FPI Mag® Sensor **ProComm® Converter**

ProComm® GO Converter

The FPI Mag® (Full Profile Insertion) electromagnetic flow meter is the only hot tap full profile insertion flow meter available on the market. The FPI Mag installs without service interruption making it ideal for retrofits, upgrades and maintenance projects and sites never metered before. The hot tap installation significantly reduces installation time eliminating the need to de-water lines or cut pipe.

The multi-electrode sensor delivers an accurate measurement of the full pipe profile rivaling the performance of a full-bore mag meter. The repeatable, stable measurement across the entire flow profile compensates for variable flow profiles, including swirl and turbulent conditions.

The FPI Mag is the industry's most economical flow metering solution offering unbeatable value in the cost of installation and ownership reducing installed costs by more than 45 percent in medium and large line sizes. The compact insertion design fits in confined spaces and offers complete accessibility. The flow meter can be removed in pipes under pressure for easy inspection, cleaning, calibrating, or verification. Installation costs are reduced by eliminating the need for heavy equipment and extensive manpower.

The innovative flow meter comes pre-calibrated from McCrometer's NIST traceable calibration labs and requires no recalibration in the field. With no moving parts and a single-piece design, the FPI Mag's sensor contains nothing to wear or break and is generally immune to clogging by sand, grit, or other debris. The electrodes are encased in a heavy-duty 316 stainless steel sensor body for maximum structural integrity and coated with a NSF certified 3M™ fusion-bonded epoxy coating for operational longevity.

MUNICIPAL WATER AND WASTEWATER

The FPI Mag Full Profile Insertion mag meter supports the following water and wastewater treatment applications:

Water

- Distribution
- Effluent
- Filter balancing and backwash
- Pumping stations
- UV dosing
- Wells and booster stations

Wastewater

- Effluent
- Recycle / reclaim

The FPI Mag is ideal for chilled water in campus style facilities, hospitals, airports, hotels, casinos, etc.

INDUSTRIAL FACILITIES

The FPI Mag is also suitable for a variety of industrial facilities: power plants (including cogeneration), paper mills, chemical & petrochemical plants, metals & mining, and food & beverage.

Applications Include

- Cooling water
- Fire water
- Feed water
- Raw water
- Inlet to surge basin
- Effluent wastewater

Benefits:

- **Hot Tap Installation** - No service interruption
- **Accurate** – Measures the full flow profile
- **Lower Cost** – Installed savings more than 45%
- **Robust** – No moving parts to wear or break
- **Versatile** – Great for plant maintenance, upgrades and retrofits
- **Accessible** – Insertion design provides easy access
- **Virtually No Maintenance** – No field calibration required

PART NUMBER MATRIX FOR FPI MAG WITH PROCOMM CONVERTER

39				-								-		-	

Single or Bidirectional Flow	
Bidirectional Flow	4
Single Forward Flow	5
Meter Type (Calculated)	
Standard Length Sensor	S
Custom Length Sensor	C
Nominal Line Size	
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
54 in	54
60 in	60
66 in	66
72 in	72
78 in	78
84 in	84
90 in	90
96 in	96
100 in	H0
110 in	H1
120 in	H2
130 in	H3

Continued on next page

PART NUMBER MATRIX FOR FPI MAG WITH PROCOMM CONVERTER (CONT.)

39 _ - _ _ _ _ _ _ - _ - _

Sensor Length Options (From Calc Sheet)	
20" Sensor Length	020
21" Sensor Length	021
22" Sensor Length	022
Each nominal Inch Length	...
175" Sensor Length	##

Electrode Material Options	
S316 Stainless Steel *(Standard)*	S
Hastelloy	H

Ball Valve Options	
2" NPT	N
2" BSPT	B
No Valve 2" NPT	X
No Valve 2" BSPT	Y

Remote Mount Cable Connector Options	
Quick Connect (Standard)	Q
Strain Relief	R

Remote Cable Length Options	
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

