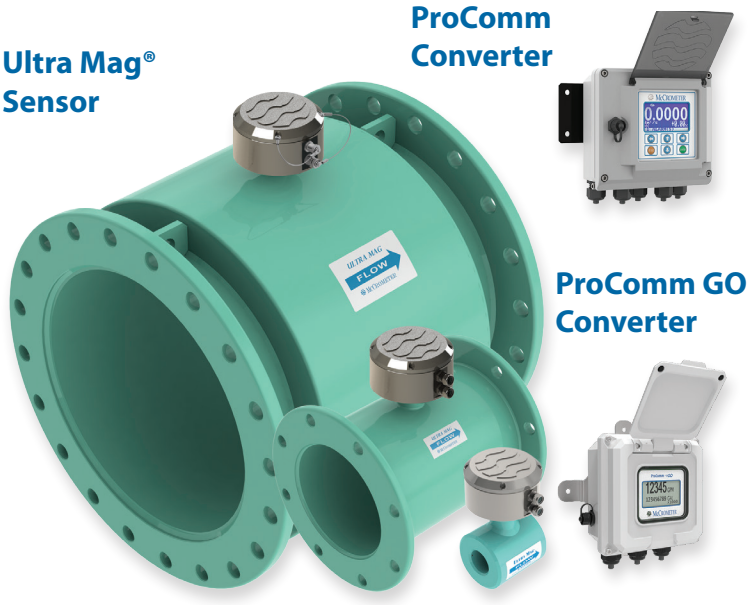


Ultra Mag flow meters are manufactured to the highest standard available for mag meters.

The flanged end tube design permits use in a wide range of applications with up to 300 PSI working pressure.

The fabricated tube is stainless steel with steel or stainless steel flanges and is lined with UltraLiner™, an NSF approved, fusion bonded epoxy material.

INSTALLATION

Ultra Mag flow meter installation is similar to placing a short length of flanged end pipe in the line. The meter can be installed vertically, horizontally, or inclined on suction or discharge lines. The meter must have a full pipe of liquid for proper operation. Fluid must be grounded to the downstream flange of the sensor either via internal grounding electrodes (2 - 12") or using McCrometer 316 SS grounding rings. For best performance, grounding rings are recommended for all sizes.

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:

2" & 3" Wafer style meters	3D upstream / 1D downstream
4" - 48" Steel flanged meters	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.

AVAILABLE ULTRA MAG END CONNECTIONS

Choice of Flanged Options

- 4" - 48": Steel AWWA class "D" flat face flanges (150 psi)
- 4"-48": Steel ANSI 150 lb raised face flanges (optional)
- 14" - 36": Steel AWWA class "F" raised face flanges (300 psi)
- 4"-36": Steel ANSI 300 lb raised face flanges (optional)

Choice of Non Flanged Options

- 2" & 3": Steel wafer style

PERFORMANCE ADVANTAGES

- Flanged models need only 1 pipe diameter upstream of most flow disturbers
- No obstruction to the flow
- No moving parts to wear or break
- Maintenance free
- Choice of Accuracy +/- 0.2% OR +/- 0.5%
- Debris or solids will not clog the meter
- No head loss
- Bi-directional flow
- Empty pipe detection
- Unaffected by changes in density and viscosity
- No risk of liner delamination or separation
- Wide flow range
- Separated power and signal cables

TYPICAL APPLICATIONS

Industrial

Raw Water	Process Control
Chilled Water	Effluent Wastewater
Cooling Water	

Clean Water

Well Water	Rate-of-Flow Control
Potable Water	Raw Water Transmission
Pump Stations	

Wastewater

Influent	Waste Activated
Effluent	Sludge
Reclaimed	Return Activated
Lift Stations	Sludge

PROCOMM CONVERTER

The signal converter is the reporting, input and output control device for the sensor. The converter allows the measurements, functional programming, control of the sensor and data recording to be communicated through the display and inputs/outputs.

The microprocessor-based signal converter has a curve-fitting algorithm to improve accuracy, dual 4-20mA analog outputs, an optional RS485 communication port, an 8 line graphical backlit LCD display with 6-key touch programming, and a rugged enclosure that meets IP67.

In addition to a menu-driven self-diagnostic test mode, the converter continually monitors the microprocessor's functionality. The converter will output rate of flow and total volume. The converter also comes standard with password protection and many more features.

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.

