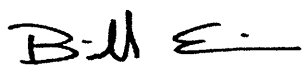

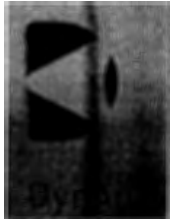
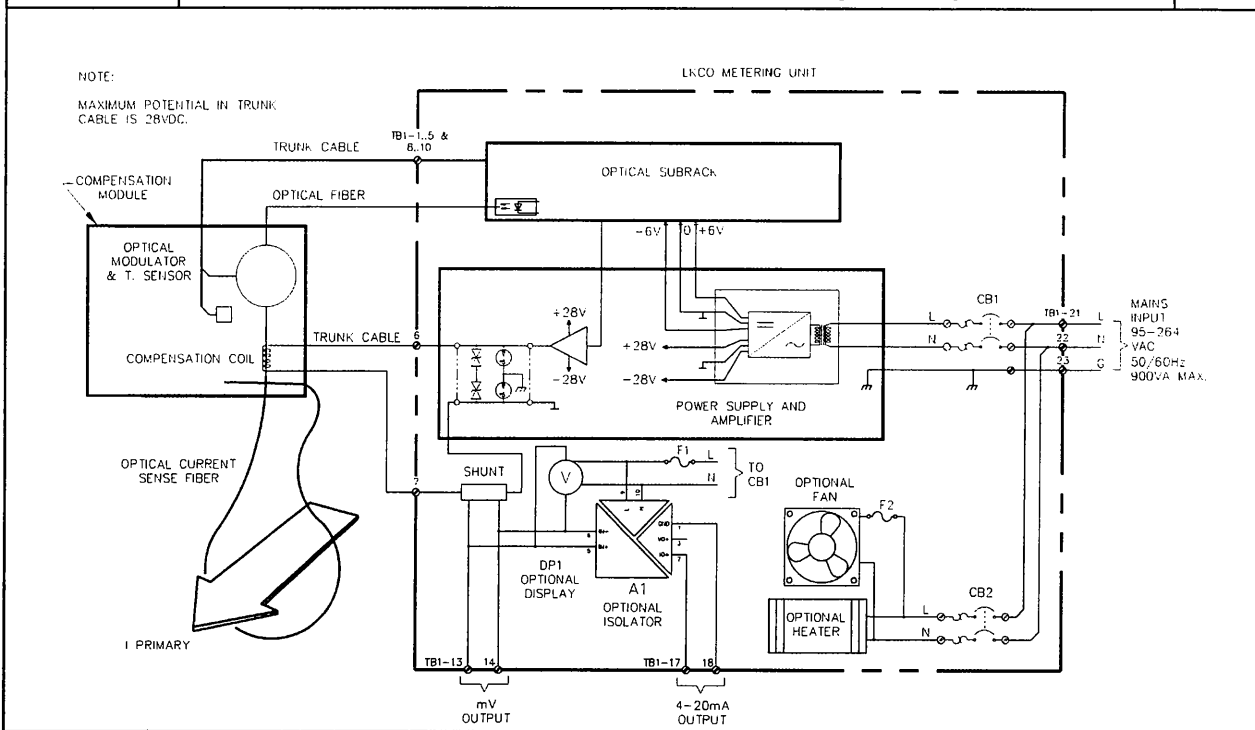


TEST REPORT	
EN 61010-1	
Safety requirements for electrical equipment for measurement, control, and laboratory use	
Part 1: General requirements	
Report Reference No.	DI 505893-000
Tested by (name and signature)	Bill Evia..... 
Approved by (name and signature) :	Charles R. Walker..... 
Date of issue	2006-06-29
Contents	55 Pages
Testing Laboratory	TÜV Product Service
Address	3029 Governor John Sevier Hwy, Knoxville TN 37914
Testing location/procedure	as above CBTL [] SMT [] TMP [X]
Address	Dynamp, LLC - 3735 Gantz Road, Grove City OH 43123
Applicant's name	Dynamp, LLC
Address	3735 Gantz Road Grove City, OH 43123, USA
Test specification:	
Standard	EN 61010 – 1 : 2001 (2 nd Edition)
Test procedure	CCA
Non-standard test method	UL61010-1:2004, CSA C22 No. 61010-1-04
Test Report Form No.	EN 61010
TRF Originator	VDE
Master TRF	Dated 2001-07-27
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Test item description	Fiber Optic High Current Measurement System
Trademark	
Model/Type reference	LKCO Series

6 | **TABLE: Protection against electric shock - Block diagram of system Form A.5** | **P**



Pollution degree: 2 | Installation category (overvoltage category): III | **P**

Location or description	Insulation type (NOTE 1)	Maximum working voltage (NOTE 2)	CREEPAGE DISTANCE (NOTE 3)				CLEARANCE (NOTE 3)	Test voltage (NOTE 2)	Comments
			PWB mm	CTI	Other mm	CTI			
Pri - Earth	B1	240V	1.5	>175	3.2	>100	1.5	2120 rms	
Pri - Neutral	R1	240V	3.0	>175	6.0	>100	3.0	2120 rms	

