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**Data logger installation for revenue meters - terms,  
conditions and guidance**

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## Section A: Data logger installation for revenue meters - terms and conditions

### Introduction

These Terms and Conditions are intended to facilitate access to Thames Water meter assets for Applicants wishing to monitor consumption data. Relevant Applicants shall include the Customer, the Retailer or a Third Party Organisation acting on behalf of the Customer or Retailer.

These Terms and Conditions apply to connections to four types of Thames Water meter arrangements:

0. Dumb Meters – with no facility to enable a pulsed output
1. Pulse compatible meter – similar to a dumb meter but has the facility to attach a pulse pick-up device
2. Pulse compatible meter with other equipment attached
  - a. snap-on AMR Trak. This meter type cannot have logging equipment attached unless it is significantly modified
  - b. a wired AMR device and pulse pick-up are fitted, additional equipment will need to be installed to enable logging equipment to be attached
  - c. a Thames Water leakage logger and pulse pick-up device
  - d. a Thames Water leakage logger, pulse pick-up device and wired AMR device. In these cases a splitter will also be fitted.
3. Digital Meters with E-Registers where it shall not be possible or permitted to attach additional equipment. For these meters Thames Water may provide a fee based Digital Data Service.

Applicants wishing to apply to connect logging apparatus to a Thames Water meter are asked to carefully read and agree to the relevant following terms and conditions by completing and signing the enclosed form.

Applicants should return the completed form to Thames Water via email. Thames Water will then review the application and contact Applicants with the next steps.

### Terms and conditions of access

#### A. Terms and conditions applicable to type 0, 1, 2 meter arrangements but excluding digital meters

1. Subject to written confirmation (authorisation) by Thames Water, Applicants may connect their own equipment (“Applicant Equipment”) to a Thames Water meter to obtain a pulsed output that can be used for consumption monitoring and management purposes only. Metering data for billing will still be collected from the meter itself by the relevant Retailer or an appointed agent and for operational purposes by Thames Water.
2. Applicants must notify Thames Water and seek permission prior to installing any equipment or logging devices to a meter.

3. Applicants must notify Thames Water immediately via email on discovering any equipment or logging devices already installed to a meter (whether or not Applicants want to install or change the equipment or devices).
4. The meter, together with any Automatic Meter Reading (“AMR”) or out-reading apparatus (where applicable), is and will remain the property of Thames Water.
5. Applicants must ensure that there is no damage to the Thames Water meter as a result of installing any Applicant Equipment, and must not do anything which might interfere with Thames Water’s statutory obligations to read meters. Where a third party is being used to install equipment, Applicants must ensure that the third party working on their behalf is competent and has the required capabilities, technical skills and complies at all times with health & safety legislation when installing Applicant Equipment to Thames Water assets.
6. Applicants shall be liable for any damage caused to Thames Water assets as a result of work carried out in connection with the initial connection or subsequent maintenance or removal of the Applicant Equipment.
7. Applicants must not disconnect existing Thames Water equipment without Thames Water’s prior written consent, even if this prevents the Applicant installing Applicant Equipment.
8. The Applicant is responsible for any costs associated with logging a supply, including costs associated with exchanging a meter if an exchange is required by the Applicant to enable Applicant Equipment to be connected.
9. Thames Water reserves the right to refuse access to its meters for logging purposes at any time, where (i) Thames Water has reasonable grounds to believe that such access will interfere or is interfering with Thames Water’s ability to comply with its licence or statutory obligations or (ii), if otherwise necessary for Thames Water’s reasonable operation of the network or (iii) if otherwise necessary for leakage management purposes. Applicants have the right to request written reasons from Thames Water for the refusal of permission.
10. Thames Water reserves the right to disconnect Applicant Equipment at any time where (i) Thames Water has reasonable grounds to believe that such access will interfere or is interfering with Thames Water’s ability to comply with its licence or statutory obligations or (ii) if otherwise necessary for Thames Water’s reasonable operation of the network or (iii) if otherwise necessary for leakage management purposes.
11. Where Thames Water intends to disconnect Applicant Equipment in the circumstances set out in Clause 10 above, it shall, where possible, inform the Applicant in advance so as to enable the Applicant to make their own arrangements for disconnection if preferred. The Applicant acknowledges that safe and effective operating of the network may mean that this is not always possible. Where this is not possible, or if the Applicant has not made arrangements to disconnect Applicant Equipment in advance, then Thames Water will disconnect the equipment using reasonable care.
12. Thames Water may also need to carry out works to the meter requiring the removal or disconnection of the Applicant Equipment. If so, then, providing the Applicant has made Thames Water aware of any Applicant Equipment connected to the meter, Thames Water will again, if possible, try to give advance notice to the Applicant of its intention to remove/ disconnect the Applicant Equipment so as to enable the Applicant to make his own arrangements for disconnection. Once the works are completed, Thames Water will inform the Applicant within a reasonable period so that the Applicant can make arrangements to reconnect the Applicant Equipment.
13. Where Thames Water has carried out works requiring the removal or disconnection of Applicant Equipment it shall use reasonable endeavours to reconnect such equipment where this remains feasible without the need for alteration or the fitting of additional equipment.
14. Thames Water reserves the right to install a new meter at any time and for any reason.