Ultra Mag with ProComm Converter Part Number Matrix

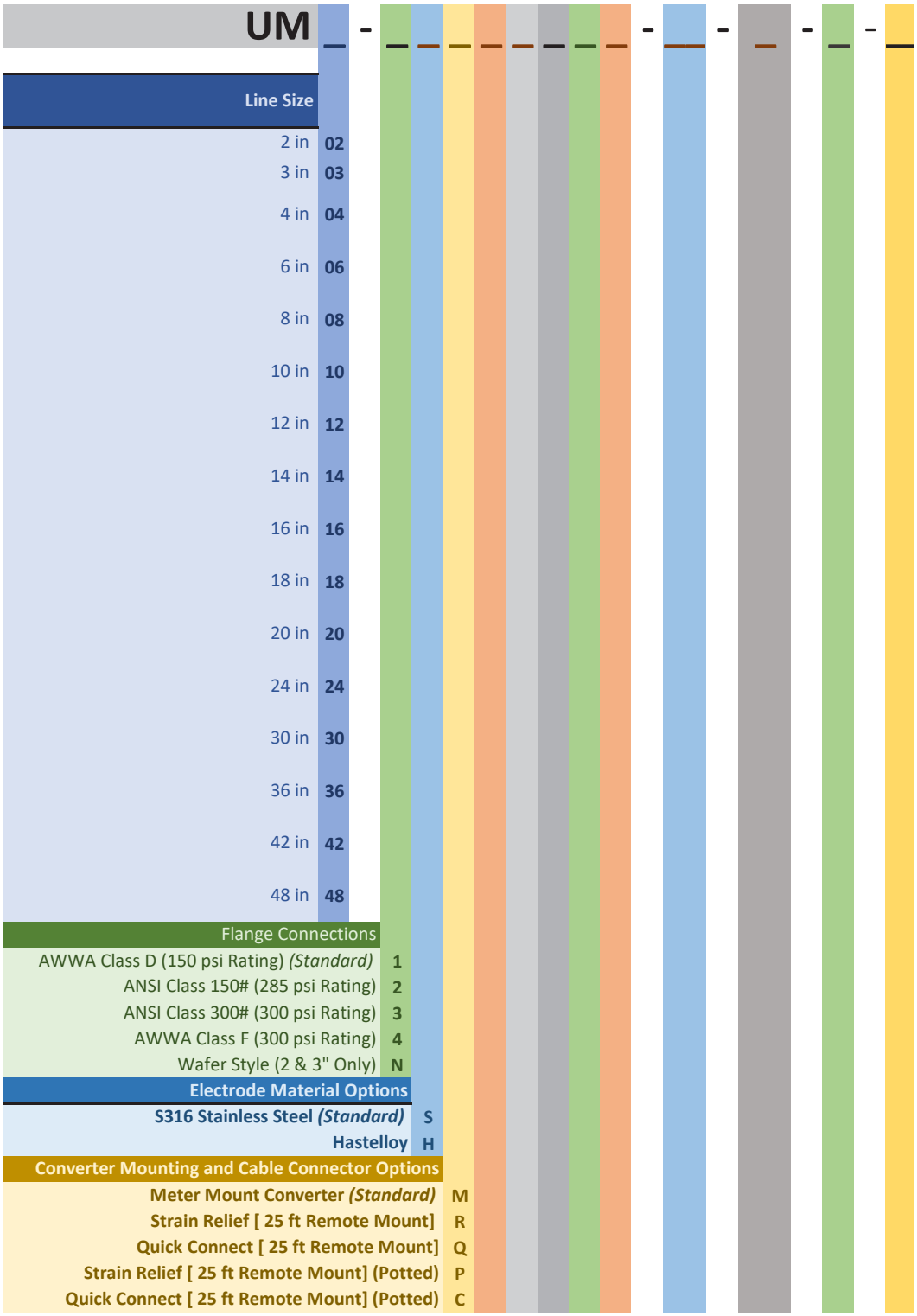
UM																	
Nominal Line Size																	
2 in	02																
3 in	03																
4 in	04																
6 in	06																
8 in	08																
10 in	10																
12 in	12																
14 in	14																
16 in	16																
18 in	18																
20 in	20																
24 in	24																
30 in	30																
36 in	36																
42 in	42																
48 in	48																
End Connection Options																	
Class D AWWA Flat Face Flanges		1															
150# ANSI Raised Face Flanges		2															
300# ANSI Raised Face Flanges		3															
Class F AWWA Flat Face Flanges		4															
Wafer Style (2 & 3" only)		N															
Electrode Material Options																	
S316 Stainless Steel *(Standard)*			S														
Hastelloy			H														
Converter Mounting and Cable Connector Options																	
Meter Mount Converter				M													
Strain Relief [Remote Mount] *(Standard)*				R													
Quick Connect [Remote Mount]				Q													
Strain Relief [Remote Mount Potted J Box]				P													
Quick Connect [Remote Mount Potted J Box]				C													
Remote Cable Length Options																	
Meter Mount Converter [No remote Cable]					000												
25 feet (Standard)					025												
50 feet					050												
75 feet					075												
100 feet					100												
125 feet					125												
150 feet					150												
175 feet					175												
200 feet					200												
500 feet					500												

continued on next page

Ultra Mag with ProComm Converter Part Number Matrix (cont.)

UM -							-		-		-		-		-	
Converter Power Options																
A/C Power	A															
DC Power	D															
Converter Output Options																
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														
AMI Smart Output + STD (Two 4-20, two Dig)		7														
Datalogger/BIV + AMI Smart Output + STD (Two 4-20, two Dig)		8														
Smart Output Protocol Options (*7 or 8 output option required)																
No AMI Outputs			-													
Sensus Protocol (6ft cable, Nicor Connector hardwired only)			SEN													
Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)			IT6													
Itron 9 digit [100W] Protocol (6ft cable, Nicor Connector hardwired only)			IT9													
Neptune Protocol (6ft cable, Nicor Connector hardwired only)			NEP													
Battery Power/ ATT wireless Telemetry System (RTU, Solar Panel, 7 Pin Cable)			ATT													
Battery Power/ Verizon wireless Telemetry System (RTU, Solar Panel, 7 Pin Cable)			VZW													
Non Standard Length Options																
McCrometer Length *(Standard)*				-												
Competitor Replacement Length				LS												
Competitor Replacement Length				LP												
Special Length [Customer Specified]				L(XX)												
High Accuracy Calibration Option																
Standard Accuracy 0.5% Calibration					-											
High Accuracy 0.2% calibration					HA											
Color Options																
McCrometer Green (Standard)						-										
Sky Blue						SB										
Dark Blue						DB										
Lavender						LV										
White						WH										
Hazardous Area Location																
Class 1, Division 2, Groups A-D, T5																HL

Ultra Mag with ProComm GO Converter Part Number Matrix



Line Size	
2 in	02
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	18
20 in	20
24 in	24
30 in	30
36 in	36
42 in	42
48 in	48

Flange Connections	
AWWA Class D (150 psi Rating) *(Standard)*	1
ANSI Class 150# (285 psi Rating)	2
ANSI Class 300# (300 psi Rating)	3
AWWA Class F (300 psi Rating)	4
Wafer Style (2 & 3" Only)	N

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]	**Q**
Strain Relief [25 ft Remote Mount] (Potted)	**P**
Quick Connect [25 ft Remote Mount] (Potted)	**C**

continued on next page

Ultra Mag with ProComm GO Converter Part Number Matrix (cont.)

