

KEPLER 4 K FACTOR VERIFICATION MODULE



The additional module to verify the K Factor of every calibration of torque wrenches and torque screwdrivers to BS EN ISO 6789:2017 Part 2, or your own in-house standards.

A new feature of Kepler 4: The inclusion of functions to validate the K Factor, required to calculate the expanded uncertainty of a torque tool during calibration (ISO 6789:2017 Part 2), as per the UKAS document M3003 Appendices B and C, using an external spreadsheet module to calculate an adjusted K factor.

KEY FEATURES INCLUDE

- Automatic calculation of the K factor for up to three calibration settings for situations where the resolution contribution is dominant and/or there are unreliable input parameters as per UKAS M3003 Appendix B (Unreliable Inputs) and Appendix C (Dominant Uncertainty Contributions).
- Applicable to ISO 6789:2017 Part 2 or In-House Calibrations.
- Calibration data from Kepler 4 automatically populates the module with a single button press.
- Coverage factor K calculation for probability of 95.45%
- Resolution (r) is assumed by experience and prior knowledge to be the dominant uncertainty.
- Where preset tools without scales are concerned (Type 2 Classes B, C, E and F), the Dominant Uncertainty Contributions verification is ignored as the resolution is zero (no scale fitted).
- Removes the difficulty of verifying the K Factor by hand or other spreadsheet means.
- The K Factor Module requires MS Excel to be installed on the computer running Kepler 4.
- K factor verification module sold separately to Kepler 4.

The screenshot displays the software interface for calculating the K factor. It is divided into two main sections: 'Readings Values' and 'Send Readings Values to Calculate Coverage Factor (k)'.
The 'Readings Values' section contains a list of input parameters with their corresponding values:

- Works Order: Screenshot1606
- Tool Type: Type 1
- Tool Class: A
- Number of Readings: 5
- Mean Value (kbar) S1: 10.066
- Uncertainty Expanded (W) S1: 1.98%
- Mean Value (kbar) S2: 30.118
- Uncertainty Expanded (W) S2: 0.415%
- Mean Value (kbar) S3: 50.161
- Uncertainty Expanded (W) S3: 0.279%
- Resolution (r): 0.010
- Reproducibility Variation (brep): 0.107
- Output Drive Variation (bod): 0.139
- Interface Variation (bint): 0.032
- Force Loading Point Variation (b): 0.069
- Repeatability Variation (br) S1: 0.010
- Repeatability Variation (br) S2: 0.020
- Repeatability Variation (br) S3: 0.027
- Standard Expanded Measuring Device Uncertainty (Wmd): 0.150%

- The 'Send Readings Values to Calculate Coverage Factor (k)' section includes:
- Workbook: K4 K
- A 'Calculate k Values' button.
- An 'Assign Calculated k Values' button.
- Three 'Setting Coverage Factor (k)' fields, each set to 2.00.
- A 'Please note' section explaining the calculation method and assumptions.
- 'Exit Options' including 'Calculate New Expanded Uncertainty' and 'Cancel - Make No Changes'.

SYSTEM REQUIREMENTS FOR MODULE:

Latest version of Kepler 4 Calibration or Combined Software.
Microsoft Excel must be installed on the computer with Kepler 4.

Disclaimer: This datasheet may not reflect the latest version of the software. For more information, visit our website: www.awstorque.co.uk.

ALSO AVAILABLE: KEPLER 4 FOR CONFORMITY, AND KEPLER 4 COMBINED