# CL150	300# CL300	150# Class D	150# CL150	300# CL300	150# Class D	150# CL150	300# CL300	150# Class D	150# CL150	300# CL300			
4"	6.97-1110	13.4	13.4	13.4	9.0	9.0	10.0	9.25	9.25	9.25	70	108	108			
6"	16.1-2560	14.6	14.6	14.6	11.0	11.0	12.5	10.25	10.25	10.25	80	138	138			
8"	29.2-4670	16.1	17.25	17.25	13.5	13.5	15.0	11.25	11.25	11.25	115	195	195			
10"	46.3-7400	18.5	18.5	18.5	16.0	16.0	17.5	12.5	12.5	12.5	140	247	247			
12"	67.3-10760	19.7	19.7	19.7	19.0	19.0	20.5	13.5	13.5	13.5	190	342	342			

<sup>\*</sup>Shipping weights are estimated and may change due to specific order packaging







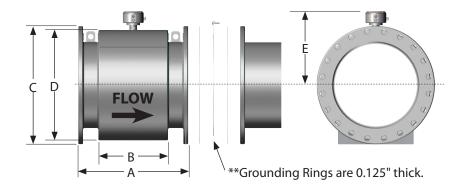


## **Dimensions and Weights (cont.)**

### 14+" Flanged End Body Style

	Flow					DI	MENSIC	ONS					Est. Shipping Weight (lbs.)*			
Pipe	Ranges		F	<b>\</b>		В	С				D	E				
Size	(0.2 to 32	AVVVVA		VWA ANSI			AW	AWWA		ANSI			AWWA		ANSI	
(nom.	FPS) Min- Max GPM	150#	300#	150#	300#		150#	300#	150#	300#			150#	300#	150#	300#
		Class D	Class F	CL150	CL300		Class D	Class F	CL150	CL300			Class D	Class F	CL150	CL300
14"	90.1-14410	21.70	22.75	22.75	22.75	11.875	21.00	23.00	21.00	23.00	20.135	14.56				
16"	117-18670	23.60	25.25	25.25	25.25	14.25	23.50	25.50	23.50	25.50	21.635	15.32				
18"	149-23820	23.60	25.25	25.25	25.25	14.25	25.00	28.00	25.00	28.00	23.635	16.32	Contact factory			
20"	186-29600	25.60	28.25	28.25	28.25	16.06	27.50	30.50	27.50	30.50	25.6975	17.35				
24"	269-43040	30.70	35.75	35.75	35.75	21.75	32.00	36.00	32.00	36.00	29.51	19.25				

<sup>\*</sup>Shipping weights are estimated and may change due to specific order packaging







