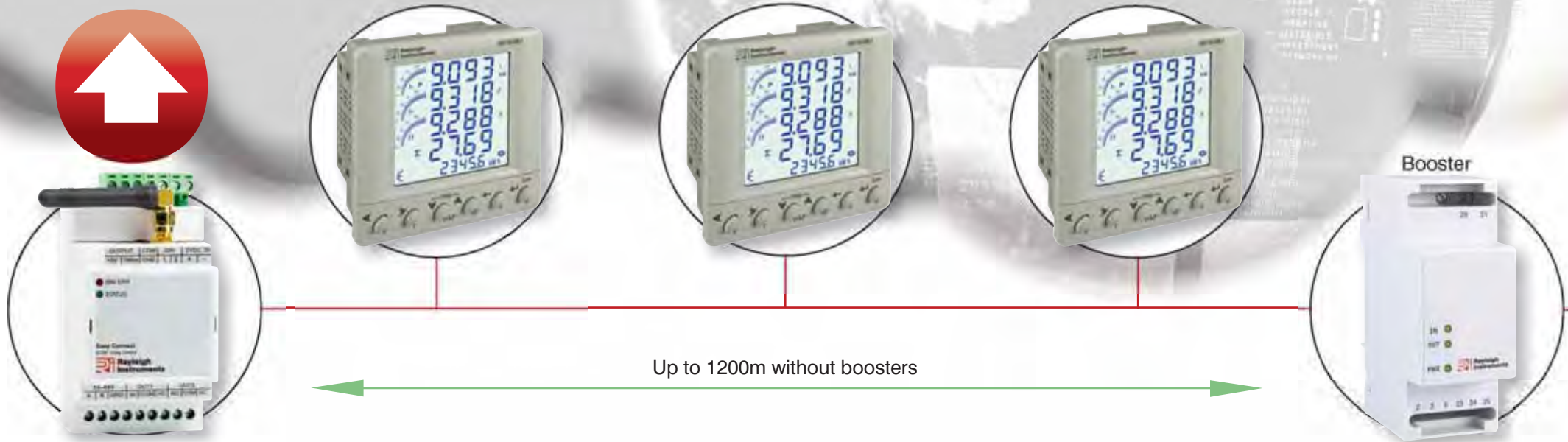


rayleighconnect

Wherever you are,
you're in control...



So how does it work?



rayleighconnect is a cloud based energy management and remote control software package. Users are able to access their account online, or offline if required, from any PC, Tablet or Smart Phone terminal that has an internet connection. Additional applications are also available for iPhone, iPad and Android devices, for comprehensive software access.

When used as an energy management metering solution, it allows the user to record data from either a single source or up to 4,096 electricity, gas, water and heat meters or temperature sensors. Any device with pulse outputs or RS485 Modbus can be connected via an interface module, such as EC30 GSM Device (1-16 meters), EC35 GSM Device (1-128 meters), EX50 Ethernet Device (1-510 meters) or other approved units. These devices will then transmit the collected data directly to our servers, at a selectable frequency that ranges from once per minute to once per month.

Data Collection

rayleighconnect software generates and exports consumption graphs or data for billing purposes, using CSV files.

Remote Control

When used for remote control, rayleighconnect acts as a control centre for overseeing progress, regulating either numerous processes or a single action. These processes can be located either at a local plant or from multiple sites positioned across the globe. Sensors including temperature, pressure, humidity, current and voltage, or digital inputs and much more, can be connected to one of many Easy Control interfaces. These interfaces transmit data via Ethernet or GSM to our servers, which display plant status and signal alarms, as well as remotely operate devices as required via Easy Control. All versions signal alarms via text or email.



Any device with pulse or RS485 Modbus

Affordable

Because the system is cloud based there are no up-front charges for purchasing our software. You simply pay a small annual fee for data hosting, website access and maintenance. This is calculated by the number of meters you require monitoring, the number of parameters per meter, or, when used for remote control, the number of points connected. If you are using GSM modules then there is also a charge for the supplied sim card, which can either be provided or purchased separately. All telecommunications companies are supported.

