



TOWN OF RIVERHEAD
Sean M. Walter, Supervisor
200 Howell Avenue
Riverhead, New York 11901-2596
631-727-3200

BID #RWD-2016-20

**BID FOR: SENSUS WATER METERS & ACCESSORY EQUIPMENT,
OR REASONABLE EQUIVALENT, & REPAIR
TO METER READING EQUIPMENT**

BIDDERS NAME

BIDDERS ADDRESS

CITY, STATE, ZIP

PHONE NUMBER

E-MAIL ADDRESS

DATE

In compliance with your advertisement for bids to be opened on **July 21, 2016**, subject to all conditions thereof, the undersigned hereby proposes to furnish the item(s) and/or service(s) itemized in this proposal in accordance with the Notice to Bidders, General Information Agreement and Specifications contained herein on the Bid Proposal Form attached.

Bidder certifies that the prices quoted herein do not include Federal Excise Tax or any Federal, New York State or City Sales Tax and are not higher than prices charged to any governmental or commercial consumer for like merchandise and/or service. All prices shall include shipping and freight charges to any Municipal building or site within the Town of Riverhead.

Respectfully submitted,

SIGNED BY

TITLE

BIDDERS ARE INVITED TO ATTEND BID OPENING

**TOWN OF RIVERHEAD
NOTICE TO BIDDERS**

Sealed bids for the purchase of **SENSUS WATER ACCESSORY EQUIPMENT, OR REASONABLE EQUIVALENT, & REPAIR TO METER READING EQUIPMENT** for use by the RIVERHEAD WATER DISTRICT will be received by the Town Clerk of the Town of Riverhead at Town Hall, 200 Howell Avenue, Riverhead, New York, 11901, on **July 21, 2016**, at **2:05 P.M.**, at which time all bids shall be opened and read aloud.

Bid Specifications and/or Plans may be obtained by visiting the Town of Riverhead website at www.townofriverheadny.gov on or after **June 30, 2016**. Click on "Bid Requests" and follow the instructions to register.

All bids are to be submitted in a sealed envelope bearing the designation **BID #RWD-2016-20 – SENSUS WATER METERS & ACCESSORY EQUIPMENT, OR REASONABLE EQUIVALENT, & REPAIR TO METER READING EQUIPMENT – RIVERHEAD WATER DISTRICT.** All bids must be submitted on the bid form provided in the bid document. Any and all exceptions to the Specifications must be listed separately and enclosed in an envelope bearing the designation "**EXCEPTIONS TO BID SPECIFICATIONS FOR SENSUS WATER METERS OR REASONABLE EQUIVALENT**".

NOTE: Bid responses must be delivered to the Office of the Town Clerk at 200 Howell Avenue, Riverhead, New York, 11901, on or before July 21, 2016 at 2:05 P.M. The Town may decline to accept, deem untimely and/or reject any bid response/proposal that is not delivered to the Office of the Town Clerk.

The Town Board reserves the right and responsibility to reject any or all bids or to waive any formality if it believes such action to be in the best interest of the Town.

BY ORDER OF THE TOWN BOARD
OF THE TOWN OF RIVERHEAD

DIANE M. WILHELM, Town Clerk

GENERAL SPECIFICATIONS

GENERAL

Bidders shall be responsible to carefully examine the Specifications enclosed.

Bidders shall furnish their price and/or lump sum bid as called for on the Bid Proposal Sheet(s) attached.

Alternates of equal or superior design and/or quality shall be listed separately and a Manufacturer's Specification Sheet shall be submitted with a bid. Failure to submit such data may result in the disallowing of said bid.

The equipment and all associated components shall be furnished complete and ready for use. The equipment furnished shall be the Manufacturer's latest listed and published model, or models which meet all the applicable requirements of these Specifications. These Specifications require the doing of all things necessary, or proper for or incidental to, the furnishing and delivery of said equipment and associated components.

All things not expressly mentioned in these specifications, but involved in carrying out their intent are required by these Specifications; and the vendor shall perform the same as though they were specifically mentioned, described and delineated.

COMPLIANCE WITH RULES AND REGULATIONS

The unit and associated equipment furnished shall comply with all provisions which would be applicable, if the Town of Riverhead were a private corporation of Federal and State of New York Laws, Ordinances, Codes, Rules, Regulations, Orders, Permits and Licenses and with fire underwriters requirement, except that where the weight and dimensions requirements set forth herein exceed such provisions, these Specifications shall control.

In January, 2011, **Senate Bill 3874** was signed into law and created the **Reduction of Lead in Drinking Act**, which amended the Safe Drinking Water Act to reduce the allowable lead content in all products in contact with drinking water from 8.0% to 0.25% (weighted average). Therefore, any brass products must meet the no-lead compliance pursuant to the above.

DEVIATION

Minor deviations from the provisions of these Specifications will be considered to permit manufacturers to follow their standard manufacturing process.

Such deviations will be approved only in the sole discretion of the Town of Riverhead and only if, in its opinion, they do not adversely affect the operation, maintenance, strength, efficiency, effectiveness, or life of the unit or any of its parts.

All proposed minor deviations, with full details, must be listed on a separate Detail Sheet, which must be attached to and made part of this bid.

The Town of Riverhead reserves the absolute right in its sole discretion to accept that bid, if any, which under all circumstances will best serve the public interest.

GUARANTEE

The vendor warrants and guarantees the equipment herein specified, including all associated equipment furnished, against any defects in design, workmanship and materials, and against failure to operate satisfactorily for a period of six months from the date of acceptance of the units, except defects or failure shown by the vendor. The vendor also warrants and guarantees that the equipment herein specified, if found to be defective or in need of repairs, will be picked up from and delivered back to the Town of Riverhead within a reasonable length of time.

PRICES

If a like or lower quantity of a standard item contained in this bid is sold by a vendor at a price less than the prices quoted herein, the price to the Town of Riverhead shall be reduced to that lower price.

QUANTITY

The Town of Riverhead is in no way obligated to purchase quantities neither shown nor limited to the quantities listed.

CONTRACT PERIOD

The contract period shall commence on the date a resolution is adopted by the Town Board of the Town of Riverhead and shall run for a period of one (1) year from that date. At the termination of this contract, the contract may be extended (not to exceed two extensions) for a total three- (3) year contract years at the sole discretion of the Town of Riverhead and with the consent of the vendor(s).

RESERVATIONS

The mention in the specifications of any unit, component, or equipment by brand name and/or model is meant to convey to the potential bidder the type and quality of the product required and desired by the Town. Any unit, component, or equipment which is of equal type and quality may be considered as such and may be acceptable to the Town, upon agreement by the Town Board to that fact. The decision of the Town Board, however, in such a circumstance is final.

Bids submitted shall remain in effect for forty-five (45) days past the date of bid expiration.

Furthermore, the Town Board of the Town of Riverhead reserves the right and responsibility to reject any or all bids if they believe such action to be in the best interest of the Town.

DELIVERY

Delivery is to be made within **30 DAYS** after receipt of an order via purchase order. All equipment delivered shall be delivered "on the ground" at the delivery point designated on the purchase order. All prices are F.O.B.

FUEL SURCHARGES

The Town of Riverhead will not pay any type of fuel surcharge. Any fuel charges added will be deleted from any invoices to be paid to the vendor.