Where a meter exchange is deemed necessary, Thames Water will install a digital meter and

- Applicant Equipment previously attached to older-style meters will no longer be suitable. Where this is the case, Thames Water will disconnect equipment using reasonable care.
15. Thames Water acknowledges that the Applicant is entitled to install a meter downstream from the meter on his own property provided there is no impact on the integrity of Thames Water's meter or network.
  16. The Applicant acknowledges that, in the case of a discrepancy between the visual readings on the Thames Water meter and any values recorded on or obtained by using the Applicant Equipment, Thames Water is entitled to use the visual readings on the Thames Water meter as the correct value, and accepting readings based on non-visual readings shall only be at Thames Water's discretion. This being the case, Thames Water will nevertheless work with the Applicant first to try to resolve any such discrepancies.
  17. Where Applicant Equipment is connected to Thames Water assets, the Applicant shall indemnify and keep indemnified Thames Water from and against all claims, demands, actions, costs, expenses, liabilities and damages or losses (including all interest, penalties and legal and other professional costs and expenses) incurred by Thames Water or its respective officers, agents or sub-contractors arising out of the connection of Applicant Equipment to Thames Water assets or its subsequent use, or in connection with any and all fraudulent or negligent acts or omission of, or breaches of these terms and conditions by the Applicant, its officers or employees, or its sub-suppliers.
  18. Nothing in these terms and conditions is intended to affect Thames Water's potential liabilities for damage caused to customers' property as set out in its statutory duties or customers' rights to seek redress.

#### **B. Terms and conditions specifically applicable to type 0 meters**

19. It is not possible to connect any consumption monitoring equipment or building management systems to this type of metering arrangement.
20. If the applicant requests a data consumption service than the meter will need to be replaced by a digital meter.
21. The cost of the meter replacement in this instance will be met by the Applicant.

#### **C. Terms and conditions specifically applicable to type 1 meters**

22. Logging of a pulsed enabled meter is only possible if a pulse pick up device is fitted. It is the responsibility of the Applicant to connect the consumption monitoring equipment directly to the pulse pick up device without the need of a splitter.
23. Thames Water reserves the right to install a new meter at any time and for any reason. When an exchange of a meter is due to take place to which the Applicant has already attached Applicant Equipment with the permission of Thames Water, then Thames Water shall, if possible, give reasonable notice of the exchange. This is intended to enable the Applicant to have the opportunity to disconnect the Applicant Equipment pending the installation of the new meter. Thames Water will use reasonable care in doing this but will not be liable for Applicant Equipment which the Applicant has chosen to leave on the site during a meter exchange.
24. In some circumstances the technical specification of the meter may mean that Applicant Equipment cannot be fitted without Thames Water physically adjusting the meter. Applicants shall not conduct any such physical adjustment. Applicants may request in writing that Thames Water conduct the necessary physical adjustment. Thames Water shall aim to undertake the adjustment within 30 days of the Applicant's request. The Applicant will be responsible for any costs associated with physically adjusting the meter assets.

