DEPRAG

machines unlimited

DEPRAG Apps

Software Solutions and Updates

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DEPRAG Cockpit
Software for the Networked Factory!

Advantages

- **Central platform for screwdriving and assembly technology**

- **Reliable processing data acquisition**

- **Detailed capacity and usage statistics**

- **Process monitoring and notifications**

- **Analysis and recognition of trends from system messages**
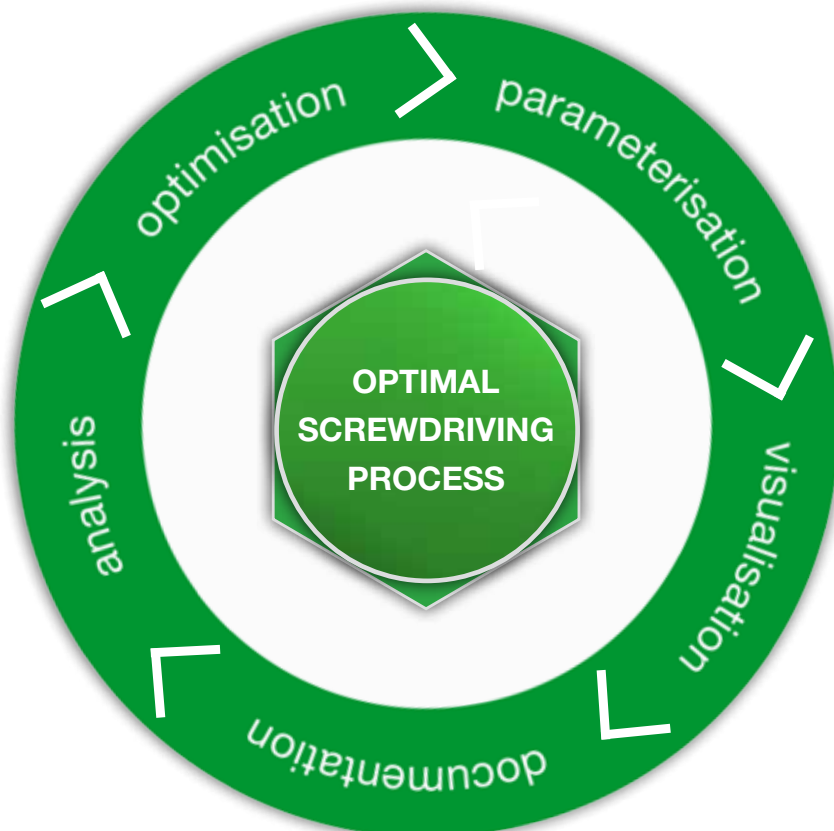
DEPRAG Cockpit
the Digital Platform for Screwdriving Technology

Software to reduce costs and save time through the ...

| parameterisation | visualisation | documentation | analysis | optimisation |

of your process.

Parameterisation

- Central platform
  - One software for a wide range of hardware
  - Web-based solution → worldwide availability
  - Device specific documentation: Central management of documents, e.g. operating manuals, factory certificates, machine capability study certificates,…
  - Automatic reminder function, e.g. for alignment or maintenance → Minimising downtime, increasing processing reliability, increasing system availability, raising productivity levels, planning convenient maintenance schedules

Visualisation

- Top processing reliability (OK/NOT OK feedback)
- Fast error analysis
- Minimal training requirements
- Error avoidance
- Quality assurance

Documentation

- Automatic processing data acquisition → eliminates time-consuming manual data collection
- Minimises complaints and product recalls
- Prepares all processing data for analysis as Big Data → eliminates manual marrying of different data sets

Analysis

- User-oriented, individualised and clear display of processing data
- Development of expertise
- Quick detection of NOT OK processes
- Analysis of trends

Optimisation

- Detection of optimisation potentials, such as cycle time, capacity, standstill, improved quality of the process

DEPRAG Cockpit
Summary

- Continuous processing optimisation
- Maximum availability due to analysis of trends and detection of anomalies
- Entire process and device documentation in one place – available worldwide
- Ultimate cost savings due to recognition of potentials and early detection of possible problems
- Intelligent software: 80 % data saving
- Responsive design
- Integration of multi-brand products
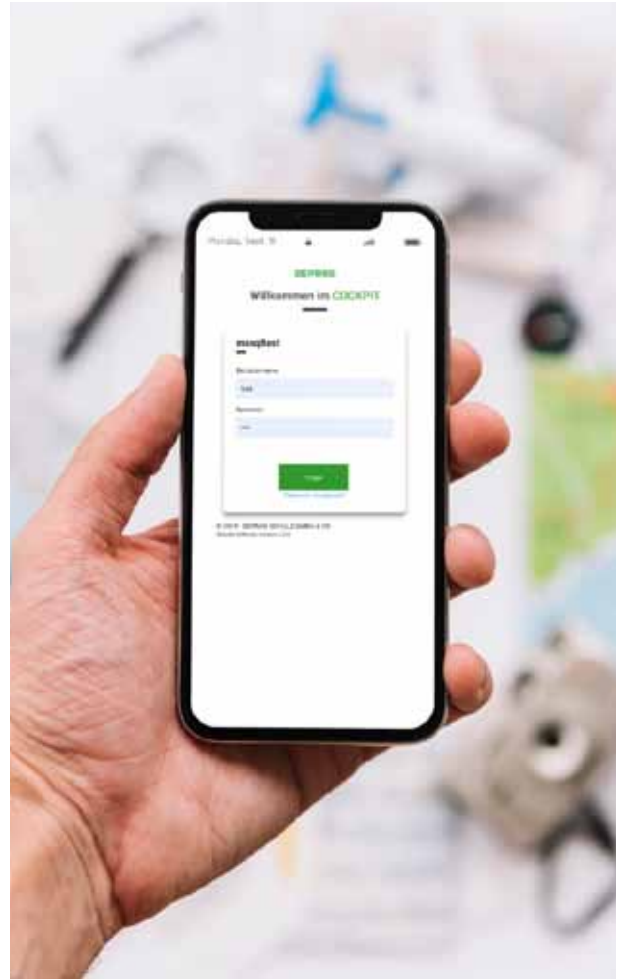
DEPRAG Cockpit

