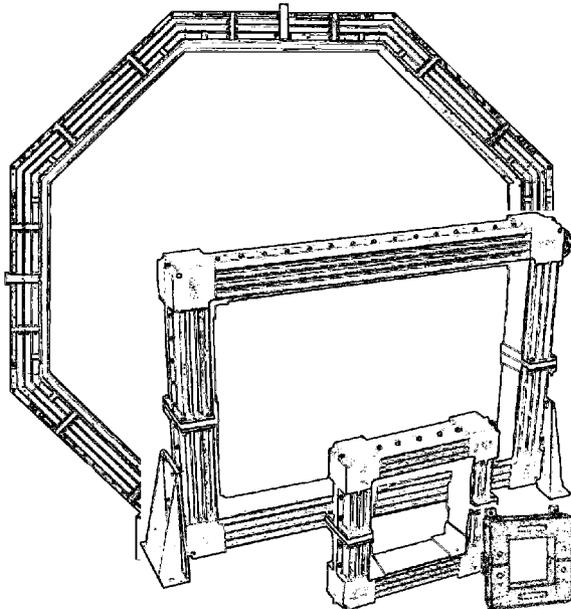




DynAmp

LKP-450

High Current Metering System



Description

The LKP-450 is a high accuracy, "closed-loop" Hall effect system designed to accurately and reliably measure unidirectional dc bus currents up to 450 k amperes. This "system" consists of a four-piece measuring head which installs around the bus, an electronics unit and four multiconductor cables connecting the two. This model supersedes the following LEM and "Halmar" models: LKC450.

Application

The LKP-450 is particularly well suited to measure bus currents in electro-chemical processes including aluminum, chlorine, copper, manganese, titanium, zinc as well as electroplating and coating processes.

Specifications

Input

Full Scale (FS) bus current 450 kA
Based on approved DynAmp Bus Analysis

Output

Voltage scaling 1 mV per bus kA
Voltage full scale 450 mV
Voltage accuracy $\pm 0.1\%$ of FS **
Current scaling 100 mA per bus kA
Current full scale 45 A
Current loop max burden 15 V
Current accuracy $\pm 0.1\%$ of FS **
Repeatability $\pm 0.02\%$ of FS
plus core set
Linearity (5...100% of FS) $\pm 0.03\%$ of FS
Temperature sensitivity $\pm 0.002\%$ of FS per °C

Mains

Available Input Ranges 220V: 187 to 242V RMS
240V: 204 to 264V RMS
Frequency 50Hz.: 45 to 55 Hz.
60Hz.: 55 to 65 Hz.
Power requirements 20 VA / bus kA typical
Impact of mains variation on accuracy $\pm 0.0005\%$ FS / VRMS

Isolation

Bus to output 6 kVac for 1 minute with
25 mm air gap
Mains supply to output 1.5 kVac for 1 minute
Mains supply to chassis 1.5 kVac for 1 minute
Output to chassis 1.5 kVac for 1 minute
Bus to head structure 6 kVac for 1 minute with
25 mm air gap

Environmental

Operating temperature -4 to 131° F
-20 to 55° C
Storage temperature -40 to 158° F
-40 to 70° C
Storage Humidity 85%, non-condensing
Installation Restrictions: Ref. Tech. Bulletin 9907

Physical

Measuring head enclosure IP-649
Measuring head weight 4400 lbs. / 2000 kg
Electronics unit enclosure IP-22
Electronics unit weight 1000 lbs. / 455 kg (Max.)
Interconnecting cable(s) 33 Ft / 10 m standard
(Head to Meter Unit) 4 cables

** At DynAmp reference conditions:
77° F $\pm 4^\circ$ F (25° C, $\pm 2^\circ$ C)
120/240 V RMS. $\pm 2\%$, 60 Hz ± 1 Hz.

