

Technical description

Peakanalyzer Light

The Peakanalyzer is an automatic diagnosis system for mechanic drives. It notices unbalance, alignment errors, damages on the shaft, irregularities of the gearbox tooth and of the rolling bearings.

The vibration signal is measured at the housing of the drive by piezoelectric accelerometers which are bolted with the housing or bonded at the surface. It is also possible to connect inductive sensors for measuring the shaft vibration and to connect a voltage signal.



At the same time the speed can be measured. This enables the diagnosis at drives with a variable speed.

Two further measured values e.g. the drive power, can be collected, as reference and also as control of the Peakanalyzer, to ensure the collecting of data.

The Peakanalyzer will only once be firm installed and configured at the drive. After that it monitors automatically the drive for emerging damages. If a damage is noticed, a alarm will be set off.

Independent of the monitoring function are service measurements possible.

The application and evaluation software PAAS is included in the scope of delivery. The communication to the net (Ethernet, ISDN, Modem, GSM) has to be prepared by the orderer.

Signal inputs:

- 16 fast inputs for accelerometers (ICP) or inductive displacement sensors (2,67 V/mm) or voltage (+/- 10 V): sampling rate 50 kHz, anti aliasing filter 14 kHz, amplitudes resolution 16 Bit, adjustable pre-amplifier.
- 2 inputs for collecting of further measured values e.g. the drive power, (± 10 V), sampling rate 1 kHz, amplitudes resolution 16 Bit, the storage of the momentary value or the minimum, maximum or average value is adjustable between one value per minute and one value per day.
- 2 speed input

Automatic monitoring:

- Diagnosis for two speed and two power ranges
- Calculation of spectra and envelope curve spectra with 16,384 lines, adjustable to 20 kHz, 10 kHz, 5 kHz, 2,5 kHz, 1,25 kHz, 625 Hz und 312,5 Hz
- Order spectra and envelope curve order spectra with 16,384 lines with a speed depending resolution
- Automatic detection of significant peaks in spectra, envelope curve spectra, order spectra and envelope curve order spectra by DVS (Drive Vibration Significance analysis)
- Identification according to DIN ISO 10816-3 (for wind energy turbines it is non-admissible as evaluation criterion)
- Generation of found peaks (amplitude and significance, frequency/ order) as value
- The storage of values in case of an error (deactivatable)
- The storage of spectra, envelope curve spectra, order spectra and envelope curve order spectra in case of an error (deactivatable)
- The storage of the time signal in case of an error (deactivatable)
- The memory can be organized as linear or as circular buffer (60 days)
- Active alarm by e-mail by ethernet or e-mail, SMS and fax by modem
- passive readout of alarm states by Ethernet or modem

Alarm dealing:

- Alarms can be acknowledged by software. Then it is ensured that the same alarm will only be generated in the case of higher vibration values (indirect tendency monitoring)

Documentation of machine life:

- Cyclic storing of values and diagnosis features
- Cyclic storing of spectra, envelope curve spectra, order spectra and envelope curve order spectra
- Cyclic storing of the time signal

Other features:

- Individual administration rights
 - Administrator (placing the rights)
 - configure (to modify the monitoring configuration)
 - acknowledge alarms
 - analyze (to look at data and analyze them)
 - delete data (deleting of data)
 - service measurements
- The monitoring configuration is stored on the Peakanalyzer, automatic start by connection of the supply voltage
- The start of monitoring is adjustable
- steel plate box, IP 65
- Gauges about 300 x 300 x 120 (without overhanging parts)
- Weight about 7 kg
- Voltage supply range 230 V, < 40 W by loaded USV-accumulators
- Operating temperature range 5 .. 40 °C, expanded temperature range (-20°C..60°C) is available against extra charge
- storage temperature -20°C..70°C
- cable glands by screw connection

Recommended positioning of accelerometers:

- Motor B-bearing: radial
- Motor A-bearing: radial and axial
- Planetary gear stage: drive end and output side, radial
- Cylindrical gear stage: drive end and output side, radial