Part numbers

DEPRAG Cockpit | Activation key	Part no.	Number of licenses	Comment
DEPRAG Cockpit Basic	145806	1 Device licence	included in delivery of the screwdriving system DEPRAG Plus and pre-installed on the AST12
DEPRAG Cockpit Professional1	145440	1 Device licence	
DEPRAG Cockpit Professional5	142967	5 Device licences	
DEPRAG Cockpit Professional10	142968	10 Device licences	
DEPRAG Cockpit Professional20	142978	20 Device licences	
DEPRAG Cockpit Professional50	142979	50 Device licences	

DEPRAG Cockpit

As part of the screwdriving system DEPRAG Plus you also receive in the DEPRAG Cockpit Basic **your central unser interface** in responsive design

- for parameterisation
- administration of global settings
- creation and organisation of screwdriving programs
- activation of additional features under DEPRAG Apps
- creation of back-ups and logic functions

- for visualisation
- processing data acquisition for single user

- for documentation
- automatic processing data acquisition of end values and screwdriving curves

Organizer
Organize screwdriving programs > create program groups:
- Simple structuring of screwdriving programs according to component version or product
- Fast change of screwdriving programs for different product versions > saves assembly time
- Easy retrieval of screwdriving programs relating to a specific product

Back-up function
Convenient back-up of system settings, screwdriving parameters, screwdriving results and screwdriving curves

Optionally available:
The DEPRAG Cockpit Professional models - in addition to the pre-installed Basic model, processes can be analysed and optimised. Assembly lines, workstations and assembly systems can be managed and displayed centrally and maintenance schedules can be pre-planned. The DEPRAG Cockpit Professional provides **one single** platform for all aspects of screwdriving technology.

The software is available as a download. To activate this software, proceed as described on page 35.

Software Solutions for Screwdriving System DEPRAG Plus with sequence controller AST12 as well as for the Sequence Controllers AST5/AST6/AST11/AST40

Possible combinations with AST controllers
Which software is suitable for the screwdriving system?

Hardware including software	Part no.	AST5	AST5-S	AST(i)6	AST11	AST(i)40
Interface Graph Loader	385834A	✓	✓	✓	✓	✓
Interface Graph Loader activation key	118742					
Module WEB-IO 12E/12A	383978A	✓	x	x	x	x
WEB-IO 12E/12A activation key *)	116995					

*) no PC is required for this software

Software	Part no.	AST5	AST5-S	AST(i)6	AST11	AST(i)40	AST12
Datalogger activation key	202699	✓	✓	✓	✓	✓	x
Statistics activation key	206081	✓	✓	✓	✓	✓	x
ASTxx Serial Remote activation key	206565	✓	✓	✓	✓	✓	x
ASTxx TimeSync	122728	✓	✓	✓	✓	✓	x
AST-CSV-Import	122724	✓	✓	✓	✓	✓	x
DEPRAG Clamp Force Control activation key		x	x	x	x	109108	142961
DEPRAG Friction Value Process activation key		201820	201820	201820	201820	201820	142959
DEPRAG Graph Viewer activation key	128901	✓	✓	✓	✓	✓	✓
DEPRAG Data eXchange activation key	132680	✓	✓	✓	✓	✓	✓
TIA Link activation key	135839	x	x	✓	✓	✓	✓
TwinCAT Link activation key	140996	x	x	✓	✓	✓	✓
DEPRAG Operator Guidance activation key	146536	✓	✓	x	✓	x	✓
Visualisation of the process activation key	144248	x	x	x	x	x	✓
Safety & Change tracking activation key	144251	x	x	x	x	x	✓

Interface Graph Loader
the hardware with installed software for EC- and EC-Servo screwdriving systems
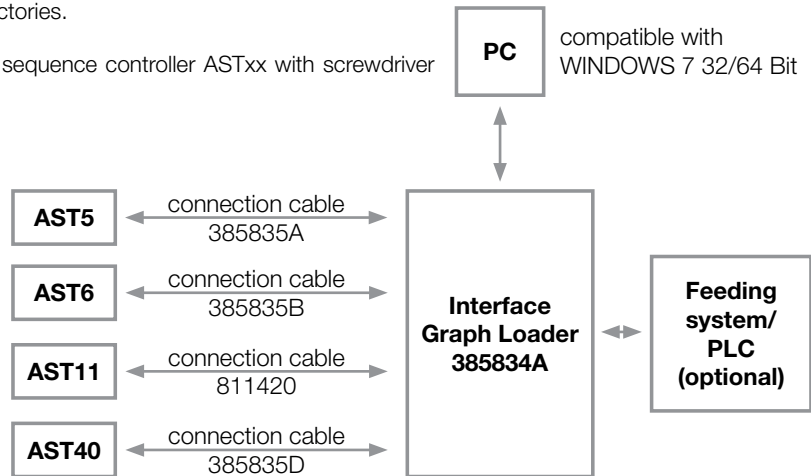in combination with the sequence controllers AST5, AST6, AST11 and AST40

The Interface Graph Loader is an optional accessory for the automatic transfer of screwdriving curves and final value data sets from DEPRAG screwdriving controllers. The Interface can be used with EC and EC servo screwdriving systems in combination with screwdriving controllers AST5, AST6, AST11 and AST40.
The storage of screwdriving graphs and end value data sets (e.g. torque, angle etc.) for manual work stations and screwdriving stations can be carried out automatically using the Interface Graph Loader.
The corresponding software enables immediate display on the computer screen of the current screwdriving graph, the screw assembly can be evaluated straight after completion and *csv and *bin files can be saved in individual directories.

The device requires a suitable adapter cable, a sequence controller ASTxx with screwdriver and a PC to save the data.

