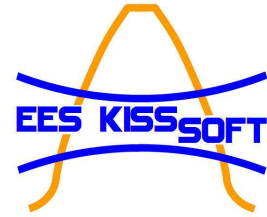


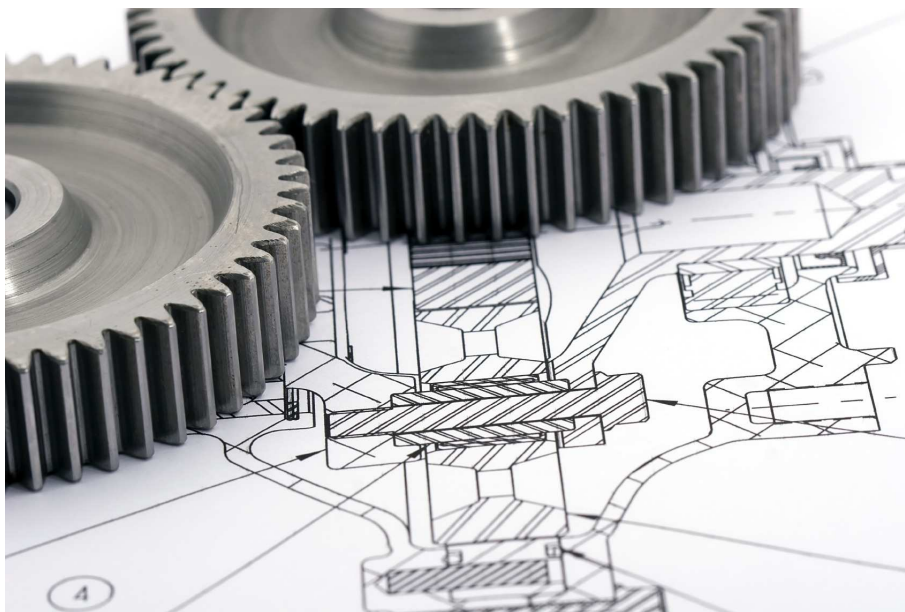
KISSsoft AG - ☎ +41 55 254 20 50  
Uetzikon 4 - 📠 +41 55 254 20 51  
8634 Hombrechtikon - ✉ info@KISSsoft.AG  
Switzerland - 🌐 www.KISSsoft.AG

Represented by:

**EES KISSsoft GmbH** 0041 41 755 09 54 (Phone)  
**Weid 10** 0041 79 372 64 89 (Mobile)  
**P.O. Box 121** 0041 41 755 09 48 (Fax)  
**6313 Menzingen** h.dinner@EES-KISSsoft.ch  
**Switzerland** www.EES-KISSsoft.ch



## KISSsoft Modules List Release 03/2008



### Offer

The software KISSsoft is sold in a modular structure. There are about 80 different calculation modules available. Due to the modular structure of KISSsoft, you can limit the amount of modules to suit your requirements.

The modules are structured as follows: basis packages and expert modules. The expert modules can only be used together with the corresponding basis package.

The complete software package is extensive. We will assist you in compiling a suitable combination of modules and will offer you a package tailored to your needs.

### Test version

With the test installation you can test all the calculation modules KISSsoft has to offer. The test installation is free during 1 month. The test version is available on request.

### Conditions

Find our conditions on the last page of this price list. List valid for India, China, Korea, Taiwan, Japan, South East Asia

Valid from 16<sup>th</sup> of April 2008.

# Basis package

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## Basis packages

Module	Description	Rights
ZPK	Cylindrical gear package Geometry, control measures (DIN 3960 and DIN 58400) Tooth form calculation and presentation 2D Graphical display of specific sliding One stress analysis, either according to DIN 3990 or ISO 6336 or AGMA 2001 or VDI 2545 Tooth friction / power loss acc. to Niemann Calculation of flash temperature course Extended range for permissible profile shift Deep tooth form / short cut tooth form Topping tools	Z01, Z02 (or Z02a or Z13 or Z14), Z05, Z05l, Z19e, Z19m
WPK	Shafts and bearing standard package Calculation of deformations also for statical overdetermined systems / multiple supports, and line loads, Input of linear stiffness, pressure angle and transverse shear roller bearing service life (ISO281, L10) One stress analysis (static and endurance): either according to DIN 743, FKM or according to Hänchen & Decker Smith and Haigh diagram	W01, W01c, W03, W03a, W05, W06a (or W06b or W06c), K07b
MPK	Shaft-hub-connections Cylindrical interference fit Conical interference fit Keys and Woodruff key (DIN 6888) Multi-Spline, Polygonal connection Involute splined shaft (DIN5480, ANSIB92, ISO4156) Bolts and pins, soldered, glued and welded joints	M01a, M01x, M01b, M02a, M02e, M02b, M02d, M02c, Z09, M03a, M08, M09, M10
SPK	Bolt calculation acc. to VDI2230 Single bolt with axial and shearing force Cylindrical flange Eccentric restraint / load; screw configurations Considers high and low temperatures, temperature differences	M04, M04a, M04b
FPK	Springs standard package Tension springs, compression springs, disc springs, leg springs, torsional springs	F01, F02, F03, F04, F05
RPK	V-belts, toothed belts, chain drives Strength and dimensioning, roller diameter, distance between axes, number of belts, with or without tensioning pulley	Z90, Z90x, Z91, Z91x, Z92, Z92x
LPK	Stress analysis with local stresses acc. to FKM Consideration of support effect, for fatigue and static load For calculation of safety factor and service life on basis of an external FEM calculation	K12
TPK	Tolerance analysis Maximum- minimum dimension analysis, statistic analysis, tolerances: ISO / own input	K10
	Hardness conversion Hardness conversion from and to HB, HRC, HV, Rm, ...	K09
HPK	Calculation of hertzian pressure Calculation of hertzian pressure for rolls, balls and planes	K14