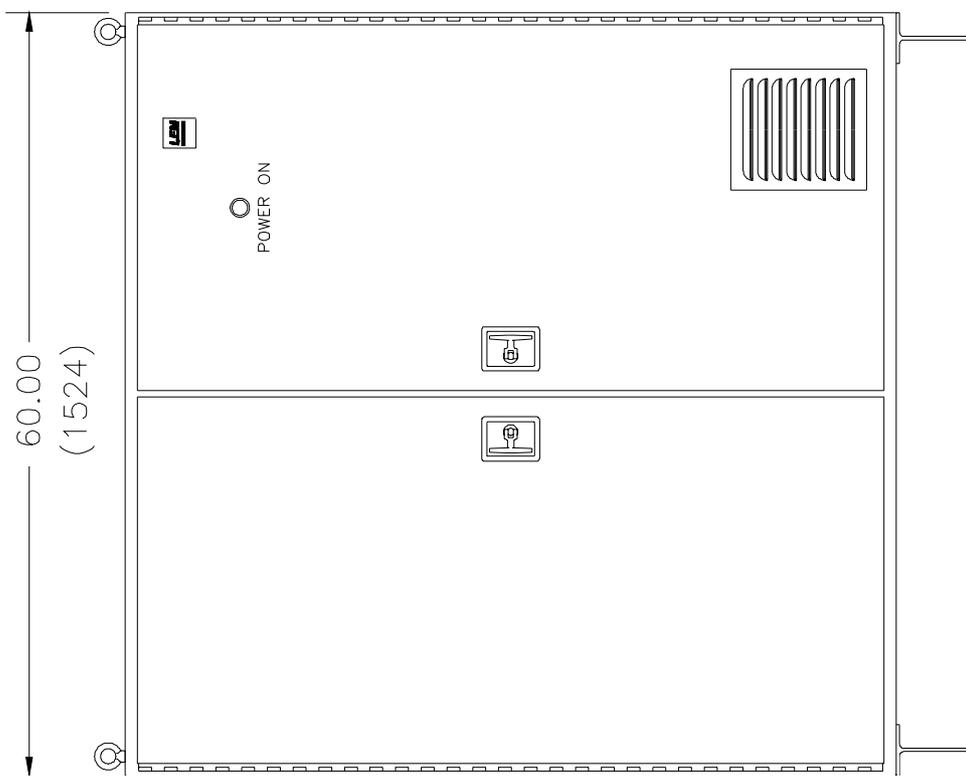
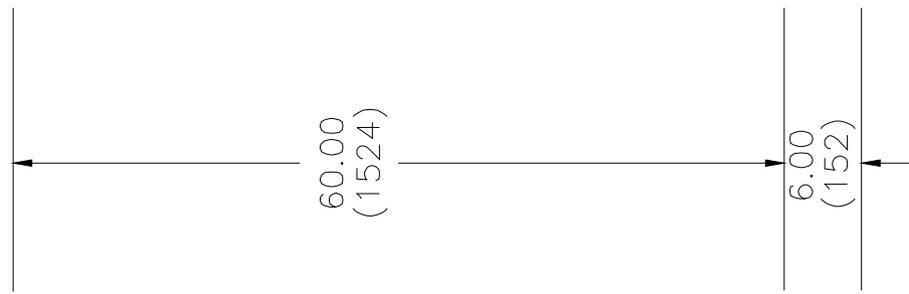
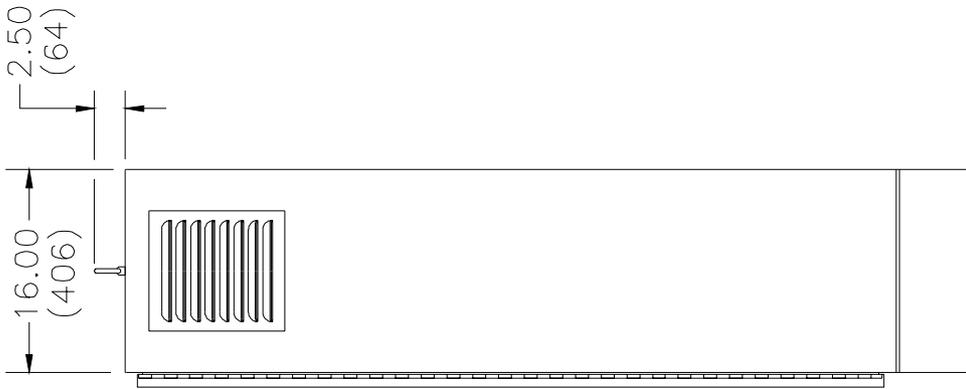
Specifications subject to change without notice



