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Cavitation Monitoring System

UDL-8000 - CAV

Key Features

- Continuous ultrasonic measurement using active ultrasonic sensors
- Ethernet and Modbus RTU Interfaces
- Standalone Operation
- Local True Color Touch LCD

Application

- Acoustic Cavitation Monitoring on Hydro Generators

General Description

The cavitation monitoring system is based on the **UDL-8000** data acquisition and monitoring system family for online condition monitoring of the cavitation activity in large hydro generators. The **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 **CAV,** used for the acquisition, evaluation and monitoring of the cavitation activity on hydro turbines by ultrasonic acoustic sensors.
Depending on the size of the turbine up to four AE sensors are used for the measurement of the cavitation activity. The sensors are fixed either on the turbine cover or on the side of the tubine housing. The sensors are typically fixed with a magnetic holder, whenever the installation location is based on magnetic material. By default, the **UDL-8000** is indicating by relay contacts or digital outputs the activity of the cavitation or if the system is equipped with the additional analogue output module M8011 the ultrasonic level is provided as an analogie 4-20mA output signal.
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.B28-1C8-0.C2.21.CAV	Cavitation Monitoring System System for 35mm DIN Rail Mounting, 24VDC

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Technical Data

Module M8021 Specifications

AE Sensor Input

Frequency Range:	50kHz .. 200kHz	Sensor Compatibility:	AES-150i
Integrated Sensor Power:	24VDC		

RF

Frequency Range	40kHz .. 100MHz

Reference Channel

Input Range:	0 .. 5VAC*	Galvanical Insulated:	2500VAC
Frequency Range:	DC .. 400Hz	Input Impedance:	10M Ohm

** External reference from AC power source (50 .. 300VACrms by external module IRM-5000)*

UDL-8000 Controller

Relais Contacts NO/NC	4		
Contact Rating:	240VAC	Modbus RTU slave:	RS-485

Display

Dimension:	3.5“	Color Depth:	24bit
Resolution:	320 x 240pxl	Touch:	Resistive

Local Results

PPS5 Amplitude, Pulse per Second Rate

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

Mechanical Dimensions

Dimensions (L x W x D)	179x189x152mm	Protection Class:	IP55
Weight	1.6kg	Mounting:	35mm DIN-Rail

Contact

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