Flexibility

rayleighconnect has been developed by Rayleigh Instruments Ltd, giving us the flexibility to work with a diverse range of clients and to offer tailored solutions. rayleighconnect is constantly evolving and we are

learning from each new client we meet. This means that we are able to offer a bespoke version of the original software layout to every company we work with.

Our service is designed around you, so if what you find in our brochure doesn't quite meet your requirements, then please talk to our sales personnel and they will work with you to ensure your needs are met.

rayleighconnect has been designed to work with any brand of meter, providing that it has either a pulse output or, more importantly, RS485 Modbus capability.

By simply reading the meters registers we can ensure our competitors meter is added to our expanding list and compatible with our software.

Renewables



The versatile design of rayleighconnect allows data to be collected from multiple devices that range from electricity, water, gas and heat meters, as well as solar inverters, to name but a few.

rayleighconnect can communicate directly with Solar PV inverters; something that has become incredibly successful in a short space of time thanks to a number of contributing factors. rayleighconnect employs a weather platform able to indicate the amount of cloud cover or direct sunshine on any given day. We are able to offer historical data as well as future data, both of which affect the direct result of your solar generation.

rayleighconnect's automated reporting can also be programmed so that you only need to request the data once. Reports will then continue to appear in a chosen inbox at a desired frequency, something that could be either daily, weekly or monthly.

rayleighconnect's collaboration with Universities has allowed us to introduce a competitive edge to energy management. For example, selected student lab rooms are competing against each other weekly, bringing competition to reduced energy consumption. Everything is then displayed on their Energy Scoreboard, a system which gives live information.





Case Study: Bristol University

Bristol University is a red brick institution combining Undergraduate, Postgraduate and Intensive Research. With residency sites across the city that amount to 100 buildings, Bristol is a top 5 rated University for research excellence.

Long term client of Rayleigh Instruments, Bristol were keen to explore how networked metering solutions could evaluate their energy consumption. Affordability and functionality were key, something they had struggled to find in the past.

Initially trialling two sites, a veterinary surgery and an academic building, they can now collect information directly from their inverters. This allows cloud access from any location and the ability to assess results through a dedicated league table display.

A further six sites are proposed, one a research building containing 16 laboratories. The aim is to compare the consumption in each lab, taking into account gas, electric and water, as well as to look at renewable sources of energy.

 *Both the affordability and the personable customer service supplied by rayleighconnect help make their product so valuable. The team is committed to providing tailor-made solutions that make the whole transaction feel less contractual and more cooperative.* 

Chris Jones, Sustainability Manager (Energy) - Bristol University

Monitoring and Control



With rayleighconnect you can combine multiple devices across multiple sites, to bring all your data together online. This gives you ultimate control over your factory or warehouse wherever you are in the world.

Whether looking to reduce your energy consumption, or protect your factory against damage, rayleighconnect gives you the tools necessary to remotely manage. From performance to access, you have the control.

In a busy working environment critical events can often be missed or delayed. With rayleighconnect you can set alarms for when thresholds are met and have instant emails or SMS messages sent to designated personnel.

Continued investment into rayleighconnect means innovative new ways to use the system are continually evolving. Wherever meters are used to display readings, rayleighconnect can be used to analyse and store the data.



Case Study: A.J. Hurst

A.J. Hurst are market leading suppliers of electrical control and automation, lighting, energy and power products. As a distributor they were looking for the ideal software to complement their meter offering.

They required low cost software to pair with their installation of quality, cost effective components. Through the cloud hosting system of rayleighconnect they could offer both single director companies and multi-site organisations a tailored approach, utilising the flexible, simple dashboard and saving valuable costs on unnecessary commissioning.