## **Field Mag FM3 Part Number Matrix**



1.5 in OC  2 in 02  2.5 in OD  3 in 03  4 in 04  6 in 06  8 in 06  8 in 08  10 in 10  12 in 12  14 in 14  16 in 16  18 in 18  20 in 20  24 in 24  2 Flange Connections Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 300# (500 psi Rating) 2  ANSI Class 150# (285 psi Rating) 3  3 Electrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard) Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  S Converter Power Options  Battery Power, Battery Backup E  DC Power, Battery Backup E  DC Power, Battery Backup E		
2 in       02         2.5 in       OD         3 in       03         4 in       04         6 in       06         8 in       08         10 in       10         12 in       12         14 in       14         16 in       16         18 in       20         24 in       24         2 Flange Connections         Victaulic Grooved Ends (285 psi Rating)       V         AWWA Class D (150 psi rating)       1         ANSI Class 150# (285 psi Rating)       2         ANSI Class 300# (500 psi Rating)       3         3 Electrode Material Options         S316 Stainless Steel (Standard)       S         Hastelloy       H         4 Converter Mounting and Cable Connector Options       M         Meter Mount Converter (Standard)       S         Strain Relief [25 ft Remote Mount] R       R         Quick Connect [25 ft Remote Mount] (Potted)       P         Quick Connect [25 ft Remote Mount] (Potted)       P         Quick Connect [25 ft Remote Mount] (Potted)       B         Solar Power, Battery Backup       S         A/C Power, Battery Backup       E <t< td=""><td>1 Nominal Line Size</td><td></td></t<>	1 Nominal Line Size	
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16 in 16  18 in 20 in 20  24 in 24  2 Flange Connections Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  3 Electrode Material Options  S316 Stainless Steel (Standard) 5  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [25 ft Remote Mount] R  Quick Connect [25 ft Remote Mount] P  Quick Connect [25 ft Remote Mount] (Potted)  Quick Connect [25 ft Remote Mount] (Potted)  Quick Connect [25 ft Remote Mount] (Potted)  Strain Relief [25 ft Remote Mount] (Potted)  Strain Relief [25 ft Remote Mount] (Potted)  Quick Connect [25 ft Remote Mount] (Potted)  Strain Relief [25 ft Remote Mount] (Potted)	12 in	12
18 in 20 in 20  24 in 24  2 Flange Connections  Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Electrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard) M  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] P  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)	14 in	14
20 in 20 24 in 24  2 Flange Connections Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Electrode Material Options  S316 Stainless Steel (Standard) 5  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] P  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)	16 in	16
24 in 24  2 Flange Connections  Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  3 Electrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard) B  Solar Power, Battery Backup E	18 in	18
Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Electrode Material Options  Sale Stainless Steel (Standard) 5  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard) M  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] P  Quick Connect [ 25 ft Remote Mount] (Potted) P  Quick Connect [ 25 ft Remote Mount] (Potted) C  Strain Relief [ 25 ft Remote M	20 in	20
Victaulic Grooved Ends (285 psi Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Blectrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] P  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard) B  Solar Power, Battery Backup E	24 in	24
Rating)  AWWA Class D (150 psi rating) 1  ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Belectrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard) M  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] (Potted) P  Quick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Strain Relief [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power, Battery Backup  Solar Power, Battery Backup  E	2 Flange Connections	5
ANSI Class 150# (285 psi Rating) 2  ANSI Class 300# (500 psi Rating) 3  Blectrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Converter Power Options  Battery Power (Standard) B  Solar Power, Battery Backup E	T	V
ANSI Class 300# (500 psi Rating) 3  Blectrode Material Options  S316 Stainless Steel (Standard) S  Hastelloy H  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard) M  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount] P  Quick Connect [ 25 ft Remote Mount] (Potted) P  Quick Connect [ 25 ft Remote Mount] (Potted) C  Strain Relief [ 25 ft Remote Mount] (Potted)	AWWA Class D (150 psi rating)	1
Belectrode Material Options  S316 Stainless Steel (Standard)  Hastelloy  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Converter Power Options  Battery Power (Standard)  B  Solar Power, Battery Backup  E  Battery Backup  S  A/C Power, Battery Backup  E  B  B  Solar Power, Battery Backup  E  Converter Power Options  B  Solar Power, Battery Backup  E  Converter Backup  E  B  Solar Power, Battery Backup  E  Converter Backup  E  Converter Backup  E  B  Solar Power, Battery Backup  E  Converter Backup  E  B  Converter Backup  E  Converter Backup  E  B  Converter Backup  E  Converter Backup  E  B  Converter Backup  E  Conver	ANSI Class 150# (285 psi Rating)	2
S316 Stainless Steel (Standard)  Hastelloy  Hotelloy  Hotelloy  Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Converter Power Options  Battery Power (Standard)  B  Solar Power, Battery Backup  E	ANSI Class 300# (500 psi Rating)	3
Hastelloy  4 Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Converter Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard)  B  Solar Power, Battery Backup  E	3 Electrode Material Opt	ions
Converter Mounting and Cable Connector Options  Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard)  Solar Power, Battery Backup  E	S316 Stainless Steel (Standard)	S
Meter Mount Converter (Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Cuick Connect [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard)  B  Solar Power, Battery Backup  E	Hastelloy	Н
(Standard)  Strain Relief [ 25 ft Remote Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  Converter Power Options  Battery Power (Standard)  B  Solar Power, Battery Backup  E		
Mount] R  Quick Connect [ 25 ft Remote Mount]  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  C  Converter Power Options  Battery Power (Standard)  Solar Power, Battery Backup  E		М
Mount]  Strain Relief [ 25 ft Remote Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  C  Converter Power Options  Battery Power (Standard)  Solar Power, Battery Backup  A/C Power, Battery Backup  E	_	R
Mount] (Potted)  Quick Connect [ 25 ft Remote Mount] (Potted)  C  Converter Power Options  Battery Power (Standard)  Solar Power, Battery Backup  A/C Power, Battery Backup  E		Q
Mount] (Potted)  5		Р
Battery Power (Standard)  Solar Power, Battery Backup  A/C Power, Battery Backup  E		С
Solar Power, Battery Backup S  A/C Power, Battery Backup E	5 Converter Power Opti	ons
A/C Power, Battery Backup E	Battery Power (Standard)	В
	Solar Power, Battery Backup	S
DC Power, Battery Backup F	A/C Power, Battery Backup	Е
	DC Power, Battery Backup	F