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 + STD (Two 4-20, two Dig)	4
Datalogger + Modbus + STD (Two 4-20, two Dig)	5
Datalogger + Hart + STD (Two 4-20, two Dig)	6
AMI Smart Output + STD (Two 4-20, two Dig)	7*
Datalogger + 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

Hazardous Area Location	
Class 1, Division 2, Groups A-D, T5	HL

PART NUMBER MATRIX FOR FPI MAG WITH PROCOMM GO CONVERTER

39 _ _ _ - _ _ _ _ _ _ _ - _ - _

Category	Option	Code
Single or Bidirectional Flow		
Bidirectional Flow		4
Single Forward Flow		5
Meter Type		
Standard Length Sensor		S
Custom Length Sensor		C
Nominal Line Size		
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
54 in		54
60 in		60
66 in		66
72 in		72
78 in		78
84 in		84
90 in		90
96 in		96
100 in		H0
110 in		H1
120 in		H2
130 in		H3
Sensor Length Options		
20" Sensor Length		020
21" Sensor Length		021
22" Sensor Length		022
Each nominal Inch Length		...
175" Sensor Length		###
Electrode Material Options		
S316 Stainless Steel _(Standard)_		S
Hastelloy		H

Continued on next page

PART NUMBER MATRIX FOR FPI MAG WITH PROCOMM GO CONVERTER (CONT.)

39 _ - _ _ - _ _ _ _ - _ - _

Ball Valve Options
2" NPT	N
2" BSPT	B
No Valve 2" NPT	X
No Valve 2" BSPT	Y

Remote Mount Cable Connector Options
25 ft Quick Connect (Standard)	Q
25 ft Strain Relief	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)	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 (*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

Hazardous Area Location
Class 1, Division 2, Groups A-D, T5	HL

FLOW METER SPECIFICATIONS

The full pipe averaging flow meter comes complete with Mounting Hardware, AC Converter with Dual 4-20mA output, 25 Feet of Dual Submersible Cables with quick connects at sensor, Stainless Steel Body, 316 Stainless Steel Electrodes, NSF Approved Fusion Bonded Epoxy Coating, 2" Stainless Steel Ball Valve (minimum of 1-7/8" port I.D.), 2" x Close Stainless Steel Nipple, 2-Year Warranty.

Measurement

	Volumetric flow in filled flow conduits 4" (100 mm) to 138" (3,500 mm) utilizing insertable electromagnetic averaging sensor. Flow indication in English Standard or Metric units.

Flow Measurement

Method	Electromagnetic
Calibrated accuracy for forward and bidirectional sensors	• AC or DC power: ±0.5% of measured value ±0.006 ft/s (±0.0018 m/s) • Battery power: ±1% of measured value ±0.006 ft/s (±0.0018 m/s) • Reverse Flow: ±1% of measured value ±0.006 ft/s (±0.0018 m/s) **Note:** See section "Flow Meter Pipe Sizes and Flow Ranges with ProComm Converter" for a table of velocities by pipe size.
Linearity	0.3% of Range
Repeatability	0.2% of Reading
Direction measurement	• 395 sensor - Forward flow measurement and reverse flow indication • 394 sensor - bidirectional flow measurement

Materials

Coating	Fusion bonded epoxy (NSF 61 approved) coated 316 stainless steel
Insertion hardware	316 Stainless Steel
Compression seal	Silicone Rubber
Sensor electrodes	316 Stainless Steel

Temperature Range

Operation	-10 to 60°C (14 to 140°F) up to 250 PSI
Storage	-15 to 60°C (5 to 140° F)
	Note regarding storage: 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.**

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.