The software requires a free activation (118742).
A description of the procedure can be found on page 39.

▶ Part no. 385834A

▶ Activation key 118742

PC — compatible with WINDOWS 7 32/64 Bit

AST5	connection cable 385835A
AST6	connection cable 385835B
AST11	connection cable 811420
AST40	connection cable 385835D

Interface Graph Loader 385834A

Feeding system/ PLC (optional)

Datalogger
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 und AST40

The software datalogger can be used to record and archive the final-values of up to 10 sequence controllers. This storage format corresponds with the required format of the software statistics, so that the data sets can be analyzed with the software statistics. Select whether the data is collected automatically while the program is running, or whether the data reading should be triggered manually. The connection to the controllers is done by Ethernet and TCP/IP. The software is available in the following languages:
German, English, French, Italian, Spanish
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 202699

Statistics
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

The software statistics can be used to produce statistical evaluations of the screwdriving results, that are made available by the software datalogger.
When using the software statistics, we also recommend the installation of the software datalogger.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 206081

ASTxx Serial Remote
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

The program ASTxx Serial Remote is started on a PC and is controlled by commands over a serial interface (COM-Port). With this program, screwdriving curves and result-data can be transferred quickly and simply onto a PC. The PLC controls when and which data should be stored. The storage location (also the directory) on the PC is determined by the PLC as well. The directory is setup automatically on the PC.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 206565

ASTxx TimeSync

the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

ASTxx TimeSync is a PC software designed for simple synchronisation of date and time between a PC and any number of sequence controllers.
If end values from a sequence controller and data from a PC need to be linked with one another for further evaluation, then the date and time must match exactly in order for correct assign-

▶ Part no. 122728

ment of the data to take place. The program ASTxx TimeSync is responsible for time synchronisation.
ASTxx TimeSync can run as a batch program on a server or a PC in the network and can be accessed for any number of sequence controllers. The software runs in the background, establishes the date and time of the PC on which it is running and transmits these values to the specified sequence controller. The sequence controller type and IP address must be specified in order to access the program. The use of this software is free of charge.

AST-CSV-Import

the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

Free add-on: Add-In for Microsoft Excel for easy import of end-value csv files into Excel (download via website of the controller).

▶ Part no. 122724

DEPRAG Clamp Force Control

the software for screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controller AST12/AST40

This patented, reliable and adaptive screwdriving procedure provides excellent constancy in the pre-load force even with fluctuating torque. The complete screw assembly consists of the screwdriving template seating point detection and a screw assembly to difference torque or angle.

▶ Activation key
109108 / 142961

The main element is the seating point detection. On the basis of a torque procedure a mathematical evaluation function is continuously formed. If the trend line reached exceeds a specifically defined limit value, the seating point is considered detected and the torque and angle values at the time of the seating point are saved. The evaluation procedure combines two essential advantages. It is robust in relation to coincidental fluctuations and increases during the torque procedure which do not arise from the actual seating point. Furthermore, the algorithm is universally valid so the user does not need to set any parameters specific to the evaluation. The parameters listed in the following table must be set. Torque upper limit is the abort criterion for the screwdriving step. The OK window for the seating point detection can optionally be monitored by seating point torque lower/upper limit and angle lower/upper level. Either the torque or angle values at the seating point or at the end of the program step can be stored as the end values.

The end values of the screwdriving template seating point detection portray the reference for the follow-on program step. Instead of screw assembly to difference torque the other option is screw assembly to angle.

The screwdriving procedure is used for applications where varying limiting conditions are present which can cause widely ranging torques. Using a torque controlled tightening procedure, even if there is the highest shut-off accuracy, can lead to large fluctuations in the resulting pre-load force.

Tab.: Parameters for screwdriving template seating point detection

Parameter	Function
Monitoring time	Monitoring time for screwdriving step
Speed	Speed for screwdriving step
Seating point torque lower/ upper limit	Monitoring criterion for seating point detection
Torque upper limit	Abort criterion for screwdriving step
Angle lower limit	Monitoring criterion in relation to seating point, min. 720°
Angle upper limit	Monitoring criterion in relation to seating point
End value generation	Values for seating point / end program step, basis for sequential step

The new adaptive screwdriving procedure DEPRAG Clamp Force Control ensures uniform output for the follow-on end tightening due to the reliable detection of the seating point. Consequently, there is a better constancy in the pre-load force. Typical application examples are direct screw assemblies in plastic or metal.
The procedure DEPRAG Clamp Force Control does not replace the friction value measurement or the friction dependent screw assembly. The screwdriving template friction value measurement can be used if compliance with the pre-set frictional value needs to be monitored. The friction dependent torque assembly also enables a good constancy of the pre-load force for constant frictional torque procedures where the screw position varies. A screw joint analysis is recommended to determine the most suitable screwdriving procedure. To activate this pre-installed software, proceed as described on page 35.

DEPRAG Friction Value Process
the software for screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11/AST12 and AST40

With the friction-value process, it is possible to measure and compensate varying friction-values (e.g. on self-forming screw-joints). Additionally, this procedure can be used for monitoring of predetermined friction values at verification processes.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key
201820 / 142959

Module WEB-IO 12E/12A
the hardware with installed software for EC- and EC-Servo screwdriving systems
in combination with the sequence controller AST5

Input/output extension for AST5. To activate this pre-installed software, proceed as described on page 35.

