

Shaft Voltage and Current Monitoring System for Turbo Generators



Key Features

- Continuous High Speed Acquisition of Shaft Voltage and Current
- Ethernet and Modbus RTU Interfaces
- Standalone Operation
- Local True Color Touch LCD

Application

- Rotor insulation condition monitoring for turbo generators

UDL-8000 - SUI

General Description

The Shaft Voltage and Current monitoring system for turbo generators is based on the **UDL-8000** data acquisition and monitoring system family for online condition monitoring of high voltage insulation systems and machines. UDL-8000 is a multi - modular system with a central CPU controller, various different signal conditioning modules and sensor interfaces (up to eight modules per controller) and application specific software packages as e.g. the package **SUI**, used for the acquisition, evaluation and monitoring of the shaft voltage and the shaft current.

The shaft voltage is measured by a dedicated pickup on the exciter end. The shaft current can either be measured by a rogowski coil around the shaft or by measuring the shaft current through the grounding brush. The sensors are connected via the Module **M8016** to the **UDL-8000** monitoring system. The module offers the interface for a reference sensor or reference source, a galvanic insulated input for the shaft voltage signal, 2 shaft current inputs (for Rogowski Coils and for CT's) and five 4-20mA analogue inputs for the acquisition of the machine operation condition,

The **UDL-8000** Controller offers standard interfaces as Ethernet, digital in- and outputs, relay contacts and Modbus RTU.

The Ethernet Interface is used for the communication with the analysis software running on a windows based computer the real-time data visualisation and analysis. Additionally the UDL-8000 system can be connected to the TMS-2000 Database Server to record continuous the acquired signals (Monitoring).

Ordering Information

Order Code:

16.8000.E2.B28-0C8-2.C1.16.SUI

Shaft Voltage and Shaft Current Monitoring System
35mm DIN Rail Mounting, 24VDC

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Technical Data

UDL-8000 - SUI

Module M8016 Specifications

Shaft Voltage Input

Sampling Rate: 100kS/s
A/D Resolution: 16 bit
Input Impedance: 100kOhm, Differential

Isolation: 2500VAC
Input Range: 0..100VACrms

Shaft Current Input (CT)

Input Range: 0 .. 10AC
Sampling Rate: 100kS/s

Shaft Current Input (Rogowski)

Input Range: 0 .. 10VAC
Sampling Rate: 100kS/s

Reference Channel 1

Input Range: 0 .. 300VAC
Frequency Range: DC .. 100Hz

Galvanical Insulated: 2500VAC
Input Impedance: 10M Ohm

Reference Channel 2

Input Range: +/-30V
Frequency Range: DC .. 10kHz

Input: Differential
Input Impedance: 100 kOhm

Operation Parameters

No of Channels: 5
Input Range: 4-20mA

Input: Single Ended
Measurement Shunt: 250 Ohm

UDL-8000 Controller

Relais Contacts NO/NC: 4
Contact Rating: 240VAC

Modbus RTU slave: RS-485

Display

Dimension: 3.5"
Resolution: 320 x 240pxl

Color Depth: 24bit
Touch: Resistive

Local Results

Max, Peak, Peak-Peak, Asymmetrie
System and Alarm Status

Trend: max. 1 Year
Time Signal: 1 Revolution Data

Mechanical Dimensions

Dimensions (L x W x D): 179x189x152mm
Weight: 1.6kg

Protection Class: IP55
Mounting: 35mm DIN-Rail

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