Electrical Connections

	• Quick Connect • Compression gland seals

IP Rating

Standard model	• Quick Connect (IP68) • Compression gland seals (IP68)
HL model	• Quick Connect (IP67) • Compression gland seals (IP67)

Sensor Submersibility Depth

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

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*	

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

System Options

• Hastelloy® electrodes • Additional sensor cable up to 475' (500' max for model 395 and 200' max for model 394) • Extension to hardware clearance • Annual verification / calibration • Sensor insertion tool • Stainless steel ID tag

Note regarding cable length: McCrometer recommends minimizing cable length. Electromagnetic flow meters may have unfavorable signal strength to noise ratio in electrically noisy environments. Longer lengths of cable increase the likelihood of interference. In those cases where the meter's signal must be transmitted a long distance, or where the environment may be particularly noisy, we suggest using the converter's analog output(s). That allows locating the converter as close as possible to the metering location.

FLOW METER PIPE SIZES AND FLOW RANGES WITH PROCOMM CONVERTER
IMPERIAL UNITS

Pipe Size (Nominal)	Pipe ID Range		Flow Ranges (GPM Standard)		Standard Program Defaults[1]	Minimum Clearance Required During Installation[2]	Velocity Range[3] (f/s)
	Min Pipe ID	Max Pipe ID	Min (GPM)[1]	Max (GPM)[1]	20mA (GPM)		
S = Standard (Available in 395 models Pipe Sizes 4" - 24" as shown in table below) **C** = Custom (Available in all 394 and 395 models Pipe Sizes 4" - 138") Standard Length Hardware and Installation Clearance Dimensions are based on a 4" Maximum Height Coupling and Pipe Schedule Standard							
4"	3.74	4.99	12	1280	1280	51"	0.3 - 32
6"	5.00	7.24	26	2800	2800	51"	0.3 - 32
8"	7.25	9.24	47	5000	5000	55"	0.3 - 32
10"	9.25	11.24	80	8000	8000	55"	0.3 - 32
12"	11.25	12.99	110	11000	11000	59"	0.3 - 32
14"	13.00	14.99	150	15000	15000	59"	0.3 - 32
16"	15.00	16.75	190	20000	20000	59"	0.3 - 32
18"	16.76	18.80	240	26000	26000	63"	0.3 - 32
20"	18.81	22.74	300	28000	28000	63"	0.3 - 28
24"	22.75	24.99	410	33000	33000	67"	0.3 - 23
30"	25.00	33.99	600	44000	44000	71.25"	0.3 - 20
36"	34.00	39.99	1000	48000	48000	77.25"	0.3 - 15
42"	40.00	45.99	1300	56000	56000	83.25"	0.3 - 13
48"	46.00	51.99	1700	62000	62000	89.25"	0.3 - 11
54"	52.00	57.99	2200	79000	79000	95.25"	0.3 - 11
60"	58.00	63.99	2600	97000	97000	101.25"	0.3 - 11
66"	64.00	69.99	3200	106000	106000	107.25"	0.3 - 10
72"	70.00	75.99	3800	127000	127000	113.25"	0.3 - 10
78"-128"	76.00	138.00	Available - Call Factory at 1-800-220-2279				

[1] Default totalizer units measured as KGAL.
[2] Hardware clearance after installation for all sizes is 28".
[3] Flow temperature range -10° to 60° C (14° to 140° F) up to 250 PSI, max pressure is 250 psi.

! Required Information

At the time of ordering, please be prepared to provide the following information:

1. Pipe ID and Pipe OD
2. Unit of Measure (US Gallons is Default)
3. Maximum pressure
4. FPI Specification Data Sheet for custom length sensors

Consult factory if any chemicals are in use.

