

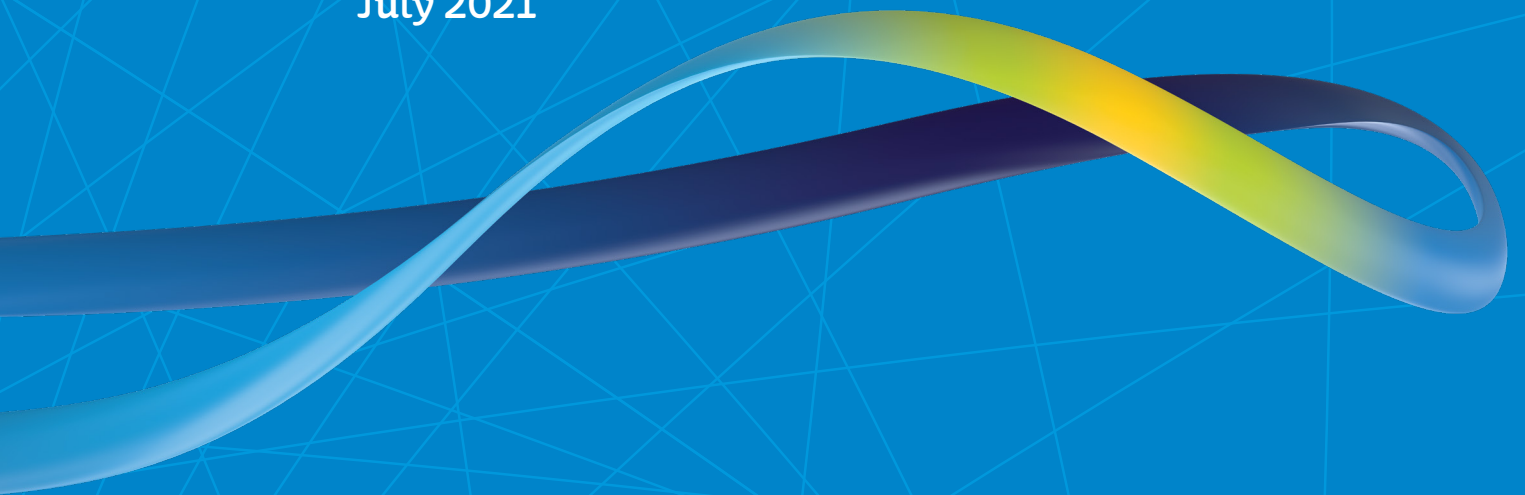


NETWORKS

STAKEHOLDER AND CUSTOMER
CONSULTATION ESB NETWORKS
REVENUE METER SIGNALS
FOR CUSTOMER ENERGY
MANAGEMENT SYSTEM (EMS)

DOC-160721-GXG

July 2021



1. Introduction to the Consultation Process

This consultation concerns the existing process for requesting Customer Signals from their Revenue Meter¹. ESB Networks understands the requirement for energy monitoring now and in the future. The purpose of this consultation process is to:

- Inform potentially interested parties of ESB Networks' existing process for requesting Customer Signals from their Revenue Meter.
- Seek feedback on ESB Networks' existing process for requesting Customer Signals from their Revenue Meter.

2. Introduction

ESB Networks is at the centre of the current energy transition. The electrification of heat, transport and our economy sees citizens and businesses adopting low carbon technologies such as heat pumps, electric vehicles and microgeneration. To enable this, the role of the Distribution System Operator (DSO) is changing and ESB Networks is designing the products and systems to allow citizen and community participation in the future energy system. This fully aligns with our commitment to enabling Ireland to meet its decarbonisation targets, as set out in the Government's Climate Action Plan.

As part of this, ESB Networks is upgrading electricity meters between now and 2024 as part of the Smart Metering Programme². Every home, farm and business will receive a new smart meter which will bring benefits to customers, the environment, and the economy. ESB Networks is also adding extensive digitization and additional capacity through network reinforcement, connecting increasing quantities of microgeneration, and establishing the systems to enable active participation by customers who choose to take a full and active role.

Through its innovation programme, ESB Networks has been trialling solutions to understand how individuals interact with new technologies, and the impact that this will have on their lives and on the electricity distribution network.

Currently our customers can request signals from the ESB Networks Revenue Meter to their EMS to enable the customer to locally monitor their energy usage. This is available in the form of 'volt free' contacts. The signals that ESB Networks provide will form an input to a range of commercially available EMSs. The responsibility for analysis of the data resides with the customer/EMS third-party provider.

3. Existing Process

As already noted, ESB Networks can provide, upon request, signals from a Honeywell A1700 Revenue Meter to enable the customer input electricity usage information into their third-party EMS. The process for requesting Customer Signals is detailed in Figure 1 and can also be accessed via the ESB Networks website.

