

DynAmp LLC

Global leader in High Current Measurement



DynAmp Product Catalog

Table of Contents

COMPANY INTRODUCTION	3
LKAT	4
LKCO	5
LKP	6
RCEM	7
BRP	8
COP	9
SERVICES & SUPPORT	10
GLOBAL REACH	11

Who We Are

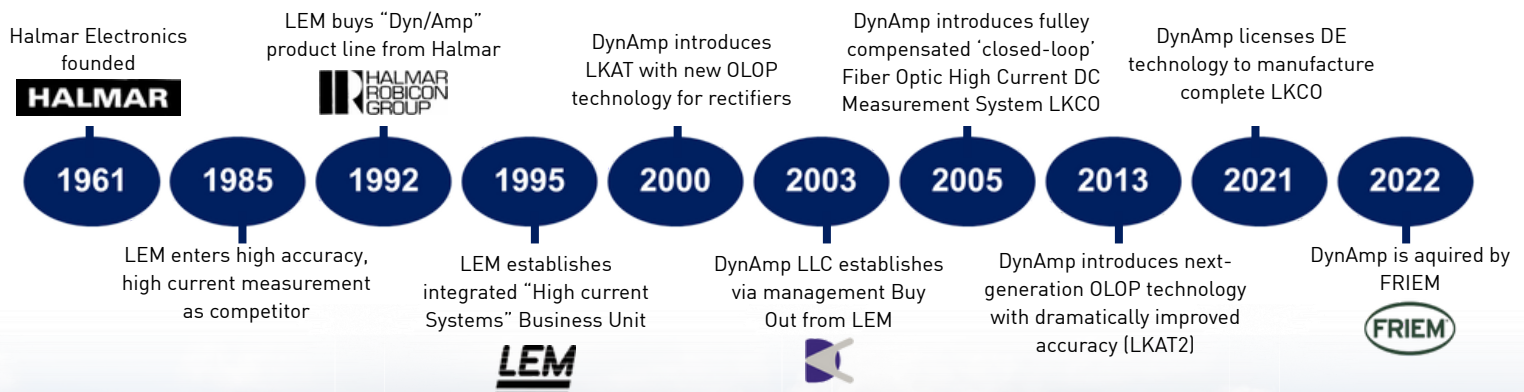
AN AMERICAN-MADE COMPANY WITH OVER 60 YEARS OF EXPERIENCE

In 1961, Halmar Electronics was founded in the United States by Mr. Haley and Mr. Martin. Throughout the years, the DynAmp product line has developed into what is manufactured and distributed globally today.

In 2000, DynAmp developed Open-Loop Open-Path technology and introduced the LKAT product line. Five years later, DynAmp realized the only fully compensated, closed-loop fiber optic current measurement technology and introduced the LKCO product line.

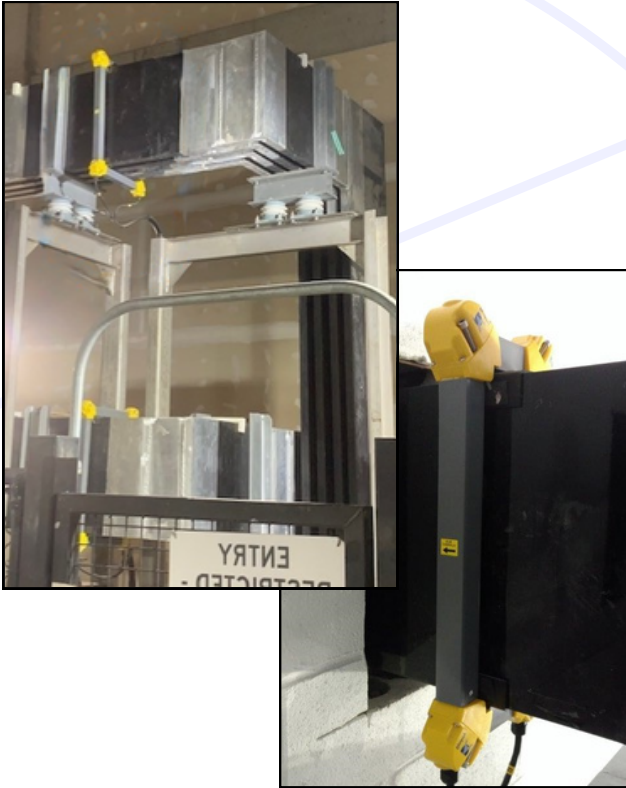
With our various products, DynAmp has been recognized as the leader and standard for highly accurate and highly reliable current measurement for the global electrolysis industry. Our unparalleled expertise and history of innovation will help propel our customers into the future.