ATTENTION

BIDDERS

IF YOU ARE NOT INTERESTED IN BIDDING THIS PARTICULAR PROJECT, PLEASE COMPLETE THE FOLLOWING SHEET AND RETURN IT TO US.

WE ARE VERY INTERESTED IN LEARNING WHY YOU DO NOT BID. IF YOU SELL OTHER PRODUCTS AND WANT TO BE ON OUR BIDDER'S LIST, PLEASE LET US KNOW. PROVIDE A CONTACT NAME AND OTHER PERTINENT INFORMATION IF YOU WISH TO BE CONTACTED AT A LATER DATE FOR ANOTHER PRODUCT.

BID #RWD-2016-20
SENSUS WATER METERS & ACCESSORY EQUIPMENT,
OR REASONABLE EQUIVALENT

NON-BIDDER'S RESPONSE

VENDOR NAME: _____

For purposes of facilitating your firm's response to our invitation to bid, the Town of Riverhead is interested in ascertaining reasons for prospective bidders' failure to respond to invitations to bid. If your firm is not responding to this bid, please indicate the reason(s) by checking the appropriate item(s) below and returning this form to the Town of Riverhead Purchasing department at 200 Howell Ave., Riverhead, N.Y. 11901.

We are not responding to this invitation to bid for the following reason(s):

___ Items or materials requested not manufactured by us or not available to our company.

___ Our items and/or materials do not meet specifications.

___ Specifications not clearly understood or applicable (too vague, too rigid, etc.)

___ Quantities too small.

___ Insufficient time allowed for preparation of bid.

___ Incorrect address used.

Correct address is: _____

Other reason(s): _____

Corporation: _____
(PRINT CORPORATION NAME)

By: _____
(SIGNATURE)

(TITLE)

NON-COLLUSIVE CERTIFICATE

(MUST BE COMPLETED, SIGNED, NOTARIZED AND RETURNED WITH BID)

UNDER PENALTIES OF PERJURY:

_____(BIDDER), BEING DULY SWORN,
DEPOSES AND SAYS:

- A) This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor;
- B) This bid or proposal has not knowingly been disclosed, prior to the opening of bids or proposals for this project, to any other bidder, competitor, or potential competitor;
- C) No attempt has been made or will be made to induce any other person, partnership, or corporation to submit or not to submit a bid or proposal;
- D) The person signing this bid or proposal certifies that he has been fully informed regarding the accuracy of the statements contained in this certification, and under penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as the person signing on its behalf; and
- E) That the attached hereto (if a corporate bidder) is a certified copy of a resolution authorizing the execution of this certificate by the signatory of this bid or proposal on behalf of the corporate bidder.

Corporation: _____
(PRINT CORPORATION NAME)

By: _____
(SIGNATURE)

(TITLE)

Address: _____

Sworn to before me this

_____ day of _____, 20____

NOTARY PUBLIC

IRAN DIVESTMENT ACT CERTIFICATION

As a result of the Iran Divestment Act of 2012 (Act), Chapter 1 of the 2012 Laws of New York, a new provision has been added to the State Finance Law (SFL), § 165-a, effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list (prohibited entities list) of “persons” who are engaged in “investment activities in Iran” (both are defined terms in the law). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act’s effective date, at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, Bidder/Contractor (or any assignee) certifies that once the prohibited entities list is posted on the OGS website, it will not utilize on such Contract any subcontractor that is identified on the prohibited entities list.

Additionally, Bidder/Contractor is advised that once the list is posted on the OGS website, any Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to the solicitation, must certify at the time the Contract is renewed, extended or assigned that it is not included on the prohibited entities list.

During the term of the Contract, should the TOWN OF RIVERHEAD receive information that a person is in violation of the above-referenced certification, the TOWN OF RIVERHEAD will offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the TOWN OF RIVERHEAD shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The TOWN OF RIVERHEAD reserves the right to reject any bid or request for assignment for an entity that appears on the prohibited entities list prior to the award of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the prohibited entities list after contract award.

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Date: _____

**BID SPECIFICATIONS FOR SENSUS WATER METERS
& ACCESSORY EQUIPMENT, OR REASONABLE EQUIVALENT
& REPAIR TO METER READING EQUIPMENT**

PLEASE READ CAREFULLY

**iPERL WATER MANAGEMENT SYSTEM
Electromagnetic Flow Measurement System
5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm) Sizes
SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT**

TYPE

Solid state, battery operated electromagnetic flow measurement system with a hermetically sealed, glass covered, electronic register with a programmable 9-digit display.

CONFORMANCE TO STANDARDS

Must conform to American Water Works Standard C-700 and C-710 as most recently revised with respect to accuracy and pressure loss requirements, or other appropriate American Water Works Standard.

Must be compliant with ANSI/NSF Standard 61 Annex G.

REGISTER

The register must be an electronic device encapsulated in glass with 9 programmable digits utilizing a liquid crystal display (LCD). It will have indicators for flow direction, empty pipe, battery life and unit of measurement. The register must be hermetically sealed with a heat tempered glass cover and be tamper-resistant. The register shall not be removable from the measuring sensor. The register shall utilize a magnetic coupling technology to connect to a touch read, radio read or fixed base meter reading system in either an inside or pit set installation.

MEASURING ELEMENT

The measuring element shall be made of a non-corrosive, lead-free glass fiber reinforced, PPS (polyphenylene sulfide) based resin. A battery powered magnetic flow sensor utilizing silver/silver chloride electrodes will be utilized to measure the velocity of the water which is linearly proportional to the volume. The measuring element will have no moving parts and will be specific for each size.

EXTERNAL HOUSING

The register and measuring element will be an integrated unit housed within a thermal plastic external casing. This integrated unit will not be removable from the external housing. The systems shall have the size and direction of water flow through the system imprinted on the external housing.

STRAINERS

Each system must be provided with a replaceable, corrosion-resistant synthetic polymer strainer screen.

ACCURACY AND HEADLOSS TESTS

Systems shall conform to current AWWA C-700 and C-710, current revision, or other appropriate American Water Works Standard, test flows, head-loss and accuracy standards.

PRESSURE CAPABILITY

System shall operate up to a working pressure of 200 pounds per square inch (psi), without leakage or damage to any parts. The accuracy shall not be affected by variation of pressure up to 200 psi.

PERFORMANCE WARRANTIES

In evaluating bid submittals, warranty coverage will be considered. All bidders are required to submit their most current nationally published warranty statements for water meter maincases, registers and measuring chambers.

SHIPMENT VERIFICATIONS

A statistically controlled sample of each shipment will be tested by the utility to insure each shipment meets the utility performance and materials specifications.

iPERL WATER MANAGEMENT SYSTEM FIRE SERVICE OR REASONABLE EQUIVALENT

DESCRIPTION

UL listed ¾" (DN 20mm) and 1" (DN 25mm) sizes with no moving parts which has an operating range as low as 0.03 gpm (0.007 m³/hr) to 55 gpm (12.5 m³/hr).

CONFORMANCE TO STANDARDS

Water management system fire service shall meet or exceed all requirements of ANSI/AWWA Standard C-700 and C-710 for accuracy and pressure loss requirements. The meter shall be compliant with NSF/ANSI Standard 61 Annex F and G and tested to AWWA standards.

