

Package substation solutions



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Integrated medium and low voltage power distribution cabinet and a fluid filled distribution transformer

Lucy Electric have accumulated a wealth of experience through close collaboration with Distribution Network Operators (DNOs) and large industrial customers in their respective fields of MV secondary switchgear and automation solutions.

We benefit from being able to offer a full end solution from the initial products to install and finally commission through the product lifecycle.

Features and benefits

- Offer a full end-to-end solution - from initial specification, engineering, build, contract / project management, delivery to site
- Extensive sales and tendering support providing expert guidance, working collaboratively with the end client to ensure specification is met and prompt tender return
- Offering a competitive / selective solution with a wide range of product options
- Not tied to any specific transformer manufacturer providing full flexibility, choice and the ability to comply with all DNO / IDNO and general industrial specification requirements
- Open to source or accept third party transformer mounted LV equipment to incorporate within our offer, this being at the client request or should specification dictate

System automation / control and monitoring

Extensive knowledge in the improvement of network performance in relation to security of supply with the incorporation of our latest Gemini RTU, GridKey LV monitoring and SCADA solutions - further details can be provide on request.

Energy Services

Supply, installation and commissioning can be provided by our fully trained technicians on request.

Technical Support

We offer extended warranty options and comprehensive service and technical support. Through our Energy Services division, you can be assured assistance is always at hand.

- Providing full value chain and complete life cycle support

Solution

- Lucy Electric Sabre Ring Main Unit or Lucy Electric Trident FRMU Oil Ring Main Unit option
- Lucy Electric AcuLok transformer mounted low voltage distribution cabinet or 3rd party transformer mounted LV cabinet (should client or specification dictate)
- Fluid filled (Eco loss) distribution Transformer complying to latest EU recommendations

Customer benefits

- One point of contact
- UK stock reducing lead-times
- Pre-assembled improving installation times
- Technical expertise and support, end-to-end
- Competitive market-leading products in one 'Lucy Electric' solution
- Approved by DNO / IDNO (G81 recommendations)
- Fully ENA (Energy Networks Association) assessed
- Fully Lucy Electric warranted solution



Key features

Applications

Power distribution and generation

- Contestable DNO (POC) point of connections
- IDNO (Independent Network Operators)
- ICP (Independent Connection Providers)
- Wind farm applications
- PV solar applications
- AD (Anaerobic Digestion) schemes
- STOR (Short Term Operating Reserve) schemes
- Energy storage schemes

Industrial

- Data centres
- Water authorities
- Health estates
- Local Government
- Education
- Airports
- Commercial / retail
- Building services
- Rail / transport
- Heavy industrial users

Sabre VRN2a / VRN6a

Non-extensible ring main unit

- SF6 gas insulated ring switches with vacuum circuit breaker, clean break technology, unrivalled levels of operator safety with low maintenance requirements
- Lateral and rear cable termination, SF6 gas insulated RMU, fully weather proof with IP54 for outdoor applications
- The operating mechanism of the ring switches and circuit breaker incorporates mechanical interlocks and padlocking facilities which make it impossible to simultaneously close the ring switch / circuit breaker and the earth switch
- Anti-reflex mechanisms on ring switches ensure a time delay between switching operations
- Sabre gas tanks are fully internal arc rated and this feature is also available on the cable boxes (optional) to ensure maximum operator safety in the event of internal faults

Trident Fused Oil Ring Main Unit (FRMU)

- 12KV rated, 630A ring switches, 200A T-off circuit HV fuse switch
- IP54 protection for indoor / outdoor installation
- Fully interlocked switches, to ESI 41-36, with padlocking for safe operation
- Robust design with 30 years life expectancy



Trident FRMU



Sabre VRN RMU

Key features

Transformer mounted low voltage distribution AcuLok TMO

- Option of 4,5,6,7 and 8 way outgoing 3 phase fuseways rated up to 630A rating. Also options for 800A and 1250A ganged fuseways (these can be provided with CT metering)
- Innovative fully shielded fuse handle design with single movement automatic fuse clamping operation
- Independent load make - load break transformer switch isolation for all three phases with 1000A and 2000A rating
- Provision of Veam connectors for standby generation
- Live current measurement & fuse test access facility per fuse handle
- IP34 protection for indoor and outdoor installation
- Transformer mounted ACB cabinets also available, rated at 800, 1250, 1600, 2000 and 2500A. (All ACB cabinets supplied with ACB Metering CT's as standard unless otherwise requested)



Transformers

- We can provide a wide range of transformers to suit various application needs (typically 315,500,800,1000,1250,1500A (higher ratings can be provided on request)
- All Transformers provided will be to the very latest EU (Eco loss) standards and recommendations
- Extremely low noise making design to comply with the local requirements
- Highly energy efficient with very low eddy current and hysteresis losses
- Free breathing and hermetically sealed variants available. (Cast resin variants can be supplied on request)
- Mineral oil (standard) or high fire point fluid options (Midel, Silicone)
- ESI unit type (HV and LV connections on the same side), or BEBS style (HV and LV connections) on opposite side Transformers are available
- Transformers can be provided with std directly connected corrugated tank style radiators or removable bolt on radiator type (price on request)
- Transformers can be supplied with female HV bushing connection 'Mekufa' to enable a dry plug in connection of RMU on site. This can be effective if there are building access constraints on site
- Compact design, virtually maintenance free



Smart Grid ready

Gemini 3 RTU integration

Our package substation solutions can be configured with the next generation Gemini 3 RTU.

This is a highly flexible, general-purpose Remote Terminal Unit enabling reliable and safe operation of the switches, and providing enhanced information of the switchgear, transformer and the distribution network.

- Providing a fast response and timely data
- Help companies optimise networks and improve service quality
- The modular design of the Gemini 3 allows flexibility and scalability to be built into network automation projects



Optional LV monitoring

The Lucy Electric GridKey system provides a cost-effective near real-time ability to monitor loads and voltages on individual feeders / phases.

Already fitted in over 850 substations in the UK it provides actionable information in the areas of fault prediction and detection, identification of technical and non-technical losses and power quality. In addition it provides information essential for planning including voltage and load profiles. The monitoring system consists of sensors and a metrology unit with a built in GPRS modem linking to a data centre and provides both regular reports and programmable alarms.

Gridkey supports customers by:

- Planning for load management and cost effective investment
- Improved fault location and faster resolution
- Reducing losses



Lucy Electric's Energy Services team helps customers make the most of their assets across the whole product life cycle, to meet today's and tomorrow's challenges.

We offer end to end solutions, from design and specification of projects through installation and commissioning, to whole life maintenance and product support.

We work closely with the customer to find the right solution for the job. From a simple service to a fully outsourced turnkey solution, our complete life cycle management approach ensures customers can optimise their asset base, make the most of their resources and fully exploit future opportunities.



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