UM -						-		-		-	
Converter Power Options											
Battery Power *(Standard)*	B										
Solar Power, Battery Backup	S										
A/C Power, Battery Backup	E										
DC Power, Battery Backup	F										
Converter Output Options											
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									
AMI Smart Output only		4									
AMI Smart Output + Two Dig Out		5									
AMI Smart Output + 4-20mA Analog		6									
One Dig Input + 4-20mA Analog + Two Dig Out		7									
DC Power/ Analog Out Cable Options											
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								
Pulse Cable Length Options											
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							
Output Cable Terminal Options											
Strain Relief *(Standard)*					1						
Quick Connect Cable Terminals (25 & 50 ft only)					2						
Smart Output Protocol Options (*4 or 5 output option required)											
No AMI Outputs						-					
Sensus Protocol (6ft cable, Nicor Connector hardwired only)						SEN					
Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)						IT6					
Itron 9 digit [100W] Protocol (6ft cable, Nicor Connector hardwired only)						IT9					
Neptune Protocol (6ft cable, Nicor Connector hardwired only)						NEP					
ATT Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)						ATT					
Verizon Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)						VZW					
Non Standard Length Options											
McCrometer Length *(Standard)*							-				
Competitor Replacement Length							LS				
Competitor Replacement Length							LP				
Custom Specified Length (Nominal Length)							L(XX)				
Color Options											
McCrometer Green (Standard)								-			
Sky Blue								SB			
Dark Blue								DB			
Lavender								LV			
White								WH			
Hazardous Area Location											
Class 1, Division 2, Groups A-D, T5											HL

FLOW METER SPECIFICATIONS

Pipe Sizes	
	2", 3", 4", 6", 8", 10", 12", 14", 16", 18", 20", 24", 30", 36", 42", 48"
Flow Direction Measurement	
	Forward and reverse flow indication and forward, reverse, net totalization are standard with all meters
Accuracy	
	• 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) • Battery powered: 1% of measured value ±0.006 ft/s (±0.0018 m/s) **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.
Accuracy Tests	
	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 ±0.15%.
Pipe Run Requirements	
2" & 3" wafer style	3D upstream / 1D downstream
4" and larger flanged	1D upstream / 0D downstream
Repeatability	
	±0.05% or ±.0008ft/s (±0.25mm/s), whichever is greater
Conductivity	
	5 µs/cm
Liner	
	UltraLiner NSF approved, fusion bonded epoxy
Electrodes	
	Type 316 stainless steel, others optional
Electrical Connections	
	• Compression gland seals • Quick-Connect
Sensor Cable Lengths	
Standard	25'/7.6 m McCrometer supplied submersible cable with each remote mount unit.
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.

FLOW METER SPECIFICATIONS (CONT.)

IP Rating

Standard model	• Quick Connect (NEMA 6P/IP68 with remote converter) • Compression gland seals (NEMA 6P/IP68 with remote converter)
HL model	• Quick Connect (IP67) • Compression gland seals (IP67)

Sensor Submersibility Depth

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

Head Loss

None. No obstruction in line and no moving parts

Warranty

Meter	2 year warranty
Liner	Lifetime guarantee

Pressure Range

AWWA Class D (150 psi Rating) (Standard)
ANSI Class 150# (285 psi Rating)
ANSI Class 300# (300 psi Rating)
AWWA Class F (300 psi Rating)

Velocity Range

.2 to 32 FPS

Temperature Range

Sensor Operating: -10 to 60°C (14 to 140°F)
Sensor Storage: -15 to 60°C (5 to 140° F)

Certifications and Approvals

Standard Model	• ISO 9001:2015 certified quality management system • Certified by MET to UL 61010-1 / CSA C22.2 No. 61010-1 • Certified to NSF / ANSI Standards*

HL Model	• ISO 9001:2015 certified quality management system
	• Certified by MET: Safety: UL61010-1 / CSA C22.2 No. 61010-1, Third Edition: Safety of Electrical Equipment For Measurement, Control, and Laboratory Use
	• Certified by MET: Standards: ANSI / ISA12.12.01 / CSA C22.2 No. 213, Nonincendive Electrical Equipment
	  • Class I and II, Division 2
	  • Class III, Divisions 1 and 2 Hazardous (Classified) Locations
	• Certified to NSF / ANSI Standards*

System Options

- Hastelloy® electrodes
- Additional sensor cable up to 475'
- Annual verification / calibration
- Stainless steel ID tag

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

FLOW METER SPECIFICATIONS (CONT.)

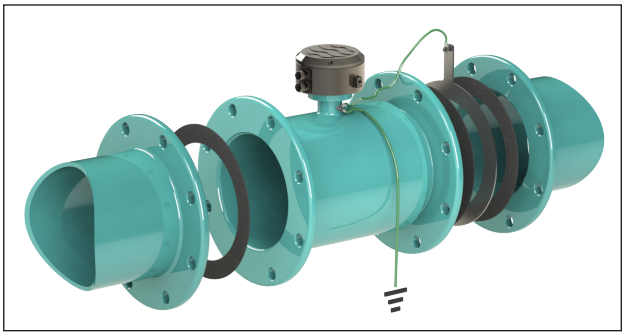
Meter Options

- DC powered converter (10-35 VDC, 21 W)
- Meter mounted converter
- Extended warranty
- Hastelloy® electrodes
- ANSI or DIN flanges
- Special lay lengths, including ISO standard lay lengths
- Quick Connect cable fittings
- Converter sun shield
- HART® Converter
- Smart Output™ (Sensus or Itron compatible)
- Battery or battery-solar powered converter

METER GROUNDING RECOMMENDATIONS

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

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.



Conductive or uncoated pipe - The uncoated pipe flange can be used to establish a connection to earth ground.