	<u> </u>
6 Converter Output Opti	ons
No Outputs (Standard)	-
No Outputs, DC Cable Only	0
Two Digital Out	1
4-20mA Analog only	2
4-20mA Analog + Two Dig Out	3
7 DC Power/ Analog Out C Options	able
No DC Power or Outputs (Standard)	-
No Cable - Output Configured (Quick Conn)	0
6 ft (Open Leads)	1
25 ft (Open Leads)	2
50 ft (Open Leads)	3
8 Pulse Cable Length Opt	ions
No Outputs (Standard)	-
No Cable - Output Configured (Quick Conn)	0
6 ft (Open Leads)	1
25 ft (Open Leads)	2
50 ft (Open Leads)	3
25 ft (7-Pin Male connector for Telemetry)	4
50 ft (7-Pin Male connector for Telemetry)	5
9 Output Cable Terminal Op	tions
Strain Relief (Standard)	1
Quick Connect Cable Terminals	2
10 Non Standard Length Op	tions
McCrometer Length (Standard)	-
Custom Specified Length (Nominal Length)	L(XX)
11 Hazardous Area Locati	on
Class 1, Division 2, Groups A-D, T5	HL

continued on next page





# **Field Mag FM5 Part Number Matrix**

	1		2	3	4	5	6	7		8		9		10		11	
FM5		-							-		-		-		-		

1 Nominal Line Size								
1.5 i	n	OC						
2 in		02						
2.5 i	n	OD						
3 in		03						
4 in		04						
6 in		06						
8 in		08						
10 ir	10							
12 iı	n	12						
14 ir	n	14						
16 iı	n	16						
18 iı	n	18						
20 iı	20							
24 ir	n	24						
2	Flang Connections							
Victa Rati	aulic Grooved Ends (285 psi ng)	V						
AW۱	WA Class D (150 psi Rating	1						
ANS	I Class 150# (285 psi Rating)	2						
ANS	I Class 300# (500 psi Rating)	3						
3	Electrode Material Opti	ons						
S316	6 Stainless Steel (Standard)	S						
Hast	telloy	Н						
4	Converter Mounting and Connector Options	Cable						
Met	er Mount Converter	М						
l .	in Relief [Remote Mount] ndard)	R						
Quid	ck Connect [Remote Mount]	Q						
Stra Pott	Р							
	ck Connect [Remote Mount red J Box]	С						

5 Remote Cable Option	ns	
Meter Mount Converter [No	0	
remote Cable]		
25 feet (Standard)	25	
50 feet	50	
75 feet	75	
100 feet	100	
125 feet	125	
150 feet	150	
175 feet	175	
200 feet	200	
500 feet	500	
6 Converter Power Opti	ons	
A/C Power	Α	
DC Power	D	
7 Converter Output Opt	ions	
Dual 4-20mA Analog, Dual Digital (Standard)	1	
Modbus + STD (Two 4-20, two Dig)	2	
Hart + STD (Two 4-20, two Dig)	3	
Datalogger/BIV + STD (Two 4-20, two Dig)	4	
Datalogger/BIV + Modbus + STD (Two 4-20, two Dig)	5	
Datalogger/BIV + Hart + STD (Two 4-20, two Dig)	6	
8 Non Standard Length O	ptions	
McCrometer Length (Standard)	-	
Special Length [Customer Specified]	L(XX)	
9 High Accuracy Calibra Option	tion	
Standard Accuracy 0.5% - Calibration		
High Accuracy 0.2% calibration	НА	
11 Hazardous Area Location		
Class 1, Division 2, Groups A-D, T5	HL	