## Basis packages complete

Modul	Description	Rights
KPK	ZPK, WPK, MPK, SPK, FPK, RPK, LPK Tolerance analysis Hardness conversion Hertzian pressure	

# System Module

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## KISSsys

Modul	Description	Rights
SYS	<p>KISSsys</p> <p>Software extension for the calculation of complete systems with power transmission calculation, administration of variants and integrated programming language, import of CAD data, collision check</p> <p>Includes GPK</p> <p>The corresponding KISSsoft modules (minimum WPK, ZPK) are needed</p>	K11, K11a, K11c

## Gearbox configurations

Modul	Description	Rights
GPK	<p>Package for sizing and rating of complete gearboxes (bearings, shafts, gears) based on KISSsys</p> <p>One to five stage cylindrical gearbox</p> <p>One to five stage bevel-cylindrical gearbox</p> <p>One to five stage worm-cylindrical gearbox</p> <p>The corresponding KISSsoft modules (minimum WPK, ZPK) are needed</p>	K11, K11c

## Expert modules gears

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### Cylindrical gears

#### Configuration / Dimensioning

Modul	Description	Rights
ZA1	Planetary gear, Three gears, Four gears	Z01a, Z19g
ZA2	Pinion with rack	Z01b
ZA3	<p>Rough sizing</p> <p>Cylindrical gear pre-sizing (gear pairs, planetary trains)</p> <p>Sizing according to given safeties, several proposals</p>	Z03
ZA4	<p>Fine sizing</p> <p>gear pairs, planetary trains, gear chains</p> <p>The optimisation produces a list of all possible variants with various parameters; varying of gear module, number of teeth, profile shift, pressure angle, helix angle, center distance</p> <p>Considers assembly conditions</p> <p>For each solutions a separate strength calculation is performed</p> <p>Automatic sizing of deep tooth form</p> <p>All feasible solutions regarding geometry are listed</p> <p>All solutions are classified acc. to various criterias</p> <p>Graphical display of the classification</p>	Z04, Z04a, Z04x
ZA5	<p>Sizing and conversions</p> <p>Sizing of profile shift acc. to various criterias</p> <p>Calculation of profile shift out of measured tooth geometry</p> <p>Calculation of tooth thickness allowances out of measured tooth geometry</p> <p>Premanufacturing tools with grinding allowance, Topping tools</p> <p>Sizing for tooth height regarding contact ratio</p> <p>Sizing of linear profile correction</p> <p>Proposal for recommendable lead correction</p> <p>Printout of tolerances ISO1328, DIN3961, DIN58405, BS436, AGMA2001, AGMA2015</p> <p>Calculation with manufacturing profile shift</p> <p>Sizing of center distance regarding balanced specific sliding</p> <p>Sizing of helix angle regarding various criterias</p>	Z01x, Z15, Z19a, Z19d, Z19f, Z19h, Z19i

## Methods for strength calculation

Modul	Description	Rights
ZA10	ISO6336:2006	Z02a
ZA11	DIN3990	Z02
ZA12	AGMA2001, AGMA2101, AGMA6004	Z13
ZA13	VDI2737 for planetary gears	Z23
ZA14	FVA	Z10
ZA15	Graphical method	Z19i
ZA16	AGMA925, EHD thickness and flash temperature course acc. to AGMA	Z19k
ZA17	VDI2545	Z14
ZA18	Static strength	Z02x
ZA19	BV-RINA	Z02b

