



**COWICHAN VALLEY REGIONAL DISTRICT**

**REQUEST FOR QUOTATIONS**

**ES-029-17**

**Shawnigan Meter Installations**

**Quotes will be received on or before 2:00 P.M. local time  
Friday, July 21, 2017**

**COWICHAN VALLEY REGIONAL DISTRICT  
175 INGRAM STREET  
DUNCAN BC V9L 1N8  
[www.cvrld.bc.ca](http://www.cvrld.bc.ca)**

## INTRODUCTION

### Invitation

This Request for Quotations ("the RFQ") issued by the Cowichan Valley Regional District ("the CVRD") is an invitation to submit non-binding offers for the provision of the Shawinigan Metering Project as further described in Appendix A for the rates established in Appendix B.

### Submission Instructions

Quotations must be sent by email to the RFQ contact at the email address set out below or delivered to the following address:

Cowichan Valley Regional District  
175 Ingram Street  
DUNCAN, BC V9L 1N8

Attention: Anthony Jeffery, Procurement Officer  
Email: [purchasing@cvrd.bc.ca](mailto:purchasing@cvrd.bc.ca)

The complete quotation must be received in the inbox of the RFQ Contact's email address or delivered to the above address by the Submission Deadline. Quotations received after the Submission Deadline will not be considered.

It is the intention of the CVRD to enter into a contract with one (1) legal entity.

### RFQ Timetable

Event	Date
Release of RFQ	Friday, July 7, 2017
Deadline for Questions	no later than one week prior to the closing date
Deadline for Issuing Addenda	No later than three days before closing date
Submission Deadline	No Later Than 02:00 p.m., local time on Friday, July 21, 2017

\*The RFQ timetable is tentative only, and may be changed by the CVRD at any time prior to the Submission Deadline.

### Evaluations of Quotations

The CVRD will conduct the evaluation of quotations in the following two stages:

#### Stage I – Mandatory Requirements

The mandatory requirements for this RFQ are each quotation **must include** a Submission Form (Appendix B) completed and signed by an authorized representative of the respondent. Subject to the Terms of Reference and Governing Law (Appendix C), those quotations that do not satisfy the mandatory requirements as of the Submission Deadline will be disqualified and will not be evaluated further.

#### Stage II – Evaluation of Pricing

Stage II will consist of an evaluation of the submitted pricing to determine the best price.

#### Selection of Top-Ranked Respondent

Subject to the Terms of Reference and Governing Law (Appendix C), the top-ranked respondent as established under the evaluation will be selected to enter into a contract for the provision of the Deliverables. The respondent selected pursuant to this RFQ process will be informed in writing. Respondents not selected will also be informed in writing. The selected respondent will be expected to enter into a contract within the timeframe specified in the selection notice. Failure to do so may, among other things, result in the disqualification of the respondent and the selection of another respondent or the cancellation of the RFQ.

## APPENDIX A – RFQ PARTICULARS

### The Deliverables

As part of the Shawnigan Metering Project, the CVRD will engage the services of the Contractor to install up to 47 water meter assemblies at designated properties in the Shawnigan Water Service Area. The CVRD will provide meters, meter setters, concrete boxes, radio heads, lids and fittings via Corix Water Products, Duncan. The Contractor will supply all other labour, subcontractors, aggregates and equipment to properly install the meter assembly and remediate the construction site to its original condition or better.

The CVRD has located service line locations and will make these available to the contractor via location sheets and photographs.

4 types of meter assembly works exist:

- Concrete box and meter setter is already in place and located. Meter and MXU installation required.
- Meter and meter setter is already in place and is located. Concrete box & metal lid, meter and MXU installation required.
- Meter setter is already in place and is located. Concrete box, metal lid and MXU installation required.
- Service line is located. Excavate and isolate service; concrete box & metal lid, meter, MXU and setter installation required.

The CVRD requests a quotation for each type of meter assembly due to the variable difficulty and labour requirements between the types of assemblies.

### Supplementary Contractor Specifications

The Contractor is to provide home owners a minimum notice period of 24 hours prior to meter installations and to try to make contact with them at the time of disruption.

The Contractor will be required to determine the height of each meter setter.

The Contractor is to use a suitable pipe crimping tool for all installations; most of the water service lines in the Shawnigan Water System are composed of municipal poly.

The Contractor is to record any anomalies with respect meter assembly such as leaks, unusual type of pipe, exceptional depth or issues regarding site restoration or owners, and to contact the CVRD for assistance.

The Contractor is to place any new meter assemblies approximately within 1 metre of the property line and within the road allowance. The meter assembly may be adjusted to suit the site, for example landscaping or appetences may require adjustment of the proposed meter.

The Contractor is to complete and return to the CVRD the Meter Installation Sheets with SKU from the meter and MXU as shown on the sample Meter Installation Sheet (see Attachment 3 for example). Include serial numbers, part numbers or other relevant information as to site location, depth, etc.

The Contractor will restore the meter installation site to its original condition or better including, but not limited to, placement of topsoil and grass seed.

The Contractor is to provide a one year guarantee on the service line 1 meter upstream and downstream of the meter assembly location against leaks or other damages that occur as a result of contract work.

Please note that the successful Contractor will be required to provide a WorkSafeBC Clearance letter.

### **Material Disclosures**

The CVRD will provide the materials as listed in Attachment 2, *CVRD Supplied Materials*. The Contractor is to provide all labor, subcontractors, aggregates and equipment required to complete the work on each of the 50 residential water services. All CVRD supplied parts are available for pickup from Corix Water Products, Duncan.