FLOW METER PIPE SIZES AND FLOW RANGES WITH PROCOMM CONVERTER
METRIC UNITS

Pipe Size (Nominal) (mm)	Pipe ID Range		Flow Ranges (m³/h standard)		Standard Program Defaults[1]	Minimum Clearance Required During Installation (cm)[2]	Velocity Range[3] (m/s)
	Min Pipe ID (mm)	Max Pipe ID (mm)	Min (m³/h)[1]	Max (m³/h)[1]	20mA		
S = Standard (Available in 395 models pipe sizes 100 mm - 600 mm as shown in table below) C = Custom (Available in all 394 and 395 models pipe sizes 100 mm - 3,500 mm) Standard length hardware and installation clearance dimensions are based on a 100 mm maximum height coupling and pipe schedule standard							
DN100	95	127	3	290	135	129.5	0.1 - 10
DN150	127	184	6	635	295	129.5	0.1 - 10
DN200	184	235	11	1135	535	139.7	0.1 - 10
DN250	235	285	18	1815	900	139.7	0.1 - 10
DN300	286	330	25	2500	1250	149.9	0.1 - 10
DN350	330	381	35	3400	1700	149.9	0.1 - 10
DN400	381	425	45	4550	2150	149.9	0.1 - 10
DN450	426	478	55	5900	2700	160.0	0.1 - 10
DN500	478	578	70	6350	3400	160.0	0.1 - 8.5
DN600	578	635	95	7500	4650	170.2	0.1 - 7
DN750	635	863	135	10000	6800	181.0	0.1 - 6
DN900	864	1016	230	10900	8200	196.2	0.1 - 4.5
DN1050	1016	1168	295	12700	10200	211.5	0.1 - 4
DN1200	1168	1321	385	14000	12500	226.7	0.1 - 3.5
DN1350	1321	1473	500	18000	14750	241.9	0.1 - 3.5
DN1500	1473	1625	590	22000	18000	257.2	0.1 - 3.5
DN1650	1626	1778	725	24000	20500	272.4	0.1 - 3
DN1800	1778	1930	865	29000	22500	287.7	0.1 - 3
DN2000 and up	1931	3505	Available - Call Factory at 1-800-220-2279				

[1] Default totalizer units measured as m^3.

[2] Hardware clearance after installation for all sizes is 700 mm.

[3] Flow temperature range -10° to 60° C (14° to 140° F) up to 17 bar, max pressure is 17 bar.

Required Information

At the time of ordering, please be prepared to provide the following information:

1. Pipe ID and pipe OD
2. Unit of measure (m³ is default)
3. Maximum pressure
4. FPI specification data sheet for custom length sensors

Consult factory if any chemicals are in use.

FLOW METER PIPE SIZES AND FLOW RANGES WITH PROCOMM GO CONVERTER
IMPERIAL UNITS

Pipe Size (Nominal)	Pipe ID Range		Flow Ranges (GPM Standard)		Standard Program Defaults[1]	Minimum Clearance Required During Installation[2]	Velocity Range[3] (f/s)
	Min Pipe ID	Max Pipe ID	Min (GPM)[1]	Max (GPM)[1]	20mA (GPM)		
S = Standard (Available in 395 models Pipe Sizes 4"- 24" as shown in table below) C = Custom (Available in all 394 and 395 models Pipe Sizes 4"- 138") Standard Length Hardware and Installation Clearance Dimensions are based on a 4" Maximum Height Coupling and Pipe Schedule Standard							
4"	3.74	4.99	20	1280	1280	51"	0.5 - 32
6"	5.00	7.24	43	2800	2800	51"	0.5 - 32
8"	7.25	9.24	78	5000	5000	55"	0.5 - 32
10"	9.25	11.24	130	8000	8000	55"	0.5 - 32
12"	11.25	12.99	180	11000	11000	59"	0.5 - 32
14"	13.00	14.99	250	15000	15000	59"	0.5 - 32
16"	15.00	16.75	320	20000	20000	59"	0.5 - 32
18"	16.76	18.80	400	26000	26000	63"	0.5 - 32
20"	18.81	22.74	500	28000	28000	63"	0.5 - 28
24"	22.75	24.99	680	33000	33000	67"	0.5 - 23
30"	25.00	33.99	1000	44000	44000	71.25"	0.5 - 20
36"	34.00	39.99	1700	48000	48000	77.25"	0.5 - 15
42"	40.00	45.99	2200	56000	56000	83.25"	0.5 - 13
48"	46.00	51.99	2800	62000	62000	89.25"	0.5 - 11
54"	52.00	57.99	3700	79000	79000	95.25"	0.5 - 11
60"	58.00	63.99	4300	97000	97000	101.25"	0.5 - 11
66"	64.00	69.99	5300	106000	106000	107.25"	0.5 - 10
72"	70.00	75.99	6300	127000	127000	113.25"	0.5 - 10
78"-128"	76.00	138.00	Available - Call Factory at 1-800-220-2279				