## Calculation with load distribution

Modul	Description	Rights
ZA30	Path of contact under load Calculation and display of Hertzian pressure and tooth root stress along the actual tooth flank Calculation of tooth mesh stiffness and transmission error under load out of the actual tooth shape Display of specific sliding, sliding speeds and sliding factors for gears under load from actual tooth shape, display of friction loss, local heat generation	Z24, Z25, Z27

## Master gears

Modul	Description	Rights
ZA40	Master gears Master gear analysis and design	Z29

## Gear pumps

Modul	Description	Rights
ZB1	Gear pumps, basic calculation Calculation of the transported volume of oil for gear pumps (without consideration of any feed-back volume) for internal and externally geared pumps for both standard involute and non-involute profiles can be combined with fine sizing	Z26
ZB2	Gear pumps, enhanced calculation Calculation and presentation of the pump characteristics during contact for detailed analysis and optimisation Enclosed volume during mesh (feed-back volume), volume under critical in-flow speed at the narrowest point in entry chamber, total volume under entry pressure, torque on both gears (including option for calculation with or without Hertzian Pressure consideration), sliding velocity, wear number Alternatively, the hertzian flattening due to tooth contact can be considered	Z26a

## Bevel gears

Module	Description	Rights
ZC1	Bevel and hypoid gears geometry Geometry according to DIN 3971 dimensions of bevel gears (measurements for manufacturing), for straight, helix- and spiral bevel gears conventional production (Klingelnberg or Gleason), Gleason bevel-gear tooth form (conversion from Gleason to DIN 3971)	Z07, Z07d
ZC2	Strength calculation according to ISO10300 method B und C	Z07e
ZC3	Strength calculation according to DIN3991	Z07g
ZC4	Strength calculation according to AGMA2003	Z07j

ZC5	Strength calculation according to Klingelberg (Spiral bevel)	Z07a
ZC6	Strength calculation according to Klingelberg (Hypoid)	Z07b
ZC7	Strength calculation according to VDI2545 and Niemann	Z07h
ZC8	Static strength bevel gears / differentials	Z07i

## Worm gears (Globoid)

Module	Description	Rights
ZD1	Worms with enveloping worm wheels, geometry according to DIN 3975 with control measures for worms (dimensions over 3 pins) and worm gears (ball measure) Worm layout with tool module	Z08, Z19b
ZD2	Strength calculation according to ISO14521	Z08b
ZD3	Strength calculation according to DIN3996	Z08a
ZD4	Strength calculation according to AGMA6034 und AGMA6135	Z08c

## Crossed helical gears or Worm gears (Cylindrical-Worm gear)

Module	Description	Rights
ZE1	Geometry of crossed helical gears Calculation of crossed helical gear and und worm (cylindrical worm and cylindrical worm gear– as e.g. usual in precisions mechanics) control measures for worms (dimensions over 3 pins) and worm gears (ball measure)	Z17
ZE2	Strength calculation on the basis of ISO6336/Niemann, Hoechst and HIRN	Z17a

## Face gears

Module	Description	Rights
ZF1	Face gears geometry Calculation module that calculates the geometry of face gears coupled with cylindrical pinion gears. 2D views with shape of tooth simultaneously on the inside, at the centre and on the outside. Checking undercut and pointed tooth tip is performed graphically in the 2D view, while tooth addendum height can be varied to prevent pointed tooth tip. 3D views with the possibility of exporting the files (Option CB1). The tooth shape is calculated by simulating the manufacturing with a pinion type cutter. At the moment without any offset of axes and shaft angle of 90°	Z06
ZF2	Strength calculation on the basis of ISO6336 and literature	Z06e
ZF3	Strength calculation on the basis of CrownGear/ASS/DIN3990	Z06b
ZF4	Strength calculation on the basis of ISO10300, Methode B	Z06c
ZF5	Strength calculation on the basis of DIN3991, Methode B	Z06d

## Tooth form calculation (Cylindrical gear, worm, crossed helical gear)

Module	Description	Rights
ZY1	Enhanced 2D graphics for tooth form, animation of gear wheels in mesh contact, simultaneous presentation of subsequent manufacturing steps, measure function in graphics; memory function for comparison A-B, tooth form and tool in normal section Collision check, marking of contact point, marking of collision	Z05x, Z05j, Z05k
ZY2	Import of tooth form or tool geometry Import of any kind of non-involute tooth shapes or tools (e.g. from CAD or 3D-application, DXF or VDA)	Z05a
ZY3	Calculation of milling cutter (hob) and pinion type cutter Calculation of type cutter reference profile and pinion (also for the design of special tools)	Z05c
ZY4	Calculation of counter gear's tooth shape by generating with actual gear tooth	Z05d
ZY5	Addition for moulding Compensation of shrinking, spark gap, modification of pinion type cutter	Z05e
ZY6	Progressive Profile corrections Circle-shaped running-in curve, elliptical root fillet	Z05f, Z05g

