

Title (en)

MEASURING DEVICE FOR CONTINUALLY DETERMINING THE TENSILE FORCES OF THE CHAINS IN THE CHAIN CONVEYOR BELT OF A SCRAPER CHAIN CONVEYOR

Title (de)

MESSEINRICHTUNG ZUR KONTINUIERLICHEN ERFASSUNG DER KETTENZUGKRÄFTE IM KETTENBAND EINES KETTENKRATZFÖRDERERS

Title (fr)

DISPOSITIF DE MESURE POUR DETECTER EN CONTINU LES FORCES DE TENSION DE CHAÎNE DANS LA BANDE TRANSPORTEUSE A CHAÎNE D'UN CONVOYEUR A CHAÎNE A RACLETTES

Publication

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Application

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Abstract (en)

[origin: DE19905461A1] The invention relates to a measuring device and a method for continually determining the tensile forces of the chains in the chain conveyor belt of a scraper chain conveyor in the coal face area in coal mining. Known devices for determining the chain strain of a chain strand which is used in mining and which is moved in the conveyor are based on sensors being mounted on a chain link. When the chain link is stretched, a measuring signal is generated which is proportional to the stretching effect. Said signal is fed to a moveable receiving device that accompanies the measuring point and can be used as a storage unit, whereby the signal is fed via measuring lines. Said signal is received and processed. Information on the strains is thus provided with tremendous delay and involving high costs. The aim of the invention is to provide a method and measuring devices which enable to continuously determine the tensile forces of the chains in the chain conveyor belt of an operating scraper chain conveyor in order to almost simultaneously determine the strain ratio of the chain conveyor belt in relation to the permissible strain. According to the inventive method and said measuring devices, the deformation of the cribs of the chain links in relation to one another is determined as a change in distance in relation to zero strain, whereby said deformation is caused in a chain link and under strain. Said deformation is transformed into an electrical measuring signal that can be transmitted wirelessly and is transmitted to an output device for simultaneously outputting the strain.

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IPC 8 full level

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