▶ Part no. 383978A

▶ Activation key 116995

DEPRAG Graph Viewer for evaluation of screwdriving curves
the software for screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

During each screw assembly when using a sequence controller AST, the relevant measurement values are recorded in a file. There is now the DEPRAG Graph Viewer, to simply and easily evaluate and analyse these measurement values. The Graph Viewer opens the curve files of each sequence controller and can display the following visualisations:

▶ Activation key 128901

- Visualisation of measurement values over time
  In this visualisation, various measurement sizes can be shown in relation to the screwdriving procedure. All available measurement values can be displayed in chronological order.
- Visualisation of measurement values over angle
  In this visualisation, the angle can be analysed in relation to the screwdriving procedure. The y-axis can be freely chosen by the user. This can e.g. enable analysis of angle in relation to torque or angle in relation to motor current, etc. In order to precisely analyse the screw assembly, a video can be played in visualisation over angle. Use the "start" and "pause" buttons in the same way as a video player to visualise the curve sequence of the screwdriving process. Individual sequences can be selected and displayed using the time bar.
- Superposition of measurement values over time / over angle
  As well as visualisation over angle and visualisation over time, there is also an option to display several curves at the same time in order to draw correlations and recognise trends. Any number of curves can be added. It is also possible to align curves to specific synchronisation points and hide or show screwdriving steps.
As well as the screwdriving curves, the processing and parameter data is also accessible. The complete process can be analysed and evaluated using a single piece of software. The process data can be printed as documentation.
The software is available as a download. To activate this software, proceed as described on page 35.

DEPRAG Data eXchange
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

AST sequence controllers, the adaptive screwdriving system ADAPTIVE DFS and the ComCenter document relevant processing data for every screw assembly, which is then saved in an internal format. The so-called "graphic files" contain all screw curves, end values and details relating to the screwdriving process and are only readable by DEPRAG's own software solutions. In order to use and analyse this data in other systems, it is necessary to convert the internal format into an external format.

▶ Activation key 132680

The Software Data eXchange extracts all parameters relevant to processing, such as torque and angle values. Amongst other things, this includes the screwdriving program used, the serial number of the devices used, processing status and global settings. The new software solution allows the export of DEPRAG graphic files either as CSV or Excel files. This data can then be used in conjunction with other software solutions.
 Optional areas of application include:
- integration in a databank   - analysis in Matlab
- SAP integration   - filing in customer-specific processing software

Compatibility: all Windows systems (7, 8, 10) without any need for configuration. The software configures itself and is ready to run with just one click. The software is available as a download. To activate this software, proceed as described on page 35.

TIA Link
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST11, AST12, AST40, AST6 including the i-versions and for the ComCenter 10

Software TIA LINK for simple integration in SIMATIC controllers
Integration in the Siemens programming environment (Totally Integrated Automation (TIA) Portal) is required to operate DEPRAG devices with the current SIMATIC controllers. This integration is quite time-consuming and requires expert domain knowledge of the DEPRAG devices. Therefore, the software TIA link has been created to enable simple integration of the following DEPRAG products: AST11, AST12, AST40 incl. i-versions, AST 6 incl. i-versions, ComCenter 10
The software not only includes integration in the TIA portal for the above products but also several
Quick-Start projects in the "structured text" programming language without first setting up communication using the user manual. The Software TIA Link presents a significant time saving due to considerably reduced programming efforts. As well as the fieldbus connection, there are additional examples provided for controlling the screwdriving system.
The following SIMATIC controllers are supported: SIMATIC S7-1200, SIMATIC S7-1500 and SIMATIC ET 200SP (CPU)
The software is available as a download. To activate this software, proceed as described on page 35.

▶ Activation key 135839

TwinCAT Link
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST11, AST12, AST40, AST6 including the i-versions and for the ComCenter 10

Integration in the Beckhoff programming environment is required to operate DEPRAG devices with the current Beckhoff controllers. The software TwinCAT Link has been created to enable simple integration of the following DEPRAG products:
AST11, AST12, AST40 incl. i-versions, AST 6 incl. i-versions, ComCenter 10
The software not only includes integration for the above products but also several Quick-Start
projects in the "structured text" programming language which enable immediate execution of screw assemblies without first setting up communication using the user manual. The Quick-Start projects are available for version TwinCAT 2 as well as version TwinCAT 3. The software TwinCAT Link presents a significant time saving due to considerably reduced programming efforts. As well as the fieldbus connection, there are additional examples provided for controlling the screwdriving system.

The following Beckhoff software systems are supported: TwinCAT 2 and TwinCAT 3
The software is available as a download. To activate this software, proceed as described on page 35.

▶ Activation key 140996

DEPRAG Operator Guidance
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST5-S, AST11 und AST12 and for the ComCenter ED

The software allows for the creation of as many digital assembly instructions as required without the need for knowledge of a high-level language. The App guides the operator step by step through the assembly process. New employees can therefore be trained up quickly and efficiently. Productivity and processing quality increase as unnecessary assembly errors are avoided.
Time and cost savings are attained due to the automatic documentation of processing data. Positioning data, screwdriving results and the component's serial number are matched together and automatically stored on the selected drive. There is also the option for automatic saving of screwdriving curves. In user management you can determine which parameters can be created or altered and by whom.
System requirements:
Operating system: From Windows 7 (64 Bit)
The software is available as a download. To activate this software, proceed as described on page 35.

▶ Activation key 146536

Visualisation of the Process
the software for the screwdriving system DEPRAG Plus in combination with the sequence controller AST12

The user receives detailed feedback relating to the screwdriving process. There is a visualisation of relevant parameters, such as end values and error messages for each phase of the screwdriving process. The AST12 sequence controller screen can be projected onto another device, e.g. tablet, touch screen, PC screen or the AST12 display can be integrated into your HMI project. The remote function even enables external operation of your screwdriving system. The software is available as a download. To activate this software, proceed as described on page 35.

▶ Activation key 144248

Safety & Change Tracking
the software for the screwdriving system DEPRAG Plus in combination with the sequence controller AST12

Processing reliability and traceability – Protect your process! With this software can you track any changes made. Unauthorised alterations to the processing parameters can be traced quickly. The software is available as a download. To activate this software, proceed as described on page 35.

▶ Activation key 144251

Software Solutions for MINIMAT-EC Cordless Screwdriver

Possible combinations with MINIMAT-EC cordless screwdriver

Which software is suitable for the screwdriving system?