### **Insurance Requirements**

The Contractor shall, at its own expense, provide and maintain throughout the term the following insurance in a form acceptable to the Regional District, with an insurer licensed in British Columbia:

- Commercial General Liability and Property Damage      **\$5,000,000.00**
- Automobile Insurance (owned and non-owned)      **\$5,000,000.00**

In all policies of insurance required under this agreement (except automobile insurance on vehicles owned by the Contractor) the Regional District shall be listed as an additional insured name and all such policies shall contain a provision that the insurance shall apply as though a separate policy had been issued to each named insured. All such policies shall provide that no cancellation or alteration in the policy shall become effective until 30 days after written notice of such cancellation or alteration has been given to the Regional District.

Any deductible amounts in the foregoing insurance which are payable by the policy holder shall be in an amount acceptable to the Regional District.

The Contractor shall provide to the Regional District at the commencement of the term, and at any time during the Term upon request, a certificate or certificates of insurance as evidence that the insurance required under this Agreement is in force.

Maintenance of such insurance and the performance by the Contractor of its obligation under this clause shall not relieve the Contractor of liability under the indemnity provisions under the Agreement.

## APPENDIX B – SUBMISSION FORM

### Respondent Information

Please fill out the following form and name one person, to be the contact for this RFQ response and for any clarifications or amendments that might be necessary.	
Full Legal Name of Respondent:	
Any other relevant name under which the respondent carries on business is:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (if any):	
RFQ Contact Person and Title:	
RFQ Contact Phone:	
RFQ Contact Facsimile:	
RFQ Contact E-mail:	

### Acknowledgement of Terms of Reference and Governing Law

The respondent acknowledges that this RFQ process will be governed by the specific Terms of Reference and Governing Law set out in this RFQ and that, among other things, the Terms of Reference and Governing Law confirm that this procurement process does not constitute a formal legally binding bidding process and that there will be no legal relationship or obligations created until the CVRD accepts the respondent's offer in writing.

### Ability to Provide Deliverables

The respondent has carefully examined this RFQ and has a clear and comprehensive knowledge of the Deliverables required. The respondent represents and warrants its ability to provide the Deliverables in accordance with the pricing set out below.

### Addenda

The respondent is deemed to have read and accepted all addenda issued by the CVRD prior to the Deadline for Issuing Addenda. The onus is on respondents to make any necessary amendments to their quotations based on the addenda. The respondent is requested to confirm that it has received all addenda by listing the addenda numbers, or if no addenda were issued by writing the word "None", on the following line: \_\_\_\_\_. Respondents who fail to complete this section will be deemed to have received all posted addenda.

### Conflict of Interest

"Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the bidding process, the respondent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having or having access to information in the preparation of its quotation that is confidential and not available to other respondents; (ii) communicating with any person with a view to influencing preferred treatment in the RFQ process; or (iii) engaging in conduct that compromises or could be seen to compromise the integrity of the open and competitive RFQ process and render that process non-competitive and unfair; or
- (b) in relation to the performance of its contractual obligations contemplated in the contract that is the subject of this procurement, the respondent's other commitments, relationships or financial interests (i) could or could be seen to exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement; or (ii) could or could be seen to compromise, impair or be incompatible with the effective performance of its contractual obligations.

If the box below is left blank, the respondent will be deemed to declare that: (1) there was no Conflict of Interest in preparing its quotation; and (2) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

Otherwise, if the statement below applies, check the box.

- ☐ The respondent declares that there is an actual or potential Conflict of Interest relating to the preparation of its quotation, and/or the respondent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

If the respondent declares an actual or potential Conflict of Interest by marking the box above, the respondent must state on a separate sheet details of the actual or potential Conflict of Interest.

### Non-Binding Pricing

Non-binding rates shall be provided in Canadian funds, inclusive of all applicable duties and taxes except for applicable sales taxes, which should be itemized separately.

Item	Quantity	Unit Price	Total
A – Concrete box and setter is already in place and located. Meter and MXU installation required.	2	\$	\$
B – Setter already exists and is located. Concrete box & metal. Lid, meter and MXU installation required.	26	\$	\$
C – Service line is located. Excavate and isolate service; concrete box & metal lid, meter, MXU and setter installation required.	12	\$	\$
D – Service line is located. Excavate and isolate service; concrete box, metal lid, meter, MXU and setter installation required.	7	\$	\$
<b>GST</b>			\$
<b>Total Price</b>			\$

\_\_\_\_\_  
Signature of Witness:

\_\_\_\_\_  
Signature of Respondent Representative:

\_\_\_\_\_  
Name of Witness:

\_\_\_\_\_  
Name and Title:

Date of Signature: \_\_\_\_\_

I have authority to bind the Respondent.

## **APPENDIX C - TERMS OF REFERENCE AND GOVERNING LAW**

In responding to this RFQ, each respondent must submit a completed and signed Submission Form (Appendix B) that, among other things, acknowledges its acceptance of the following RFQ Terms of Reference and Governing Law:

- (a) This RFQ process is not intended to create a formal, legally binding bidding process and shall not give rise to the legal rights or duties applied to a formal Contract A binding bidding process or any other legal obligations arising out of any tendering process contract or collateral contract, and instead shall be governed by the common law applicable to direct commercial negotiations.
- (b) No legal obligation regarding the procurement of any good or service shall be created until the CVRD and the selected respondent have entered into a written contract for the Deliverables.
- (c) Neither party shall have the right to make any claims (in contract, tort, or otherwise) against the other with respect to the award of a contract, failure to award a contract or a decision of the respondent to withdraw its quotation.
- (d) The CVRD may cancel this RFQ process at any time.
- (e) Procurements falling within the scope of Chapter 5 of the Agreement on Internal Trade and/or the New West Partnership Trade Agreement are subject to those trade agreements but that the rights and obligations of the parties will be governed by the specific terms of this RFQ.
- (f) The respondent consents to the collection and use by the CVRD of the information as contemplated under this RFQ for the uses contemplated under this RFQ.
- (g) The respondent will bear its own costs associated with, or incurred in, the preparation and presentation of its quotation, including, if applicable, costs incurred for interviews or demonstrations.
- (h) Respondents may direct questions or seek additional information in writing by e-mail to the RFQ Contact on or before the Deadline for Questions. The CVRD is under no obligation to provide additional information but may do so at its sole discretion. It is the responsibility of the respondent to seek clarification from the RFQ Contact on any matter it considers to be unclear. The CVRD is not responsible for any misunderstanding on the part of the respondent concerning this RFQ or its process.
- (i) This RFQ may be amended only by addendum issued in accordance with this section. If the CVRD, for any reason, determines that it is necessary to provide additional information relating to this RFQ, such information will be communicated to all respondents by addendum. Each addendum forms an integral part of this RFQ and may contain important information, including significant changes to this RFQ. Respondents are responsible for obtaining all addenda issued by the CVRD. In the Submission Form (Appendix B), respondents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.
- (j) When evaluating quotations, the CVRD may request further information from the respondents or third parties in order to verify, clarify or supplement the information provided in the respondent's quotation, and the CVRD may revisit and re-evaluate the respondent's quotation or ranking on the basis of any such information.
- (k) The CVRD may consider the respondent's past performance on previous contracts or any other information considered relevant by the CVRD when determining the acceptability of a respondent.
- (l) The CVRD may disqualify a respondent for any conduct, situation or circumstance that constitutes a Conflict of Interest, as solely determined by the CVRD. "Conflict of Interest" shall have the meaning ascribed to it in the Submission Form (Appendix B).
- (m) Respondents shall not engage in any illegal business practices, including such activities as bid-rigging, price-fixing, bribery, fraud or collusion. Respondents shall not engage in any unethical conduct, including lobbying or other inappropriate communications; offering gifts to elected officials, employees, officers or other representatives of the CVRD; deceitfulness; submitting quotations containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process.

- (n) The CVRD may elect not to consider a respondent who engages in conduct prohibited by this RFQ or whose quotation contains misrepresentations or any other inaccurate, misleading or incomplete information.
- (o) The CVRD may prohibit a respondent from participating in a procurement process based on poor past performance or inappropriate conduct in a prior procurement process, including but not limited to (i) illegal and unethical conduct; (ii) the submission of quotations containing misrepresentations or any other inaccurate, misleading or incomplete information, (iii) the refusal of the respondent to honour submitted pricing or other commitments, or (iv) any conduct, situation or circumstance determined by the CVRD, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest.
- (p) Respondents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be made in writing to the RFQ Contact and must be made within sixty (60) days of such notification. The intent of the debriefing information session is to aid the respondent in presenting a better submission in response to subsequent procurement opportunities. Any debriefing provided is not for the purpose of providing an opportunity to challenge the procurement process or its outcome.
- (q) The CVRD makes no guarantee of the value or volume of work to be assigned to the successful respondent. The contract with the selected respondent will not be an exclusive contract for the provision of the described Deliverables. The CVRD may contract with others for goods and services the same as or similar to the Deliverables or may obtain such goods and services internally.
- (r) These terms (i) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision); (ii) are non-exhaustive and shall not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations; and (iii) are to be governed by and construed in accordance with the laws of the province of British Columbia and the federal laws of Canada applicable therein.



**Type A**

2863 Gregory Rd

2225 MacFarlane Cres

**Type B**

2818 Meadowview Rd

2782 Meadowview Rd

2777 Meadowview Rd

2767 Meadowview Rd

2766 Meadowview Rd

2760 Meadowview Rd

2756 Gregory Rd

2753 Gregory Rd

2752 Gregory Rd

2751 Gregory Rd

2687 Inn Rd

2686 Decca Rd

2662 Decca Rd

2678 Morningstar Rd

2676 Morningstar Rd

2295 Macfarlane Cres

2243 McIntosh Rd

2186 McKean Rd

2155 McKean Rd

2184 Penny Ln

2099 Renfrew Rd

2081 Catalina Dr

2079 Airbright Ln

2073 Airbright Ln

2071 Widows Walk

2031 Widows Walk

**Type C**

2034 Renfrew Rd

2155 Renfrew Rd

2167 Portree Ln

2178 Penny Ln

2180 Penny Ln

2201 McKean Rd

2363 Ravenhill Rd

2376 Larsen Rd

2391 Damascus Rd

2750 Scobhal Rd

2814 Meadowview Rd

2974 Skrimshire Rd

**Type D**

2161 McKean Rd

2244 McIntosh Rd

2339 Ravenhill Rd

2351 Renfrew Rd

2700 Linden Ln

2743 Gregory Rd

2747 Gregory Rd

**Corix Water Products LP**

2622 Beverly Street  
Duncan, BC V9L 3C7  
CANADA  
Tel: 250-746-8877  
Fax: 250-746-8335  
www.corix.com

**QUOTATION**

**CORIX**  
Water Products

**Bill To:** COWICHAN VALLEY REG.DIST  
175 INGRAM STREET  
DUNCAN, BC V9L 1N8  
CANADA  
Tel: 250-746-2576  
Fax: 250-746-2581

**Ship To:** COWICHAN VALLEY REG.DIST  
175 INGRAM STREET  
DUNCAN, BC V9L 1N8  
CANADA

<b>Customer No.</b>	COWVALREG	<b>Closing Date</b>		<b>Project</b>	
<b>Terms</b>	2% 30th next month net	<b>Ordered By</b>		<b>Engineer</b>	
<b>Ship Via</b>		<b>Sales Person</b>	Neall Rowlings	<b>Cust Job No.</b>	Material pricing
<b>Terms</b>		<b>Creator</b>	Chad Clark	<b>Cust Job Desc.</b>	
<b>F.O.B.</b>				<b>Cust PO No.</b>	