DynAmp

LKP-450

Metering Unit Outline and Mounting Diagram and Information



WEIGHT = APPROX. 1000lb. [455kg]



DynAmp

LKP-450

Ordering Information

1. Specify model LKP-450, (see pages 2 & 3 for versions.)
Version 1 Specify Item Number: 42119
Version 2 Specify Item Number: 42538
2. Specify item number and description of options and or accessories.
3. Complete System Worksheet BEN068 and worksheets for options and accessories as required.

Standard System Includes

Split apart measuring head
10 meter / 33 feet head to meter connecting cables
Metering Electronics
Mounting Feet
Operator / installation manual
Calibration result data tables and graphs
One internally mounted shunt
Meter enclosure is to standard IP-22
4 hours operation before final test/calibration
2 year warranty
DynAmp bus analysis of installation location
(subject to availability of customer drawings)
Weather resistant shipping crate

Options

Accuracy Diagnostics:

Provides an SPDT relay output if a channel amplifier or power supply voltage is out of normal range. Detects errors due to excessive or reversed magnetic fields and failures in electrical components such as amplifiers, fuses, or sensors.

Specify Item Number: 42751

Second Internal Shunt:

Standard system includes one internally mounted shunt. A second internal shunt is available to provide an additional scaled and calibrated millivolt output.

Requires completed Shunt Worksheet BEN055.

Contact DynAmp

Local Digital Display:

Mounted on the surface of the enclosure to provide local display of bus current.

Requires completed DPM Worksheet BEN056.

Specify Item Number: 41031

Current & Voltage Output (Internal Isolator):

CE compliant Model SI2284 provides isolated voltage and 0-20mA or 4-20mA output proportional to current. Refer to SI2284 data sheet for detailed specifications.

Requires completed Isolator Worksheet BEN061.

Specify Item Number: 42315

Compliance With CE Requirements:

A CE certified version is available including all required components, tags, certifications and documentation. CE compliance may not extend to all options and accessories. Consult factory for determination.

Specify Item Number: 42753

Accessories

Remote Digital Display:

Additional digital panel meters are available for remote indication of the bus current.

Requires completed DPM Worksheet BEN056.

Specify Item Number: 41031

Extended Burn-In:

Standard systems are operated for 4 hours before final tests and calibration. Extended burn-in periods can be ordered in 24-hour increments.

Specify item number: 99922

Standard Spare Part Package:

Allows swap of major assemblies as well as single components to ensure fast return to operation.

Specify Item Number: 42773

Spare System Components:

Measuring Head –Version 1 Specify Item Number: 41734

Version 2 Specify Item Number: 42419

Metering Unit - Specify Item Number: 42749

External Shunt:

Converts system feedback current to low voltage. Refer to Shunt data sheet for detailed specifications.

Requires completed Shunt Worksheet BEN055.

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Totalizing Shunt:

Totalizes the output of multiple systems. A special assembly is available to properly interconnect many units. Refer to Shunt data sheet for detailed specifications.

Requires completed Shunt Worksheet BEN055.

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Custom Head To Meter Unit Cable Length:

Standard systems are supplied with 10 m (33 ft.) of interconnecting cable. Cable lengths of up to 50 m (165 ft.) can be readily provided. Consult factory for lengths greater than 50 m (165 ft.). Specify additional length required in meters.

Specify Item Number: 41450

Current & Voltage Output (External Isolator):

CE compliant Model SI2284 provides isolated voltage and 0-20mA or 4-20mA output proportional to current. Refer to SI2284 data sheet for detailed specifications.

Requires completed Isolator Worksheet BEN061.

Specify Item Number: 42315

Suggested Support Services

On-Site Commissioning:

Factory trained technicians and specialized equipment on-site during start-up.

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Annual / Biannual Calibration:

Experienced field service technicians and specially calibrated equipment are available to verify proper operation and calibrate your system to internationally traceable standards, ensuring the most reliable data for decision making and cross plant comparisons.

Contact DynAmp