Hardware including software	Part no.	Base station ComCenter10
Programming kit ComCenter PC	385597A	✓

Software	Part no.	Base station ComCenter10
Datalogger activation key	202699	✓
Statistics activation key	206081	✓
ASTxx TimeSync	122728	✓
AST-CSV-Import	122724	✓
DEPRAG Graph Viewer activation key	128901	✓
DEPRAG Data eXchange activation key	132680	✓
TIA Link activation key	135839	✓
TwinCAT Link activation key	140996	✓

Base station ComCenter 10 the hardware with integrated software
Programming kit ComCenter PC the software
for MINIMAT-EC Cordless Screwdriver, wireless and battery operated EC Screwdriver

Bluetooth can be used to connect the screwdriver to the optional base station ComCenter 10. The convenient operator interface offers a comprehensive range of functions and using a standard integrated web server screw processes can be generated and adjusted quickly and simply.

The process integration for exchange of screw specifications and results data for documentation and archiving is also possible. The base station can be used to control four tools.

This creates the best framework for successful quality management and documentation. The base station ComCenter 10 provides temporary storage and easy access all daily results data over a whole week. The software datalogger can be used to transfer the measurement data of several base stations (up to 10 devices) automatically via Ethernet onto a PC. Data evaluation can be carried out using the software statistics.

Up to eight multi-stage screw processes, each with appropriate loosening program, can be adjusted and transferred to the screwdriver using the base station ComCenter 10 or alternatively the programming kit of the ComCenter PC.
The keypad on the screwdriver itself is used to select screwdriving programs. At just the press of a button additional loosening programs can be selected at any time for any screwdriving program.

The programming kit ComCenter PC is a PC software used to adjust parameters on the EC cordless screwdrivers independently from the base station ComCenter 10. The licence key for the software is saved on the Bluetooth adaptor and a release code is also provided. The settings on as many EC cordless screwdrivers as required can be managed using the ComCenter PC software, just select the screwdriver required when starting the software.

Range of functions:
Screwdriving programs can be generated and adjusted using the ComCenter PC software. Graphs can be displayed and transferred using the software module Graph Viewer. This is included and automatically installed with the ComCenter PC software.

All settings for the EC cordless screwdrivers can also be managed via the menus on the web interface of the base station ComCenter 10. There are 12 languages available for the ComCenter PC software and for the user interface of the base station ComCenter 10.

▶ Part no. 385582A

▶ Part no. 385597A
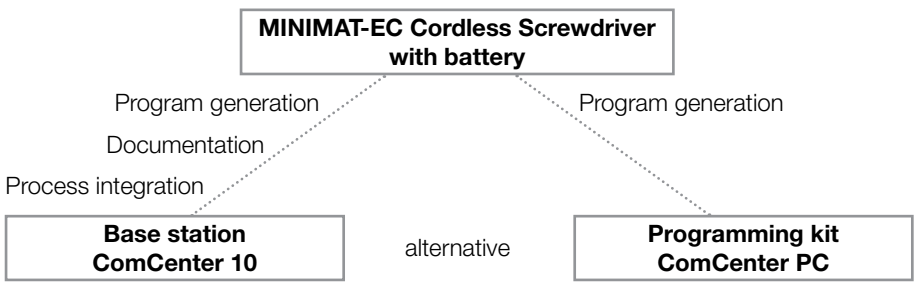
Datalogger
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

See page 10 for details.

▶ Activation key 202699

Statistics
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

See page 10 for details.

▶ Activation key 206081

ASTxx TimeSync
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

See page11 for details.

▶ Part no. 122728

AST-CSV-Import
the software for EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST5, AST6, AST11 and AST40

See page 11 for details.

▶ Part no. 122724

DEPRAG Graph Viewer for evaluation of screwdriving curves
the software for screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

See page 12 for details.

▶ Activation key 128901

DEPRAG Data eXchange
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

See page 12 for details.

▶ Activation key 132680

TIA Link
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST11, AST12, AST40, AST6 including the i-versions and for the ComCenter 10

See page 13 for details.

▶ Activation key 135839

TwinCAT Link
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers AST11, AST12, AST40, AST6 including the i-versions and for the ComCenter 10

See page 13 for details.

▶ Activation key 140996

Software Solutions for MINIMAT-ED Digital Electric Screwdriver, handheld

Possible combinations with MINIMAT-ED, the digital electric screwdriver
Which software is suitable for the screwdriving system?

Software	Part no.	MINIMAT-ED
ComCenter ED with software OS BASIC	103196A	✓
Upgrade to software OS ADVANCED activation key	160491	✓
ComCenter ED with software OS ADVANCED	103196B	✓
DEPRAG Friction Value Process activation key	201820	✓

ComCenter ED with software OS BASIC
the hardware with integrated software for the handheld, digital electric screwdriver MINIMAT-ED

There are five screwdriving programs (PG1 to PG5) available on the screwdriver for implementing individual screwdriving procedures; the process consists of a search run, torque, and angle screw assembly. There are also five loosening programs available (PG6 to PG10). Enhanced functionality is always available by activating software OS ADVANCED (part no. 160491).

▶ Part no. 103196A

ComCenter ED with software OS ADVANCED
the hardware with integrated software for the handheld, digital electric screwdriver MINIMAT-ED

With the software OS ADVANCED the range of functions of the BASIC software and additional an extended range of functions is available:

▶ Part no. 103196B

- 16 different screwdriving programs can be stored
- Screwdriving programs can be freely compiled using the following screwdriving templates and commands:
  - assembly to torque
  - extended assembly to torque
  - assembly to angle / loosening to angle
  - DEPRAG friction value process (optional, the part no. is 201820, see page 12 for details)
  - search run / save values / waiting time
- Statistics
- Speed reduction setting
- Extended end values

Software Solutions for MINIMAT-ED Digital Electric Screwdriver, stationary

Possible combinations with MINIMAT-ED, the digital electric screwdriver

Which software is suitable for the screwdriving system?