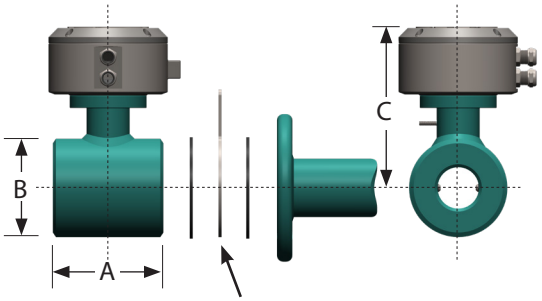
Plastic or internally coated pipe - Grounding rings can be installed to establish a connection to earth ground
See the Ultra Mag IOM Manual, Lit. # 30119-03, for more information on grounding configurations using grounding rods and grounding rings.

DIMENSIONS AND WEIGHTS

2" and 3" Models Body Style

Meter Type	Pipe Size (Nominal)	Meter Pipe ID	Flow Ranges GPM Standard .2 to 32 FPS Min - Max	DIMENSIONS (Lay Lengths)							Est. Shipping Weight (lbs.)**	
				A		B	C		D	E		
				UM06*	UM08*		UM06*	UM08*			UM06*	UM08*
Use model shown below for dimensions												
Wafer style	2"	1.625	2 - 310	4.5	4.5	4.0	6.5	7.25	n/a	n/a	9.6	10.1
	3"	2.625	5 - 700	4.5	4.5	4.0	7.0	7.75	n/a	n/a	11.3	11.8

* Note: UM06 relates to AWWA Class D; UM08 relates ASNI #150, #300, AWWA Class F
** For remote mount meters, add 4 lbs for ProComm converter.



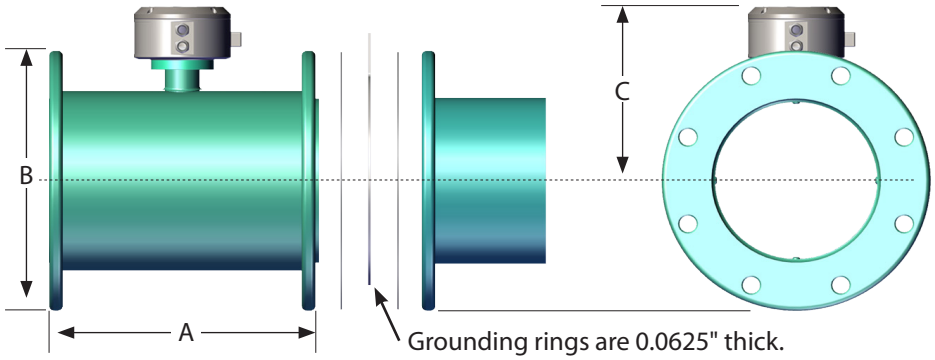
Grounding rings are 0.0625" (1.5875 mm) thick.

DIMENSIONS AND WEIGHTS (CONT.)

4" to 12" Models Body Style

Pipe Size (Nominal)	Meter Pipe ID		Flow Ranges GPM Standard .2 to 32 FPS Min - Max	DIMENSIONS (Lay Lengths)					Est.Shipping Weight (lbs.)**	
				A		B		C		
	UM06*	UM08*		UM06*	UM08*	UM06*	UM08*		UM06*	UM08*
4"	3.834	3.76	8 - 1,140	13.40	13.40	9.00	10.00	7.28	78	108
6"	5.782	5.732	19 - 2,660	14.60	14.60	11.00	12.50	8.25	82	138
8"	7.782	7.732	33 - 4,870	16.10	17.25	13.50	15.00	9.25	115	195
10"	9.782	9.732	52 - 7,670	18.50	18.50	16.00	17.50	10.5	144	247
12"	11.782	11.732	74 - 11,180	19.70	19.70	19.00	20.50	11.5	193	342

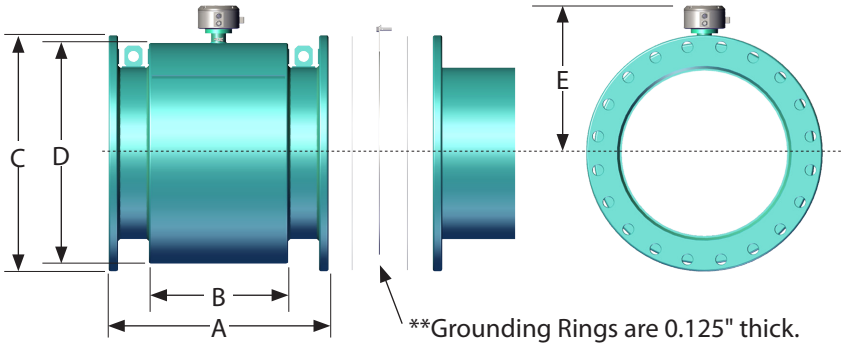
* Note: UM06 relates to AWWA Class D; UM08 relates ASNI #150, #300, AWWA Class F
** For remote mount meters, add 4 lbs for ProComm converter.



14+" Models Body Style

Pipe Size (Nominal)	Meter Pipe ID	Flow Ranges GPM Standard .2 to 32 FPS Min - Max	DIMENSIONS (Lay Lengths)							Est. Shipping Weight (lbs.)**	
			A		B	C		D	E		
			UM06*	UM08*		UM06*	UM08*			UM06*	UM08*
14"	13.63	90 - 16,070	21.70	22.75	11.875	21.00	23.00	20.135	14.56	321	476
16"	15.50	118 - 20,900	23.60	25.25	14.25	23.50	25.50	21.635	15.32	390	645
18"	17.50	150 - 26,480	23.60	25.25	14.25	25.00	28.00	23.635	16.32	446	750
20"	19.50	185 - 32,720	25.60	28.25	16.06	27.50	30.50	25.6975	17.35	588	874
24"	23.50	270 - 47,180	30.70	35.75	21.75	32.00	36.00	29.51	19.25	769	1,568
30"	29.25	420 - 73,620	35.80	41.75	25.25	38.75	43.00	35.6975	22.35	1,261	2,317
36"	35.25	610 - 105,930	46.10	46.10	28.63	46.00	50.00	42.76	25.88	1,696	2,915
42"	41.25	830 - 144,370	48.05	***	36.25	52.75	***	48.135	28.57	***	***
48"	47.25	1,080 - 188,430	50.00	***	36.25	59.50	***	54.135	31.57	***	***