#### **D. Terms and conditions specifically applicable to type 2 meters**

25. All type 2 metering arrangements will require a 3-way splitter to be fitted. Thames water will be responsible for fitting this device.
26. In all circumstances the consumption monitoring equipment or any other logging equipment must be fitted by Thames Water Wholesale or you.
27. Where Thames Water Wholesale are requested to fit equipment we make no guarantee regarding the ability to fit the equipment to our revenue meter or a guarantee of its continued operation.
28. Thames Water will not be liable for any charges, costs or losses incurred by Applicants in relation to any change in meter type or any resulting additional cost relating to procuring or installing new equipment (such as 3- way splitter) to enable connection to a pulse enabled meter.
29. In circumstances where a meter has a Thames Water logger and/ or an AMR device attached, it is the responsibility of the Applicant to disconnect the equipment and reconnect it to the 3-way splitter. Details of permitted devices are provided in Appendix 1.
30. In circumstance where a meter has a Thames Water Snap on Trak fitted, it can be removed in accordance with manufacturer's instructions. A wired AMR device shall be fitted and connected to the 3 way splitter. The wired AMR device must be commissioned in accordance with manufacturer's instructions and the appropriate data should be provided to Thames Water Wholesale.
31. Where Thames Water has already installed data logging facilities for its own purposes (Type 2c or d), and since access to the pulsed output will not be available, a splitter will need to be installed to enable a logging device to be fitted. The cost of installing the additional equipment will be met by the Applicant. As an alternative Thames Water may be able to provide a fee based Data Consumption Service.
32. Compliance with the operating specification does not guarantee the suitability of an Applicant's own equipment for use on Thames Water's assets. Thames Water accepts no liability for the failure of any Applicant Equipment. The Applicant is responsible for any costs associated with the installation of splitter cables and connecting Applicant Equipment once the splitter cable is in place.
33. If Applicant Equipment needs to be disconnected by Thames Water then Thames Water will use reasonable care in doing this but will not be liable for Applicant Equipment which the Applicant has chosen to leave on the site during a meter exchange.

#### **E. Terms and conditions specifically applicable to digital meters (type 3)**

34. From October 2016 Thames Water have installed a new digital meter for all or replacement and new installations. In these cases it will not be possible for the Applicant to attach Applicant Equipment. Applicants remain entitled to install a meter downstream from the meter on their own property provided there is no impact on the integrity of Thames Waters meter or network.
35. Where a digital meter is fitted we can provide a digital data service for which charges will apply. A digital data service will be available in areas where there is wide-area fixed network system. Where this is not present we will need to install a local-area fixed network device to make this service available.

#### **F. Provision of consumption data (data service)**

36. Where Thames Water has consumption monitoring equipment in place consumption data may be provided to the Applicant subject to written consent from the Customer. The Applicant can request a data consumption service by completing the relevant form (Data

Consumption Service). This is a separate, chargeable service, details for which can be found at: <http://www.thameswater.co.uk/wholesale>

37. Where a digital meter is installed data may be provided to the applicant subject to written consent from the customer. The applicant can request a digital data service by completing the relevant form T\_015 Digital Meter Data Service Request form. This is a separate chargeable service, details for which can be found at: <http://www.thameswater.co.uk/wholesale>.

## G. Signature

We understand and accept the terms and conditions above and will complete and return the form on the following page with the relevant meter details.

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Please complete the following and email to [service.requests@thameswater.co.uk](mailto:service.requests@thameswater.co.uk) with the subject heading "Data Logging Request"

- A. The Logger Terms and Conditions, signed (this document)
- B. T\_013 Data Logging Request Form
- C. Evidence of the customer's permission to request this service

## Section B: Process stages to install a logger and splitter

The applicant must sign the T\_013 Data Logging Request Form and gain approval in writing from Thames Water Wholesale before carrying out or requesting any work on a Thames Water Wholesale meter.

### Basic principles –

- In defined circumstances Thames Water Wholesale will give permission to the applicant to connect their own equipment, as defined in section A.
- Thames Water Wholesale has a variety of existing installed meter type arrangements, some of which can be connected to data loggers or building management systems.
- Many meters will already be fitted with Automatic Meter Reading (AMR) equipment or data loggers and these will require ‘splitter cables’ to be fitted.
- To prevent damage to our meters, we insist on the use of either Thames Water Wholesale or a competent contractors carrying out the work for some types of meter and some types of connection.
- After the installation we need to get the asset data and commissioning information.
- Meters installed before 1999 in general cannot provide consumption data. They will usually need replacing with a digital meter if consumption data is required (Digital Data Consumption Service).

### Process

Stage 1 Identify the requirement for a logger and splitter installation.

Stage 2 Contact Thames Water Wholesale using their T\_013 Data Logging Request Form.

### Stage 1 Identify the requirements for logger/splitter installation

Is your metering arrangement type 0, 1, 2a, 2b or 3?

