DESCRIPTION

McCrometer's award-winning Mc Mag3000™ provides growers and irrigators with a new alternative for flow measurement. With a 5-year meter warranty, a 5-year battery life, and saddle mount design, the Mc Mag3000 delivers the dependability and ease-of-installation McCrometer has provided to the agricultural market for over 65 years. The electromagnetic sensor offers accuracy as good as ±1% while being designed to naturally shed debris.

The meter is available to fit a common range of agricultural line sizes, from 4" to 12" diameter pipe.

The innovative design of the Mc Mag3000 saddle mount meter features a multi-point angled sensor that sheds debris, making it ideal for use in surface water, livestock waste lagoons, and other dirty water applications.

Using electromagnetic technology to measure the water flow, the Mc Mag3000's precision sensor corrects for shifting velocity in the pipe by constantly obtaining the mean velocity from its multiple electrodes. The result is a highly accurate (as low as +/- 1%) flow meter.

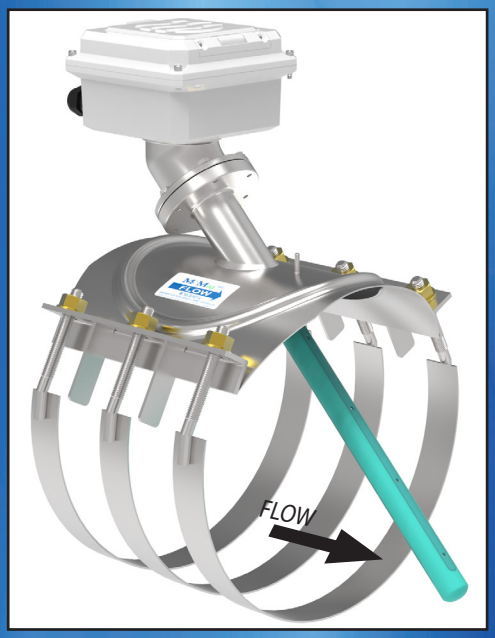
The meter combines an innovative saddle, precision sensor, and a battery powered integrated electronic converter package with data logging capability to provide accurate flow measurement for full-pipe flow monitoring applications.

The integrated electronic converter is secured with tamper resistant screws to protect against unauthorized access. The meter offers flow rate and total water used and a 5-year warranty. The Mc Mag3000 features three 3.6V lithium-thionyl chloride (Li-SOCI2) D size batteries, with two AA batteries serving as back-up power. The batteries are easily replaced in the field. Pulse, 4-20mA, and AMI output are available for remote meter reading or SCADA. The Mc Mag3000 is McCrometer CONNECT wireless system compatible, which allows users to access flow data by simply logging on to the Internet. This eliminates costly manual meter reading.

INSTALLATION

The Mc Mag3000 offers hassle-free installation, even in tight spaces. No flanges or costly welding is involved. Users simply cut a 3" diameter hole in the top of their pipe and slide the sensor into the hole, and then cinch the meter onto the pipe using the Factory provided U-straps.

The meter can be mounted in a horizontal or vertical position with a full pipe of water. A minimum of three pipe diameters upstream of a flow disturber and one pipe diameter downstream from the meter are required to ensure optimal accuracy of ±2%. A ±1% accuracy is available with a Factory consultation prior to order.



KEY FEATURES

- 5-year meter warranty
- 5-year battery warranty
- Battery power version available, including pulse, 4-20mA, and AMI output
- Remote mount option available
- Durable design – Proven in tough environments
- 10 minute DIY replaceable battery pack, keeps your meter running
- Made in the USA

APPLICATIONS

- Irrigation
- Center Pivot Systems
- Well Monitoring
- Water Distribution
- Chemigation
- Livestock Waste Lagoons
- Surface Water
- Golf Courses and Park Management

Flow Meter Part Number Structure

G3	_	-	_	-	_	_	_	_	_	_	-	_	-	_

Line Size		
4 in	04	
6 in	06	
8 in	08	
10 in	10	
12 in	12	

Outside Diameter Range		
4" Meter	3.90 - 4.14"	0
	4.35 - 4.64"	1
	4.65 - 4.90"	2
	4.91 - 5.15"	3
6" Meter	5.50 -5.89"	1
	5.90 - 6.75"	2
	6.76 - 7.49"	3
8" Meter	7.50 - 7.79"	3
	7.80 - 8.93"	4
	8.94 - 9.19"	5
10" Meter	9.20 - 9.69"	5
	9.70 - 10.94"	6
	10.95 - 11.29"	7
12" Meter	11.30 - 11.69"	7
	11.70 - 12.94"	8
	12.95 - 13.39"	9