[1] Default totalizer units measured as KGAL.
[2] Hardware clearance after installation for all sizes is 28".
[3] Flow temperature range -10° to 60° C (14° to 140° F) up to 250 PSI, max pressure is 250 psi.

! Required Information

At the time of ordering, please be prepared to provide the following information:

1. Pipe ID and Pipe OD
2. Unit of Measure (US Gallons is Default)
3. Maximum pressure
4. FPI Specification Data Sheet for custom length sensors

Consult factory if any chemicals are in use.

FLOW METER PIPE SIZES AND FLOW RANGES WITH PROCOMM GO CONVERTER
METRIC UNITS

Pipe Size (Nominal) (mm)	Pipe ID Range		Flow Ranges (m³/h standard)		Standard Program Defaults[1]	Minimum Clearance Required During Installation (cm)[2]	Velocity Range[3] (m/s)
	Min Pipe ID (mm)	Max Pipe ID (mm)	Min (m³/h)[1]	Max (m³/h)[1]	20mA		
S = Standard (Available in 395 models pipe sizes 100 mm - 600 mm as shown in table below) C = Custom (Available in all 394 and 395 models pipe sizes 100 mm - 3,500 mm) Standard length hardware and installation clearance dimensions are based on a 100 mm maximum height coupling and pipe schedule standard							
DN100	95	127	5	290	135	129.5	0.15 - 10
DN150	127	184	10	635	295	129.5	0.15 - 10
DN200	184	235	18	1135	535	139.7	0.15 - 10
DN250	235	285	30	1815	900	139.7	0.15 - 10
DN300	286	330	41	2500	1250	149.9	0.15 - 10
DN350	330	381	57	3400	1700	149.9	0.15 - 10
DN400	381	425	73	4550	2150	149.9	0.15 - 10
DN450	426	478	91	5900	2700	160.0	0.15 - 10
DN500	478	578	114	6350	3400	160.0	0.15 - 8.5
DN600	578	635	154	7500	4650	170.2	0.15 - 7
DN750	635	863	227	10000	6800	181.0	0.15 - 6
DN900	864	1016	386	10900	8200	196.2	0.15 - 4.5
DN1050	1016	1168	500	12700	10200	211.5	0.15 - 4
DN1200	1168	1321	636	14000	12500	226.7	0.15 - 3.5
DN1350	1321	1473	840	18000	14750	241.9	0.15 - 3.5
DN1500	1473	1625	977	22000	18000	257.2	0.15 - 3.5
DN1650	1626	1778	1204	24000	20500	272.4	0.15 - 3
DN1800	1778	1930	1431	29000	22500	287.7	0.15 - 3
DN2000 and up	1931	3505	Available - Call Factory at 1-800-220-2279				

[1] Default totalizer units measured as m^3.

[2] Hardware clearance after installation for all sizes is 700 mm.

[3] Flow temperature range -10° to 60° C (14° to 140° F) up to 17 bar, max pressure is 17 bar.

Required Information

At the time of ordering, please be prepared to provide the following information:

1. Pipe ID and pipe OD
2. Unit of measure (m³ is default)
3. Maximum pressure
4. FPI specification data sheet for custom length sensors

Consult factory if any chemicals are in use.