**Printed** NROWLINGS 05/21/2015 09:28 AM

Item No.	Description	Unit	Quantity	Unit Price	Total Price
COB937TEXT120	#8937 305MM TOP/EXT	EA			
COB937TEXT060	#8937 150MM TOP/EXT	EA			
CO37LC3HOLE	#37 C METER BOX LID TRPL HOLE	EA			
ME520MTCSPHRLD	520M TC SP HOURLY/LK D	EA			
MME00048	5/8X3/4"SRDER/TRPL M3 SWBBNL	EA			
FCB00394	760215WDTT 33X15 5/8X3/4STTRNL	EA			
CBAY6133T007	3/4 PE SOLID 55 INS 6133T	EA			
	** 3/4" WATER LINE **				
MST1600070100	3/4"X100' MST 160	/C			

<b>Taxable Amount</b>	<b>Tax Exempt Amount</b>	<b>Subtotal:</b>	<b>0.00</b>
0.00	0.00	<b>Total Tax:</b>	<b>0.00</b>

**Total:** 0.00

Thank you for the opportunity to quote. This quote prepared for you by: **Chad Clark**  
Tel: 250-746-8877 chad.clark@corix.com

THIS QUOTATION IS VALID FOR THE IDENTIFIED CUSTOMER ONLY AND DOES NOT CONSTITUTE AN OFFER TO SELL. ALL QUOTATIONS ARE SUBJECT TO APPROVAL OF CREDIT. CORIX ACCEPTS NO RESPONSIBILITY FOR THE CORRECTNESS OR COMPLETENESS OF MATERIAL QUOTED. F.O.B. POINT & PRICES ARE BASED ON ALL ITEMS AND QUANTITIES QUOTED UNLESS OTHERWISE NOTED.

ALL PRICES ARE FIRM FOR ACCEPTANCE WITHIN 30 DAYS OF QUOTATION DATE

**GST/HST No.** 83522 9451RT

# SR II® Low Lead Meters

Displacement Type Magnetic Drive Cold Water Meters

## Description

5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm) Sizes

Measurement of cold water where flow is in one direction only; In residential, commercial and industrial services.



## Features

### CONFORMANCE TO STANDARDS

Sensus SR II Low Lead Water Meters meet the requirements of NSF Standard 61, Annex F and G and comply with ANSI/AWWA Standard C700-latest revision. Each meter is tested to insure compliance with AWWA standards.

### CONSTRUCTION

Sensus SR II Low Lead Water Meters consist of three basic components: maincase, measuring chamber, and sealed register. Maincases are made of Bismuth BiAlloy CDA89836 or EnviroBrass™ II C89520 with externally-threaded spuds. Registers are housed in a bonnet of synthetic polymer. Measuring chambers are of Rocksyn®, a corrosion-resistant, tailored thermoplastic material formulated for long-term performance and especially suitable for aggressive water conditions. Maincase bottom plates are available in Bismuth BiAlloy, EnviroBrass II or, if frost protection is desired, in cast iron or synthetic polymer<sup>1</sup>.

### SEALED REGISTER

Hermetically sealed, proven magnetic drive design eliminates dirt and moisture contamination, tampering and lens fogging problems. Standard register includes a straight-reading, odometer-type totalization display, a 360° test circle with center sweep hand, and a low flow (leak) de-

lector. Gears are self-lubricating, molded plastic for long life and minimum friction.

No change gears are required for accuracy calibration. Encodertype remote reading systems are available for all SR II Low Lead Water Meters. (See other side of sheet for additional information.)

### TAMPERPROOF FEATURES

A unique locking system prevents customer removal of the register to obtain free water. The register can only be removed by breaking the register bonnet.

### MAGNETIC DRIVE

The SR II Low Lead features a hydrodynamically cushioned design that eliminates premature wear of components. The meter utilizes a patented positive, reliable drive coupling. The high-strength magnets used will eliminate "drive slip" in normal use and also provide adequate strength to drive remote register units.

### OPERATION

Water flows through the meter's strainer and into the measuring chamber where it drives the piston. The hydrodynamically balanced piston oscillates around a central hub, guided by the division plate.

A drive magnet transmits the motion of the piston to a driven magnet located within the hermetically sealed register.

The driven magnet is connected to the register gear train. It reduces the piston oscillations into volume totalization units displayed on the register dial face.

### MAINTENANCE

Sensus SR II Low Lead Water Meters are engineered to provide long-term value and virtually maintenance-free operation. Simplicity of design allows interchangeability of parts of like-size meters, reduced parts inventory requirements, and ease of maintenance. The register can be removed without relieving the water pressure or removing the maincase from the installation.

### CONNECTIONS

Tailpieces/Unions for installing the meters on a variety of pipe types and sizes are available.

### AMR/AMI SYSTEMS

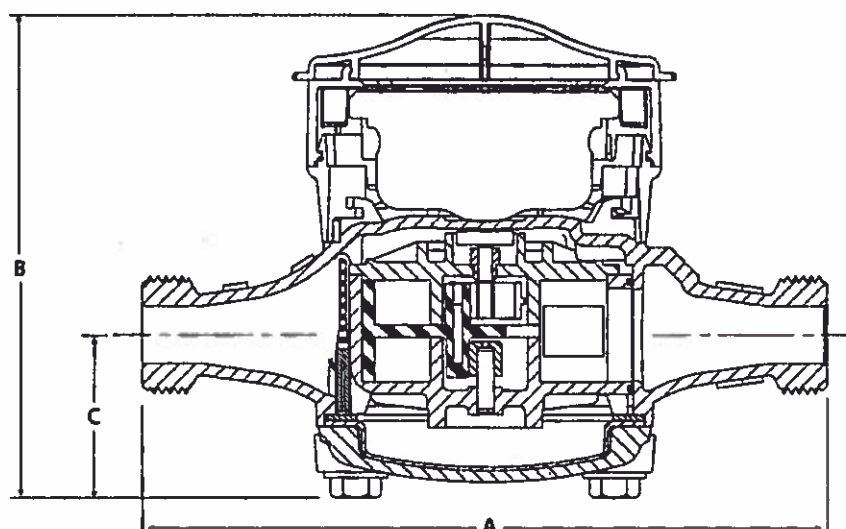
Meters and encoders are compatible with current Sensus AMR/AMI systems.