## **Converter Specifications**

DI : 10 ::: .:		
Physical Specifications		
	ProComm GO 3000 Converter	ProComm 5000 Converter
Electronic Housing	Diecast aluminum, powder coated enclosure	Diecast aluminum, powder coated enclosure
	w/ tamper resistant seal	w/ tamper resistant seal
Converter Dimensions	Meter Mount:	Meter Mount:
	Height: 6.4"	
	Width: 6.9"	
	Depth: 4.3"	
	Remote Mount:	
	Height: 8.8"	
	Width: 8.8"	
	Depth 4.8"	
Power	AC Power: 100-240VAC/45-66Hz (4W)	<b>AC Power:</b> 100-240 VAC / 45-66 Hz (10 W)
	<b>DC Power:</b> Linear power supply 10-35VDC (4	<b>DC Power:</b> 12-48 VDC (10 W)
	W)	
	Battery: Standard: three 3.6V lithium-thionyl	
	chloride (Li-SOCI2) D size batteries with two	
	AA backup batteries	
Connection Options	Compression gland seals for 0.24" to 0.47"	Compression gland seals for 0.24" to 0.47"
	diameter round cable	diameter round cable
	Conduit option: 1/2" NPT threaded	Conduit option: 1/2" NPT threaded
	connections	connections
Electrical Connections	Optional shielded cable for 10-32VDC/4-20	Optional shielded cable for 10-32VDC/4-20
	mA output	mA output
	Optional shielded cable for pulse out	
Galvanic Isolation	4-20mA: Galvanically Isolated, 16 Bit	All inputs / outputs are galvanically isolated
	resolution. All power configurations (including	from power supply up to 500 V
	battery).	
Conductivity	Minimum conductivity of 5μS/cm	Minimum conductivity of 5μS/cm
Performance and Ope	rational Specifications	
Battery Life	Five-year expected battery life, five-year	n/a
	battery warranty	
Location	Indoor or outdoor use	Indoor or outdoor use
Altitude	Operating: 2000 meters	Operating: 2000 meters
	Storage: 12,000 meters	Storage: 12,000 meters
<b>Operating Temperature</b>	-4° to 140° F (-20° to 60° C)	-4° to 140° F (-20° to 60° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)	-4° to 140° F (-20° to 60° C)
<b>Relative Humidity</b>	0% to 100%	
IP Rating	IP67 Die cast aluminum converter (only when	IP67 Die cast aluminum converter (only
	connected using compression gland seals)	when connected using compression gland





## **Converter Specifications (cont.)**

	ProComm GO 3000 Converter	ProComm 5000 Converter
Standard Outputs	Analog output:	Analog Output:
	4-20mA: Galvanically Isolated, 16 Bit	Dual 4-20mA Outputs: Galvanically isolated
	resolution. All power configurations (including	and fully programmable for zero and full
	battery).	scale (0-21mA rangeability)
	9-30 VDC loop power required (not supplied	9-30 VDC loop power not required (supplied
	via converter) (Passive 4-20mA)	via converter) (Active 4-20mA)
	Digital Output:	Digital Output:
	Digital pulse (open collector) output for	Two separate digital programmable outputs:
	volumetric	open collector transistor usable for pulse,
		frequency, or alarm settings.
	Two isolated digital pulse (open collector)	
	outputs for volumetric	
	Datalogger	
Output Features	Empty Pipe	Empty Pipe
		Volumetric Pulse
		Flow Rate (Frequency)
		Hardware Alarm
		High/Low Flow Alarms
		Directional Indication
		Range Indication
		Maximum switching voltage: 40 VDC
		Maximum switching current: 100mA
		Maximum switching frequency: 1250 Hz
		Insulation from other secondary circuits:
		500V
Optional Outputs		Modbus
		HART
		Smart Output™ (Sensus, Itron 6, Itron 9)
		Datalogger
		Built-in verification
Display and Measurem	ent	
	- 2-Line LCD display (no backlight)	Can be used to access and change set-up
inc, a care and a repray	are pray (i.e assumgree)	parameters using six membrane keys and an
		LCD display
	- Non-volatile memory	,
	- Anti-reverse totalizer (standard)	
	- Total (to 9 digits of precision)	
	- Flow rate and velocity (to 5 digits of	
	precision)	
	- Two alarms: low battery and empty pipe	
	(optional)	
	- Opening lid activates display	
Digits	5 Rate, 9 Total	How many digits for rate and total?
= -9.40		, 5



24\*24\*2.455?