REGISTER

The register must be an electronic device encapsulated in goal with nine (9) programmable digits utilizing a liquid crystal display (LCD). It will have indicators for flow direction, empty pipe, battery life and unit of measurement. The register must be hermetically sealed with a heat tempered glass cover and be pamper-resistant. The register shall not be removable from the measuring sensor. The register shall utilize a magnetic coupling technology to connect to a touch read, radio read or fixed base meter reading system in either an inside or pit set installation

MEASURING ELEMENT

The measuring element shall be made of a noncorrosive, lead-free glass fiber reinforced, composite allow material. A battery powered magnetic flow sensor utilizing silver/silver chloride electrodes will be utilized to measure the velocity of the water

which is linearly proportional to the volume. The measuring element will have no moving parts and will be specific for each size.

EXTERNAL HOUSING

The register and measuring element will be an integrated unit housed within a thermal plastic external casing. This integrated unit will not be removable from the external housing. The systems shall have the size and direction of water flow through the system imprinted on the external housing.

PRESSURE CAPABILITY

System shall operate up to a working pressure of 175 pounds per square inch (psi), without leakage or damage to any parts. The accuracy shall not be affected by variation of pressure up to 175 psi.

PERFORMANCE WARRANTIES

In evaluating bid submittals, warranty coverage will be considered. All bidders are required to submit their most current nationally published warranty statements for water meter maincases, registers and measuring chambers.

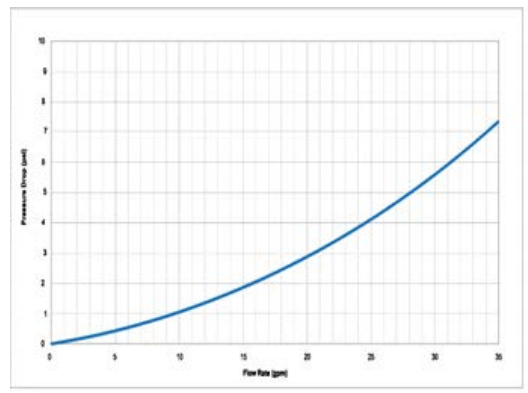
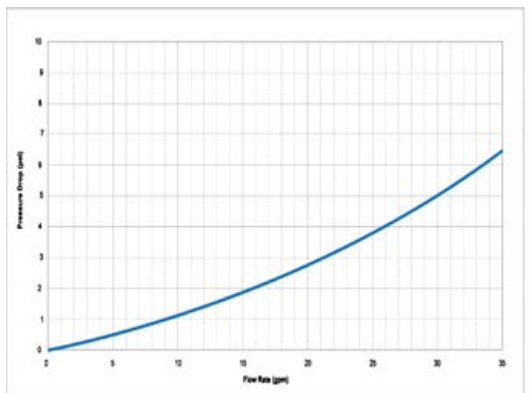
DIMENSIONS AND NET WEIGHTS

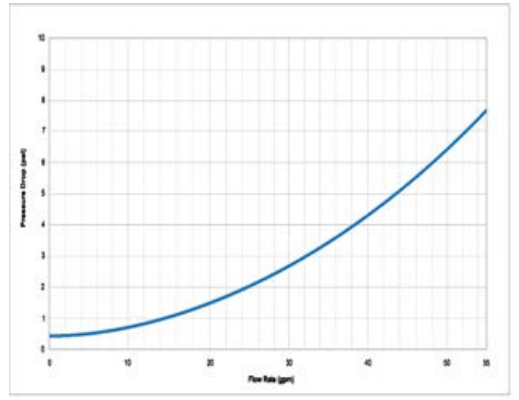
Size	A (lay length)	B	C	Spud Ends	NPSM Thread Size	Width	Net Weight
3/4" S (DN 20 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4" (DN 20 mm)	9" (229 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.2 lb. (1.5 kg)
1" (DN 25 mm)	10-3/4" (273 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	1" (25 mm)	1-1/4" (32 mm)	4-1/2" (114 mm)	3.3 lb. (1.6 kg)

OPERATING CHARACTERISTICS

METER SIZE	LOW FLOW (95% Min)	OPERATING RANGE (98.5%-101.5%)	PRESURE LOSS (Not to Exceed)
3/4" S	0.03 gpm	0.11 to 35 gpm	2psi @ 15 gpm
3/4"	0.03 gpm	0.00 to 35 gpm	2psi @ 15 gpm
1"	0.11 gpm	0.4 to 55 gpm	2psi @ 25 gpm

HEADLOSS CURVES





CERTIFICATIONS AND MARKING

All meter packages shall be UL (Underwriters Laboratories) Listed approved as being accepted for use on fire service lines and domestic water use. For such applications, the meter shall be identified indicating such acceptance.

OMNI C² and OMNI T² METER SPECIFICATIONS SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT

INTENT

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and will not be compromised.

SCOPE

These specifications set forth the minimum acceptable design criteria and performance requirements for Compound-type cold water meters, including the following potential service applications and general considerations:

- Intended where a wide flow range is anticipated
- Measurement of water usage for critical billing applications
- Measurement intended for typical commercial and industrial applications requiring lower flow sensitivities
- Measurement of low flow usage below OMNI T² meter threshold levels
- Measurement of constant low to medium flows up to high flow usage

CONFORMANCE TO STANDARDS

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C701 and C702 for Class II compound and turbine meter assemblies. Each meter assembly shall be performance tested to ensure compliance.

MAINCASES

The meter maincase shall be of epoxy-coated ductile iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for non-lead regulation compliance.

PERFORMANCE

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting the long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum head loss through the meter/strainer assembly shall not exceed those listed in the following meter size.

Operating Characteristics – OMNI C² METERS

Meter Size	Low Flow (95% Min.)	Operating Range (98.5 – 101.5%)	Intermittent Flows (98.5 – 101.5%)	Pressure Loss (Not to Exceed)
1-1/2"	.25 gpm	.5 to 160 gpm	200 gpm	6.9 psi @ 160 gpm
2"	.25 gpm	.5 to 160 gpm	200 gpm	4.3 psi @ 160 gpm
3"	.5 gpm	1.0 to 400 tpm	500 gpm	3.2 psi @ 400 gpm
4"	.75 gpm	1.5 to 800 gpm	1000 gpm	6.4 psi @ 800 gpm
6"	1.5 gpm	3.0 to 1600 gpm	2000 gpm	5.5 psi @ 1600 gpm
8"	2.5 gpm	4to 2700 gpm	3400 gpm	4 psi @ 2700 gpm
10"	2.0 gpm	5 to 4000gpm	5000 gpm	4.5 psi to 4000 gpm

Operating Characteristics – OMNI T² METERS

Meter Size	Low Flow (95% Min.)	Operating Range (98.5 – 101.5%)	Intermittent Flows (98.5 – 101.5%)	Pressure Loss (Not to Exceed)
1-1/2"	.75 gpm	1.25 to 160 gpm	200 gpm	6.9 psi @ 160 gpm
2"	1.0 gpm	1.5 to 160 gpm	250 gpm	7.0 psi @ 160 gpm
3"	1.5 gpm	2.5 to 400 tpm	650 gpm	5.1 psi @ 400 gpm
4"	2.0 gpm	3.0 to 800 gpm	1250 gpm	8.7 psi @ 800 gpm
6"	2.5 gpm	4.0 to 1600 gpm	2500 gpm	8.2 psi @ 1600 gpm
8"	4 gpm	5 to 3500 gpm	4700 gpm	5.1 psi @ 3500 gpm
10"	5 gpm	6 to 5500 gpm	7000 gpm	7.2 psi @ 5500 gpm

MEASURING CHAMBER

The measuring chamber shall consist of a measuring element, removable housing and all-electronic register. The measuring element shall be mounted on a horizontal, stationary stainless shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above-listed

accuracy limits without calibration when transferred from one maincase to another of the same size.¹

DIRECT MAGNETIC DRIVE SYSTEM

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Any and all additional intermediate, magnetic or mechanical drive couplings are not acceptable.

