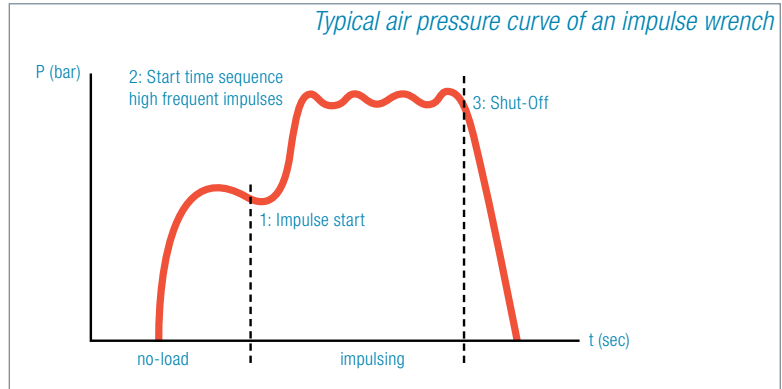


Poka Yoke Tightening System – Tool Controller YTC



Img.: YTC-3



Electronically controlled shut-off

The Poka Yoke concept with error source inspection is mainly used in production lines. Poka Yoke aims to detect and avoid faulty actions, such as forgotten or double tightening or premature release of the start button.

The monitoring of the impulse wrench is based on measurement of the different air pressure at the inlet side of the air motor when idling and tightening. The control unit registers when the screw comes to head contact (graphic above, point 2). When the predefined torque is reached in the horizontal area of the curve, the control unit switches off (point 3). Hard or soft screw connections can be adjusted by setting the timer.

At the same time, the system monitors premature release of the start button. This prevents the torque from falling below the predefined value. Any double tightening is detected and signalled acoustically and visually by the control unit.

Optimal clamping force

Conventional shut-off wrenches already interrupt the flow of force in the rising part of the torque curve (2). The YTC-3 control unit achieves optimum clamping force by controlled shut-off in the horizontal part of the progression curve. It creates „sensitive“ bolted joints and minimises the risk of loose connections. The system is more accurate than mechanical shut-off wrenches and standard impulse tools. The torque is adjusted at the impulse mechanism. Combined with the monitoring parameters of the YTC-3 controller, the system achieves reliable shut-off.

System Features

- ▶ Group monitoring and manual or automatic group change.
- ▶ Controlled shut-off.
- ▶ Visual/audible signalling of „iO“ / „NiO“.
- ▶ Detection of double tightening.
- ▶ Crossed-thread detection.
- ▶ Detection of premature release of the start button.
- ▶ Oil wear detection.
- ▶ Can be linked to the production line (DC 24 V).
- ▶ Self-learning function for programming.

Specifications YTC-3

- ▶ Air pressure sensor with analogue output 1 - 5 V for 0 - 0.99 MPa.
- ▶ 8 signal inputs.
- ▶ 4 volt-free relay outputs (opening/closing values: ≤ DC 48 W, AC 220 VA).
- ▶ 1 Solenoid valve output (DC 24 V, 2 W).
- ▶ Mains voltage: AC 100-240 V, 50/60 Hz.
- ▶ Power consumption: ≤ 10 W.
- ▶ Dimensions: ca. 71 × 152 × 175 mm (Front panel 71 × 178 mm).
- ▶ Weight: 1.8 kg.

Controller YTC-3A

- ▶ Connection for electronic cable up to 20 m with pressure hose adapter.



Connector
Connector for extension cable



Extension cable
(3·5·7·10·15·20m)

