

Data Acquisition Unit

type JAD 32 / 32

Application

The data acquisition unit type JAD32/32 provides the implementation of remote machine monitoring and diagnostics. One unit is required for one machine.

The unit is a specialised multiprocessor embedded computer with A/D converters and software that is adapted for continuous data acquisition, measurement and recording of vibration signals, associated process parameters and rotational speed directly from the measurement monitors of the TNC2000 system installed on the monitored machine.

Description

The data acquisition unit consist of:

- sample & hold input circuits
- RPM measurement and phase synchronization module
- analog to digital converters module
- embedded computer
- LAN communication card
- HDD with local data base
- data acquisition software
- optional software for local process visualisation

To avoid possible data loss, the data base and the trend files from monitored machine are stored locally on the hard disc of Data Acquisition Unit. The user of the TECHNICAD's SMM software (software for machine monitoring) has direct access to the data stored on each Data Acquisition Unit of the system. The access to the data base is provided by local area network through a password.

The data acquisition software installed in the Data Acquisition Unit doesn't need any service, it starts immediately and automatically after power supply start up. Data acquired by the unit are stored as a raw synchronous time samples, that gives further (after transfer the data to the diagnostician work station) the possibility of data processing to determine different diagnostic parameters and functions e.g. spectrum, vector, trajectory and others. The trends are stored in separate data base synchronized with the main data base. The events from the machine and system events are logged in separate file. The access to the on-line and off-line data is the same for both modes and does not depend on the current machine state (loaded, start-up or coast-down).



Performances

METROLOGICAL

Analog inputs: 32 dynamic channels: $\pm 10V$,
32 static channels for both versions: 0-10V

Phase marker input: TTL (0-5V)

Output: LAN connector RJ45, TCP/IP protocol

Rotating speed range: 0-4000RPM

Machine working state detection: five defined by user in function of RPM

Measurement cycle time: 2 seconds

Analog to digital converters: 12bits, dynamics 72dB

Amplitude spectra: 1-250Hz with 1Hz resolution

Data base capacity: 20.000 records (typically 2 years file lengths, depends of the transients numbers)

ELECTRICAL

Power supply: 220V AC

Current consumption: ~1.0A

ENVIRONMENTAL

Operating temperature: +5°C do +50°C

Humidity: 95% without condensation



MECHANICAL

Dimensions (w x h x d): 482,6(19")x265x290mm

Rack space requirements: 6U/84Tx290

Weight: 5600g

Housing material: aluminum

Protection: IP40