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

Option	Code
Meter Mount Converter *(Standard)*	M
Remote Mount	R

Converter Power Options

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

Converter Output Options

Option	Code
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

Option	Code
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

Option	Code
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

Option	Code
Strain Relief *(Standard)*	1
Quick Connect (25 & 50 ft Cable length only)	2

Smart Output Protocol Options (*4 - 7 output option required)

Option	Code
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

Option	Code
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) DC Power: 12-48 VDC (10 W) Note: AC or DC must be specified at time of ordering.
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. • 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
Optional Outputs	• 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 • 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*

I	**IMPORTANT**	Electrical safety certifications above do not apply to model 282L Single Point Insertion (SPI Mag) Electromagnetic Flow Meter.
I	**IMPORTANT**	Refer to certification requirements. Do not substitute components.
I	**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) • Flow rate and velocity (to 5 digits of precision) • Non-volatile memory • Two alarms: low battery and empty pipe (optional) • Anti-reverse totalizer (standard) • Total (to 9 digits of precision) • 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

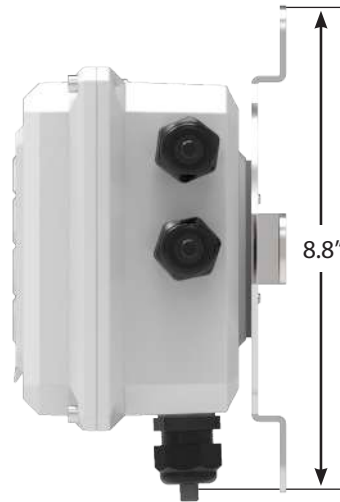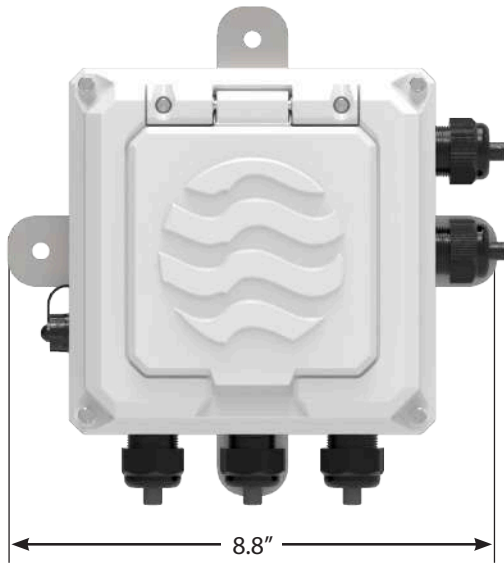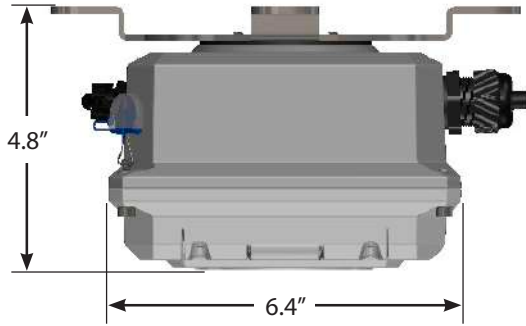| Standard Model | • ISO 9001:2015 certified quality management system
 • Certified by MET to UL 61010-1 / CSA C22.2 No. 61010-1
 • Certified to NSF / ANSI Standards* | |
| **HL Model** | • ISO 9001:2015 certified quality management system
 • Certified by MET: Safety: UL61010-1 / CSA C22.2 No. 61010-1, 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 DIMENSIONS

Height 7.3" (18.5 cm)

Width 8.5" (21.6 cm)

Depth 4.3" (10.9 cm)

4.3"

7.0"

2.25"
C̶L TO C̶L

7.5" C̶L TO C̶L

8.5"

7.3"

140°

10.1"