ZY7	Cycloid- and arc of circle tooth forms, designed Involute	Z05h
CA2	Arc of a circle and spline approximation for gears	Z05i

## Further gear specific modules

Module	Description	Rights
ZZ1	Load spectra, service life, transmissible torque/power Calculation of transmissible power with and without load spectra Calculation of service life with and without load spectra Calculation of safety factors with load spectra (for cylindrical and bevel gears)	Z16, Z16a, Z18, Z18a
ZZ2	Hardening depth Proposal of required hardening depth based on hertzian pressure (for cylindrical and bevel gears)	Z22
ZZ3	Backlash Calculation of acceptance-backlash and operating-backlash (for cylindrical gears, crossed helical gears and worms)	Z12

## Expert modules shafts and bearings

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### Shafts

Module	Description	Rights
WA1	Shaft system System of shafts composed of various concentric shafts Calculation of the deformation in the shaft system (taking in account the bearing offset, bearing clearance, non linear stiffness calculated from the inner geometry, load distribution in the bearing, heat expansion, linked shafts)	W01a, W01b, W03b, W03c, W03d
WA2	Lead correction Calculation of longitudinal deformation Load distribution with and without correction	W10
WA3	Buckling For beams and shafts	W13
WA4	Critical speeds and frequencies Torsions-, bending-, Longitudinal frequencies	W04, W04x, W09
WA5	Strength calculation according to Hänchen & Decker Shaft design regarding constant equivalent stress and maximal deformation	W06a, W12
WA6	Strength calculation according to DIN743 Shaft design regarding constant equivalent stress and maximal deformation	W06b, W12
WA7	Strength calculation according to FKM Richtlinie Shaft design regarding constant equivalent stress and maximal deformation	W06c, W12
WA8	Load spectra for shafts and bearings Strength calculation for limited life- and endurance strength Bearing calculation with load spectra	W01s, W06s

### Bearing

Module	Description	Rights
WB1	Enhanced bearing calculation (L10m, Lnm) Influence of lubrication according to ISO281-1 thermally admissible service speed acc. DIN 732	W05a
WB2	Reference service life calculation according to ISO281-4 (L10r or Lnmr if combined with module WB1) Diagram of the load distribution in the bearing Diagram of the load distribution over the rolling bodies This module needs also the WA1	W05b, W05c
WB3	Hydrodynamic bearings Hydrodynamic radial journal bearings: oil or grease lubricated, according to DIN and Niemann Hydrodynamic axial journal bearings: calculation of tilting-pad thrust bearings according to DIN 31654	W07a, W07b, W08, W07c

## Languages

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Module	Description	Rights
LA1	German	
LA2	English	K02a
LA3	French	K02b
LA4	Italian	K02c
LA5	Spanish	K02d

## CAD Interfaces

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### 2D Export

Module	Description	Rights
CA1	2D DXF and IGES Export	K05a, K05e

### 3D Export

Module	Description	Rights
CB1	IGES, SAT, STEP Export in 3D via PARTGear (Manufacturer: CADENAS) IMPORTANT: Software update contract is obligatory	K05g
CB2	Solid Edge-Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears) directly from the calculation, including KISSsoft menu in Solid-Edge	K05d
CB3	SolidWorks-Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears) directly from the calculation, including KISSsoft menu in SolidWorks	K05k
CB4	Inventor-Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears) directly from the calculation, including KISSsoft menu in Inventor	K05m
CB5	CATIA V5 -Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears) (manufacturer: SWMS)	K05o
CB6	Pro Engineer -Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears, straight bevel gears) (manufacturer: Applisoft)	K05q
CB7	Unigraphics NX –Integration, Generation of 3D gears (cylindrical gears, worms, crossed helical gears) through KISSsoft menu in NX	K05n
CB8	Think3	K05r

## Conditions

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### Single user version

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The single-user installation of KISSsoft is licenced with a dongle (protection key). The calculation program can be installed on various computers, but calculations can only be executed with dongle in the printer port.

### Multiuser-network version

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We offer network installation for any number of users. The number of simultaneous users is restricted to the number of purchased licenses. For multi-user installations we charge an extra 25%. The licence is restricted to one site (physical address). Every opening of a single instance of KISSsoft/KISSsys will be considered as using a licence.

### Software-update contract

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A software update contract offers the following benefits

Technical support on the calculation methods, software usage support, updates of software, adaption to new standards, patches, and some additional features. Copy of contract on request.

Price: 15% of software value per year, minimum of 100.00 EUR per year.

### Shipment

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Costs: Surface mail (Europe only): 20.00 EUR, Courier service: 175.00 EUR

### Training

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See <http://www.ees-kisssoft.ch/trainings.html>