- A full description of meter types is available in Appendix 2

Type	Existing meter arrangement	Additional equipment that can be fitted and other requirements	Who can make the installation
0	Dumb meter with no facility to enable a pulsed output	Not applicable	Not applicable
1	Pulse compatible meter only	Fit a pulsed pick-up device and logger owned by the customer  <b>Note 1: If only a single logger is being fitted a splitter is not required</b>	If only a single logger is to be fitted (see Note 1) the installation may be completed by a Competent Supplier.



Type	Existing meter arrangement	Additional equipment that can be fitted and other requirements	Who can make the installation
2 a)	Pulse compatible meter with snap on AMR Trak	<ul style="list-style-type: none"> <li>a) Remove the snap on Trak</li> <li>b) Fit a pulsed pick-up on the meter</li> <li>c) Fit a 3-way splitter</li> <li>d) Fit a wired remote AMR (Sensus Flexnet)</li> <li>e) Connect a logger owned by the Applicant</li> </ul>	Thames Water Wholesale
2 b)	Pulse compatible meter with pulse pick-up and wired AMR device	<ul style="list-style-type: none"> <li>a) Disconnect and discard the existing wired AMR</li> <li>b) Fit a 3-way splitter</li> <li>c) Fit a new wired remote AMR (Sensus Flexnet)</li> <li>d) Connect a logger owned by the Applicant</li> </ul>	Thames Water Wholesale
2 c)	Pulse compatible meter with pulse pick-up and Thames Water leakage logger	<ul style="list-style-type: none"> <li>a) Fit a 3-way splitter</li> <li>b) Connect a logger owned by the Applicant</li> </ul> <p><b>Note 2: If an existing pulsed device and a two-way splitter is fitted, than it should be replaced by a three-way splitter if additional equipment is to be fitted.</b></p>	Thames Water Wholesale
2 d)	Pulse compatible meter with pulse pick-up and Thames Water leakage logger and wired AMR device	<ul style="list-style-type: none"> <li>a) Disconnect and discard the existing wired AMR</li> <li>b) Disconnect the Thames Water logger</li> <li>c) Fit a 3-way splitter</li> <li>d) Fit a new wired remote AMR (Sensus Flexnet)</li> <li>e) Reconnect the Thames Water logger</li> <li>f) Connect a logger owned by the Applicant</li> </ul> <p><b>Note 2: If an existing pulsed device and a two-way splitter is fitted, than it should be replaced by a three-way splitter if additional equipment is to be fitted.</b></p>	Thames Water Wholesale
3	Digital meter	<p>Request a digital data service from TWUL wholesale which will dependent on:</p> <ul style="list-style-type: none"> <li>a) Whether there is fixed network coverage</li> <li>b) Whether a local-area fixed network device needs to be fitted (i.e. no fixed network coverage)</li> </ul>	Thames Water

### Stage 2 Contact Thames Water Wholesale using their T\_013 Data Logging Request Form

In the event of a proposal to install any of the above equipment, the applicant shall complete, sign and return the Thames Water Wholesale T\_013 Data Logging Request Form and customer permission evidence to [service.requests@thameswater.co.uk](mailto:service.requests@thameswater.co.uk)

## Appendix 1. Information on pulsed devices, connectors and three-way splitter

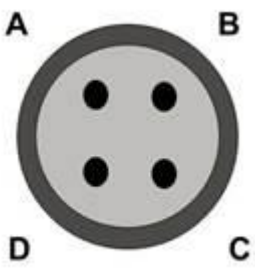
There are several different pick-up devices for different meter makes. Examples include:

Meter Manufacturer	Pulse Pick-up	Notes
Sensus Metering	Sensus HRI, Sensus HR-MEi	Depends on meter make and size.
Elster (Kent) Meters	PR6 / PR7, RR1,2,3,4,5	RR1, 2, 3, 4, 5 are for magnetic pulse output meters. PR6 / 7 are inductive meter outputs.
Itron (Actaris) Meters	Cyble	Relatively rare in Thames Water.
Manufacturer	Wired AMR Device	
Sensus Metering	Low power radio Pulse Pick Up Module	

### Connectors for three-way splitter

Thames Water Standard End Connector:

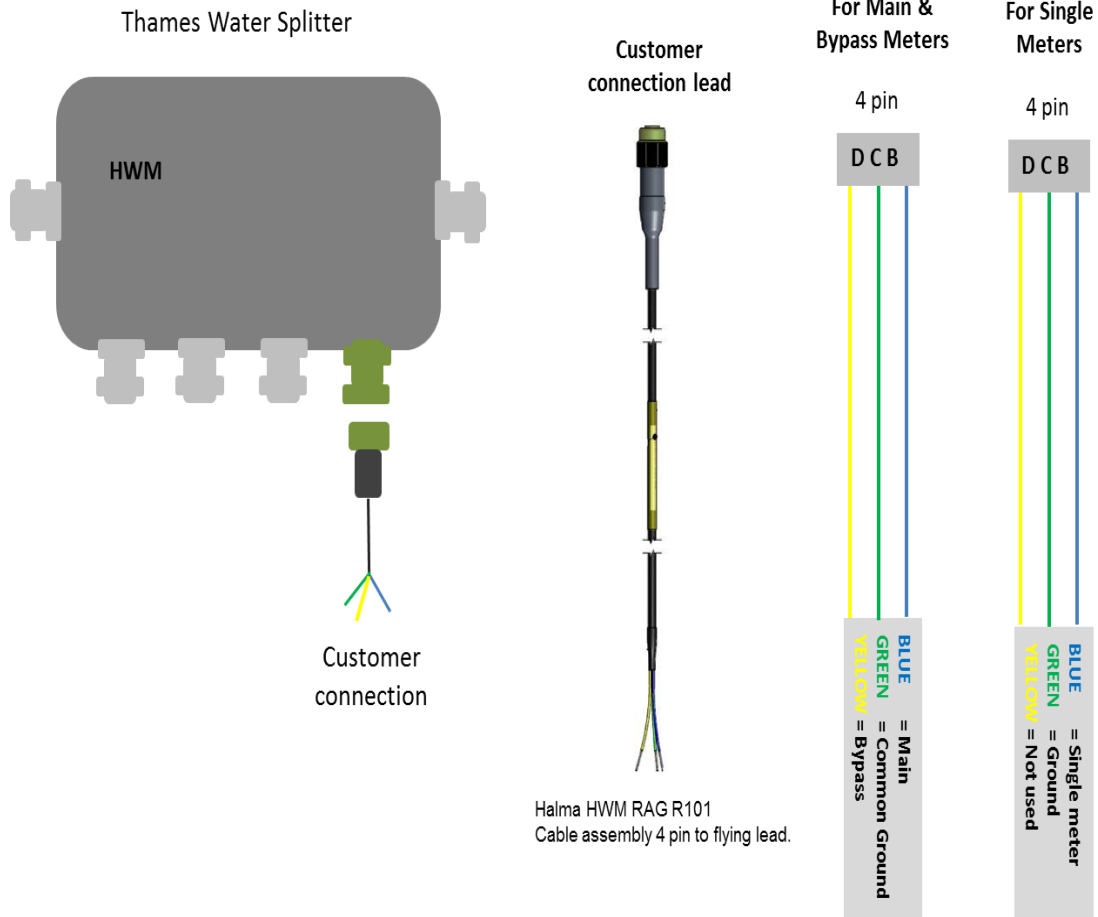
- 4 Pin Mil Spec Amphenol connector.
- Part number 0642 AMPHENOL 62GB-16J08-04PN
- Single channel only (two required for combination meters)
- Should work with any specified logger

Pin	Abbreviation	Meaning	Example
A	PWR	Power	
B	CH 1	Channel number	
C	GND	Ground	
D	DIR	Direction	

Available from numerous suppliers.

## Required Splitter

### Three-way splitter



Available from:





**Halma Water Management**

Address: Llantarnam Industrial Park, Lakeside Court Llantarnam Park Way, Cwmbran NP44 3AW






## Appendix 2. Existing meters




### TYPE 0 and 1. Dumb and pulse enabled meters mostly pre-2011

(Note Meters built before 1999 will probably not have any pulse output, and will need replacing if a consumption service is required)