* Note: UM06 relates to AWWA Class D; UM08 relates ASNI #150, #300, AWWA Class F
** For remote mount meters, add 4 lbs for ProComm converter.
*** Consult factory



PROCOMM CONVERTER PART NUMBER MATRIX

PC -	—	—	—	-	—	-	—
Converter Mounting Options							
Remote Mount	R						
Meter Mount	M						
Converter Power Options							
A/C Power		A					
DC Power		D					
Converter Output Options							
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				
AMI Smart Output + STD (Two 4-20, two Dig)			7*				
Datalogger/BIV + AMI Smart Output + STD (Two 4-20, two Dig)			8*				
Smart Output Protocol Options (*7 or 8 output option required)							
No AMI Outputs					-		
Sensus Protocol (6ft cable, Nicor Connector hardwired only)					SEN		
Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)					IT6		
Itron 9 digit [100W] Protocol (6ft cable, Nicor Connector hardwired only)					IT9		
Neptune Protocol (6ft cable, Nicor Connector hardwired only)					NEP		
ATT Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)					ATT		
Verizon Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)					VZW		
Hazardous Area Location							
Class 1, Division 2, Groups A-D, T5							HL

PROCOMM GO CONVERTER PART NUMBER MATRIX

PG -	—	—	—	—	—	—	-	——	-	——
Converter Mounting Options										
Meter Mount Converter *(Standard)*	M									
Remote Mount	R									
Converter Power Options										
Battery Power *(Standard)*		B								
Solar Power, Battery Backup		S								
A/C Power, Battery Backup		E								
DC Power, Battery Backup		F								
Converter Output Options										
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							
AMI Smart Output Only			4							
AMI Smart Output + Two Dig Out			5							
AMI Smart Output + 4-20mA Analog			6							
AMI Smart Output + 4-20mA Analog + Two Dig Out			7							
DC Power/ Analog Out Cable Options										
No DC Power or Outputs *(Standard)*				-						
No Cable - Output Configured (Quick Conn)				0						
6 ft (Open Leads - Strain Relief)				1						
25 ft (Open Leads)				2						
50 ft (Open Leads)				3						
Pulse Cable Length Options										
No Outputs (Standard)					-					
No Cable - Output Configured (Strain Relief or 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					
Output Cable Terminal Options										
Strain Relief *(Standard)*						1				
Quick Connect (25 & 50 ft Cable length only)						2				
Smart Output Protocol Options (*4 - 7 output option required)										
No AMI Outputs								-		
Sensus Protocol (6ft cable, Nicor Connector hardwired only)								SEN		
Itron 6 digit Protocol (6ft cable, Nicor Connector hardwired only)								IT6		
Itron 9 digit [100W] Protocol (6ft cable, Nicor Connector hardwired only)								IT9		
Neptune Protocol (6ft cable, Nicor Connector hardwired only)								NEP		
ATT Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)								ATT		
Verizon Wireless Telemetry System (RTU, Solar Panel, 15 ft 7 pin Cable)								VZW		
Hazardous Area Location										
Class 1, Division 2, Groups A-D, T5										HL

PROCOMM CONVERTER SPECIFICATIONS

Physical Specifications

Electronic Housing	Diecast aluminum, powder coated enclosure w/ tamper resistant seal	
Converter Dimensions	Remote Mount: Height: 7.3" (18.5 cm) Width: 8.5" (21.6 cm) Depth: 4.3" (10.9 cm) Meter Mount: Height: 6.9" (17.5 cm) Width: 7.2" (18.25 cm) Depth: 6.2" (15.7 cm)	
Power	AC Power: 100-240 VAC / 45-66 Hz (10 W)	Note: AC or DC must be specified at time of ordering.
	DC Power: 12-48 VDC (10 W)	
Connection Options	• Compression gland seals for 0.24" to 0.47" diameter round cable • Conduit option: 1/2" NPT threaded connections	
Galvanic Isolation	All inputs / outputs are galvanically isolated from power supply up to 500 V	
Conductivity	Minimum conductivity of 5µS/cm	

Performance and Operational Specifications

Accuracy	• ±0.5% from 1 f/s to max velocity, up to ±1% for 0.3 to 1 f/s • ±1% for reverse flow		
Location	Indoor or outdoor use		
Operating and Storage Temperature	-4° to 140° F (-20° to 60° C)		
IP Rating	IP67 Die cast aluminum converter (only when connected using compression gland seals)		
Standard Outputs	Dual 4-20mA Outputs: Galvanically isolated and fully programmable for zero and full scale (0-21mA rangeability) Two separate digital programmable outputs: open collector transistor usable for pulse, frequency, or alarm settings.		
Optional Outputs	• Volumetric Pulse • Flow Rate (Frequency) • Hardware Alarm • High/Low Flow Alarms • Empty Pipe • Directional Indication	• Range Indication • Maximum switching voltage: 40 VDC • Maximum switching current: 100mA	• Maximum switching frequency: 1250 Hz • Insulation from other secondary circuits: 500V
	• Modbus • HART	• Smart Output™ (Sensus, Itron 6, Itron 9)	• Datalogger • Built-in verification

Display and Measurement

Keyboard and Display	Can be used to access and change set-up parameters using six membrane keys and an LCD display		
Engineering Units	• Cubic Meter • Cubic Centimeter • Milliliter • Liter • Cubic Decimeter • Decaliter • Hectoliter • Cubic Inches	• US Gallons • Imperial Gallons • Cubic Feet • Kilo Cubic Feet • Standard Barrel • Oil Barrel • US Kilogallon • Ten Thousands of Gallons	• Imperial Kilogallon • Acre Feet • Megagallon • Imperial Megagallon • Hundred Cubic Feet • Megaliters

PROCOMM CONVERTER SPECIFICATIONS (CONT.)