### GUARANTEE

Sensus SR II Water Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

**SENSUS**





## DIMENSIONS AND NET WEIGHTS

Meter Size	A	B	C	Width	Net Weight
5/8" (DN 15mm)	7-1/2" (190mm)	5-3/8" (136mm)	1-3/4" (44mm)	3-7/8" (98mm)	4.3 lb. (1.97 kg)
5/8" x 3/4" (DN 15mm X 33mm)	7-1/2" (190mm)	5-3/8" (136mm)	1-3/4" (44mm)	3-7/8" (98mm)	4.4 lb. (2.00 kg)
3/4" (DN 20mm)	9" (229mm)	5-7/8" (149mm)	2-3/16" (58mm)	4-1/2" (114mm)	6.4 lb. (2.90 kg)
3/4" Short (DN 20mm)	7-1/2" (190mm)	5-7/8" (149mm)	2-3/16" (58mm)	4-1/2" (114mm)	6.2 lb. (2.81 kg)
1" (DN 25mm)	10-3/4" (273mm)	7-1/8" (181mm)	2-3/4" (70mm)	6-1/2" (165mm)	11.9 lb. (5.4 kg)

\* With Rocksyn® measuring chamber.

## SPECIFICATIONS

<b>SERVICE</b>	Measurement of potable and reclaim water.
<b>NORMAL OPERATING FLOW RANGE</b> (RECOMMENDED)	5/8" (DN 15mm) size: 1 to 20 gpm (0.25 to 4.5 m³/hr) 3/4" (DN 20mm) size: 2 to 30 gpm (0.45 to 7.0 m³/hr) 1" (DN 25mm) size: 3 to 50 gpm (0.7 to 11.0 m³/hr)
<b>LOW FLOW REGISTRATION</b> (MIN. FLOW)	5/8" size: 1/4 gpm (0.06 m³/hr) 3/4" size: 1/2 gpm (0.10 m³/hr) 1" size: 3/4 gpm (0.15 m³/hr)
<b>MAXIMUM PRESSURE LOSS</b>	5/8" size: 7.0 psi at 20 gpm (0.5 bar at 4.5 m³/hr) 3/4" size: 9.0 psi at 30 gpm (0.6 bar at 7.0 m³/hr) 1" size: 7.3 psi at 50 gpm (0.5 bar at 11.0 m³/hr)
<b>MAXIMUM OPERATING PRESSURE</b>	150 psi (10.0 bar)
<b>MEASURING ELEMENT</b>	Oscillating piston
<b>REGISTER*</b>	Straight reading, hermetically sealed, magnetic drive. Remote reading unit optional.
<b>STANDARD METER REGISTRATION†</b>	10 gallons, 1 cubic foot, or 0.01 m³ or 0.1 m³/weep hand revolution. 10,000,000 gallons, 1,000,000 cubic feet or 100,000 m³ capacity. 8 odometer wheels

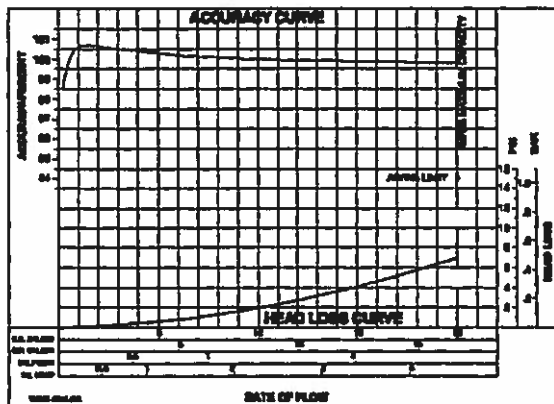
<b>METER CONNECTIONS</b>	5/8" (DN 15mm) size: 3/4" (26.44mm) threads 5/8" x 3/4" (DN 15mm x 33mm) size: 1" (33.25mm) threads 3/4" (DN 20mm) size: 1" (33.25mm) threads 1" (DN 25mm) size: 1-1/4" (41.9mm) threads (All threads are straight pipe, external type, conforming to ANSI B1.20.1 or ISO R228, if specified.)
<b>MATERIALS</b>	Maincase: Bismuth BiAlloy CDA89836 or EnviroBrass II C89520 Register box: Synthetic polymer Measuring chamber: Rocksyn® Bottom plate: Bismuth BiAlloy CDA89836 Magnets: Plasticized material Casing bolts: Stainless steel Strainer: Synthetic polymer

- 1 Maximum rates listed are for intermittent flow only. Maximum continuous flow rates as specified by AWWA are:  
5/8" (DN 15mm)—10 gpm (2.3 m³/hr)  
3/4" (DN 20mm)—15 gpm (3.4 m³/hr)  
1" (DN 25mm)—25 gpm (5.7 m³/hr)
- 2 Unless otherwise noted, 5/8" size and 5/8" x 3/4" characteristics are identical.  
5/8" x 3/4" designates 5/8" with 3/4" connection thread.  
Metric designation is the normal bore x the outside diameter.
- 3 See ICE-Opto Register Datasheet or Electronic Register Datasheet for details specifications.