A major supplier to warehouses and factories across the UK, A.J. Hurst installs rayleighconnect before transitioning to energy efficient lighting. This is kept live for two weeks, to give the client the opportunity to see the difference made. All data is provided in real time and therefore shows live savings. An installation can be performed within hours and the cloud based access means instant data retrieval for clients

“The rayleighconnect online portal for energy monitoring via GSM has revolutionised how our industrial clients view their energy consumption. Whether an individual machine, total power/gas/water consumption or even site power and lighting, rayleighconnect offers total control. By installing the system we have been able to show our industrial manufacturing, logistical and retail clients real time energy data, with proven energy savings of up to 50%+. This coupled with global access, built in relay control, ‘alert’ facilities and downloadable historical data makes rayleighconnect the most smart, flexible and user friendly system on the market.”

Mark Goldsborough, Sales Director - A.J. Hurst

Asset Tracking and Load Monitoring



rayleighconnect has proven incredibly successful in the construction market for a number of reasons.

Our EC30/EC35 units have built-in output relays, which are ideal for the temporary distribution market. We are able, for example, to trip breakers when contractor staff exceed agreed load limits, by utilising the output relays.

We are also able, to use GPS (an optional extra for EC30/EC35), to track the temporary distribution board or gen set within a designated geo fence. This again utilises output relays, meaning designated personnel are sent details by SMS or email when the gen-set/temporary distribution board is moved without permission.

These features, when used efficiently, can enable users to save money on replacing lost or stolen equipment and offer valuable peace of mind.



➡ Case Study: IDE Systems

IDE Systems are designers and manufacturers of electrical distribution equipment for both temporary and permanent supplies. They offer this through both short-term rental and sale of static power systems.

Working closely with clients in the building industry such as suppliers of mobile gen sets for construction, their system enables power to be supplied where it is needed across the construction site.

Working with rayleighconnect software has allowed IDE Systems to bring further monitoring to this service and helps them to analyse power and energy consumption remotely, thanks to the cloud technology.

By utilising the monitoring software IDE Systems can limit the amount of current drawn from any one supply remotely. This enables their clients to protect their generation equipment from overload.

“What we appreciate about rayleighconnect and the software they supply is how customer focused their professional team is. They are dedicated to providing quality products and are always willing and able to support us with product application developments.”

Andrew Whyatt – Chief Electrical Engineer – IDE Systems

Automated Billing



rayleighconnect allows landlords and building owners to automatically generate bills for all their tenants' utilities. This could result in additional income for landlords which might not have been considered.

The rayleighconnect billing templates can easily be tailor made to suit any landlord requirements. You are able to insert a header and footer very easily. The rayleighconnect billing platform also provides useful information on the bill, such as which day the tenant consumed the most and least amount of energy, as well as how the tenant compares to the previous month.

Multi-tariff rates are easily configurable through the billing portal.

rayleighconnect can also interface with almost any third party accounting software platforms.

Our automated billing package offers users peace of mind and ensures accurate automated billing, with these bills automatically sent out to the tenant, and copied to the landlord, at any frequency required, by email.

Please turn to Page 12 to see how simple and easy automated billing is to set-up.



► Case Study: Knight Electrical

Knight Electrical design, install and commission electrical systems for buildings across the UK, building switchgear and control panels fitted in hospitals, hotels and accommodation up to 6,300amps.

With clients regularly requiring remote management for their energy consumption, Knight Electrical were keen to find software that reflected the quality of their hardware. Having tried several competitors, it was rayleighconnect that they found to offer the most effective service, in many ways a natural transition from being a client of Rayleigh Instruments too.

A fantastic marketing tool, Knight Electrical have set up rayleighconnect in their own premises, taking live data accessible through their cloud account to meetings, in order to showcase the interactive interface of the

software. Usage can be monitored for electrical, heat and water, with readings for the past month available for potential clients to view. One such client was Frimley Park Hospital in Surrey, a NHS Trust building, where rayleighconnect is now a valued addition that helps them to fight against energy and financial waste.