ELECTRONIC REGISTER

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

MAXIMUM OPERATING PRESSURE

The meter assembly shall operate properly without leakage, damage or malfunction up to a maximum working pressure of 200 pounds per square inch (psig).

STRAINERS

The meter strainer shall be integral and cast as part of the meter's maincase. The strainer's screen shall have a minimum net open area of at least two (2) times the pipe opening and be a V-shaped configuration for the purpose of maintaining a full unobstructed flow pattern. The strainer body shall be a coated ductile iron fusion-bonded epoxy identical to that of the meter's maincase. All fasteners shall be stainless steel capable of maintaining the following static pressure ratings and physical dimensions:

OMNI C² METERS

Meter Size	Maximum Operating Pressure	Centerline to Strainer Base	Overall Length (Not to Exceed)
1-1/2"	200 psig	2 5/16 inches	13 inches
2"	200 psig	2 5/16 inches	15 1/4 inches
3"	200 psig	4 1/8 inches	17 inches
4"	200 psig	4 3/4 inches	20 inches
6"	200 psig	5 3/4 inches	24 inches

¹The measuring for T² meter shall be so configured to capture all flows as specified in the above chart.

Meter Size	Maximum Operating Pressure	Centerline to Strainer Base	Overall Length (Not to Exceed)
8"	200 psig	6 ¾ inches	30 1/8 inches
10"	200 psig	8 ½ inches	41 1/8 inches

OMNI T² METERS

Meter Size	Maximum Operating Pressure	Centerline to Strainer Base	Overall Length (Not to Exceed)
1-1/2"	200 psig	2 5/16 inches	13 inches
2"	200 psig	2 5/16 inches	17 inches
3"	200 psig	4 1/8 inches	19 inches
4"	200 psig	4 ¾ inches	23 inches
6"	200 psig	5 ¾ inches	27 inches
8"	200 psig	6 ¾ inches	30 1/8 inches
10"	200 psig	8 ½ inches	41 1/8 inches

STRAIGHTENING VANES

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

CONNECTIONS

Flanges for the 1 ½" and 2" size meter assemblies shall be of the 2-bolt oval flange configuration. The 3" and 4" size meter assemblies shall have flanges of the Class 125 round type, flat faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

CERTIFICATIONS and MARKINGS

All sizes of meter packages shall display the sizes, model, manufacturer name and direction of flow. Such display shall be cast on the side of the meter maincase.

GUARANTEE and MAINTENANCE PROGRAM

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

OMNI F² SPECIFICATIONS SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT

SCOPE

These specifications set forth the minimum acceptable design criteria and performance requirements for cold water meters - Fire Service type consisting of a Class II turbine type meter, and a ductile iron strainer assembly. This meter assembly is intended

where an extremely wide flow range is required and where measurement of both domestic and fire service water usage is desired.

CONFORMANCE TO STANDARDS

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C703 for Class II. The measuring shall be so configured to capture all flows as specified, without the requirement of an automatic valve. Each meter assembly shall be performance tested to ensure compliance.

MAINCASES

The meter maincase shall be of an epoxy coated iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for non-lead regulation compliance.

PERFORMANCE

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

OPERATING CHARACTERISTICS

Meter Size	Low Flow (95% Min.)	Operating Range (98.5 - 101.5%)	Intermittent Flows (98.5 – 101.5%)	Pressure Loss (Not to Exceed)
4"	0.75 GPM	1.5 to 1000 GPM	1250 GPM	6.4 PSI @ 1000 GPM
6"	1.5 GPM	3.0 to 2000 GPM	2500 GPM	6.7 PSI @ 2000 GPM
8"	2.5 GPM	4 to 3500 GPM	4700 GPM	5 PSI @ 3500 GPM
10"	2.0 GPM	5 to 5500 GPM	7000 GPM	7 PSI @ 5500 GPM

MEASURING CHAMBER

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary titanium shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above-listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above, without the requirement of an automatic valve.

DIRECT MAGNETIC DRIVE SYSTEM

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and

provide extended flow capacity and overall accuracy of the meter assembly. Additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

ELECTRONIC REGISTER

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

MAXIMUM OPERATING PRESSURE

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 175 pounds per square inch (psig).

STRAINERS

Each meter assembly shall have a separate UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved external fire service strainer as a part of the meter package. The strainer's screen shall have a minimum net open area of at least four (4) times the pipe opening and be a V-shaped stainless steel screen for the purpose of obtaining a full unobstructed flow pattern. The strainer body shall be coated iron with stainless steel fasteners capable of maintaining the following static pressure ratings and physical dimensions:

Meter Size	Maximum Working Pressure	Centerline to Strainer Base	Compact Overall Length (Not to Exceed)	Standard Overall Length (Not to Exceed)
4"	175 psig	4 ¾ inches	33 inches	51 7/8 inches
6"	175 psig	5 ¾ inches	45 inches	67 5/8 inches
8"	175 psig	6 ¾ inches	53 inches	77 inches
10"	175 psig	8 ½ inches	68 inches	90 inches

STRAIGHTENING VANES

A straightening vane assembly is mandatory and shall be positioned directly upstream of the measuring element. The straightening vane assembly shall be an integral component of the measuring chamber.

CONNECTIONS

The meter assemblies shall have flanges of the Class 125 round type, flat faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

CERTIFICATIONS AND MARKINGS

All sizes of meter packages shall be UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved as being accepted for use on fire service lines and domestic water use. For such applications, the meter shall have a UL/FM listed and approved strainer immediately upstream of the inlet flange. The meter shall have an identification tag affixed indicating such acceptance and the strainer shall also bear such acceptance symbols and markings on the casting.

GUARANTEE AND MAINTENANCE PROGRAM

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

INTENT

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability and future system maintenance expense. A design, which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly, is to be considered mandatory. Enhanced accuracy levels and performance are desired and should not be compromised.

OMNI F² FIRELINE BYPASS RETROFIT METERSPECIFICATIONS SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT

DESCRIPTION

The Omni F² Fireline Bypass Retrofit meter is based on either a 1 ½" or 2" Omni F² meter with advanced floating ball technology, designed and approved to be used for W-Series compact and standard fireline bypass meter assemblies.

CONFORMANCE TO STANDARDS

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C703. Each meter shall be performance tested to ensure compliance.