Each existing Honeywell A1700 revenue metering has the functionality of providing the customer with Revenue Meter signals in the form of "volt free" contacts. Up to four signal outputs are available for the Honeywell A1700 meter, the standard configuration being: kWh, kVAh, 15min integration and day/night changeover. An illustration of the Honeywell A1700 meter is shown in Figure 2.

¹[https://www.esbnetworks.ie/existing-connection/alterations-meter-work/energy-management-system-\(ems\)---meter-signals](https://www.esbnetworks.ie/existing-connection/alterations-meter-work/energy-management-system-(ems)---meter-signals)

²<https://www.esbnetworks.ie/existing-connection/meters-readings/smart-meter-upgrade>



ESB NETWORKS REVENUE METER SIGNALS FOR CUSTOMER ENERGY MANAGEMENT SYSTEM (EMS)

The purpose of the customer signals is to provide the facility for a customer to link their electricity usage to their Energy Management System (EMS).

Summary of Process

The following sets out the process for obtaining customer signals from ESB Networks Metering:

1. Customer contacts their electricity supplier to request installation of customer signals for their third-party Energy Management System (EMS)
2. Supplier sends a market message (Market Message 030) to ESB Networks
3. Customer / contractor installs an IP54 signal interface enclosure with isolating links adjacent to the ESB Networks metering cabinet
4. ESB Networks installs a fuse terminal assembly within the metering cabinet and completes the wiring as far as the interface enclosure as per the Internal Customer Metering Signals Procedure
5. ESB installer advises customer/contractor of the signal values for input to the EMS

The Meter

On receipt of an application for customer signals ESB Networks shall determine if the meter and the associated equipment is EMS compatible. An Electronic MFM meter is required to provide the signals, if the Meter is not a compatible meter (Note: the Honeywell A1700 meter is currently the only compatible meter available) a new meter and infrastructure will be installed to facilitate the repeat signals and cost will be passed to the customer.

The Customer Interface Enclosure

To ensure a safe connection between the customer's assets and ESB Networks assets, an interface enclosure shall be mounted by the customer adjacent to the ESB Networks Meter cabinet. The enclosure shall be a minimum size of 150 x 100mm and shall be fitted with 6 isolating terminals. Two 20mm PG cable glands shall be provided, one for the ESB Networks cable and one for the customer EMS cable, see figure 1.

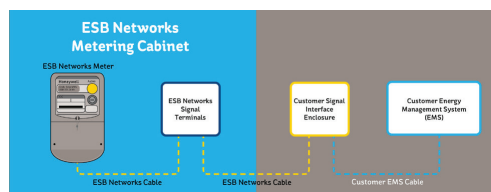


Figure 1: Customer signals equipment layout Signal Information

Signals are in the form of "volt free" contacts. The maximum voltage shall be 50V AC or 75V DC, all signal outputs will be fused at 100mA.

Up to four signal outputs are available for the A1700 meter, the standard configuration is: kwh, kvarh, 15min integration and day/night changeover.

Warning

The Meter is the property of ESB Networks. Therefore, no device shall be fixed, mounted or installed to the Meter or within the metering cabinet. It is an offence to interfere with the ESB Networks meter, equipment or remove seals.

For further information call us at: **1800 372 757** or email: esbnetworks@esb.ie

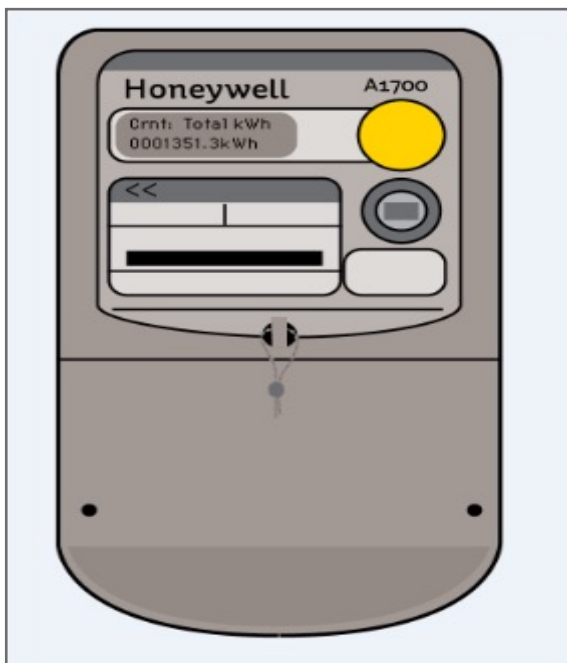


Figure 2 – ESB Networks Honeywell A1700 Revenue Meter (Compatible for Requesting Customer Signals)

Safety is a core value of ESB Networks, and the ESB Networks meters shall not be interfered with. Meter interference or the removal of the seals from an ESB meter pose a safety risk to customers, the public and our staff and may result in a prosecution by ESB Networks DAC.

In Figure 3 ESB Networks Notification tags fitted to ESB Sealed Meters and Meter Cabinets are shown.