Other Specifications

Standard Model	• ISO 9001:2015 certified quality management system • CE • Certified by MET to UL 61010-1 / CSA C22.2 No. 61010-1	

HL Model	• ISO 9001:2015 certified quality management system
	• CE
	• Certified by MET: Safety: UL61010-1 / CSA C22.2 No. 61010-1, Third Edition: Safety of Electrical Equipment For Measurement, Control, and Laboratory Use
	• Certified by MET: Standards: ANSI / ISA12.12.01 / CSA C22.2 No. 213, Nonincendive Electrical Equipment
	  • Class I and II, Division 2
	  • Class III, Divisions 1 and 2 Hazardous (Classified) Locations	

IMPORTANT
Electrical safety certifications above do not apply to model 282L Single Point Insertion (SPI Mag) Electromagnetic Flow Meter.

IMPORTANT
Refer to certification requirements. Do not substitute components.

IMPORTANT
The ProComm converter, models PC-RA1-HL series and PC-MA1-HL series have no user serviceable parts.

PROCOMM GO CONVERTER SPECIFICATIONS

Physical Specifications

Electronic Housing	Diecast aluminum, powder coated enclosure w/ tamper resistant seal, 6½" x 6½" x 43/8" tall
Converter Dimensions	See "Dimensions" section for meter mount and remote mount converter dimensions.
Power	**Battery:** Standard: three 3.6V lithium-thionyl chloride (Li-SOCI2) D size batteries with two AA backup batteries **AC Power:** 100-240VAC/45-66Hz (4W) **DC Power:** Linear power supply 10-35VDC (4 W)
Electrical Connections	• Optional shielded cable for 10-32VDC/4-20 mA output • Optional shielded cable for pulse out

Performance and Operational Specifications

Battery Life	Five-year expected battery life, five-year battery warranty
Location	Indoor or outdoor use
Altitude	Operating: 2000 meters Storage: 12,000 meters
Operating Temperature	-4° to 140° F (-20° to 60° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)
Relative Humidity	0% to 100%
IP Rating	IP67 Die cast aluminum converter
Outputs	**Digital output:** Digital pulse (open collector) output for volumetric - Two isolated digital pulse (open collector) outputs for volumetric - AMI output **Analog output:** 4-20mA: Galvanically Isolated, 16 Bit resolution. All power configurations (including battery). Note: 9-30 VDC loop power required (not supplied via converter)

Display and Measurement

Display	• 2-Line LCD display (no backlight) • 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	

Units

GPM	Gallons per minute	IGM	Imperial gal per minute	CFM	Cubic feet per minute
MGD	Mega gal per day	MI9	Miners inch (9G)	B5M	Barrels per minute (55G)
CFS	Cubic feet per second	MI1	Miners inch (11.22G)	B5H	Barrels per hour (55G)
MLD	Megaliters per day	APD	Acre feet per day	B5D	Barrels per day (55G)
LPS	Liters per second	KLH	Kiloliters per hour	B4M	Barrels per minute (42G)
CMH	Cubic meters per hour	LPH	Liters per hour	B4H	Barrels per hour (42G)
LPM	Liters per minute	CMM	Cubic meters per minute	B4D	Barrels per day (42G)
GPH	Gallons per hour	CFM	Cubic feet per minute		

Totalizer Units	GAL	Gallons	B42	Barrel (42G)	MH1	Miners Inch Hour (11.22G)		
	CUF	Cubic Feet	B46	Barrel (46G)				
	AFT	Acre Feet	B55	Barrel (55G)	MD1	Miners Inch Day (11.22G)		
	CUM	Cubic Meters	IMG	Imperial Gallon	MH9	Miners Inch Hour (9G)		
	LIT	Liters	AIN	Acre Inch	MD9	Miners Inch Day (9G)		
	MML	Megaliter	TON	Ton (Short)	KGL	Kilo Gallons		
	MTT	Metric Ton (KL)	MM1	Miners Inch Minute (11.22G)	MGL	Mega Gallons		
	B31	Barrel (31G)	MM9	Miners Inch Minute (9G)	IN3	Cubic Inch		
Data Logger	Standard with all models, minimum of five years of data stored							

Other Specifications

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
Safety	• IEC 61010-1, Pollution Degree II • Overvoltage protection Category III