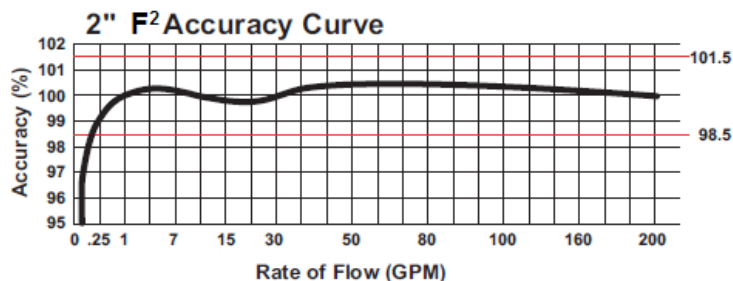
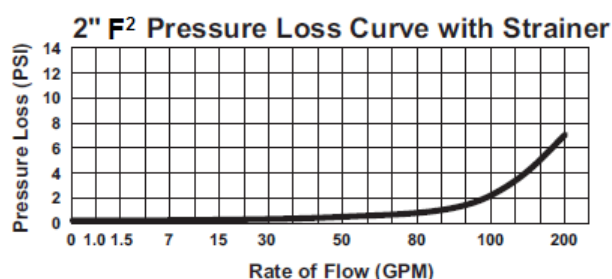
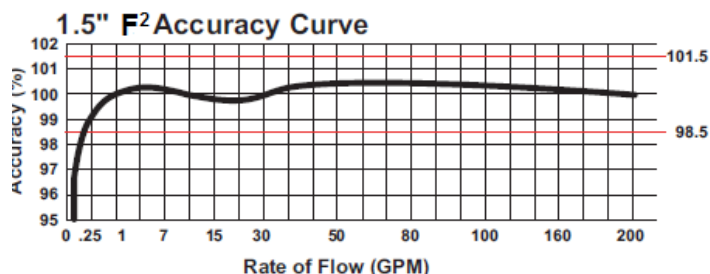
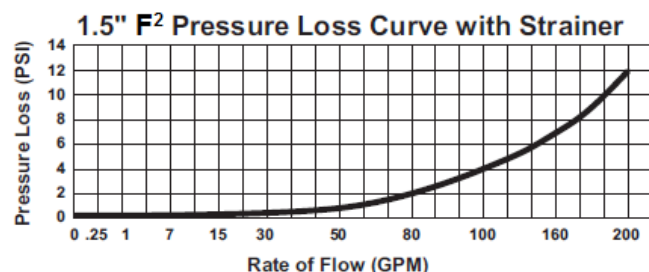
PERFORMANCE

The meter assemblies shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. All meter assemblies shall also have a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands. Maximum headloss through the meter assemblies shall not exceed those listed in the following tables per meter size.

MEASUREMENT AND FLOW RATES

Meter Size	Normal Operating Range	Low Flow	Maximum Intermittent Operation	Connections	A	B	C	D	E	F	G	H
1 1/2"	0.5 - 200 gpm (0.11-45 m ³ /hr)	0.25 gpm	200 gpm	Flange	10" 254mm	7.8" 198mm	1" 25mm	5.1" 130mm	2.3" 58mm	4" 102mm	2	1/2"
2"	0.5 - 200 gpm (0.11-45 m ³ /hr)	0.25 gpm	200 gpm	Flange	10" 254mm	7.8" 198mm	1.1" 28mm	5.5" 140mm	2.3" 58mm	4.5" 114mm	2	5/8"

HEADLOSS CURVES



MAGNETIC DRIVE

The meter's registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and sensitive register pickup probe.

REGISTERS

Registers shall consist of a hermetically sealed register with an electronid pickup containing no mechanical gearing. Large character LCD shall display AMR, totalization and a resettable test totalizer. Registers shall include AMR resolution units that are fully programmable; data logging capabilities; large, easy-to-read LCD that displays both forward and reverse flow directions and a 10-year battery live guarantee

RETROFIT METER HARDWARE

One (1) 1 1/2" or 2" Omni F² Fireline Bypass Retrofit Meter (size must be the same as existing bypass meter size) kit shall include flange gaskets and installation hardware.

One (1) (optional) – Epoxy coated spacer (with gasket and installation hardware)

- Spacer supplies only if replacing a flanged SR meter bypass assembly.

All hardware is to be 304 stainless steel with 316 stainless steel hardware available upon request.

**SPECIFICATIONS FOR THE
AUTOMATIC METER READING SYSTEM
HANDHELD METER READING DEVICE/PROGRAMMER
SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT**

SYSTEM REQUIREMENTS

System will collect and store meter readings automatically utilizing a manual entry by use of a keypad, utilizing a "touch" device for remote reading, or by wireless connection to a reading gun. All meter readings will be captured in the meter reading device for later analysis including multiple data entries and bad readings.

The system will be fully programmable with route information, meter reader prompts and questions. "High/Low" checking must be provided for on both "touch" and manually entered readings.

The system must provide for bi-directional communications with both the Utility's mainframe computer and an IBM-PC or fully compatible personal computer by utilizing a communications/charging stand. The vendor shall describe all personal computer hardware, software and peripheral devices which are necessary for the operation of the proposed system. The technical specifications, model numbers, etc. of the personal computer equipment proposed shall be provided. The Utility reserves the right to substitute an equivalent personal computer and peripheral devices which it may presently own or may purchase from a vendor of the Utility's choosing.

The software which is proposed for use on the personal computer must be suitable for use by a non-technical operator. Accordingly, the software shall be fully menu driven which will substantially eliminate the need for the operator to be familiar with other than basic operational procedures. The software must also provide for customer select management reports related to the data of the meter route read.

The proposed equipment shall be suitable for a traditional field meter reading environment. Such features shall include but not be limited to the following:

- Alpha-numeric keypad
- Durable weatherproof housing
- 10-line x 20 character per line displays
- Back lighted displays and keypad
- Field adjustable contrast displays
- Elastomeric membrane, tactile response keypad
- Weigh less than three pounds (26 oz.)
- Field adjustable audible tone
- 2-4 megabyte of memory
- Durable carrying belt with hand strap
- Watertight gun connectors
- Compatible to read Sensus Touch Read Meters
- Meter reader ID password
- Function Keys

AUTOREAD HANDHELD DEVICE/PROGRAMMER

Each meter-reading equipment device/programmer shall include sufficient memory to store at least 3000 readings before the need to download data. Memory must have full battery protection. Internal hardware and software data check are required to verify the integrity of the collected data.

The meter reading device must include a full function alpha-numeric keypad which will be utilized by the non-technical meter reading personnel for manual entry of readings from conventional meters as well as the entry of special notes. Readings from meters not on the pre-defined route must be provided for.

Each meter reading device must be powered by a long life, lightweight, field replaceable, nickel cadmium (NiCad) battery pack. The battery pack must be capable of supporting multiple days' readings without the need to recharge. The field units must be recharged while resting in the communication/charging stand. A meter reading device which is placed in the stand at the end of the working day must be fully charged prior to the beginning of the next working day. The field devices must provide for protection of the stored data should the NiCad battery pack fail to provide power. Each meter reading device must be equipped with its own charging stand and not require any special pin connections.

Successful meter readings must be confirmed by a loud, audible tone and similarly alert the operator in the event of a faulty or missed reading. The devices shall provide for a programmable audible warning for a potentially dangerous or special situation which may be associated with a particular meter location. The volume of the audible tone must be user adjustable.

The meter reading device must be equipped with a date and time-of-day clock which will automatically incorporate the date and time of reading into each "touch" or manual reading.

The software will provide, at the user's option, forward or reverse movement through the route.

The successful bidder shall provide full and complete hardware and software documentation which shall include but not be limited to operator manuals which are designed for use by non-technical users as well as detailed technical manuals which are designed for use by technical support and programming personnel.