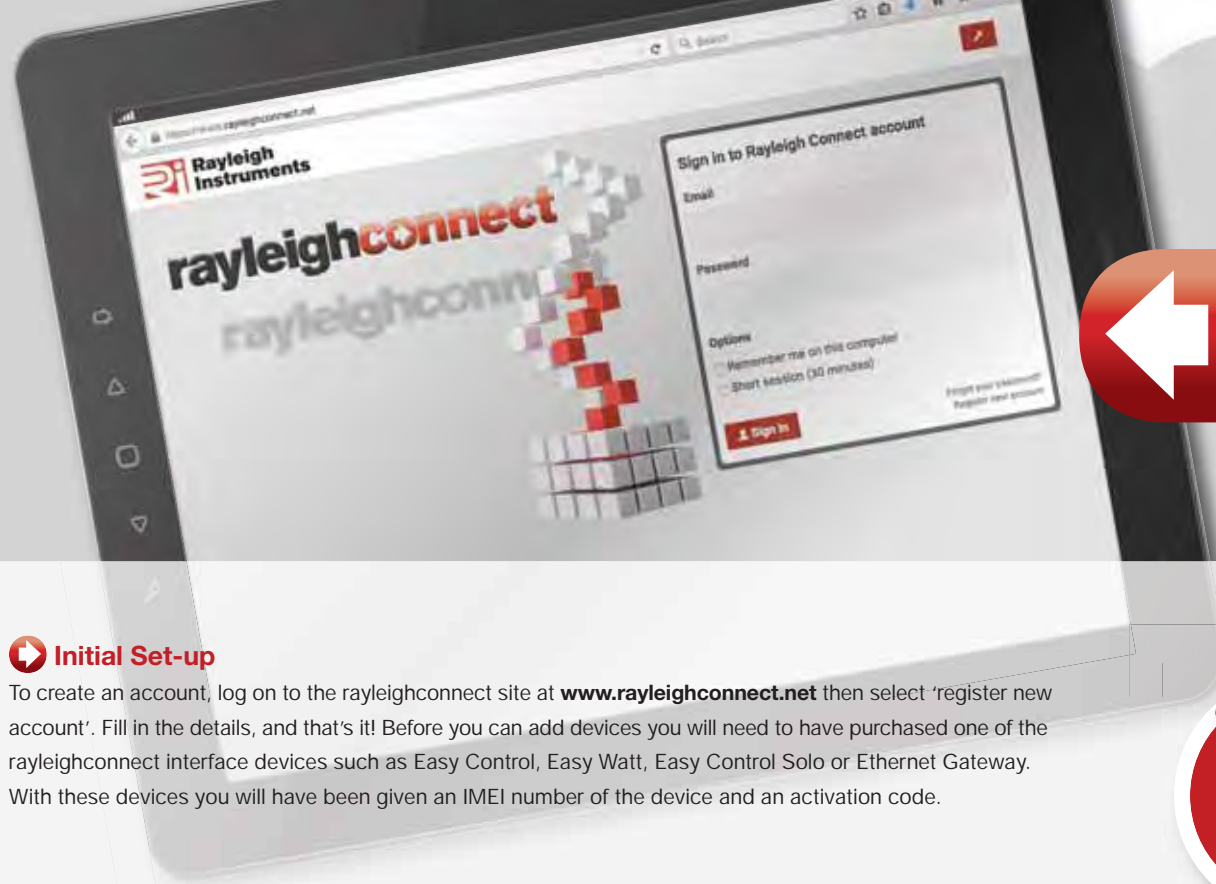
“ rayleighconnect are our prime offer each and every time we require a remote management and monitoring system. This is due to the flexibility, reliability and the exceptional customer service offered by each and every one of the rayleighconnect team! ”

Dale Turnbull – Managing Director – Knight Electrical Switchgear Ltd

Billing Platform

1. Simply apply the appropriate tariff/tariffs
2. Add the recipients details
3. Create the bill

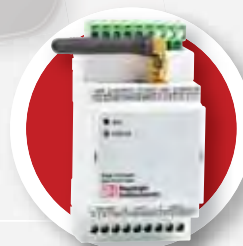




The simple solution...

Initial Set-up

To create an account, log on to the rayleighconnect site at www.rayleighconnect.net then select 'register new account'. Fill in the details, and that's it! Before you can add devices you will need to have purchased one of the rayleighconnect interface devices such as Easy Control, Easy Watt, Easy Control Solo or Ethernet Gateway. With these devices you will have been given an IMEI number of the device and an activation code.