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

Converter Power Options	
Battery Power *(Standard)*	B
Solar Power, Battery Backup	S
A/C Power, Battery Backup	E
DC Power, Battery Backup	F

continued on next page

Flow Meter Part Number Structure

G3 [__] - [_] - [_] [_] [_] [_] [_] [_] - [__] - [__]
Converter Output Options
No Outputs *(Standard)* : -
No Outputs, DC Power 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 (*5 or 6 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
SmartTrax Telemetry Unit (Requires Pulse Output, STX Smart Part on 2nd Line) : STX
High Accuracy Calibration Option
Standard Accuracy 2% Calibration : -
High Accuracy 1% calibration : HA

ProComm Go Converter Part Number Structure

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

Flow Meter Specifications

Physical Specifications

Measurement Method	Volumetric flow in filled flow conduits 4" to 12" utilizing saddle installed sensor. Flow indication in English Standard or Metric units
Directionality	Single direction
Pipe Sizes	4", 6", 8", 10", 12"
Body Style	Saddle mount
Materials	**Sensor Body:** Fusion bonded epoxy coated stainless steel (316) **Electrodes:** Stainless steel (316) **Saddle Mount:** Stainless steel (304) **Saddle Hardware:** Stainless steel (304) **Electronic Housing:** IP-67 Certified diecast aluminum, powder coated enclosure w/ tamper resistant seal, 6½" x 6½" x 43/8" tall **O-Ring:** SBR rubber D-ring **Boot Cover:** EPDM rubber
Power	**Battery:** Standard: three 3.6V lithium-thionyl chloride (Li-SOCI2) D size batteries with two AA backup batteries **AC Power:** 100-240VAC **DC Power:** Linear power supply 10-35VDC, 2.4W
Electrical Connections	• Optional shielded cable for 10-32VDC/4-20 mA output • Optional shielded cable for pulse out
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)

Performance and Operational Specifications

Operating Temperature	-4° to 140°F (-20° to 60°C) sensor
Storage Temperature	-40° to 149°F (-40° to 65°C) **Note:** During freezing conditions and when meter is not in use, sensor must be removed from pipe and stored in dry conditions. ***NOTE: Damage to the sensor caused by allowing the sensor freeze in the pipe is not covered by the warranty.***
Operating Pressure	150 PSI
IP Rating	IP68 (submersible sensor)
Pressure Range	150 psi (10.3 bar) working pressure
Empty Pipe Detection	Hardware/software, conductivity-based (optional)
Accuracy	• Standard: +/- 2% of measured value ±0.006 ft/s (±0.0018 m/s) • Optional: +/- 1% of measured value ±0.006 ft/s (±0.0018 m/s)
Conductivity	Minimum conductivity of 50µS/cm. For lower conductive fluid consult factory.
Battery Life	Five-year expected battery life, five-year battery warranty
Pipe Run Requirements	3D Upstream / 1D Downstream

Flow Meter Specifications

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	Gallons per minute Million gallons per day Cubic feet per second Megaliters per day Liters per second Cubic meters per hour Liters per minute Gallons per hour Imperial gallons per minute Miner's inch (9G) Miner's inch (11.22G) Acre-feet per day Kiloliters per hour Liters per hour Cubic meters per minute Cubic feet per minute Barrels per minute (55G) Barrels per hour (55G) Barrels per day (55G) Barrels per minute (42G) Barrels per hour (42G) Barrels per day (42G)
Unit Rate Scales	seconds, minutes, hours, days

Other Specifications

Options and Accessories	• Data Logger - included as standard with five years of data storage at default (12hr) interval. (Cable sold separately) • Bidirectional • Epoxy coated carbon steel flanged spool piece • AC, DC, and battery powered with battery backup powered available • Remote mount (25' cable length only) • Annual verification / calibration • Stainless Steel ID tag
Warranty	**Meter:** 5-year standard warranty **Battery:** 5-year warranty **Liner:** Lifetime guarantee