DynAmp has served many industries such as Chlor-Alkali, Aluminum, Copper, Hydrogen, Steel, Zinc, Magnesium, Fusion, and many more applications.



LKAT2

APPLICATIONS



WHAT THE LKAT2 OFFERS

- An accuracy of 0.25% across full scale
- Minimization of thermal drift
- Protection against external magnetic fields
- Up to three trip points
- Bi-directional: can measure forward, reverse, and AC current
- Custom sizes to fill the customer's needs
- Non-contact mounted onto the busbar
- Can measure up to 150kA

BACKGROUND

The LKAT2 is based on DynAmp's proprietary Open Loop-Open Path Hall (OLOP) technology. It is the most cost-effective solution for applications up to 150kA, combining measurement and protection in a single system. Since its introduction, over 5,000 systems have been installed globally across several electro-industrial sectors. The OLOP technology allows the LKAT2 to provide both measurement and protection in a single system.

HOW IT WORKS

The LKAT2 is mounted around the busbar to measure the magnetic field. The magnetic field is detected using hall effect sensors that then send the signal to the LKAT2 metering unit. This analog signal allows for the metering unit to give a reading to the user for measurement, control, and protection of the process.

WHAT IT DOES & VARIATIONS

The user will be able to determine the efficiency of their process as well as provide protection and control. Due to its advanced closed-loop technology, the LKAT2 can handle reverse current and overcurrent situations using trip points, while also allowing the user to achieve finer current regulation. One variation of the LKAT is the LKAT2 OEM, which has a measuring unit that can be mounted in a control cabinet. There is also the LKAT2 Sigma, which sums two measurement heads.

TWO PART SYSTEM



BACKGROUND

The DynAmp LKCO is a fiber optic-based system comprised of three major subassemblies:

Measurement head: Special optical fiber to allow sensing of the magnetic field surrounding a bus bar and the support structure.

Compensation Module: This module includes both fiber and electronic components that perform the measurement and closed-loop compensation. It is installed near the measurement head.

Metering Unit: The electronics enclosure comprising the optical "engine" for the system, as well as signal processing modules, power supply, etc.

HOW IT WORKS

The LKCO utilizes DynAmp's patented closed-loop fiber optic system to measure electrical current by measuring the magnetic field surrounding the bus bar. The system light source generates two polarized light signals that are phase-shifted by the bus bar magnetic field. The LKCO measurement includes another step to null or compensate for the phase shift, providing long-term stability and reliability.

WHAT IT DOES

The LKCO is mounted onto the bus bar to measure the electrical current by sensing the magnetic field surrounding the busbar. The system provides an optional analog or digital output proportional to the line current up to 700kA. This information is used for process control, monitoring of process efficiency, and comparisons between process lines and plants