Add Devices

You can add from one up to 4096 devices. When you purchased the interface hardware you will have been asked how many meters, how many parameters per meter and how frequently you wish to pole the data from these meters (meters may be polled from every 1 minute up to every month to suit your application). This will have determined the data usage you require and consequently how much data per annum you will have paid for. Simply follow the on screen instructions to add a device.

Dashboard

The dashboard can be laid out to suit the individual user's requirements.

Widgets (a visual representation of the meter data) can be dragged and dropped in to the desired location on the page. There are hundreds of standard widgets available, although we can supply special tailor made widgets if required within one week.





➔ EC10

- 18mm Wide DIN rail Mounting
- RS-485 to GPRS (GSM)
- Supports up to 1 Modbus device
- Dual band 2G modem (900/1800 MHz)
- Mini SIM slot



➔ EC15

- 18mm Wide DIN rail Mounting
- RS-485 to GPRS (GSM)
- Supports up to 8 Modbus devices
- Dual band 2G modem (900/1800 MHz)
- Mini SIM slot



➔ EC30

- 3 Module DIN rail mounting
- RS-485 to GPRS
- 2 digital inputs
- 2 output relays (NO/COM/NC)
- Supports up to 16 Modbus devices
- 1-Wire bus (for temperature probes and I/O expanders)
- Dual band 2G modem (900/1800 MHz)
- Mini SIM slot
- Optional GPS



➔ EC35

- 3 Module DIN rail mounting
- RS-485 to GPRS
- 2 digital inputs
- 2 analogue inputs (0-10 VDC)
- 2 output relays (NO/COM/NC)
- Supports up to 128 Modbus devices
- 1-Wire bus (for temperature probes and I/O expanders)
- Dual band 2G modem (900/1800 MHz)
- Mini SIM slot
- Optional GPS

connect device for you



➔ EX40

- 4 Module DIN rail mounting
- RS-485 to Ethernet
- Supports up to 256 Modbus devices
- 2 multipurpose configurable digital inputs
- + optoisolated or potential free
- + 0/1 signal or pulse counting
- 2 output relays (NO/COM/NC)
- 1-Wire bus (for temperature probes and I/O expanders)
- 1 x digital data for humidity/temperature sensor
- 10/100 Ethernet
- 2 x USB 2.0 host



➔ EX50

- 4 Module DIN rail mounting
- 2 x RS-485 to Ethernet
- 1 x RS-232 (alternate function for 1st RS-485)
- 4 x multipurpose configurable digital inputs
- + optoisolated or potential free
- + 0/1 signal or pulse counting
- 2 output relays (NO/COM/NC)
- Supports up to 256 Modbus devices
- 1-Wire bus (for temperature probes and I/O expanders)
- 1 x digital data for humidity/temperature sensor
- 10/100 Ethernet
- 2 x USB 2.0 host



➔ EX30

- Ethernet gateway over WiFi
- 3 x multipurpose configurable digital inputs
- + optoisolated or potential free
- + 0/1 signal or pulse counting



➔ EX33

- Ethernet gateway over WiFi
- 3 x multipurpose configurable digital inputs
- + optoisolated or potential free
- + 0/1 signal or pulse counting
- RS-485 to Ethernet
- Supports up to 16 Modbus devices



The perfect solution for the remotely metered market



Rayleigh Instruments Limited is a subsidiary of the Raytel Group Limited and is a prominent supplier to the UK market of a broad range of energy and process control instrumentation.

Established over 51 years ago in 1964, we are very protective of our well-earned reputation for supplying the highest quality products at extremely competitive prices.

➔ **Head Office:**
Rayleigh Instruments Limited
Raytel House, Cutlers Road
South Woodham Ferrers
Chelmsford
Essex CM3 5WA

➔ **Tel:** 01245 428500
➔ **Fax:** 01245 428509
➔ **Email:** sales@rayleigh.co.uk

www.rayleigh.co.uk