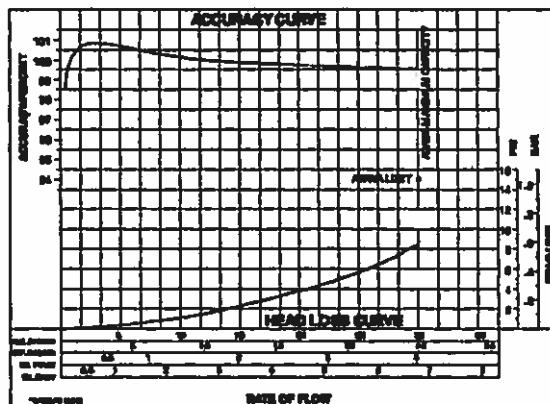
## TYPICAL PERFORMANCE CURVES

### SR II Meter

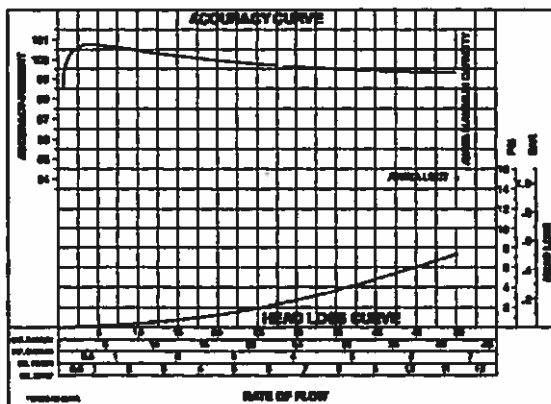
5/8" and 5/8" x 3/4" SR II Meter  
UA-5833



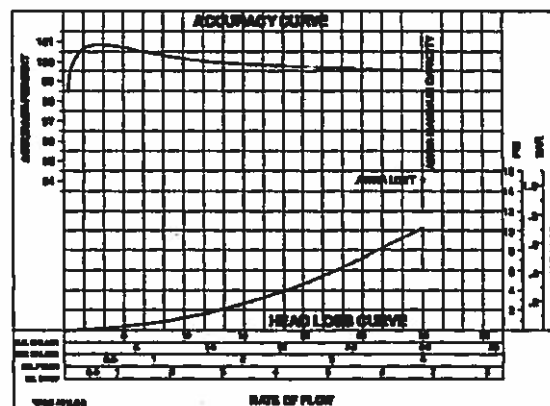
3/4" and 3/4" x 1" SR II Meter  
UA-5834



1" SR II Meter  
UA-5835



3/4" SR II Meter 7-1/2" Laying Length  
UA-5838



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## Description

### Model 520M – Pit Set

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. The SmartPoint 520M is designed for submersible, pit-set environments. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations.



## Features

### TOUCHCOUPLER DESIGN

The SmartPoint M2 utilizes TouchCoupler, the patented Sensus inductive coupling communication platform to interface with the encoded meter. With TouchCoupler, the SmartPoint M2 can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the meter to install a new three-wire connection. This results in a fast, efficient and reliable connection at minimal cost.

### OPERATION

The FlexNet SmartPoint M2 receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed base collection device. The SmartPoint M2 easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint M2 collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint M2 interacts with one or more strategically placed Base Stations located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI) at time of transmission. The FlexNet system provides unmatched reliability by

using expansive tower receiver coverage of metering end points, data/message redundancy, fail over back up provisions and operation on FCC primary use (unshared) RF spectrum.

### POWERFUL TRANSMISSION, FLEXIBLE PLATFORM

The SmartPoint M2 offers several advantages that control both deployment and lifetime operation costs. It's powerful, industry leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And once the SmartPoint M2 is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

### ADDITIONAL SMARTPOINT M2 FEATURES

The SmartPoint M2 obtains hourly readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint M2 stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint M2 also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves

time, space and money - without reducing system performance.

### SPECIFICATIONS

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: 5.08" x Depth: 3"
WEIGHT	1.0 lb/16.0 oz
COLOR	Black
FREQUENCY RANGE	900 - 960 MHz, 5000 channels X 6.25 kHz slope
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 +186°F -30° C to +85° C
OPTIONS	Dual or single port availability; TouchCoupler only, wired only, Nitor connection
INSTALLATION ENVIRONMENT	100% condensing, water submersible
COMPATIBILITY	TouchCoupler and Wired Version: Sensus Encoded Registers Badger ADE water registers and MeilerMeter AccuLink Wired Version Only: Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead); Hensley Translater
WARRANTY	20 years - Based on six transmissions per day. Refer to Sensus G-500 for warranty.

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**SENSUS**



# Electronic Register

## Data Sheet

### APPLICATION AND FEATURES

The Sensus Electronic Register is a straight reading register that provides accurate and error-free meter reading via an LCD display. It provides greater reading resolution, reliability, end-user options, and other benefits. It is compatible with the Sensus AMR/AMI System and is fully compliant with ANSI/AWWA Encoder Standard C707-5. There are nine digits on the display, the ninth being a low flow indicator. Other features include removability with a unique locking system, rate of flow gauge, forward and reverse flow indicator, field programmability, and a 20 year warranty.

### OPERATION

The Electronic Register utilizes "magnetic-field position sensing" technology to determine the orientation of the water meter shaft. Through electronics, it is able to count the number of rotations, and display the measurements on the LCD. The register can show both volume and flow rate on the display as well. The Sensus Electronic Register can be used with Sensus positive displacement meters because no torque is developed beyond that in a standard, visual read register.

### AMR/AMI SYSTEM COMPATIBILITY

The Sensus Electronic Register is adaptable and configured for installation and interrogation in a two-wire TouchRead mode, three-wire AMR mode, or terminal block option, making it totally compatible with existing systems that use each mode. The meter reading data, which consists of up to 8 digits of the odometer reading and the register ID number, are transmitted in ASCII standard code that is used by most of the data communications industry.

