



Encyclopedia

H

Hand-shaking

Data communication between devices (peripheral device) with arbitrary response times, whereby mutual feedback of the mailing and the receipt of the data takes place.

High-spot

Describes the reaction of a shaft due an attacking force caused by unbalance. The H. lies directly underneath the vibration sensor in the instant when the gap between shaft and sensor is smallest. Alternatively: It is the point on the shaft surface under the sensor at the moment when the filtered rotational-frequency vibration signal from the sensor reaches its positive peak.

See also heavy-spot

Hum

A disturbing influence with low audio frequencies, which is produced by voltages with line frequency (50 cycles per second, 60 cycles per second) and their harmonics. H. can be acquired capacitively (e.g. Parallel laying of mains voltage cables with sensitive, unshielded signal cables), inductively (e.g. by magnetic coupling of the supply transformer or a choke), over resistances (e.g. common ground conductors, which feed alternating currents) and over a voltage supply produced by rectification and a not sufficiently smoothed operating voltage. The H. is characterised by a tension, ripple voltage. This is indicated either as an rms or a peak-to-peak value. The relationship of the rms of the ripple voltage to the average value of a rectified voltage with H. is the ripple. Ripple voltages, which are overlaid as alternating voltages on the supply DC voltage, can be reduced by smoothing circuits.

For the RC element working as a low-pass filter a filter factor results.

$$S \approx \omega RC$$

and for the LC element



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$$S \approx \omega LC$$

The latter is effective particularly strongly with the harmonics.

Hybrid knowledge representation

By hybrid knowledge representation, we mean model construction in which the various types of knowledge are represented in different sublanguages of a hybrid representational formalism. As types of knowledge, differentiation is made between, for example, taxonomic, propositional, analogical, heuristic and statistical knowledge even though the borders between these individual types of knowledge are often difficult to draw and often appear arbitrary.

However, the differentiation of different types of knowledge has the advantage that different processing procedures can be realised, that not only make an efficient utilisation of this knowledge possible but also a modularisation of knowledge bases that in turn can lead to increased transparency of knowledge-based systems.

Hydro-electric machine sets

A machine train in hydroelectric plants consists of turbines, pumps, pump turbines, generators that are either coupled directly or through gearboxes, motors and motor generators. The machines can have their axes oriented either horizontally, vertically or in any other desired direction and are equipped with sliding or rolling bearings.