Certifications

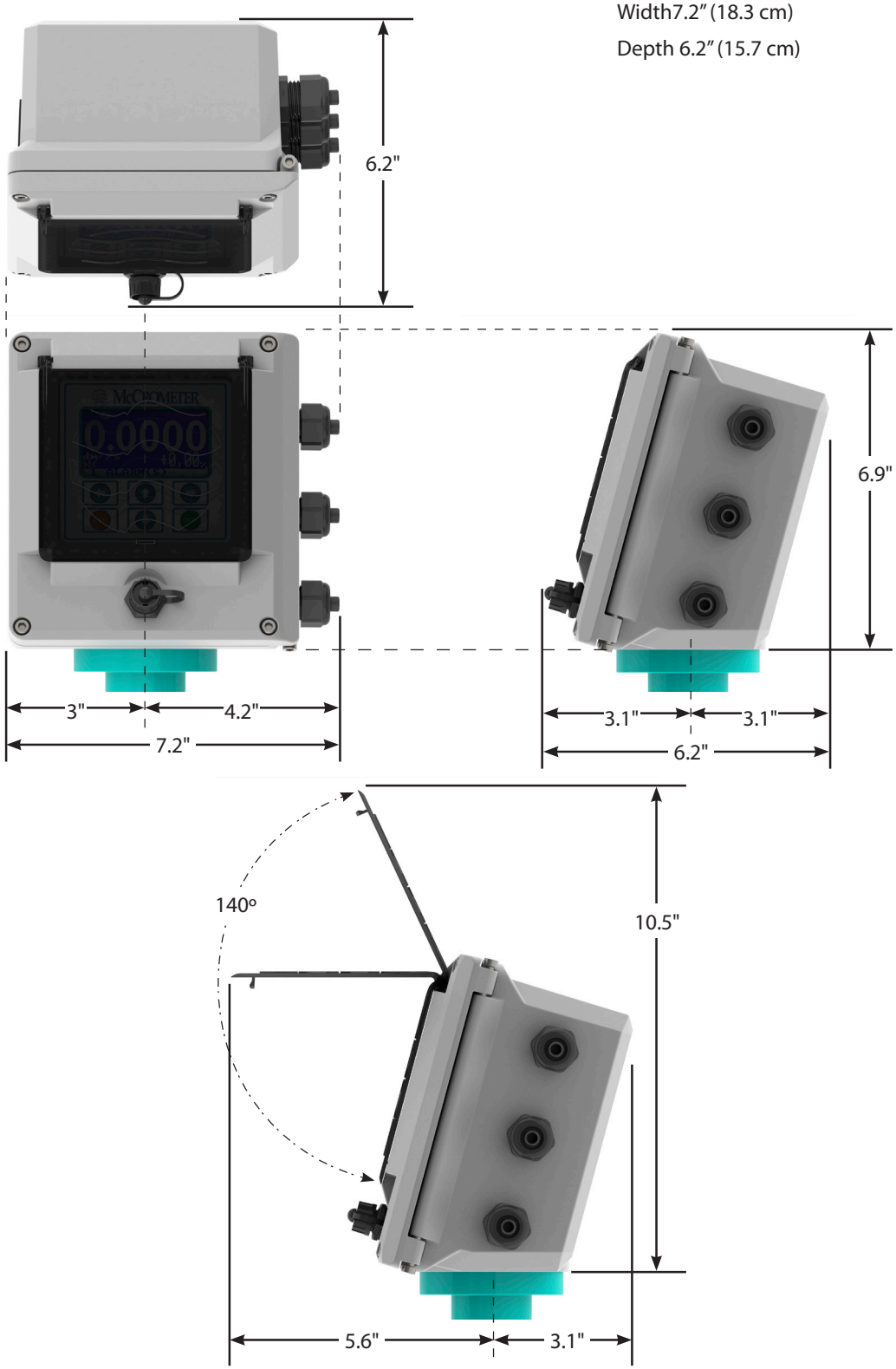
Standard Model	• ISO 9001:2015 certified quality management system • Certified by MET to UL 61010-1 / CSA C22.2 No. 61010-1 • Certified to NSF / ANSI Standards*	

HL Model	• ISO 9001:2015 certified quality management system
	• Certified by MET: Safety: UL61010-1 / CSA C22.2 No. 61010-1, Third Edition: Safety of Electrical Equipment For Measurement, Control, and Laboratory Use
	• Certified by MET: Standards: ANSI / ISA12.12.01 / CSA C22.2 No. 213, Nonincendive Electrical Equipment
	  • Class I and II, Division 2
	  • Class III, Divisions 1 and 2 Hazardous (Classified) Locations
	• Certified to NSF / ANSI Standards*	

* Certified by IAPMO R&T to NSF/ANSI 61 for material safety and NSF/ANSI 372 for low lead content.

