ULTRA | Energy

CURTISS-WRIGHT

Flux instrumentation

for nucleonic systems

Key features

- Designed specifically for safety critical reactor protection duties
- Conservative analogue design utilizing proven fail-safe architectural elements
- Long in-service history across all UK nuclear power plants
- Modular industrial designs allow reconfiguration for varied form factors in demanding power plant environments

Overview

Ultra Energy has developed a complete range of neutron flux instruments for monitoring and protection applications in the nuclear industry. The range includes pulse counting, Campbell processing, log DC and linear DC measurements. These instruments are available as individual items or as a complete flux monitoring system. All of the instruments have been developed using a modular approach, providing a high degree of flexibility for configuration changes to meet specific customer requirements.

Technical specifications

Further features

- Complete set of operational modes - shut down to full power
- Matching test equipment and through life support available

Standard products

- Head/pre-amplifier
- Pulse channel
- Log DC channel
- Linear DC channel
- Log/Lin DC channel
- Pulse/Campbell channel

Ultra Energy's flux instrumentation is designed to to achieve high levels of safety and reliability when operating in nuclear power plant environments.

High integrity fail-safe circuit architectures employing conservatively rated analogue components are used to achieve the high levels of safety and reliability demanded by the target safety critical applications.

Our flux instrumentation has undergone extensive qualification for use throughout the UK's nuclear industry and has been operating very effectively for many years with full regulatory approval and in compliance with stringent electromagnetic compatibility standards. This operational experience makes the instruments well suited for new installations and upgrades.

All instruments have undergone safety evaluation and FMEA data can be provided on request. The range is modular, which facilitates maintenance and routine testing, as well as enabling formats from the standard range to be re-configured or modified to meet specific customer requirements. A complete set of test equipment is available to support maintenance and repair activity. In addition, after sales support options are available to meet customer needs.

All instruments are environmentally qualified to satisfy the UK's regulatory standards including temperature, humidity, electrical, environmental and vibration.

Performance specifications

Flux instrumentation performance specifications	
Environmental	• Temperature +5 to +55°C • Humidity up to 95% • Immunity to conducted interference 10 V/m, 20 MHz to 1GHz
Mechanical data	• Most instruments are supplied in a 19" rack mounted chassis • Integrated Amplifiers are available in sealed enclosures as needed

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About Ultra Energy

Organizations working with nuclear and industrial technologies have a responsibility to safeguard people, the environment and infrastructure. We provide solutions that give our customers complete, long-term protection and control of safety critical systems, while helping them increase the net value derived from investments over their total lifespan.

Part of Curtiss-Wright, Ultra Energy has worked with nuclear and industrial customers for over 60 years. We're embedded in strategic national infrastructure and helping organizations develop future applications. We support continuous operation of industrial sites with protection and control solutions that monitor and manage factors such as radiation, neutrons, temperature and pressure within safety critical systems.

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