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		

ProComm GO Converter Specifications

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

Other Specifications

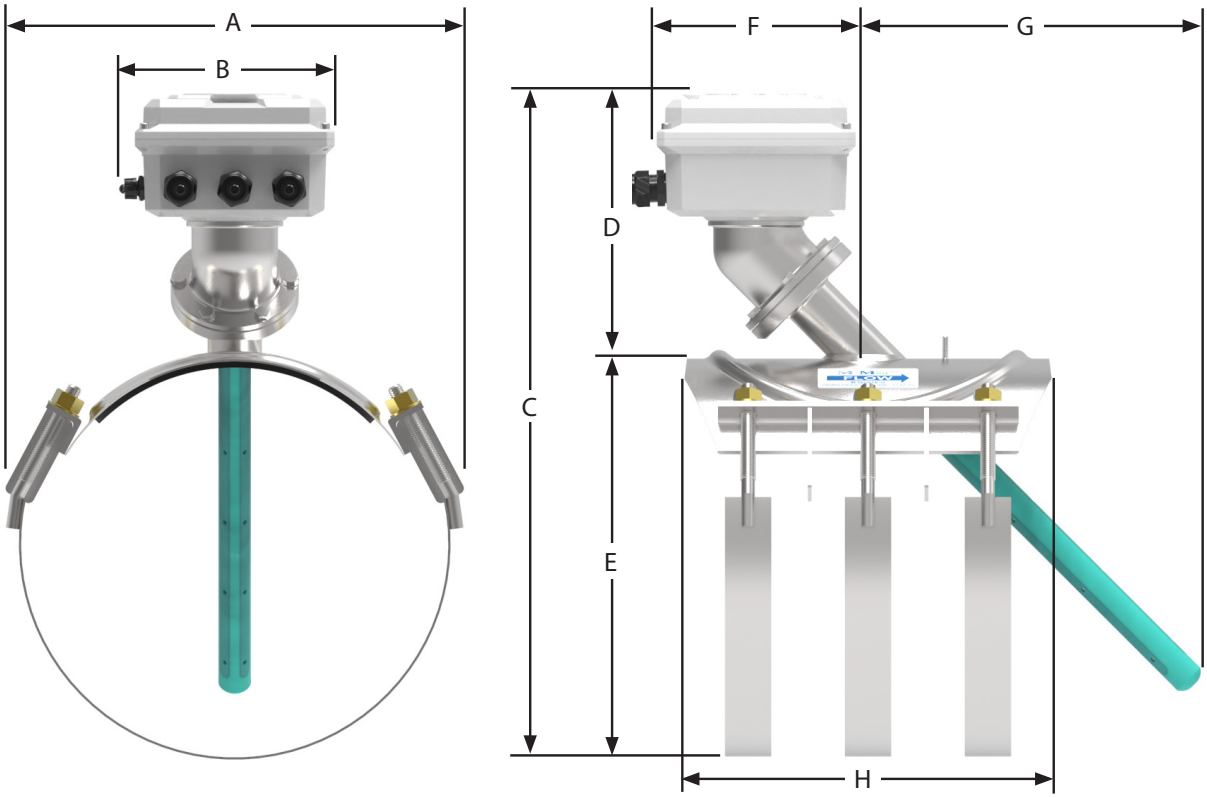
Options and Accessories	• Data Logger - included as standard with five years of data storage at default (12hr) interval. (Cable sold separately) • AC, DC, and battery powered with battery backup powered available
Safety	• IEC 61010-1, Pollution Degree II • Overvoltage protection Category III

Certifications

Standard Model	• ISO 9001:2015 certified quality management system • Certified by MET to UL 61010-1	

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 B C D, T5
	  • Class I, Zone 2 IIC T5	

Dimensions and Weights



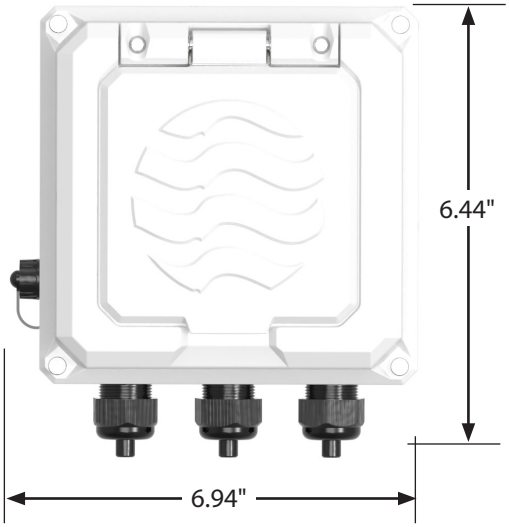
	Nominal Pipe Size*				
Max/Min Flow And Weight	**4"**	**6"**	**8"**	**10"**	**12"**
Maximum Flow U.S. GPM	600	1350	2350	3700	5300
Minimum Flow U.S. GPM	40	90	150	240	350
Approximate Shipping Weight lbs.	23	26	29	30	32

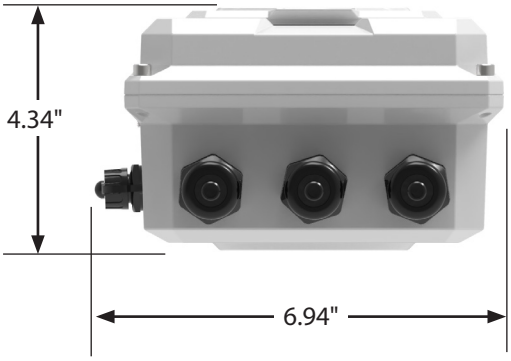
Dimensions (Inches)	**4"**	**6"**	**8"**	**10"**	**12"**
A	7.50	13.00	12.50	13.25	15.25
B	6.94	6.94	6.94	6.94	6.94
C	13.50	15.50	17.50	19.75	21.75
D	8.90	8.90	8.90	8.90	8.90
E	4.50	6.625	8.625	10.75	12.75
F	7.37	7.37	7.37	7.37	7.37
G	3.56	4.93	7.32	8.38	10.77
H	8.00	12.00	12.00	12.00	12.00