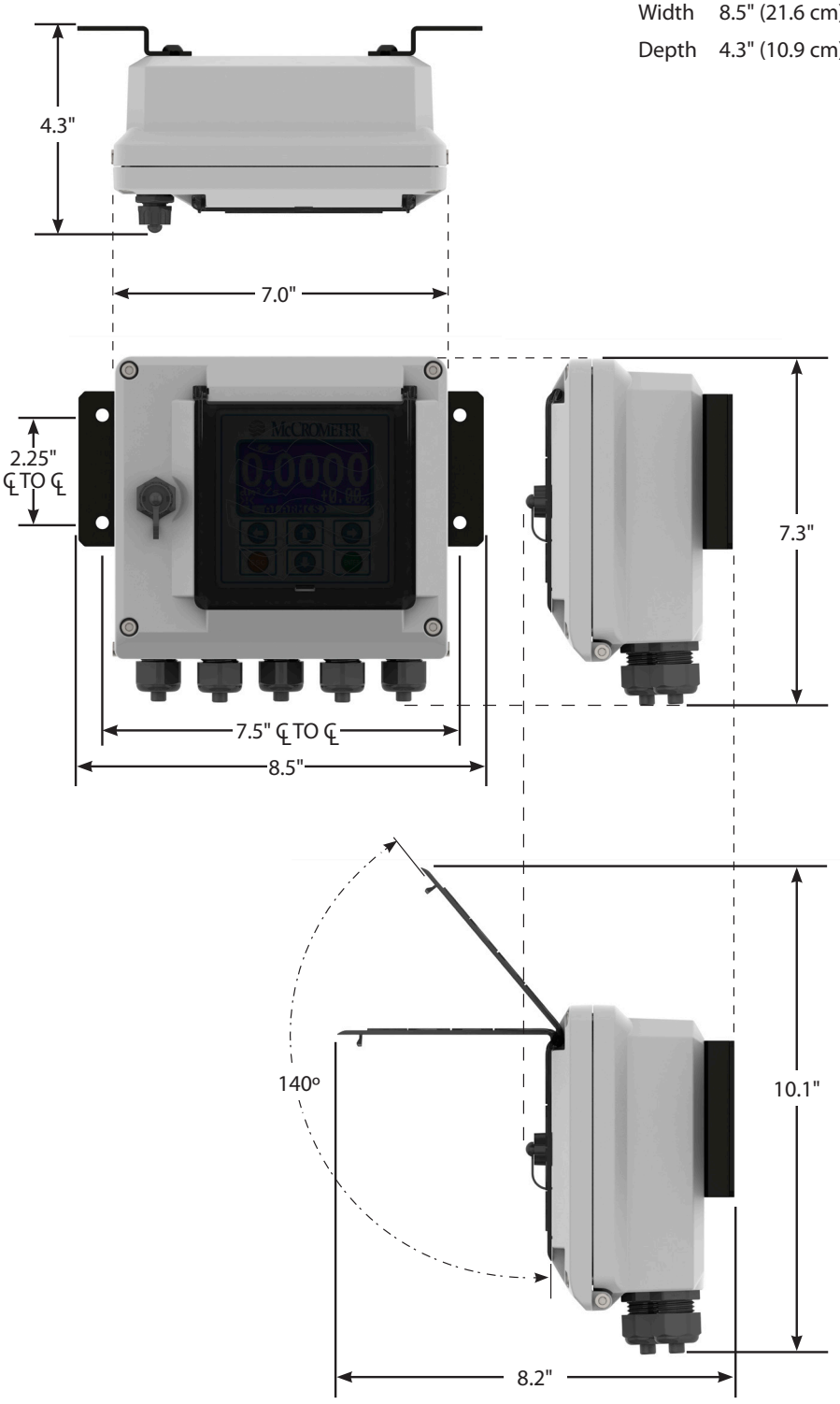
PROCOMM CONVERTER METER MOUNT DIMENSIONS

Height 6.9″ (20.1 cm)
Width7.2″ (18.3 cm)
Depth 6.2″ (15.7 cm)



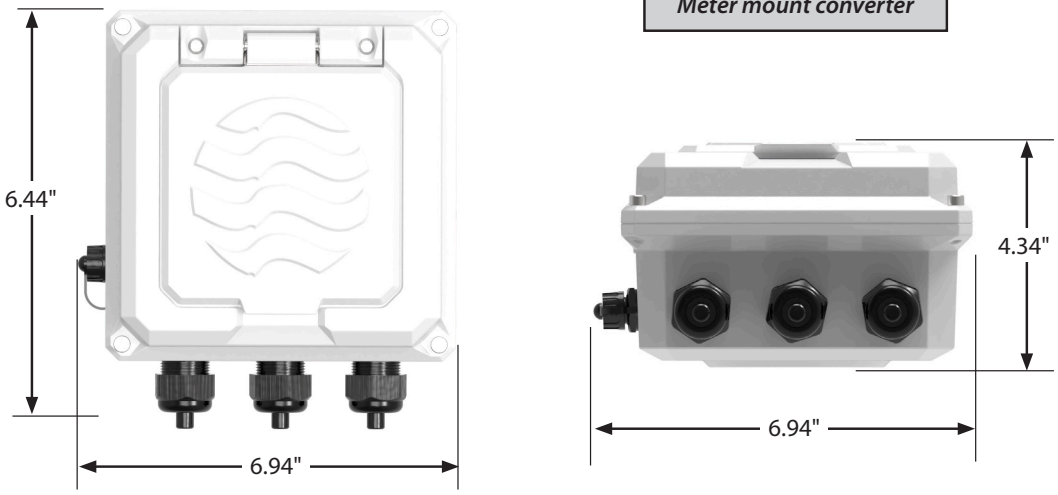
PROCOMM CONVERTER REMOTE MOUNT DIMENSIONS

Height 7.3" (18.5 cm)
Width 8.5" (21.6 cm)
Depth 4.3" (10.9 cm)

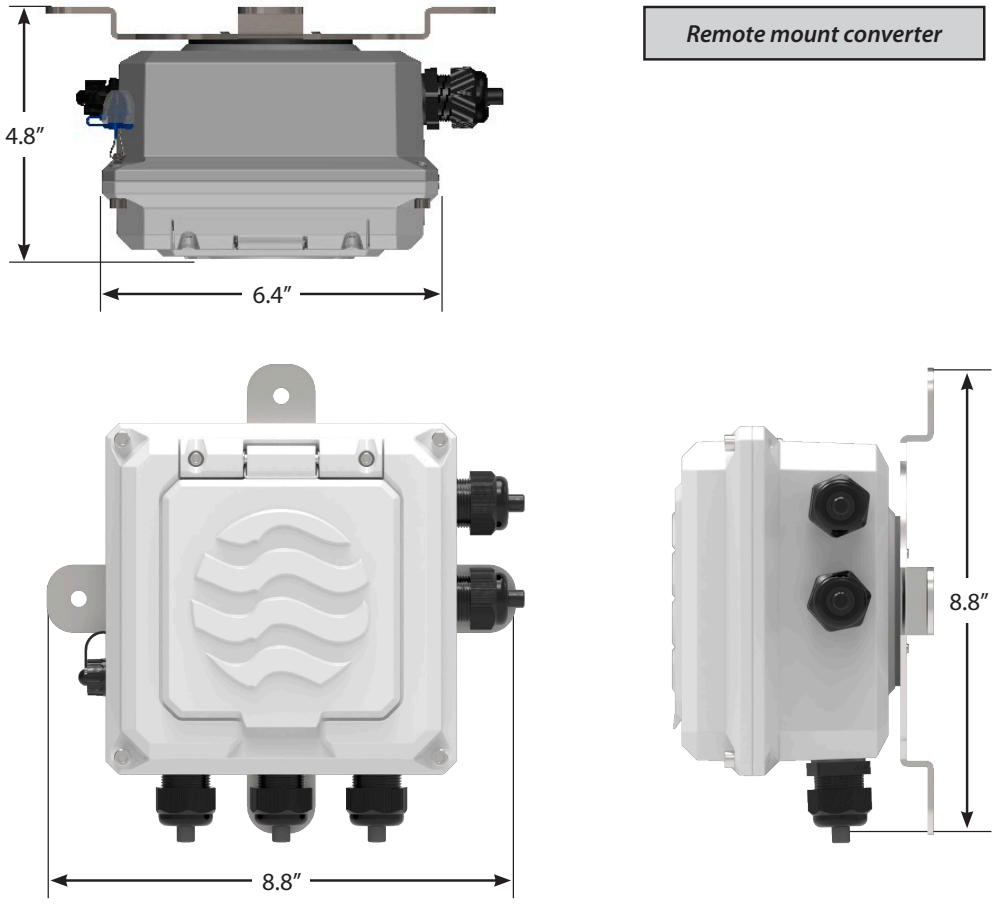


PROCOMM GO CONVERTER DIMENSIONS

Meter mount converter



Remote mount converter



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