How many digits for rate and total?



## **Converter Specifications (cont.)**

	ProComm GO 3000 Converter	ProComm 5000 Converter
Units / Engineering Units	GPM Gallons per minute	Cubic Meter
	MGD Mega gal per day	Cubic Centimeter
	CFS Cubic feet per second	Milliliter
	MLD Megaliters per day	Liter
	LPS Liters per second	Cubic Decimeter
	CMH Cubic meters per hour	Decaliter
	LPM Liters per minute	Hectoliter
	GPH Gallons per hour	US Gallons
	IGM Imperial gal per minute	Cubic Inches
	MI9 Miners inch (9G)	Imperial Gallons
	MI1 Miners inch (11.22G)	Cubic Feet
	APD Acre feet per day	Kilo Cubic Feet
	KLH Kiloliters per hour	Standard Barrel
	LPH Liters per hour	Oil Barrel
	CMM Cubic meters per minute	US Kilogallon
	CFM Cubic feet per minute	Ten Thousands of Gallons
	B5M Barrels per minute (55G)	Imperial Kilogallon
	B5M Barrels per hour (55G)	Acre Feet
	B5H Barrels per day (55G)	Megagallon
	B5D Barrels per minute (42G)	Imperial Megagallon
	B4M Barrels per hour (42G)	Hundred Cubic Feet
	B4H Barrels per day (42G)	Megaliters
	GAL Gallons	
	CUF Cubic Feet	
	AFT Acre Feet	
	CUM Cubic Meters	
	LIT Liters	
	MML Megaliter	
	MTT Metric Ton (KL)	
	B31 Barrel (31G)	
	B42 Barrel (42G)	
	B46 Barrel (46G)	
	B55 Barrel (55G)	
	IMG Imperial Gallon	
	AIN Acre Inch	
	TON Ton (Short)	
	MM1 Miners Inch Minute (11.22G)	
	MM9 Miners Inch Minute (9G)	
	MH1 Miners Inch Hour (11.22G)	
	MD1 Miners Inch Day (11.22G)	
	MH9 Miners Inch Hour (9G)	
	MD9 Miners Inch Day (9G)	
	KGL Kilo Gallons	
	MGL Mega Gallons	
	IN3 Cubic Inch	





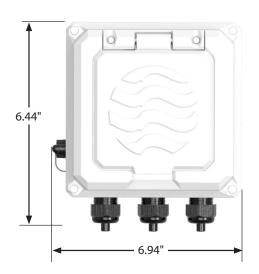
# **Converter Specifications (cont.)**

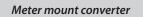
	ProComm GO 3000 Converter	ProComm 5000 Converter
Options and Accessories	Data Logger - included as standard with five	
	years of data storage at default (12hr)	
	interval. (Cable sold separately)	
	AC, DC, and battery powered with battery	
	backup powered available	AC and DC powered
Safety	IEC 61010-1, Pollution Degree II	
	Overvoltage protection Category III	
Certifications	Standard Model	Standard Model
	ISO 9001:2015 certified quality management	ISO 9001:2015 certified quality
	system	management system
	CE	CE
	Certified by MET to UL 61010-1	Certified by MET to UL 61010-1
	HL Model	HL Model
	ISO 9001:2015 certified quality management	ISO 9001:2015 certified quality
	system	management system
	CE	CE
	Certified by MET to UL 61010-1 and MET	Certified by MET to UL 61010-1 and MET
	C22.2 No. 61010-1-04	C22.2 No. 61010-1-04
	Class I, Division 2, Groups A-D, T5	Class I, Division 2, Groups A-D, T5
	Class I, Zone 2 IIC T5	Class I, Zone 2 IIC T5