The vendor shall provide a complete list of all standard features which are included with each meter reading device and all other equipment and/or system proposed. In addition, the vendor shall provide a full listing, description and unit pricing of all optional features which may be available to the Utility.

WARRANTIES AND SERVICE

The vendor shall be required to state its warranty and/or guarantee policy with respect to each item of proposed equipment. The procedures for submitting warranty claims must also be provided.

The full cost of service, if required, for each item of proposed equipment must be stated. The cost of service agreements or contracts, if available, must be stated. The vendor must agree to guarantee the cost of service for a period of one (1) year following the expiration of the warranty period.

The location of the nearest service center, hours of operation and average repair time for each item proposed must be stated. All hardware service policies must be clearly stated. The availability of on-site hardware support and service must be explained.

Due to the Utility's need to process water consumption data on a continuing basis and the Utility's determination not to stock "reserve" equipment, the vendor must agree to provide "loaner" replacement equipment should any service be required.

A sample form of any proposed service agreements shall be provided.

The vendor's policy regarding software warranties shall be clearly stated.

The policies and costs associated with software modifications and technical support shall be stated. The procedures and names, addresses and telephone numbers of software support personnel shall be provided and updated by the vendor on a continuing basis.

USER TRAINING AND EDUCATION

It shall be the responsibility of the vendor to provide a complete on-site training program for the Utility's staff. This program is intended to fully familiarize staff with the operation of all aspects of the hardware and software which is to be provided. The bidder shall state the proposed format of such a training program, the number of hours of initial on-site support to be provided as well as the recommended schedule of follow-up visits. The vendor shall also state its hourly rate for on-site and/or remote support which may be required by the Utility. The location and procedures for obtaining such support shall be stated.

SPECIFICATIONS FOR AUTOMATIC METER READING SYSTEM METER TRANSCIVER UNIT (MXU) SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT

GENERAL

The following specification describes the requirements for a radio based automatic meter reading system. The specification will cover the meter transceiver unit (MXU). If meters and other supporting equipment are included in this proposal or bid, they will be covered under separate specifications.

RADIO SYSTEM DESCRIPTION

The radio AMR system will have the ability to read meters equipped with absolute encoder registers using either a hand-held interrogation unit or a mobile interrogation unit. The encoder registers will be connected to a MXU that will provide the radio link from the meter to the interrogation unit. The MXU will come in either a two-port design or a single port design and each will allow multi-meter attachment via add-on port

expanders. The radio AMR system must utilize a true two-way (interrogate and respond) communication protocol that enhances system integrity and reliability. Upon completion of the meter reading route, the meter reading data is downloaded from the interrogation unit, using the radio AMR software. The radio AMR software will prepare and format the meter reading data for the printing of selected management reports and the transfer of the meter reading data to the billing software for customer invoicing.

FUNCTION

The MXU will be the interface between the meter and the radio interrogation unit. The MXU will power up when a valid alert signal is received from the reading interrogation unit. The interrogation unit will be either a hand-held or vehicle mounted device. The MXU and interrogation device will utilize a two-way communication protocol. Following the alert signal from the interrogation unit and transmission of meter reading data, the interrogation unit will signal to the MXU that valid reading parameters were met and will instruct the MXU to power down. The MXU must have the capability of utilizing a reading cycle code that is an element of the transmission protocol. The reading cycle code is utility controlled and changes with each reading cycle. Once an MXU has been successfully interrogated and powered down using a specific reading cycle code, the MXU will not alert again until the code is changed. The MXU will have a fixed factory set non-programmable identification number to insure absolute identity of the MXU within the radio AMR system. In addition, the MXU will have the capability of storing a utility defined programmable class code. The class code will be used to separate different classes of meters and differentiate the MXU in multi-utility installations. The MXU will also provide for optional connection of a remote reading touchpad as a secondary meter reading source. The MXU must have the capability, in terms of range and operation; of migrating to a fixed based radio AMR network in the future, without the need to physically alter the unit.

FCC REGULATIONS

All equipment must comply with current Federal Communications Commission (FCC) requirements which include proper labeling of the MXU. The bidder must have supporting documentation available upon request to verify compliance.

MODULATION

The radio frequency transmission from the MXU to the interrogation unit must utilize direct sequence spread spectrum, operating in the non-licensed 902-928 MHz band. The system must use the entire Spread Spectrum and utilize 50 channels. It shall alert using the 956 MHz from the interrogation unit. The transmit power of the MXU shall be 200 milliwatts.

HARDWARE

The MXU will be housed in a two-piece UV stable molded plastic housing. The enclosure must house the complete two-port or single port MXU unit which includes electronics, battery compartment, and wire connections. The MXU will also have an internal antenna. The housing must have the option of being wall mounted or mounted in an underground meter box. Any special mounting hardware should be supplied with the MXU. The enclosure will provide protection for the electronic components and wire connections and be capable of being submersed in a water filled meter box without damage. The halves of the MXU enclosure will be secured by means of a tamper-

resistant locking screw so that the enclosure cannot be opened by non-utility personnel. The internal parts of the MXU can only be accessed by utility personnel using a manufacturer supplied field tool. The field tool **must not** be commercially available. Seal wiring or a frangible head seal screw is not acceptable. The MXU must have a **field replaceable** battery cartridge. The battery must be made up of lithium with hybrid layer capacitor. The MXU, when powered up, will use power stored in the capacitor for its operation. The MXU battery shall be warranted for 10 years with an additional 10 years prorated. The battery cartridge must be date stamped for ease of age identification for warranty purposes. The MXU must contain wiring diagram labels within the unit to aid in and simplify installation. All wires must be color coded and easily identifiable.

INSTALLATION AND TRAINING

Complete installation and operating instructions must be included for all of the supplied hardware and software equipment. Proposal must include any additional costs for training and assistance to install and begin operation of the MXUs. The vendor will also inform the customer what pre-installation activities are to be completed and what support materials will be needed for the initial installation.

WARRANTY

The MXU shall be covered by the manufactured current published national warranty. Any non-published warranty document will not be accepted. The MXU shall be completely replaced if found defective and this shall be for a period of 10 years. The MXU must also have a full replacement warranty for years 11-20 based on a pro-rated scale.

FlexNet SmartPoint M2 RADIO TRANCEIVERS

DESCRIPTION

The FlexNet SmartPoint M2 is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint or a combination of the two. This flexibility increases utility data collection and streamlines operations. The M2-series comes in two (2) models – Model 510M Non-Pit set and Model 520M Pit Set. Both models should be able to interface with an encoded meter via touchcoupler design and connect to the meter using existing two-wire AMR installations rather than to access the meter to install a new three-wire system.

