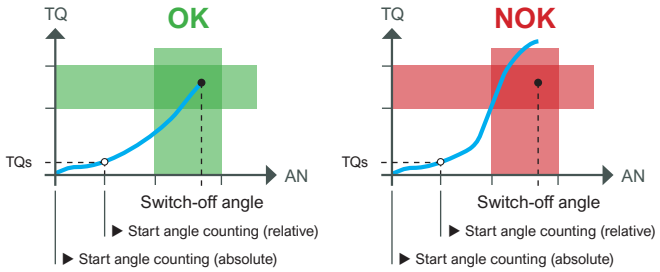
MultiPro 3G

Tightening Procedures & Process Functions

The available tightening procedures define the sequence and monitoring of the tightening process. Additional process functions extend the standard functionality and enable application-specific customization.

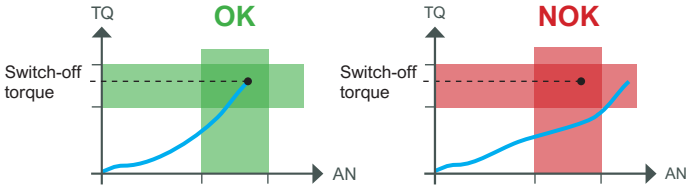
Tighten to Angle of Rotation

Tighten until switch-off angle is reached. Control of torque.



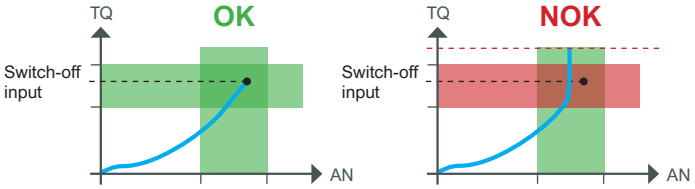
Tighten to Torque

Tighten until switch-off torque is reached. Control of angle of rotation.



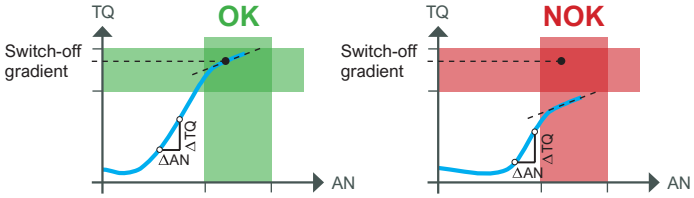
Tighten to Initiator

Tighten until a signal is active at the defined switch-off input. Control of torque and angle of rotation.



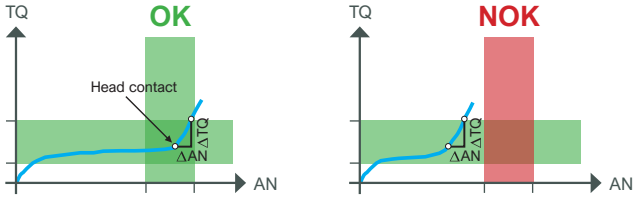
Tighten to Yield Strength

Tighten until the defined switch-off gradient is reached. Control of torque and angle of rotation.



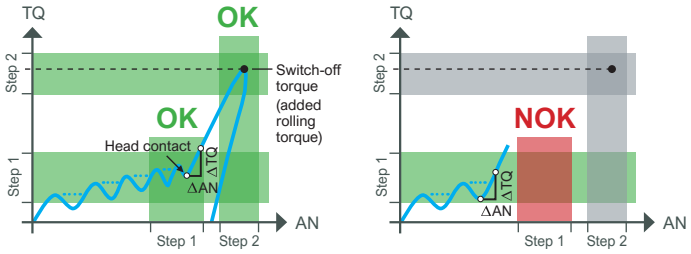
Tighten to Head Contact

Tighten to head contact with the specially developed DSM algorithm for head contact detection.



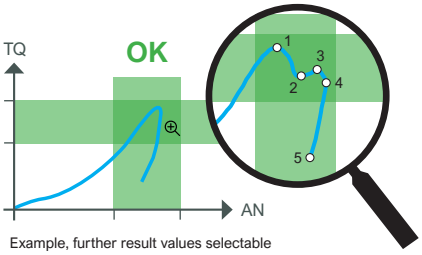
Tightening of Self-Tapping Screws

Tighten with the clever DSM algorithm for head contact detection under consideration of rolling torque during final tightening.



Result Selection Torque / Angle of Rotation

With the result selection you specify the result values for the evaluation of the process. This will evaluate the result relevant to your process.

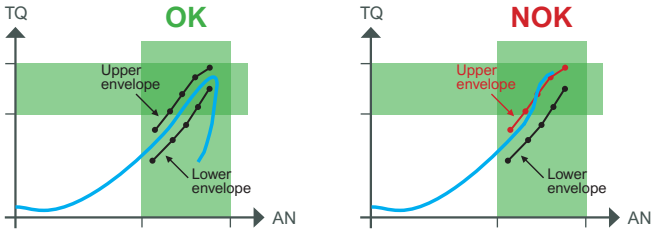


Example, further result values selectable

1) Maximum torque measurand over the whole stage
2) Torque measurand / angle measurand at switch-off
3) Maximum torque measurand in overrun
4) Maximum angle measurand over the whole stage
5) Angle measurand at the end of the overrun

Envelope Monitoring

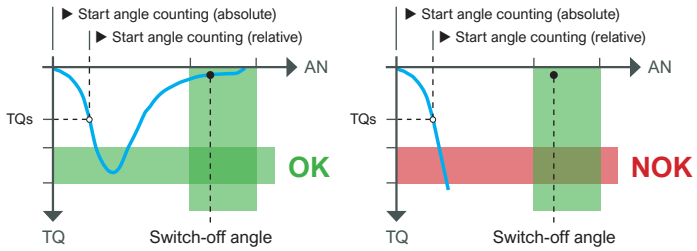
Additional evaluation element for control the tightening process. The measuring curve may not break the upper and/or lower envelope.