Software	Part no.	MINIMAT-ED
Interface 330E with software 330 OS BASIC	106744B	✓
Upgrade to software 330 OSADVANCED activation key	117244	✓
Interface 330E with software 330 OS ADVANCED	106744C	✓
DEPRAG Friction Value Process activation key	201820	✓

Interface 330E with software 330 OS BASIC

the hardware with integrated software for the stationary, digital electric screwdriver MINIMAT-ED

There are five screwdriving programs (PG1 to PG5) available on the screwdriver for implementing individual screwdriving procedures; the process consists of a search run, torque, and angle screw assembly. There are also five loosening programs available (PG6 to PG10). Enhanced functionality is always available by activating software 330 OS ADVANCED.

▶ Part no. 106744B

Interface 330E with software 330 OS ADVANCED

the hardware with integrated software for the stationary, digital electric screwdriver MINIMAT-ED

With the software 330 OS ADVANCED the range of functions of the BASIC software and additional an extended range of functions is available:

▶ Part no. 106744C

- 15 different screwdriving programs can be stored
- Screwdriving programs can be freely compiled using the following screwdriving templates and commands:
  - assembly to torque
  - extended assembly to torque
  - assembly to angle / loosening to angle
  - DEPRAG friction value process (optional, the part no. is 201820, see page 12 for details)
  - search run / save values / waiting time
- Statistics
- Speed reduction setting
- Extended end values

Software Solutions for ADAPTIVE DFS DEPRAG FASTENING SYSTEM

Possible combinations with ADAPTIVE DFS, the DEPRAG FASTENING SYSTEM
Which software is suitable for the screwdriving system?

Software	Part no.	ADAPTIVE DFS
DEPRAG Graph Viewer activation key	128901	✓
ADFS Threaded Fastener activation key	111914	✓
ADFS Push Fastener activation key	111915	✓
ADFS Push Plus Fastener activation key	1119151	✓
ADFS Calibration activation key	135894	✓
DEPRAG Data eXchange activation key	132680	✓
ADFS OPC UA activation key	131142	✓

DEPRAG Graph Viewer for evaluation of screwdriving curves
the software for screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

See page 12 for details.

▶ Activation key 128901

ADFS Threaded Fastener
the software for ADAPTIVE DFS

Process software for flow forming screws.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 111914

ADFS Push Fastener
the software for ADAPTIVE DFS

Process software for flow push elements.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 111915

ADFS Push Plus Fastener
the software for ADAPTIVE DFS

Process software for the processing of FlowPush elements without entering a shut-off torque.
The shut-off is based on the parameterised torque target range. The parameterisation can be
used to adjust whether the screwdriving process should be optimised to short cycle times or
high shut-off accuracy.
To activate this pre-installed software, proceed as described on page 35.

▶ Activation key
1119151

ADFS Calibration
the software for ADAPTIVE DFS

Software for automatic execution of necessary calibration or adjustment procedures.

The advantages of using this software:
- significant cost and time savings
- effective avoidance of errors when transferring data
- intuitive user handling
- automatic generation of calibration certificate

To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 135894

DEPRAG Data eXchange
the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems
in combination with the sequence controllers ASTxx and ADAPTIVE DFS

See page 12 for details.

▶ Activation key 132680

ADFS OPC UA
the software for ADAPTIVE DFS

OPC UA is a collection of standards for communication and data exchange within the field of industrial automation. The OPC UA is used to depict the transport of machine-to-machine data as well as interfaces and data.
The ADAPTIVE DFS OPC UA software enables retrieval of final values, statuses and system information. The OPC UA software provides the basis for the realisation of Industry 4.0 relevant content and is a unique selling point of the ADAPTIVE DFS.

To activate this pre-installed software, proceed as described on page 35.

▶ Activation key 131142

Software Solutions for Position Control Stand PKS

WEB-VISU-POSI
the software for the position control stand

Enables additional control and parameterisation of the PKS via an intuitive web interface. The position control stand can be directly integrated into the existing system environment.

▶ Activation key 101890

To activate this pre-installed software, proceed as described on

Feeding systems eacy feed guarantee optimal assembly conditions with ergonomic and comfortable operation.

The controller PFC100 enables customised settings without mechanical alterations.

- clear and easy operation via controller
- option of frequency and amplitude regulation via controller
- works to the individual working rhythm of the operator, with storage of up to 10 separate data sets

Software Solutions for DEPRAG Feeding Technology

PFC100 Manager
the parameterization software for PFC100 controllers

Read, save and transfer parameters

The PFC100 Manager facilitates the reading and saving of parameters as text files for every PFC100 controller. Saved parameters can be transferred to any PFC100 controller quickly and simply using the PFC100 Manager.

The software is supplied on CD. The connection cable 385520B required to connect PC and PFC100 controller is supplied.

Available languages: German and English

▶ Part no. 121759
(including connection cable 385520B)

▶ Activation key 122000

Software Solutions for DEPRAG Automation

Software packages for DCOS processing and system controllers

Intelligent software packages									
DFUN		**DVIP**		**DPRO**		**DAST**		**DSPEC**	
	Part no.		**Part no.**		**Part no.**		**Part no.**		
DFUN10	815454			DPRO10	815632			Part no. based upon order.	
DFUN50	815455	DVIP50	815629	DPRO50	815633				
DFUN100	815456	DVIP100	815630	DPRO100	815634	DAST100	815641		
DFUN200	815457	DVIP200	815631	DPRO200	815635	DAST200	815642		

Software packages for DCOS processing and system controllers

Intelligent software packages combined with standardised hardware based on an industrial PC allow for individual solutions customised to your application.

Perfectly coordinated interfaces between standard components and intuitive user handling guarantee superior user comfort. Our technical advisors are happy to help with configuration.

Further information can be found in the product catalogues D3390 and D3350.

DFUN – **D**EPRAG **FUN**ction – combines and controls all standard functions on the manual work station.

