Electromagnetic ultrasonic bolt axial force detector

(Model: BM100)

The electromagnetic ultrasonic bolt axial force detector BM100 mainly cooperates with traditional hydraulic wrenches, electric wrenches and other tools to realize axial force feedback control, thereby reducing the tightening coefficient of traditional torque construction tools and improving the quality of bolt pre-tightening. The products are widely used in the quality control of the torque method bolt construction process to improve the torque method construction quality. The equipment realizes communication control through wireless Bluetooth and electric wrench or hydraulic wrench. At the same time, open the Bluetooth protocol to the electric wrench or hydraulic wrench of the third-party manufacturer to realize the integration with the third-party tool.

<<< company's product

◎ This product can be used with a wrench without changing the bolt

structure design. The original stretching method construction method is changed to the torque method construction, which improves the work efficiency and achieves a better fastening effect; if the original torque method construction is used, cooperate with this product When used, it becomes the "axial wrench" construction method, which can reduce the tightening factor and improve the safety factor of the bolt connection; under the condition of ensuring the same safety factor of the bolt connection, using the "axial wrench" construction can make the bolt connection design Reduce the amount of bolts or choose smaller size bolts to save costs; combine with stretching tools to further improve the construction accuracy of the stretching method;

◎ With the historical data in the "cloud data", the product can perform quick bolt axial force inspection and historical trend analysis;

◎ Wide adaptability, no coupling agent, no need to polish, the end face of the bolts with higher raised characters, small diameter (or reduced diameter) studs, bolts with hexagon sockets, bolts with concave surface can be used directly;

<<< Detection characteristics

● Help the torque wrench to feedback the bolt axial force in real time at a rate of more than 10 times per second, and control the start, stop and speed of the wrench through the feedback axial force value, so that the torque wrench can be changed from torque control to precise axial force control;
● Based on cloud data, carry out bolt axial force inspection, realize the life management from bolt construction to bolt operation and maintenance, and provide customers with scientific and reasonable operation and maintenance plans;
● If the initial value of the bolt is recorded before delivery or assembly, it can also be applied to the pre-tightening force acceptance of the bolt construction of the unit under construction; the analysis of the bolt failure problem of the in-service unit; the auxiliary verification of the bolt construction process; and the historical data , Carry out application occasions such as the bolt axial force inspection of the in-service unit;

<<< Technical Parameters

name	parameter
Bolt specification	M20～M64
Bolt length	70mm～5500mm
Repeat detection accuracy*	±2% national standard GB/T19568 preload
Resolution	2ns
Ultrasonic testing frequency	3MHz～5MHz
Adjustable gain	0～100dB

Bolt cloud database interface	stand by
Bluetooth	stand by
Computer communication	stand by
Test result storage	stand by
Probe type	Electromagnetic ultrasound probe
Display screen	5 寸
Power supply	Lithium-ion battery module (replaceable)
Battery working time	About 8 hours
size	About 260mm×170mm×50mm
weight	About 1.2kg

*The flatness of both ends is required to be better than 0.5mm, and the angle between the two ends and the horizontal plane does not exceed 0.3R/L radian, where R is the bolt radius, L is the bolt length, and the anti-corrosion paint thickness does not exceed 1mm.

Note: The detection accuracy mainly depends on the bolt calibration parameters entered by the user. Our company also provides specific bolt axial force parameter tension machine calibration fee service or bolt cloud database experience parameter fee service.

<<< Application field

◎ Wind power industry, such as the axial force inspection of tower bolts, blade bolts and anchor bolts; ◎ Bridge industry, such as the axial force inspection of connecting bolts on bridges;

◎ The automobile industry, such as real-time detection of bolt axial force during cylinder assembly;

◎ Wrench tool industry, such as a smart wrench socket for real-time feedback of axial force;

◎ The tower industry, such as the patrol inspection of the axial force of the connecting bolts of the communication base station;

◎ Railway industry, such as the inspection of axle force of track bolts;

◎ Axial force monitoring and inspection of connecting bolts in the amusement equipment industry, such as cable cars, ferris wheels, etc.

<<< Applications




Analysis of pitch bearing and hub bolt shaft on side A of hub