8.2"
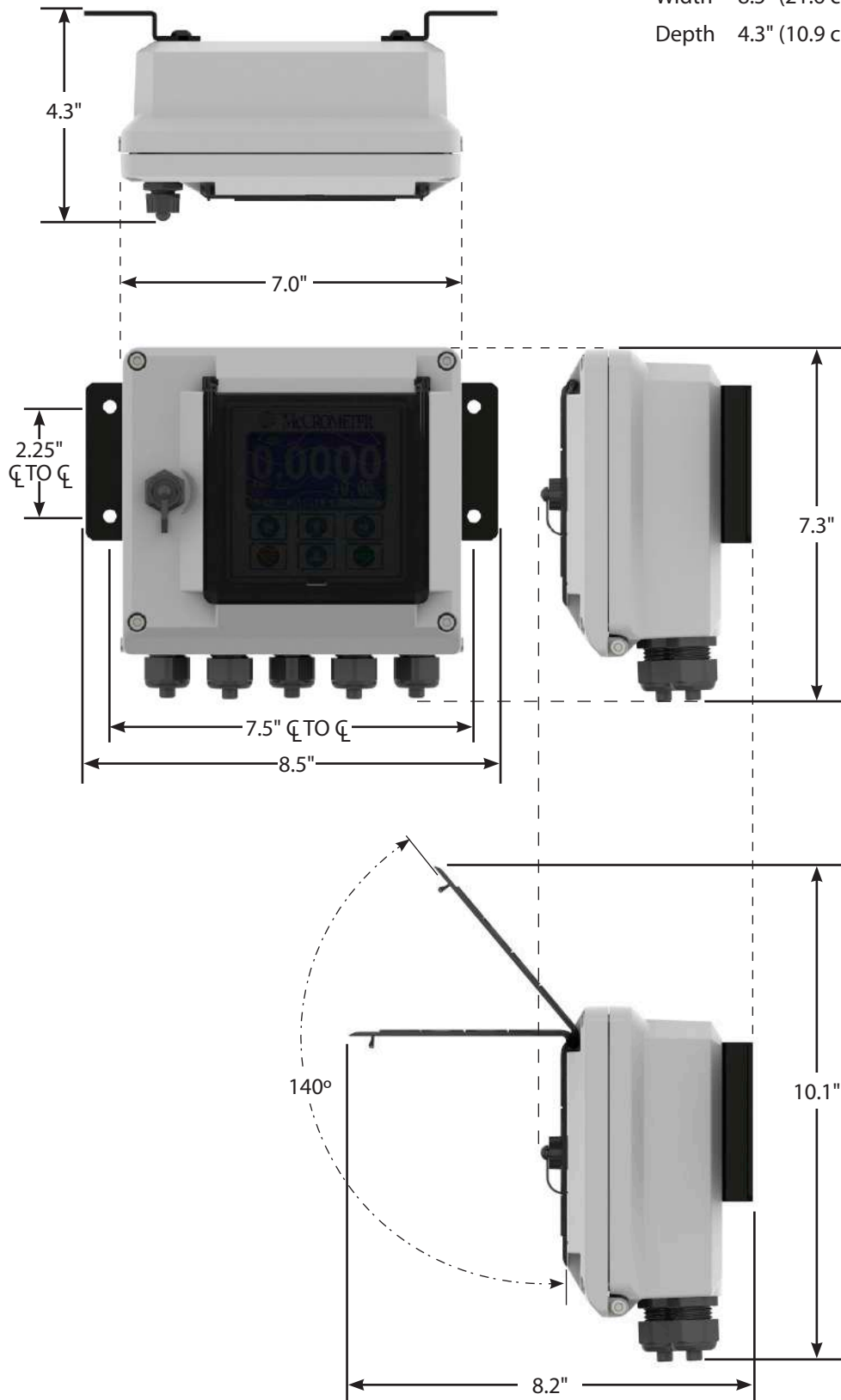
PROCOMM GO CONVERTER DIMENSIONS

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