Photos	Meter Details	Technical Details
<p>Type 0 and 1</p> 	<p><b>Elster V200 &amp; V210</b></p> <p>Sizes 15mm, 20mm</p>	<p>Several register versions exist. Each requires a different pulsed device type. (RR5, or PR6)</p>
<p>Type 0 and 1</p> 	<p><b>Elster V100</b></p> <p>Sizes 15mm, 20mm, 25mm, 30mm, 40mm</p>	<p><b>Pulsed device RR1</b></p>
<p>Type 0 and 1</p> 	<p><b>Elster C3200 combination meter</b></p> <p>Size 50mm, 80mm, 100mm, 150mm</p>	<p><b>Main pulsed device RR3</b></p> <p><b>Bypass pulsed device RR1</b></p> <p>(Pulsed devices may not be available due to meter age)</p>
<p>Type 0 and 1</p> 	<p><b>Elster C4000 combination meter</b></p> <p>Size 50mm, 80mm, 100mm</p>	<p>Several register versions exist. Each requires a different pulsed device type. (RR4, RR5, PR6 and PR7)</p>


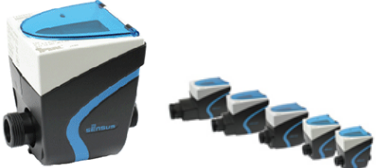

## TYPE 1 and 2 - Newer AMR Equipped meters 2011-2015

Photos	Meter Details	Technical Details
<p><b>TYPE 2a (Integrated AMR)</b></p> 	<p><b>Sensus 620 Meters</b></p> <p>Sizes 15mm, 20mm,</p>	<p>AMR unit is normally integrated with the meter.</p> <p><b>Only a TW wholesale or an competent contractor can fit equipment to these meters.</b></p> <p><b>Pulsed device:</b> Sensus HRI A4 1L or Sensus HRI MEI B4 1L  <b>Pulse:</b> 1 litres per pulse</p>
 <p><b>TYPE 2b (cable connected)</b></p> <p>Note: New Sensus wired AMR devices are now being fitted to Type 2b meters, but the same principles apply as for Homerider AMR units</p>	<p><b>Sensus 620 Meters</b></p> <p>Sizes, 25mm, 30mm, 40mm</p> 	<p><b>Pulsed device:</b> Sensus HRI A4 1L or Sensus HRI MEI B4 1L  <b>Pulse:</b> 1 litres per pulse</p>
 <p><b>TYPE 2b (cable connected) (Alternate versions of this meter exist)</b></p>	<p><b>Sensus Meitwin Combination Meter</b></p> <p>Normally fitted with 2 x Homerider AMR units.</p> 	<p><b>MAIN</b>  <b>Pulsed device:</b> Sensus HRI MEI B4 10L  <b>Pulse:</b> 10 litres per pulse</p> <p><b>BYPASS</b>  <b>Pulsed device:</b> Sensus HRI A4 1L or Sensus HRI MEI B4 1L  <b>Pulse:</b> 1 litres per pulse</p> <p><b>(Alternate versions of this meter exist...each requires a different pulsed device)</b></p>

 <p><b>TYPE 2b (cable connected)</b></p> 	<p><b>Sensus WPVD Combination Meter</b></p> <p>Normally fitted with 2 x Homerider AMR units.</p> 	<p><b>MAIN</b>  <b>Pulsed device:</b> Sensus HRI MEI B4 100L  <b>Pulse:</b> 100 litres per pulse</p> <p><b>BYPASS</b>  <b>Pulsed device:</b> Sensus HRI A4 1L  <b>Pulse:</b> 1 litres per pulse</p>
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### TYPE 3 – Digital meters equipped with ‘E-registers’- 2015 onwards

Photos		Meter Details	Information
 <p><b>Example of ‘E’ register</b></p>	 <p><b>Example of a Smart Point (LCE)</b></p>	<p>All digital meters are equipped with a ‘E’ register. This shows the meter reading as an LCD display. The E-Register also contains a short range radio device for meter reading.</p> <p>Some E-Register meters will be accompanied by a signal booster device called a ‘Smart Point’ (sometimes called an L.C.E). The Smart Point simply re-transmits data at a higher frequency</p>	<p>It is not possible to connect data logging or other equipment directly to these meters. Thames Water may be able to provide a data service on request.</p>

	<p><b>Sensus 640</b></p> <p>Sizes 15mm, 20mm</p>	<p><b>No direct connections possible</b></p>
	<p><b>Sensus iPERL</b></p> <p>Sizes 25mm, 30mm, 40mm</p>	<p><b>No direct connections possible</b></p>
	<p><b>Sensus Meitstream + Meter with E-Register me</b></p> <p>Sizes 50mm, 80mm, 100mm, 150mm</p>	<p><b>No direct connections possible</b></p>