THREE PART SYSTEM



APPLICATIONS

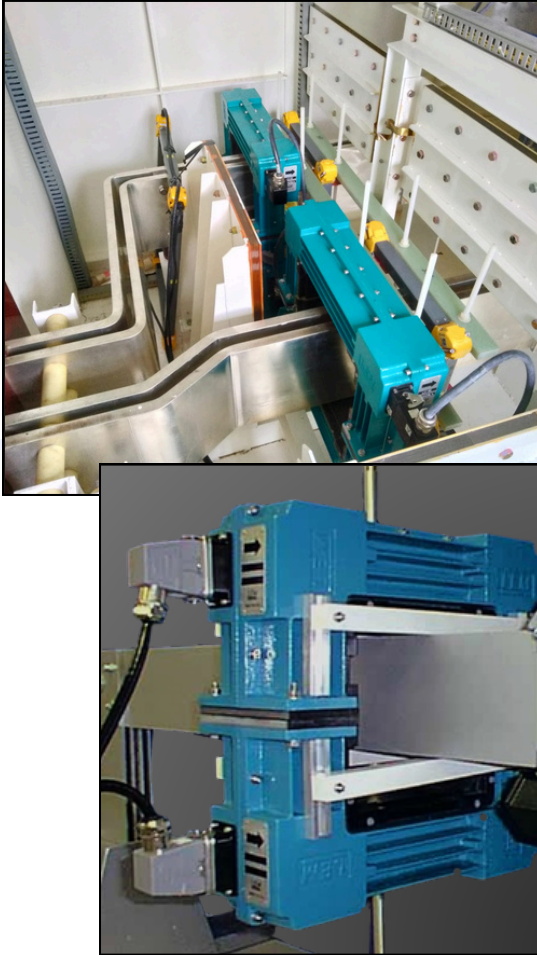


WHAT THE LKCO OFFERS

- An accuracy of 0.1% across full scale
- Compact electronics
- Not sensitive to external magnetic fields
- Alarm System
- Measures forward and reverse current
- Custom parts made to fit the bus bar securely
- Non-invasive mounted (use of fiberglass)
- Can measure up to 650kA

LKP

APPLICATIONS



BACKGROUND

The LKP is a high-accuracy, closed-loop Hall effect system designed to accurately and reliably measure a unidirectional DC bus. This product was designed to have an exceptional lifespan. The LKP is typically used in industries such as aluminum, chlorine, copper, manganese, titanium, zinc, electroplating, and coating operations.

HOW IT WORKS

The LKP measurement head measures the magnetic field surrounding the bus bar using discrete channels that include hall effect sensors and a core. The core is surrounded by copper coils through which a current is passed to keep each semiconductor output at zero. The current required to maintain zero output in each channel is proportional to the current in the measured bus bar with a ratio of 5000:1.

WHAT IT DOES & VARIATIONS

The LKP is mounted according to the size required for the customer's needs. The high accuracy of the LKP provides users with better control of their rectifier output with more accurate efficiency calculations. The LKP comes in various configurations, such as the LKP, 12kA, 15kA, 30kA, 45kA, and 60kA, for the user to choose the best one for their system.

TWO PART SYSTEM

WHAT THE LKP OFFERS

- An accuracy of 0.1% across the full scale
- Long-term reliability
- Consistent accuracy
- 15-year Design life
- Non-invasive, mounted onto the busbar
- Can measure up to 60kA



RCEM

BACKGROUND

The Rectifier Condition and Evaluation System (RCEM) is used to check the health and balance of rectifiers. The RCEM is primarily configured for portable use but is also available for permanent installation. Mainly used for preventative maintenance, the RCEM is a crucial part in maintaining a balance between the diodes in the rectifier.

HOW IT WORKS

The RCEM uses Rogowski Coils to sense the magnetic field around each individual diode to determine the electrical current flowing through them. The Data Acquisition Unit (DAU) collects the signals sensed by the coils. The DAU then sends the data to a computer with software which shows the user all the data collected.

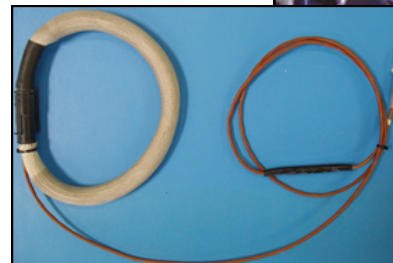
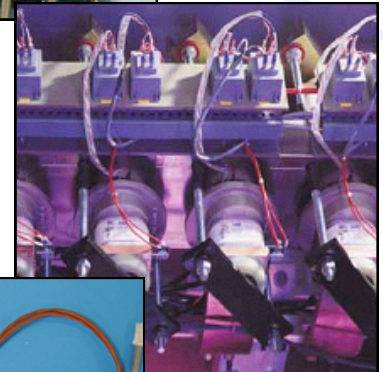
WHAT IT DOES