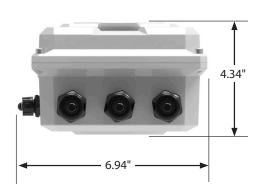


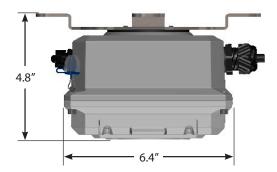


# **ProComm GO 3000 Converter Dimensions**

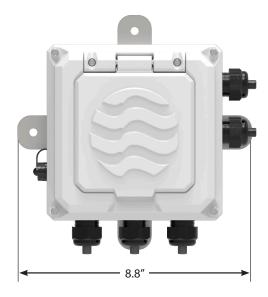








Remote mount converter





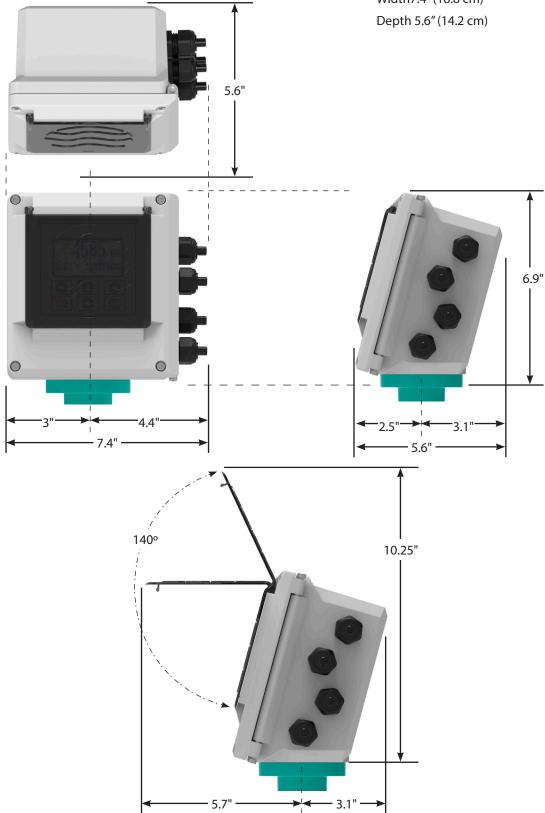




## **ProComm 5000 Converter Dimensions**

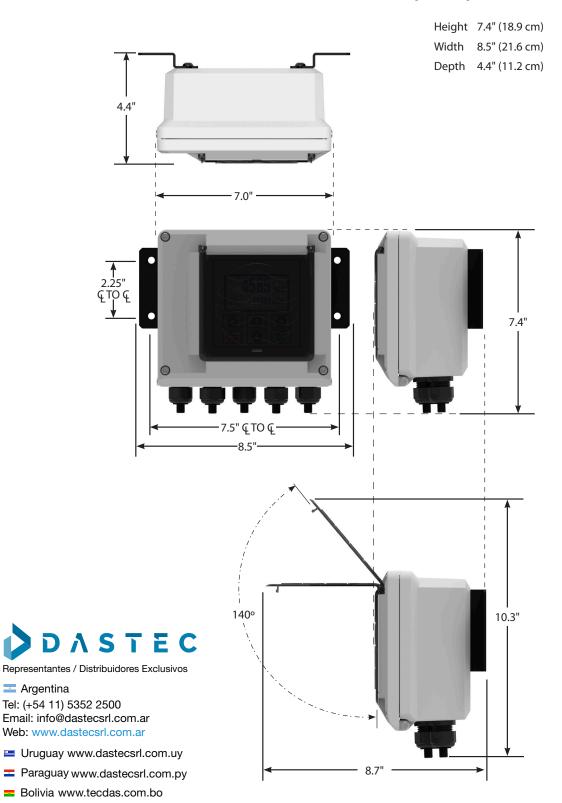
### **Meter Mount Transmitter Dimensions**

Height 6.9" (17.6 cm) Width7.4" (18.8 cm) Depth 5.6" (14.2 cm)





## **ProComm 5000 Converter Dimensions (cont.)**



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3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078 www.mccrometer.com

Argentina