SPECIFICATIONS

Model 510M – Non-Pit Set

SERVICE	Wall mounted (non-pit/non-sub- mersible) installation interfacing the utility meter to the Sensus FlexNet system.
PHYSICAL CHARACTERISTICS	Width: 5 9/16" x Height: 5 1/2" x Depth: 3"
WEIGHT	1.13 lbs/18.08 oz
COLOR	Tan
FREQUENCY RANGE	900 – 950 MHz, 8000 channels X 6.25 kHz steps

MODULATION	Proprietary Narrow Band
MEMORY	Non-Volatile
POWER	Lithium Thionyl Chloride batteries
APPROVALS	US: FCC CFR 47: Part 90, Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119, RSS-210
OPERATING TEMPERATURE	- 22° F to +185° F - 30° C to + 85° C
OPTIONS	Dual or single port availability; TouchCoupler only, wired only
INSTALLATION ENVIRONMENT	The 510M is designed for side-of- home applications where it is not subject to submergence.
COMPATIBILITY	TouchCoupler and Wired Version: Sensus Encoded Registers Badger ADE water registers and MasterMeter AccuLinx Wired Version Only: Elster Encoder (Sensus protocol) and Nep- tune ARB VI (ProRead). Hersey Translator
WARRANTY	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.

Model 520M – Pit Set

SERVICE	Pit set installation interfacing the utility meter to the Sensus FlexNet system. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
PHYSICAL CHARACTERISTICS	Width: 4.43" x Height: 5.09" x Depth: 3"
WEIGHT	1.0 lbs/16.0 oz
COLOR	Black
FREQUENCY RANGE	900 – 950 MHz, 8000 channels X 6.25 kHz steps
MODULATION	Proprietary Narrow Band
MEMORY	Non-Volatile
POWER	Lithium Thionyl Chloride batteries
APPROVALS	US: FCC CFR 47: Part 90, Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119, RSS-210
OPERATING TEMPERATURE	- 22° F to +185° F - 30° C to + 85° C
OPTIONS	Dual or single port availability; TouchCoupler only, wired only, Nicor connection
INSTALLATION ENVIRONMENT	100% condensing, water submers- ible
COMPATIBILITY	TouchCoupler and Wired Version: Sensus Encoded Registers Badger ADE water registers and MasterMeter AccuLinx Wired Version Only: Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead). Hersey Translator
WARRANTY	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.

**SPECIFICATIONS FOR
AUTOREAD FOR WINDOWS
AMR SYSTEMS MANAGEMENT SOFTWARE
SENSUS METERING SYSTEMS OR REASONABLE EQUIVALENT**

GENERAL

The following specifications describe the requirements for meter reading operating software.

SOFTWARE OVERVIEW

The meter reading operating software must operate on an IBM compatible personal computer running WIN 95 operating software. It shall be menu driven using pull-down menus for ease of use and tracking of operating steps. Vendor shall supply minimum computer requirements for software operation.

SOFTWARE INTEGRATION

The software shall have the capability to integrate more than one type of meter reading system into one package. This may include a hand-held system, radio system, and/or a phone based meter reading system. It shall do so easily without the need to alter route file information or interfere with the operation of each system. If using a hand-held system, the software shall provide bi-directional communications from the computer to communications/charging stands that connect to hand-held meter reading devices. The software must be suitable for use by a non-technical operator.

SOFTWARE FLEXIBILITY

The operating software shall be a basic package and require no customization on the part of the utility. This flexibility permits easy upgrading for the utility and permits the utility to stay current with the software's latest enhancements requiring no system changes. The software shall be able to integrate with the utility's billing software whether the billing software is on a personal computer or a mainframe computer. The software shall have the capability of accepting an input file from the billing software consisting of meter reading route data. In turn, the software shall provide the billing software an export file consisting of meter reading data from the most currently read meter route. The utility shall be able to configure the operating software to match the file transfer requirements of the billing software for both the input and export files. The software shall provide the utility the option of loading meter route information to the meter reading devices. This information would include but not be limited to things such as: customer name and address; previous reading(s); meter location information; and warnings of things of caution on the route. Vendor shall supply a list of any required route information needed by the meter reading operating software. The software shall include operator error and warning indicators built-in to the software in case of operator error.

The software shall provide the capability of taking surveys using alpha-numeric and yes/no responses and the ability to review and analyze the routes in use for system troubleshooting. The software will include a means of loading a set of utility defined notes for the meter reader to use with a hand-held device. The note code field shall include the capability of using up to a five-digit note code. In addition, the software shall

accept not only pre-defined digital note codes, but also alphanumeric notes. The software shall provide the capability to split routes and combine split routes with other routes. The software shall have the capability of using utility provided high/low reading limits within the reading system being used. These limits would be included in the meter reading route as high/low reading checks during actual meter reading. The software, depending on the meter reading system selected, shall be able to load programming software if required by the system in use. The programming software shall be integrated into the software be of the same operating configuration as the base system. When using a hand-held system, the software shall be able to communicate with any hand-held device in the system and inform the operator of the applications software currently in use without interfering with the integrity of the hand-held data.

The software shall include capability to produce backup disks. This function can be done either manually by the operator or include an automatic backup feature. Online help assistance shall be provided.

SOFTWARE REPORTS

The software shall include management reports for any of the meter reading systems used in conjunction with the software. The reports shall be selectable by the utility. The required reports include but need not be limited to the following: a master route report; non route report; non read report; route note report; high/low reading exception report; manual read exception report; multiple read exception report; question survey report; marked location; register malfunction. A customized report creator is available through a report design tool.

SOFTWARE DISPLAY

The software shall be capable of being displayed in color on a VGA monitor or on a monochrome monitor.

SOFTWARE TRAINING AND SUPPORT

The software vendor shall provide details on installation of the software including pre-requisite requirements prior to actual software installation and training. The utility requires up to two days start-up training for each of the meter reading systems being implemented. The trainer shall be an authorized representative of the company and be able to instruct the utility as to the most efficient method of software operation with the hardware being used. Complete installation and operating instructions must be included for all of the supplied software.

The vendor shall provide complete software support following installation and training. Included in the support program should be toll-free telephone support and optional on-site visit schedules. The vendor's proposal must include any additional costs for training and assistance, including any costs for future software support and software upgrades. Features of those programs shall be included with any additional charges such as hourly rate for on-site and/or remote support. The location of and procedures for obtaining such support shall be stated.

SOFTWARE WARRANTY

The software shall be warranted for a minimum of one (1) year against defects in materials and workmanship. The vendor is required to state its standard warranty

and/or guarantee policy for the software provided. The procedure for submitting warranty claims must also be provided.

FLEXNET COMMANDLINK OR REASONABLE EQUIVALENT

DESCRIPTION

Hand-held, electronic tool permitting on-site wireless installation, interrogation and programming of FlexNet® water SmartPoints. The high-impact, injection-molded plastic device has an elastic strap and AC/DC charger. The unit is powered by three (3) "AA" rechargeable or Energizer-brand disposable NH-15AA batteries. Charge time is approximately four (4) hours. The device utilizes a liquid crystal display (LCD), power, Bluetooth communication and charging indicators.

CONFORMANCE STANDARDS

CommandLink complies with FCC Part 15, FCC Part 15 Class B and Canadian ICES-003 requirements.

PERFORMANCE WARRANTIES

In evaluating bid submittals, warranty coverage will be considered. All bidders are required to submit their most current nationally published warranty statements for water meter maincases, encoder registers and measuring chambers.

SHIPMENT VERIFICATIONS

A statistically controlled sample of each meter shipment will be tested by the utility to insure each shipment meets utility performance and materials specifications.