From the information gathered, the user can see how the rectifier is running and if any complications could damage the health of the rectifier. Imbalances within the rectifier can lead to reduced life and reliability of the semiconductors. The RCEM is used to indicate which semiconductors are out of tolerance or balance. The permanently installed RCEM can be used to monitor each semiconductor in real time to allow changing of devices on an as-needed basis, as opposed to a pre-determined schedule. The system can be used for before/after profiling for the service or maintenance of rectifiers. The RCEM ensures that the current flowing through the diodes is equal to ensure balance in the rectifier, as this is an essential part of converting AC accurately, as well as ensuring that the current does not destroy the diodes. The RCEM also protects the diodes from overcurrent and helps detect degradation.

TWO PART SYSTEM



APPLICATIONS

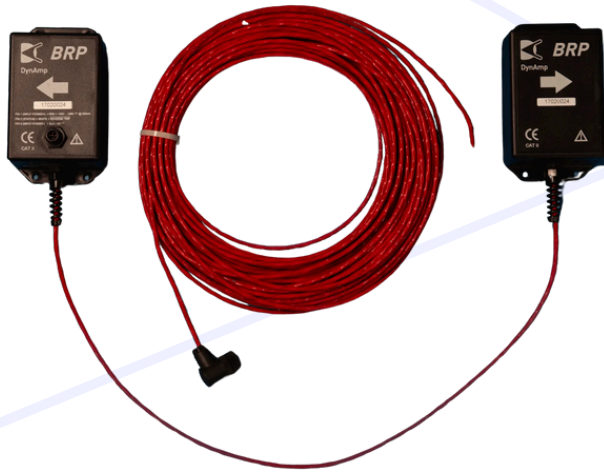


WHAT THE RCEM OFFERS

- Simultaneous measurement for up to 240 channels
- Accuracy of 3%
- Maximum current per channel: 4999 Amps
- Custom alarm system
- Oxidation does not impact the measurement reading
- Portable system
- Easy installation onto diodes

BRP

TWO PART SYSTEM



WHAT THE BRP OFFERS

- Proprietary magnetic shielding
- ASIC-based current sensor
- Direct Bus Mounting
- Simple and Straightforward Configuration
- Variety of Configurations and Available Outputs

SYSTEM CONFIGURATIONS CAN BE:

- 24V Logic reverse alarm output
- Latching reverse alarm output with LED indication and manual reset
- Power Relay for direct activation of protection equipment
- Simple and Straightforward Configuration compared to BCMR

BACKGROUND

The BRP (Basic Rectifier Protection) system was designed as a next-generation replacement for the older Bi-directional Current Monitoring Relay (BCMR) systems. The BRP rectifier protection system is a specialized modular system designed to sense reverse events on high-current DC bus bars. The BRP has improved the BCMR by improving the signal-to-noise ratio and practically eliminating the chances of false alarms.

HOW IT WORKS

Sensing is based on a special integrated ASIC, which is Hall-based but utilizes a fourth-generation quadrature-switched element. This ASIC incorporates an on-board temperature compensation as well as signal conditioning and amplification to stabilize measurement over a wide measurement range and improve the signal-to-noise ratio.

BRP consists of two electrically isolated sensors that attach directly to your busbar. The BRP sensor pair utilizes both 'comparative-cancellation' and DynAmp's new proprietary magnetic shielding to further minimize the influence of external fields, dramatically reducing the chance of false trips.

WHAT IT DOES & VARIATIONS

This modular system detects reverse currents and alarm signals, with optional load switching relays to drive the rectifier and power conversion equipment protection system. All these features allow for extra protection of the user's rectifier. The BRP provides a dependable signal needed to prevent catastrophic damage to rectifiers in parallel installations and minimize dangerous conditions for personnel.



BACKGROUND

The COP (Clamp-On Portable) is a portable, battery-powered digital ammeter that is designed for non-contact current measurement. The COP is available in various ranges to accommodate different current levels, from 2kA to 100kA. As one of DynAmp's oldest products, the reliability it offers is unmatched by other products.