### SENSUS AMR/AMI SYSTEM MIGRATION

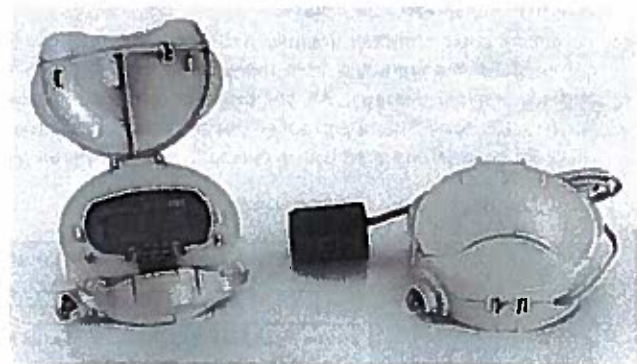
All Sensus AMR registers, past and present, provide three connection posts, two of which are needed for TouchRead applications and three for RadioRead and FlexNet systems with three-wire systems. This enables a utility to easily and economically upgrade from a TouchRead System to a more-advanced AMR/AMI system without having to replace the registers on its meters.

### HIGHER RESOLUTION READINGS

With its nine functioning register digits, greatly enhanced reading resolutions are provided. For example, on a register that records consumption in gallons, the right-most digit displays usage in hundredths of a gallon. The digit to its left displays usage in tenths of gallon units. Similar highly-definitive reading resolutions are also provided when the register is configured for volume usage in cubic feet and cubic meters.

### WIRING CONNECTIONS

To ensure reading-integrity, the Sensus Electronic Register's pit set wiring connections are protected from moisture through the encapsulation (potting) of wiring components with a special epoxy material during the manufacturing process.



### UNIQUE REGISTER IDENTIFICATION NUMBER

As with their predecessor ECR registers, Electronic Registers incorporate a unique, never-duplicated identification number that is factory-set into the register's non-volatile electronic memory. The ID number thereby identifies a particular meter, and links the customer it serves to a utility's billing computer.

### WIRE CONNECTION

Sensus Electronic registers provide three terminals for connecting wires to it, labeled R for red, B for black and G for green. For TouchRead System use, wiring from the R and B terminals are connected to a TouchPad remote-reading module. In Sensus AMR/AMI System applications such as TouchRead, RadioRead and FlexNet, a three-wire connection or two-wire "TouchCouple" allow you to properly link the register to its AMR interface device. When the interrogation device cannot communicate with the register, it will provide an alert signal, which can be viewed immediately in Logic.

### ASCII PROTOCOL

The register output data format is 7-bit ASCII (American Standard Code for Information Interchange) digital, plus an even parity bit. Upon Interrogation with a TouchPad or AMR/AMI product, the register will transmit an odometer reading containing from 4 to 8 digits (field programmable) and a user defined alphanumeric identification of up to 12 characters (field programmable). The register can also be programmed to output a factory set, nonprogrammable identification number, Customer Text of up to 20 alphanumeric characters (field programmable), a reading multiplier ranging from 10-99 to 1099 (field programmable), and/or a reading measurement unit indicator (for example, US Gallons – field programmable). The register's ASCII digital output is capable of interfacing directly to an AMR/AMI transponder to transmit data via radio signal or wired connections to an AMR/AMI system.

### INSTALLATION AND USE CONSIDERATIONS

Strict adherence to proper installation procedures and reading methods are required to achieve reliable readings from an electronic register.

# Electronic Register

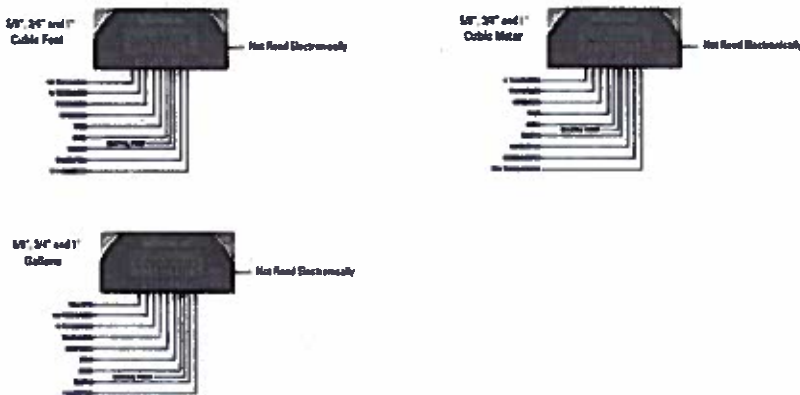
## Data Sheet

### WATERPROOF PACKAGING

To ensure meter reading integrity and accuracy, the register's components are protected from moisture, dirt, ultra-violet rays and mechanical damage. All components are contained in a hermetically sealed, tamperproof enclosure made of a corrosion resistant material, covered with a plastic or heat-tempered glass lens.

### ASSURANCE TESTING

Throughout their development, Sensus Electronic Registers passed an exhaustive series of tests conducted to ensure compliance with specifications for reliable, long-term performance. In addition to testing to assure reading validity in a multitude of applications, registers were exposed to and passed test-conditions simulating harsh environmental conditions.

Service	For use on Sensus positive displacement meters for the purpose of obtaining electronic meter readings with compatible automatic meter reading equipment.
Meter Compatibility	Sensus SRII and accuSTREAM positive displacement meters.
AMR/AMI Compatibility	Sensus TouchRead, RadioRead and FlexNet AMR/AMI Systems, and virtually all other brands of AMR/AMI reading equipment. (ECR specifications available upon request.)
Temperature Specifications	-20°F to 150°F
Registration Unit Indications for Meters Listed	
Compliance	AWWA/ANSI Encoder Standard C707-5
Register Types	<p><b>ECR:</b> For indoor installations only. All components are contained in a permanently hermetically sealed, tamperproof enclosure made of a corrosion resistant material, covered with a plastic lens.</p> <p><b>TouchRead PHLid (TR/PL):</b> For outdoor installations only. All components are contained in a permanently hermetically sealed, tamperproof enclosure made of a corrosion resistant material, covered with a heat tempered glass lens.</p>

