LKAT MUT

LKAT System Functional Test Set

DynAmp

Description

The LKAT MUT (Meter Unit Tester) is a portable device that can be used together with a standard digital multi-meter to verify proper system operation, scaling, alarm trip points and adjustments of LKAT systems already installed in the field.

Application

The LKAT MUT was developed to support ISO9000 requirements including periodic verification or testing of measurement / protection systems in the plant. It is also an excellent tool to support system commissioning work in the field.

Key Features

- Small, portable and powered by the LKAT under test.
- Allows users to test, verify and reset multiple aspects of DynAmp LKAT systems
- Supports methodology to verify proper measuring head operation and head to metering unit cable integrity
- All signal and alarm outputs are tested at actual metering unit output connectors to validate internal functions, harnessing and connections.

Measurement and Functional Tests

Measurement Head Performance / Measurement
    Tests: Internal Head electronics
                Proper magnetic field measurement
                Head to Meter Unit cabling
                Internal harnesses and output connectors

Accuracy Diagnostics Function
    Tests: Detection functionality
                Proper PCB LED operation
                Proper Relay function
                Internal harnesses and output connectors

Primary Alarm Relay
    Tests: Primary Alarm Trip setting
                Proper PDB LED operation
                Proper Relay function
                Internal harnesses and connectors

Optional PE Alarm Relays (protection extensions)
    Tests: Both PE Alarm Trip settings
                Proper PCB LED operation
                Proper Relay function
                Internal harnesses and connectors

Tools Needed

LKAT MUT with included banana to Banana test leads
    (adapters for LKAT OEM and SIGMA versions included)
LKAT Users Manual & MUT test form / Excel spreadsheet
LKAT serial no. specific calibration data from DynAmp
4 ½ digit DMM 0.05% basic DC accuracy (not included)

Test Methodology Overview

- Switch rectifier control to manual or alternative control
- With LKAT system operating and bus current between 20% and 100% of full scale, open metering unit door and measure head signals on PCB connector. Also record LKAT measurement outputs
- Power down LKAT system, disconnect head and signal output cables from the meter unit, then connect the 3 cables from the LKAT MUT. Power up LKAT system.
- Using the adjustments on the LKAT MUT, set the corresponding 'head' signal for the desired current level (typically just before the alarm trip point)
- Using MUT adjustments, increase or decrease signal to check alarm trip points via alarm LED on LKAT PCB as well as the relay trip LED on LKAT MUT.

(Similar method used to modify alarm trip points if needed)

Ordering Information

046985   Tester, w/Adapters compatible with LKAT+ & 2
     (contact factory for LKAT2 oem/sigmas with s/n 1403… to 1409…)