NOTE 1 - Type of insulation:
 BI = BASIC INSULATION
 DI = DOUBLE INSULATION
 PI = PROTECTIVE IMPEDANCE
 RI = Reinforced INSULATION
 SI = Supplementary INSULATION
 Supplementary Information:

NOTE 2 - Types of voltage
 Peak impulse test voltage (pulse) r.m.s.
 d.c.
 peak

NOTE 3 - INSTALLATION CATEGORIES (OVERVOLTAGE CATEGORIES) or POLLUTION DEGREES which differ from these should be shown under "Comments".

6.8	TABLE: Dielectric strength tests					Form A.14	P
4.4.4.1 b)	Conformity after application of fault conditions ¹						P
6.4	Protection in NORMAL CONDITION						P
6.5.2	DOUBLE INSULATION and REINFORCED INSULATION						N/A
6.6.1	Connections to external circuits						N/A
6.7.3.1 c)	CLEARANCE values – General: reduced CLEARANCES for homogeneous construction						N/A
6.10.2.5	Fitting of non-detachable MAINS SUPPLY cords ¹						N/A
8	Mechanical resistance to shock and impact						N/A
9.1 a) 2)	Eliminating or reducing the sources of ignition within the equipment						N/A
9.3 c)	Limited-energy circuit						N/A
11.2	Cleaning ¹ , wiped down with clean dry dust cloth per instructions						P
11.3	Spillage ¹						N/A
11.4	Overflow ¹						N/A
11.6	Specially protected equipment ¹						N/A
¹ Record the fault, test or treatment applied before the dielectric strength test							
Test site altitude					570 m		—
Test voltage correction factor (see Table 10) ... :					1.08		—
Location or references from Forms A.2 and A.5	Clause or sub-clause	Humidity Yes/No	Working voltage V	Test voltage Vdc	Comments	Verdict	
LKCOmodels							
Primary to earth	6.4 4.4.4.1	No	240	2121		P	
Primary to neutral	6.4	No	240	2121		P	
Supplementary information:							

DynAmp, LLC	LKCO SYSTEM TEST AND CALIBRATION INSTRUCTIONS	PAGE 3 / 10
BTD125		REVISION C

6. INSTRUCTIONS:

- 6.1 Record the Model Number, Date, Serial Number, Item number, Customer Name, Customer Purchase Order Number, DynAmp Sales Order (SOR) number, and Range Full Scale, Calibration Point, AC Power Input and Feedback Ratio on the LKCO Test and Calibration Data Sheet, BTD123. Review the LKCO System Worksheet for any additional information needed.
- 6.2 Shunt(s) : Since feedback is adjusted for best accuracy, shunts should be bench calibrated to exact resistance value prior to installation in the LKCO unit. Shunts should be calibrated using BTD005, Shunt Calibration Instructions, with the exception that the shunt output equals the feedback current. Shunts should be adjusted within -0.03% to 0% of calibration point and a tested sticker attached prior to installing in metering unit.
- 6.3 Preparation for System Test :
 - 6.3.1 Clean fiber connector on compensation box. Using OTDR, perform a scan of the Fiber circuit using the shortest pulse width and short scan. Save waveform with NXCT name under H:\LKCO\parameters\OTDR
 - 6.3.2 The feedback coil inside the compensation module should be able to pass a high voltage test. Hipot compensation module feedback inputs to ground connection at 3400 Vdc for one minute.
 - 6.3.3 Install sensor fiber around test coils. Configure test coils for appropriate current range using the smallest number of coil turns to keep bus cool. Turn on floor fans, keeping compensation module around 1 to 2 degrees above ambient temperature. Keep the sensing fiber within a few degrees of the compensation module when calibrating and performing linearity. Avoid hotspots on the fiber by moving the sensing fiber away from the test coils.
 - 6.3.4 Energize the test stand and adjust the current for 10-20 amps, depending on the test stand size. Check the current direction in each test coil using a DC Clamp-on Ammeter.
 - 6.3.5 Connect metering unit to compensation module. Check SOR and worksheets for AC line voltage and all options.
 - 6.3.6 Check labels on compensation module and metering unit against the system worksheet.
 - 6.3.7 Apply power and check LEDs for proper operation, mark the appropriate box under indicators on the data sheet.

ORIGINATOR	CHECKED	APPROVED	DATE	REFERENCE
R. WHITNEY	R. WADE	F. MASRI	09/05/13	ISO9001
<i>R. Whitney</i>	<i>R. Wade</i>	<i>F. Masri</i>	9-12-13	LEVEL 3 DOCUMENT