DSM MESSTECHNIK

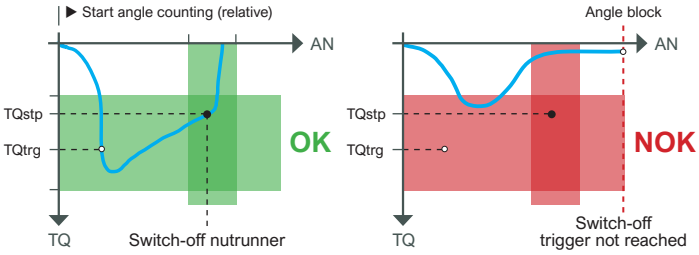
Turn Out to Angle of Rotation

Turn out until switch-off angle is reached. Control of torque.



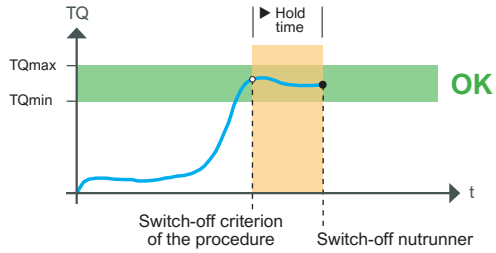
Turn Out to Torque

Turn out until the torque falls below a specified switch-off torque. A trigger moment (MDtrg) must be exceeded first. Control of angle of rotation.



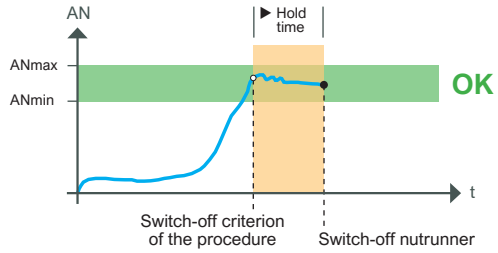
Hold Mode Torque

After reaching the switch-off criterion, the torque measured at this time is held for a defined period of time.



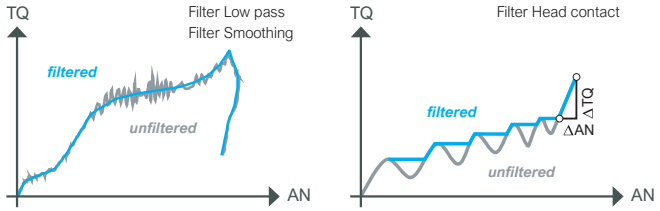
Hold Mode Position

After reaching the switch-off criterion, the position (angle of rotation) measured at this time is held for a defined period of time.



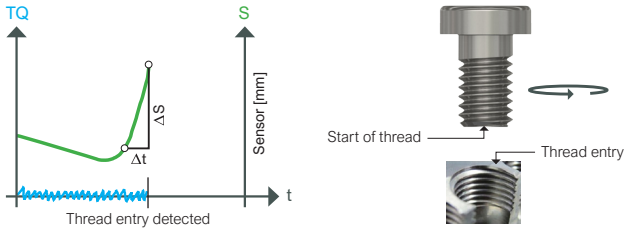
Filter

With the DSM filter functions it is possible to blend out high-frequency (unwanted) interferences of the measuring signal.



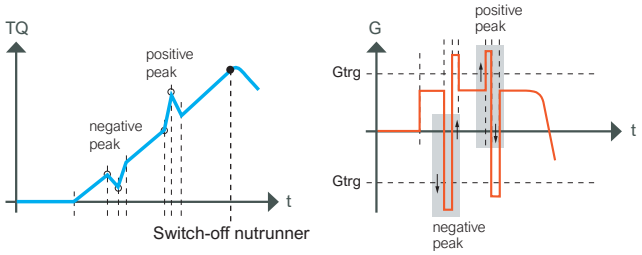
Thread Entry Detection

Rotation against the screw-in direction – detection of the jump of thread entry into the first thread by using a length measuring sensor.



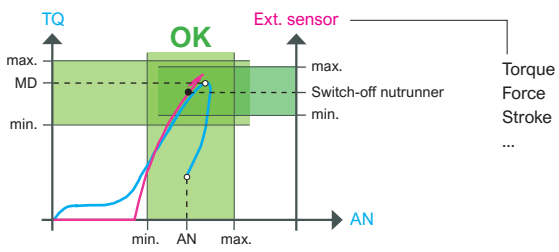
Gradient Detection

Function for detection of a defined gradient – detects positive as well as negative peaks and their quantity.



Switch-Off to External Sensor

Tightening until a defined external target value is reached with monitoring of torque and angle of rotation.



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