DPRO – **D**EPRAG **PRO**cess – process control and data processing (BDE, MDE, MES, Industry 4.0).

DVIP – **D**EPRAG **VI**sion and **P**osition – position control and visualisation of assembly tasks.

DAST – **D**EPRAG **A**blauf**ST**euerung – central operation of all EC screwdriver controllers via a DCOS operating panel.

DSPEC – **D**EPRAG customer **SPEC**ification – the software solution customised to your application.

Supported by your DEPRAG consultant, select the modules most suitable for your purposes from our standard software packages.

Software Updates

for the screwdriving system DEPRAG Plus

UPDATE	for		screwdriving system DEPRAG Plus
One-time		Part no.	142966
Annual license		Part no.	142965

for AST sequence controllers

UPDATE	for	controller	AST5	AST5-S	AST6	ASTi6	AST11	AST40	ASTi40
		Part no.	114268	117217	114269	114270	114271	114254	114261

for AST sequence controllers (no longer in the current sales program)

UPDATE	for	controller	AST10	AST30-31
		Part no.	117340	117343

for EC screwdriver, EC-Servo screwdriver, electric screwdriver

UPDATE	for Screwdriver		MINIMAT-EC cordless screwdriver 318Axx-.. handheld	NANOMAT-EC, MICROMAT-EC, MINIMAT-EC 320E-.. stationary	MINIMAT-ED digital electric screwdriver 330E36-.. stationary	MINIMAT-ED digital electric screwdriver 330E36-.. handheld	MINIMAT-E 342Ex36-.. stationary	MINIMAT-EC-Servo 311Exx-.. stationary
		Part no.	117263	117238	117267	117270	117272	117273
Update for handle		Part no.	-	-	-	-	-	137484

for the ADAPTIVE DFS

UPDATE	for		ADAPTIVE DFS
		Part no.	117276

for part feeder control and position control stand

UPDATE	for	SZG Controller 6	PFC100	PFCi100	Position control stand
		Part no.	137482	117288	117290	119657

for measurement devices

UPDATE for		BME	ME1000DMS	ME1000PE	ME5000	ME5400	ME5500	ME5600	ME6000	ME6000F	ME6100
	Part no.	137354	137355	137500	117294	117295	117253	117296	117297	137362	137361

for battery, charger and programming kit

UPDATE	for	Battery Li-Ion 36V 54Wh	Charger	Programming kit ComCenter PC
	Part no.	117285	117284	117287

for function control, ComCenter and Interface 330E

UPDATE	for	fc10	fc11	fc20	ComCenter ED	ComCenter ED-S	ComCenter 10	ComCenter PC	Interface 330E
	Part no.	137480	117280	117283	117234	117252	117232	117287	117246

Software Updates

We recommend updating your software regularly so that you always have the most up-to-date drivers, enhanced features and security updates.

Protect your device from any possible threats or security issues by installing the most up-to-date software versions.

For optimal use and a full scope of features we recommend installing the most up-to-date version of the controller.

Process description for a software update

1. If your controller is connected to the internet, you will receive a message via the controller's website that there is an update available.

   Click on this message for more detailed information regarding the update.
   The next step is to place the order for the update.

2. If your controller is not connected to the internet, you can also check the availability of updates here:

   http://software.deprag.com

3. Of course, you can also contact us directly if you have any questions concerning the availability of updates or about the update itself. The contact details are found below.

Process:

We will send you the download link for the update along with the invoice. The update can then simply be installed on your controller. This process is very quick, and your controller is ready for operation after just a few minutes.

Your contact for questions about our software products:

Sales department   E-Mail: verkauf@deprag.de

Export department   E-Mail: export@deprag.de

Service department   E-Mail: service@deprag.de

Further contact details can be found on our website at www.deprag.com.

Part number index

Part no.	Category	Designation	Description
101890	SFS	Activation key WEB-VISU-POSI	
103196A		ComCenter ED	with Software OS BASIC
103196B		ComCenter ED	with Software OS ADVANCED
106744B	-	Interface 330E with OS BASIC	
106744C	-	Interface 330E with OS ADVANCED	
109108	SFS	DEPRAG Clamp Force Control	Activation key
111914	SFS	Activation key ADFS Threaded Fastener	Process software for flow forming screws
111915	SFS	Activation key ADFS Push Fastener	Process software for flow push elements
1119151	SFS	Activation key ADFS Push Plus Fastener	Process software for flow push elements
114254	SDL	Update	Sequence controller AST40
114261	SDL	Update	Sequence controller ASTi40
114268	SDL	Update	Sequence controller AST5
114269	SDL	Update	Sequence controller AST6
114270	SDL	Update	Sequence controller ASTi6
114271	SDL	Update	Sequence controller AST11
115460	SAT	Connection PFCi-DPU050/100	Driver and visualisation for DPU
115461	SAT	Connection PFCi-DPU200	Driver and visualisation for DPU
116995	SFS	Activation key WEB-IO 12E/12A	Input/output extension for AST5 (the activation key is free of charge)
117217	SDL	Update	Sequence controller AST5-S
117232	SDL	Update	Base station ComCenter 10
117234	SDL	Update	ComCenter ED
117238	SIN	Update	EC Screwdriver 320E-..
117244	SFS	Upgrade	upgrade from software 330 OS BASIC to software 330 OS ADVANCED
117246	SDL	Upgrade	upgrade from software OS BASIC to software OS ADVANCED
117252	SDL	Update	ComCenter ED-S
117253	SDL	Update	Measurement device ME5500
117259	SIN	Update	AST30-31
117263	SIN	Update	MINIMAT-EC Cordless screwdriver, 318Axx-..
117267	SIN	Update	MINIMAT-ED stationary, 330E36-..
117270	SIN	Update	MINIMAT-ED handheld, 330E36-..
117272	SIN	Update	MINIMAT-E stationary, 342Ex36-..
117273	SIN	Update	MINIMAT-EC-Servo stationary, 311Exx-..
117276	SFS	Update	ADAPTIVE DFS
117280	SIN	Update	Function control fc11
117283	SIN	Update	Function control fc20
117284	SIN	Update	Charger 833881 (MINIMAT-EC cordless screwdriver)
117285	SIN	Update	Battery Li-Ion 367V 54Wh 833880 (MINIMAT-EC cordless screwdriver)
117287	SDL	Update	Programming kit ComCenter PC (MINIMAT-EC cordless screwdriver)
117288	SIN	Update	Controller PFC100
117290	SIN	Update	Controller PFCi100
117294	SIN	Update	Measurement device ME5000
117295	SDL	Update	Measurement device ME5400
117296	SIN	Update	Measurement device ME5600
117297	SDL	Update	Measurement device ME6000
117340	SDL	Update	AST10
117343	SDL	Update	AST30-31
118742	SFS	Activation key	for Interface Graph Loader 385834A
119657	SDL	Update	Position control stand
121759	SDT	PFC100 Manager	
122000	SFS	Activation key of 121759	