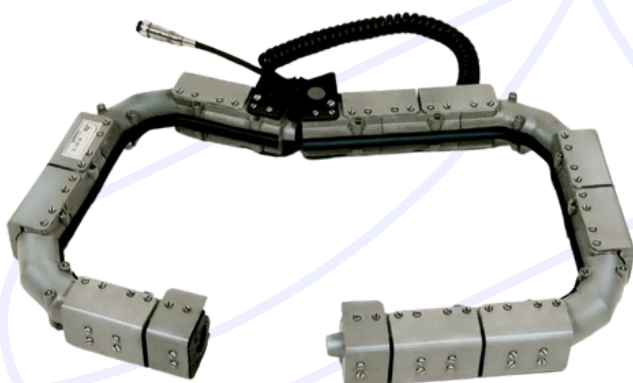
HOW IT WORKS

The COP measuring head, constructed from durable materials, can be customized to fit various conductor sizes and shapes to sense the magnetic field around a conductor to provide a precise measurement of the current. The COP has a sensitive integrator circuit that provides high measurement accuracy, while the drift adjust control compensates for environmental factors.

WHAT IT DOES & VARIATIONS

The COP is often used to measure the division of currents in parallel anode or cathode paths. It can be used to verify the power rectifier current. The metering unit displays the measurement on a digital readout, with three-and-a-half-digit resolution allowing for easy interpretation. The sensor contains no iron and remains linear even when used in large magnetic fields found in electrochemical plants.

COP



TWO PART SYSTEM



WHAT THE CLAMP-ON OFFERS

- Portable
- Battery-powered
- 2.5% accuracy
- Protection against extreme external magnetic fields
- Up to 100kA DC current measurement
- Withstands harsh industrial conditions

CONFIGURATIONS

Head Sizes X x Y in inches:

5x5	8x5	11x5	14x5	17x5
5x8	8x8	11x8	14x8	17x8
5x11	8x11	11x11	14x11	17x11
5x14	8x14	11x14	14x14	17x14
5x17	8x17	11x17	14x17	

Handle Length:

24in (610 mm)
48in (1220mm)
72in (1829mm)

Option for no handle included is available.

Services & Support

IN HOUSE SUPPORT

DynAmp Service group provides support for products that have been manufactured by LEM, LEM DynAmp, or DynAmp, including:

- Calibration
- Troubleshooting
- Repair
- Technical Support

RENTALS & TRAINING ON DYNAMP EQUIPMENT

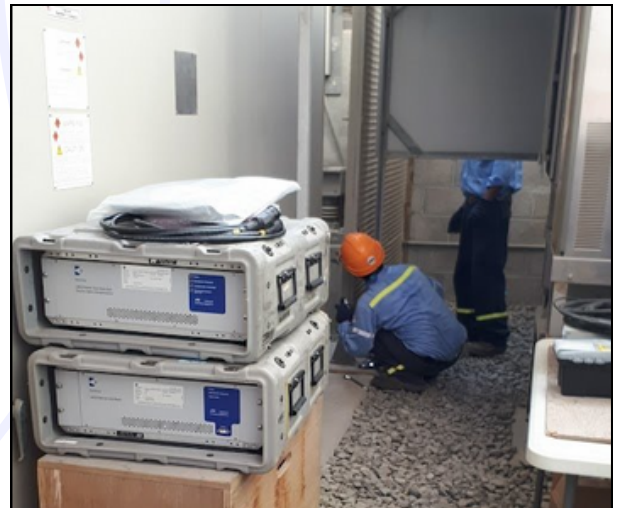
DynAmp can provide rentals such as LKAT, RCEM, and Opti-Cal portable reference standards for your urgent need, system performance audits, or periodic calibration checks. We provide you with the best solution to ensure your process disturbance is minimal. LKAT and RCEM systems are available for rental and use by your technicians after training by a certified DynAmp Technician. Opti-Cal portable reference systems will be dispatched to your site with a certified service professional to install and operate this system. That empowers them to operate, troubleshoot, and perform.