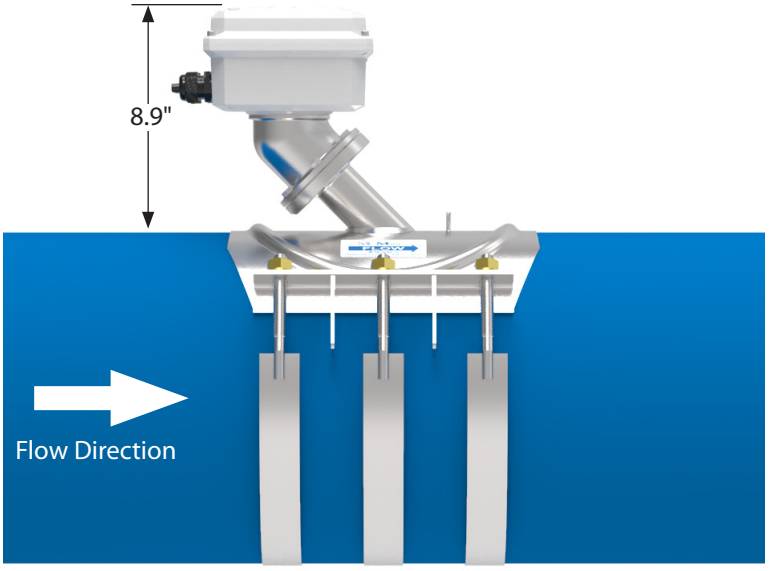
All Dimensions based on ANSI B36.10 Nominal Pipe

*** Note:** Meters can be installed in Water Specialties bolt saddle meter cutouts for 6" meters and 8"-12" meters as well as in McCrometer bolt on saddle meter cutouts for 12" OD pipe. **The meter CANNOT be installed in Water Specialties bolt on saddle meter cutouts for 4" meters.** If replacing an existing meter, consult Factory.

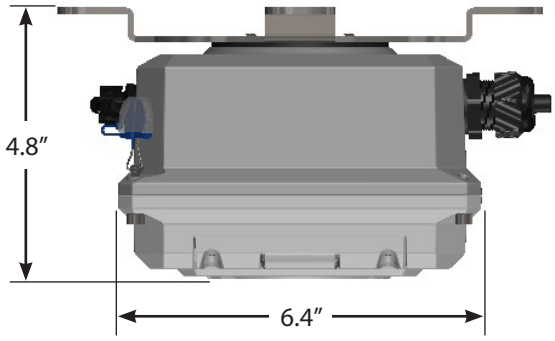
Dimensions and Weights

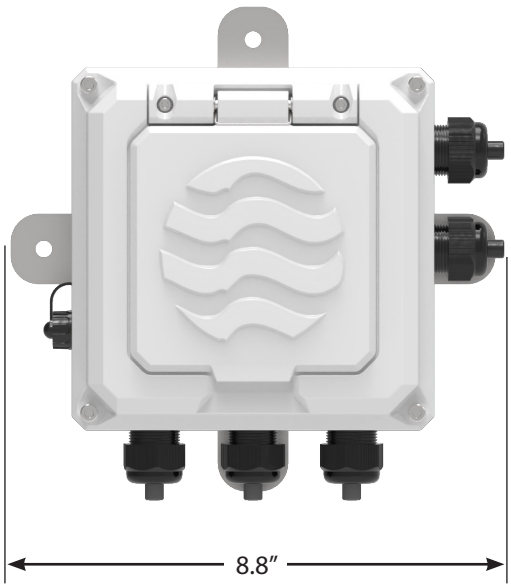


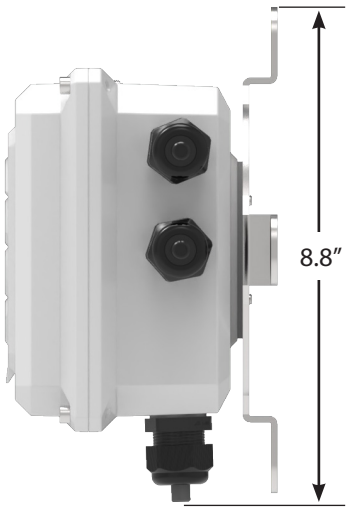




Dimensions and Weights







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