FRONT



BACK

Figure 3 – ESB Networks Notification tags fitted to ESB Sealed Meters and Meter Cabinets

Question 2:

What is the purpose of your requirement for Customer Signals from the ESB Networks Revenue Meter?

Answer (200 words max):

Question 3:

Do you envisage a requirement for any additional signals, or other signal types, into the future? If so, please advise?
What proposals would you like to put forward?

Answer (300 words max):

Question 4:

Please provide the type of industry that you are engaged in (Generation, Commercial/Industrial Buildings, One-Off Customers). What is the range of Maximum Import Capacity (MIC) for these customers?

Answer (200 words max):

Question 5:

Can you advise the type of EMS technology that you use for Energy monitoring?
What requirements do you see into the future around metering signals?

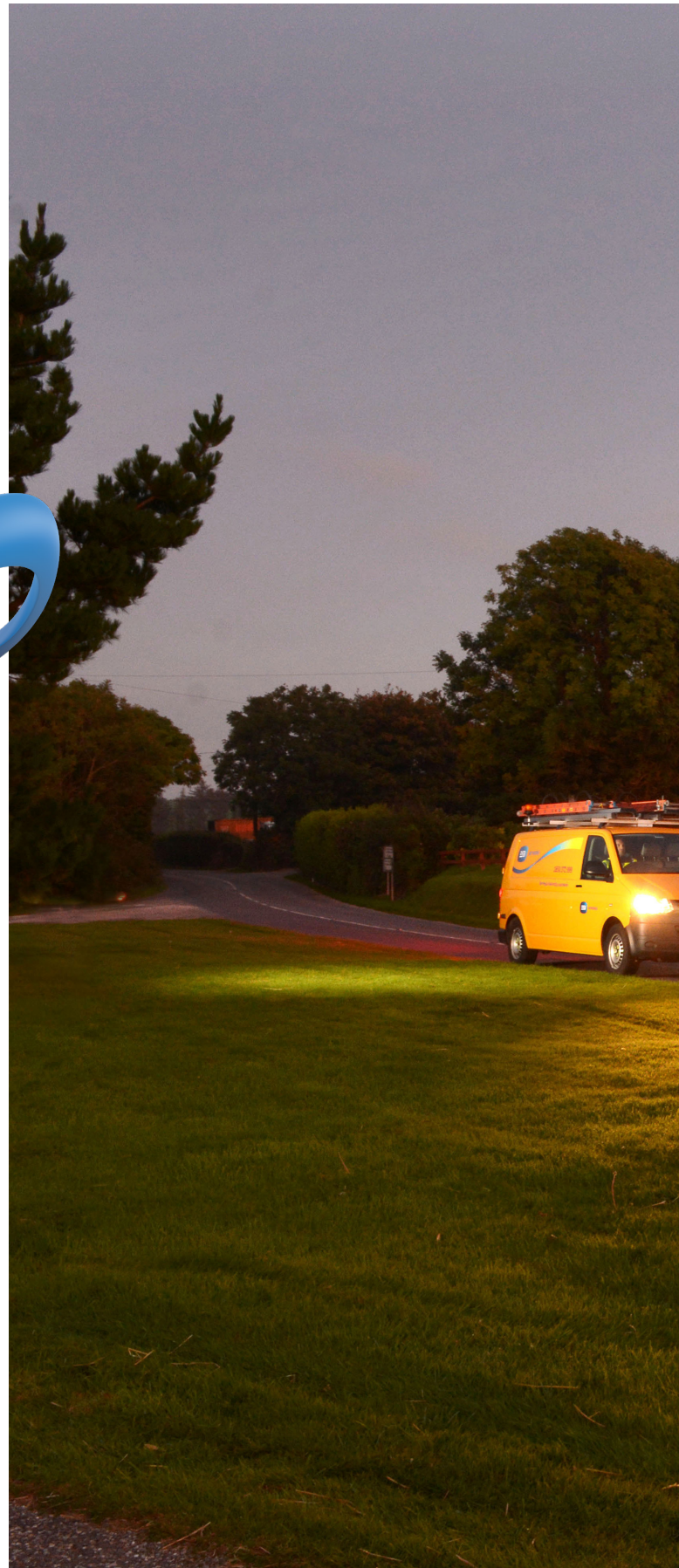
Answer (300 words max):

5. Conclusion

ESB Networks are now publishing this document for consultation, and we would welcome your feedback on the existing Customer Signals request process and responses to the questions outlined in the consultation.

We look forward to hearing your feedback which can be submitted directly to innovationfeedback@esbnetworks.ie. We look forward to further collaboration with our stakeholders and customers which will help shape our current and future plans and support our customers.

THANK YOU FOR YOUR INTEREST AND INPUT



Stakeholder and Customer Consultation

ESB Networks Revenue Meter Signals for Customer Energy Management System (EMS)