ON-SITE SUPPORT

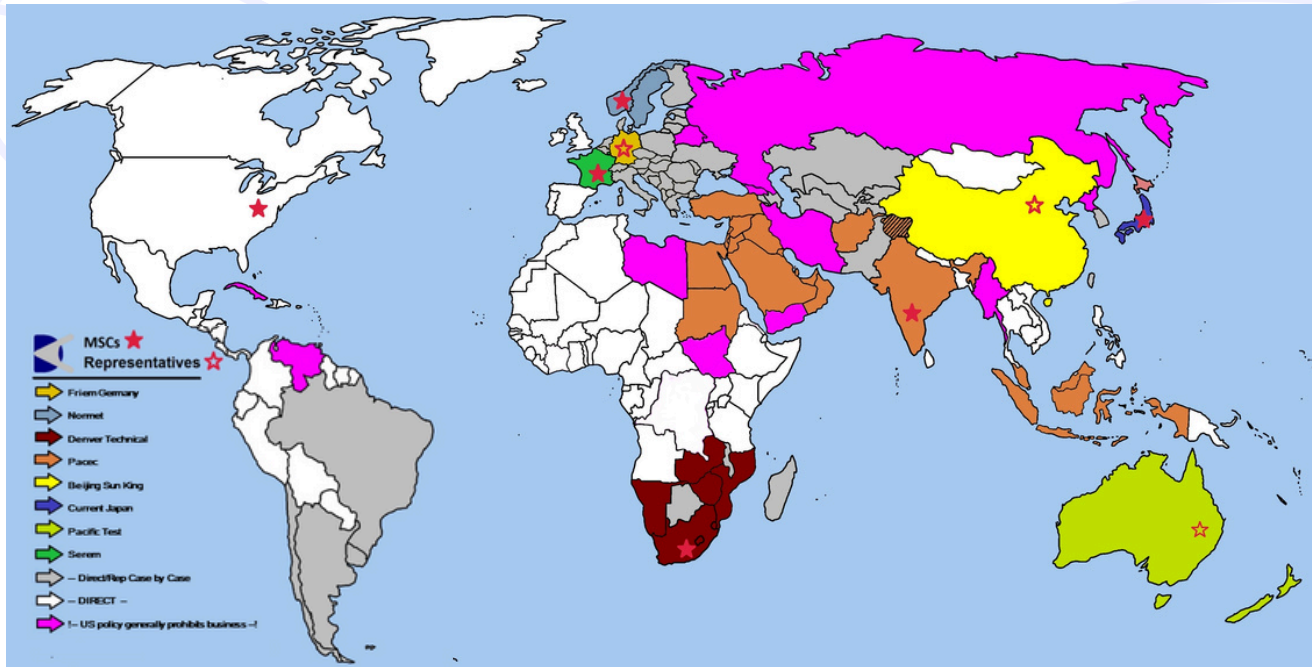
Our certified technicians ensure your DynAmp equipment operates at peak performance. We offer the following services:

- Commissioning: We meticulously install and configure your equipment to ensure optimal performance from the outset.
- Verification and Calibration: Our experts conduct regular on-site verification and calibration to maintain accuracy and reliability
- Repair and Upgrades: We provide prompt and efficient repair services, as well as upgrade options to keep your equipment up-to-date
- Power Usage Monitoring/System Audit: We can help you optimize your energy consumption by monitoring your equipment's power usage and identifying areas for improvement



Contact Service@DynAmp.com to request a quote/get assistance

World Map



The map is accurate as of July 1st, 2025

DEDICATED GLOBAL SUPPORT

With over 10,000 systems installed worldwide and an average lifespan of 15 or more years, DynAmp has established a global service and support network that is capable of providing help when and where it is needed. We also recommend a service technician provide an 'audit' of all systems installed after 4-6 years of continuous operation. After that, we recommend system calibration/check intervals of 24 months.

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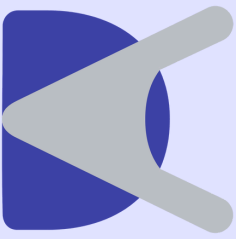
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