

M-BUS SMART SUBMETERING FOR PROPERTY UTILITIES

HIGHLIGHTS

- ✔ In the world of Industry 4.0 property utilities, keeping an IoT solution simple can be difficult. Multiple parameters must be measured separately and transferred to multiple cloud servers of multiple utility suppliers, such as electricity, water, and gas.
- ✔ Difficult, but far from impossible. Our TRB143 gateway features the M-Bus interface, allowing it to transfer telemetry data from up to 250 self-powered meters over a 4G network, and it can power up to 6 meters over M-Bus as well.
- ✔ This industrial gateway offers efficient telemetry and scalability without sacrificing reliability, security, or durability. When it comes to smart submetering, the TRB143 is the perfect fit!

THE CHALLENGE – “SMART” EQUALS “COMPLEX”?

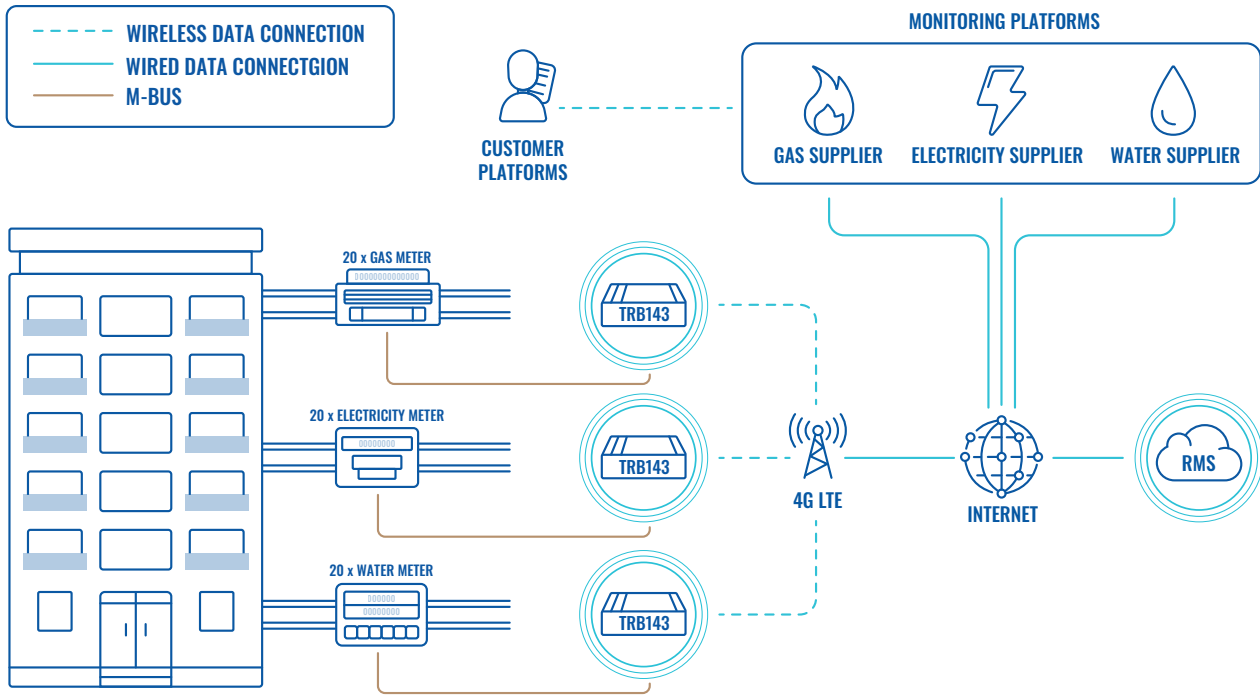
Industry 4.0 is synonymous with data-driven efficiency and productivity, but the reality is that some industries have an easier time than others applying the magic of real-time data collection. A manufacturing plant, for example, can do so more easily because it has total control over its work process and only a single recipient of the tracked data: the plant itself.

The same cannot be said for property utilities. Utility usage data collection, also known as submetering, involves multiple parties that need the data.

Imagine you live in an apartment complex. Unless your landlord also owns your local electricity, gas, and water companies – they aren't the only ones who need the data. The same is true for the office you work at and for the store where you buy your favorite snack – both residential and commercial properties have multiple suppliers for different utilities. Each of these suppliers has its own cloud server for the data, its own monitoring center, and its own customer platform where property owners can track the numbers relevant to them.

To effectively use the utility usage data gathered by smart sensors in any property, an IoT solution must be in place to send the data from each meter to the cloud server of its supplier. Just how complex would this solution be?

TOPOLOGY



THE SOLUTION – ALL ABOARD THE M-BUS!

The answer is: not at all.

This is because the networking device connecting the meters to their respective servers is our TRB143 industrial gateway, with its flagship feature: the M-Bus interface. This interface is the new standard for telemetry applications, picking up the mantle of the older and more general Modbus interface.

The M-Bus communication protocol is used for transferring telemetry data, such as from gas, heat, electricity, cold or hot water, and so on, from meters to a central data collection system. In this case, let's imagine an apartment complex with 20 apartments. For each of those apartments, we'll need an electricity meter, a water meter, and a gas meter. Each set of 20 meters measuring one of those three utilities is connected to only a single TRB143 device using the M-Bus interface.

The interface allows the gateway to transfer the meters' data to the correct supplier's cloud server using the 4G network established by the TRB143 itself. Each supplier can monitor the data in its monitoring center, and have the data available for the customer – the owner of the property – in its dedicated customer platform. All parties involved gain access to the data relevant to them with no issues, and the smart monitoring of utilities is achieved successfully. But why stop at 20 meters? The TRB143 can connect to up to 250 different meters using the M-Bus interface, so long as the meters are self-powered. This makes the solution scalable to larger properties without adding further complexity. Moreover, if your property only needs a handful of meters but has trouble powering them, the TRB143 can power up to 6 devices with its M-Bus capabilities.

Of course, all of this telemetry power comes with the standard package of reliability, security, and durability. With the TRB143, the data transfer will remain steady and uninterrupted, protected by a wide range of software security features, and will perform without issues in pretty much any residential or commercial environment you can think of. With great power comes great responsibility, but with telemetry power comes smarter utility!