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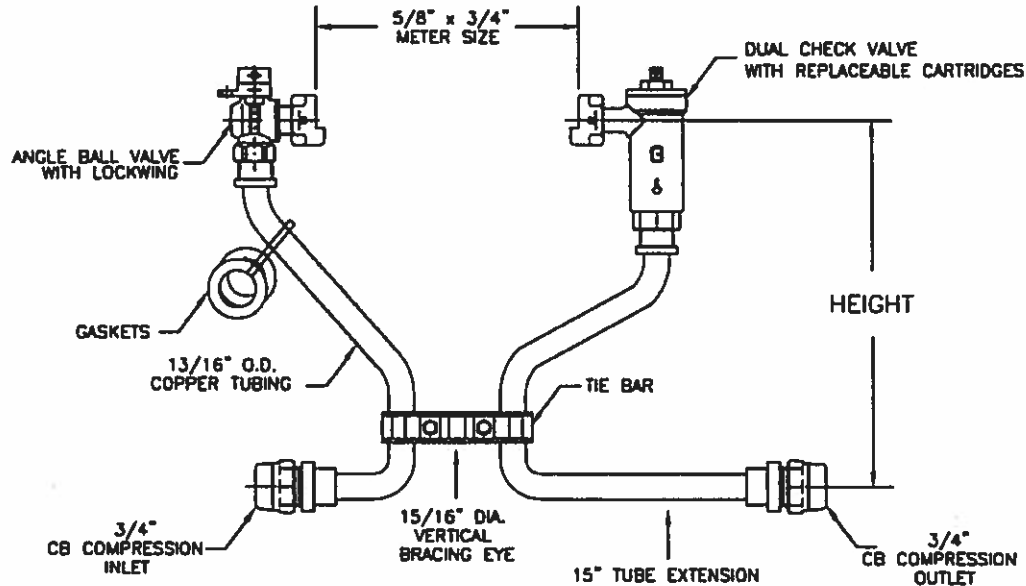
# SUBMITTAL INFORMATION

COPPER SETTER 6031NL-2\_\_H3H3-UQP



3/4" FULL PORT METER BALL VALVE BY DUAL CARTRIDGE CHECK VALVE

CB COMPRESSION x CB COMPRESSION FOR COPPER OR PLASTIC TUBING (CTS)



COPPER SETTER CATALOG NUMBERS

HEIGHT	CATALOG NUMBER
12"	6031NL-212H3H3-UQP
15"	6031NL-215H3H3-UQP
18"	6031NL-218H3H3-UQP
21"	6031NL-221H3H3-UQP
24"	6031NL-224H3H3-UQP

## FEATURES:

- MANUFACTURED IN COMPLIANCE WITH ANMA STANDARD C800 (ASTM B-584, UNS NO C89833).
- CONFORMS TO ANSI/NSF 61-8
- CONFORMS TO ANSI/NSF 372 (COMPLIANT WITH US Safe Drinking Water Act. PL 111-380)
- SADDLE NUTS HOLD THE METER IN PLACE FOR TIGHTENING.
- TIE BAR IS STANDARD FOR 18" AND TALLER RESETTER HEIGHTS.
- 13/16" O.D. COPPER RISERS PROVIDE MORE FLOW CAPACITY.
- ASSEMBLED WITH LEAD-FREE SOLDER.
- BRACING EYE IS STANDARD.
- POSITIONS THE METER DIRECTLY ABOVE THE CENTERLINE OF THE SERVICE.
- FURNISHED WITH TWO RUBBER GASKETS FOR METER NUTS
- CONSTRUCTED WITH TYPE K COPPER TUBING, ALLOY C1200 MANUFACTURED TO ASTM B88.
- ANGLE VALVE HAS PADLOCK WINGS FOR LOCKING VALVE IN CLOSED POSITION.
- FACTORY TESTED AT 90 PSI AIR PRESSURE UNDER WATER.
- METER SETTER IS SHIPPED WITH PLASTIC METER JOLER

Cambridge Brass considers the information in this submittal form to be correct at the time of publication. Form and option availability, including specifications, are subject to change without notice.

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**CAMBRIDGE  
BRASS**

APRIL 2015

SUBMITTED BY:

## METER INSTALLATION SHEET

**NOTE:** It is important that all the the required information below be supplied & accurate.

<b>BILLING INFORMATION</b>	<b>NAME OF UTILITY:</b>	
FOLIO NUMBER		
OWNER		
SITE ADDRESS	2300 RAVENHILL	
BILLING ADDRESS		
LEGAL DESCRIPTION		
METER LOCATION:	5.3m off E/P GREGORY RD IN LINE WITH FRONT OF HOUSE	
INSTALLATION	New meter replacing old meter (If no, "X" out old meter information column)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>METER INFORMATION</b>	<b>OLD METER INFO</b>	<b>NEW METER INFO</b>
METER BODY NUMBER	X	Order: 00362876 Line: 002
ELECTRONIC HEAD NUMBER		Date: 0915 
METER SIZE		Part No: S2DX338M3XXXXX
MANUFACTURER		Desc:
MANUFACTURED DATE		MTR-LL 5/8-3/4SR11 ER-TRPL M3
MODEL		BTM/BRZ 5WHL4A 1M3 6'SPK
UNITS OF MEASURE		Sensus 
TOUCH PAD READ	Meter SN: 79898083	Flow: 
VISUAL READ		Low: 098.7 Mid: 101.0 Hi: 099.9
ELECTRONIC READING		Register 
DATE OF READING		Cust ID: 74142847
DATE NEW METER INSTALLED		Register 74142847
NEW METER INSTALLED BY	N/A	Fact ID: 74142847
COMMENTS		Config: <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Part 1 052000-F1-TC-X-E-MI  
TX ID: 05022010 Date: 10/10/10  