BID PROPOSAL SHEET
BID #RWD-2016-20

ALL PRICES ARE "PER ITEM", UNLESS OTHERWISE STATED

****ALL BRASS ITEMS BID MUST BE "NO-LEAD" PURSUANT
TO THE *REDUCTION OF LEAD IN DRINKING WATER ACT*
(SENATE BILL 3874 SIGNED JANUARY, 2011)****

<u>ITEM #</u>	<u>ITEM DESCRIPTION</u>	<u>NET DELIVERED PRICE</u>
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iPERL WATER METERS

- | | | |
|----|---|----------|
| 1. | 5/8" x 1/2" iPERL Meter* | \$ _____ |
| 2. | 3/4" iPERL Meter* | \$ _____ |
| 3. | 1" iPERL Meter* | \$ _____ |
| 4. | 3/4" iPERL Water Management System Fire Service
non-pit installation | \$ _____ |
| 5. | 3/4" iPERL Water Management System Fire Service
pit installation | \$ _____ |
| 6. | 1" iPERL Water Management System Fire Service
non-pit installation | \$ _____ |
| 7. | 1" iPERL Water Management System Fire Service
pit installation | \$ _____ |

*iPerl meters are 2-wire w/6' wire & TR/PL sensor

IPERL ACCESSORIES

- | | | |
|-----|-------------------------------------|----------|
| 8. | Strainers for iPerl meters | \$ _____ |
| 9. | Touch Pad | \$ _____ |
| 10. | TR/PL Housing | \$ _____ |
| 11. | 25' 2-Wire Cable TR/PL Sensor End | \$ _____ |
| 12. | 6' 3-Wire Cable – Plain End | \$ _____ |
| 13. | 25' 3-Wire Cable – Plain End | \$ _____ |
| 14. | 6' 3-Wire Cable – TR/PL Sensor End | \$ _____ |
| 15. | 25' 3-Wire Cable – TR/PL Sensor End | \$ _____ |
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<u>ITEM #</u>	<u>ITEM DESCRIPTION</u>	<u>NET DELIVERED PRICE</u>
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OMNI C2 METERS & ACCESSORIES

16.	1.5" C ² Omni Meter	\$ _____
17.	2" C ² Omni Meter	\$ _____
18.	3" C ² Omni Meter	\$ _____
19.	4" C ² Omni Meter	\$ _____
20.	6" C ² Omni Meter	\$ _____
21.	8" C ² Omni Meter	\$ _____
22.	10" C ² Omni Meter	\$ _____
23.	C ² Omni Electronic Register	\$ _____

OMNI T2 METERS & ACCESSORIES

24.	1.5 T ² Omni Meter	\$ _____
25.	2" T ² Omni Meter	\$ _____
26.	3" T ² Omni Meter	\$ _____
27.	4" T ² Omni Meter	\$ _____
28.	6" T ² Omni Meter	\$ _____
29.	8" T ² Omni Meter	\$ _____
30.	10" T ² Omni Meter	\$ _____
31.	T ² Omni Electronic Register	\$ _____

OMNI F2 FIRE METERS - COMPACT

32.	4" F ² Omni Fire Meter	\$ _____
33.	6" F ² Omni Fire Meter	\$ _____
34.	8" F ² Omni Fire Meter	\$ _____
35.	10" F ² Omni Fire Meter	\$ _____

OMNI F2 FIRE METERS - STANDARD

36.	4" F ² Omni Fire Meter	\$ _____
37.	6" F ² Omni Fire Meter	\$ _____
38.	8" F ² Omni Fire Meter	\$ _____
39.	10" F ² Omni Fire Meter	\$ _____

<u>ITEM #</u>	<u>ITEM DESCRIPTION</u>	<u>NET DELIVERED PRICE</u>
40.	F ² Omni Electronic Register	\$ _____
41.	F ² Omni Fireline Bypass Retrofit Meter	\$ _____

SR/SRII ECR METER CONVERSION KITS

42.	5/8" SR ECR Meter Conversion Kit	\$ _____
43.	3/4" SR ECR Meter Conversion Kit	\$ _____
44.	1" SR ECR Meter Conversion Kit	\$ _____
45.	5/8" SRII ECR Meter Conversion Kit	\$ _____
46.	3/4" SRII ECR Meter Conversion Kit	\$ _____
47.	1" SRII ECR Meter Conversion Kit	\$ _____

SR/SRII TRPL METER CONVERSION KITS

48.	5/8" SR TRPL Meter Conversion Kit	\$ _____
49.	3/4" SR TRPL Meter Conversion Kit	\$ _____
50.	1" SR TRPL Meter Conversion Kit	\$ _____
51.	1.5" SR TRPL Meter Conversion Kit	\$ _____
52.	2" SR TRPL Meter Conversion Kit	\$ _____
53.	5/8" SRII TRPL Meter Conversion Kit	\$ _____

<u>AMR METER TRANSCEIVER UNIT (MXU)</u>		TOUCH COUPLER VERSION	WIRED VERSION
54.	MXU 510R Single Port Meter Transceiver Unit for use in non-pit (inside) installations	\$ _____	\$ _____
55.	MXU 510R Dual Port Meter Transceiver Unit for use in non-pit (inside) installations	\$ _____	\$ _____
56.	MXU 520R Single Port Meter Transceiver Unit for use in pit installations	\$ _____	\$ _____
57.	MXU 520R Dual Port Meter Transceiver Unit for use in pit installations	\$ _____	\$ _____

ITEM #	ITEM DESCRIPTION	NET DELIVERED PRICE	
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FlexNet SmartPoint M2 RADIO TRANSCEIVERS

**TOUCH
COUPLER
VERSION**

**WIRED
VERSION**

58.	MXU 510M Single Port Meter Transceiver Unit for use in non-pit (inside) installation	\$ _____	\$ _____
59.	MXU 510M Dual Port Meter Transceiver Unit for use in non-pit (inside) installation	\$ _____	\$ _____
60.	MXU 520M Single Port Meter Transceiver Unit for pit installation	\$ _____	\$ _____
61.	MXU 520M Dual Port Meter Transceiver Unit for pit installation	\$ _____	\$ _____

62.	Series FL6502 Handheld Device with Communications/Charger Stand	\$ _____
63.	Auto Read Handheld Device/Programmer Standard Model FL6502 Upgrade w/ Communications/Charger Stand	\$ _____
64.	Auto Gun RF 4090	\$ _____
65.	Auto Gun 90° Pit Probe Extension	\$ _____

66.	1.5" Companion Brass Meter Flange & Gaskets*	\$ _____
67.	2" Companion Brass Meter Flange & Gaskets*	\$ _____
68.	4" Companion Brass Meter Flange & Gaskets*	\$ _____
69.	6" Companion Brass Meter Flange & Gaskets*	\$ _____

*Includes nut and bolt; (2) needed for each meter

BELOW ITEMS FOR USE WITH OMNI METERS:

70.	1.5" Companion Cast Iron Meter Flange & Gaskets**	\$ _____
71.	2" Companion Cast Iron Meter Flange & Gaskets**	\$ _____
72.	4" Companion Cast Iron Meter Flange & Gaskets**	\$ _____
73.	6" Companion Cast Iron Meter Flange & Gaskets**	\$ _____
74.	8" Companion Cast Iron Meter Flange & Gaskets**	\$ _____

**Includes nut and bolt; (2) needed for each meterMaintenance and Repair Parts (i.e., freeze plates, gaskets, registers, etc.)

75. FlexNet CommandLink \$_____

76. _____ % discount off current 2016-2017 catalog list pricing (include copy of current catalog pricing sheet)