Part number index

Part no.	Category	Designation	Description
122724	SDL	AST-CSV-Import	Free of charge
122728	SDL	ASTxx Time-Sync	Free of charge
125134	SDL	DEPRAG Datalogger	
125135	SFS	ASTxx Serial Remote	Activation key
128901	SFS	Graph Viewer activation key	For sequence controller AST (software requires activation)
131142	SFS	ADFS OPC UA activation key	
132680	SFS	Deprag Data eXchange activation key	Software requires activation
135839	SFS	TIA Link activation key	
135894	SFS	ADFS Calibration	Activation key
137354	SIN	Update	Measurement device BME
137355	SIN	Update	Measurement device ME1000DMS
137361	SDL	Update	Measurement device ME6100
137362	SDL	Update	Measurement device ME6000F
137480	SIN	Update	Function control fc10
137482	SIN	Update	SZG Controller 6
137484	SIN	Update for handle	311Exx screwdriver
137500	SIN	Update	Measurement device ME1000PE
139522	SFS	Update	Graph Viewer
140996	SFS	TwinCAT Link activation key	
142959	SFS	DEPRAG Friction value process	Activation key
142961	SFS	DEPRAG Clamp Force Control	Activation key / for AST12
142965	SFS	Update annual license	AST12
142966	SFS	Update one-time	AST12
142967	SCO	DEPRAG Cockpit Professional5	Activation key
142968	SCO	DEPRAG Cockpit Professional10	Activation key
142978	SCO	DEPRAG Cockpit Professional20	Activation key
142979	SCO	DEPRAG Cockpit Professional50	Activation key
144248	SFS	Visualisation of the Process	Activation key
144251	SFS	Safety & Change tracking	Activation key
145440	SCO	DEPRAG Cockpit Professional1	Activation key
145806	SCO	DEPRAG Cockpit Basic	Activation key
146536	SFS	DEPRAG Operator Guidance	Activation key
160491	SFS	Upgrade ComCenter ED	Activation key
201820	SFS	DEPRAG Friction value process	Activation key
202699	SFS	Datalogger	Activation key
206081	SFS	Statistics	Activation key
206565	SFS	ASTxx Serial Remote	Activation key
383978A		Module WEB-IO 12E/12A	
385834A		Interface Graph Loader	(Hardware and software)
385582A		Base station ComCenter 10	
385597A		Programming kit ComCenter PC	
815454	SAT	Software packages DFUN	The basic software package regulates the functions of your system components. The functionality matches the performance capability of the relevant system control.
815455	SAT		
815456	SAT		
815457	SAT		
815629	SAT	Software packages DVIP	The software package for visualisation and positioning. Operator guidance on the positioning control necessitates processing and sequencing visualisation. The functionality matches the performance capability of the relevant system control.
815630	SAT		
815631	SAT		

Part number index

Part no.	Category	Designation	Description
815632	SAT	Software packages DPRO	This software package supports the process control through BDE, MDE and MES connections. The functionality matches the performance capability of the relevant system control.
815633	SAT		
815634	SAT		
815635	SAT		
815641	SAT	Software packages DAST	The software panel for EC and EC-Servo systems. DAST is used to supervise the operation and visualisation of the screwdriver sequence controller (AST series) through the system control. The functionality matches the performance capability of the relevant system control.
815642	SAT		

The ordering process for our software products

Category	What do we need from our customer?	What do we deliver?
SDL	Purchase order / PO	Download link (printed on the invoice)
SAT	Purchase order / PO only for in-house projects (special machines): Part no. is captured internally in the customers order	Installed by DEPRAG
SIN	Purchase order / PO, installation only possible at DEPRAG - the hardware must be sent to Amberg	Return of the hardware with installed software
SDT	Purchase order / PO	Delivery on data medium (e.g. CD)
SCO/SFS	**Independent of a special machines project:** Purchase order / PO and request file	Activation key (via my deprag)
SCO/SFS	**As part of a special machines project:** Purchase order / PO	Activation already done by DEPRAG

The ordering process for activation key

For activation we require:

- the request key
  found to the right of the corresponding extension
  under System -> Extensions for sequence controller AST5/AST6
  under Setup -> Extensions for sequence controller AST11
  under Extras -> Extensions for sequence controller AST40

- the serial number of the sequence controller (found on the underside)

- your order number for the purchase of the extension

- a contact person with email address and telephone number in case of any queries

Send us these details via email to export@deprag.de.

The key can either be directly copied and pasted into the email or clicked on to save in a file. In this case, attach the file to the email.
In return you will receive a licence file with the corresponding activation key via email.
The activation key can be entered at the bottom of the page and confirmed by clicking on the button "Load key" (see below).
Alternatively, the licence file can be loaded. Click on the button "Search..." and select the relevant file. Then, click on "Load licence key" (see below).
Once the activation key has been loaded, the extension is shown to be unlocked and can be used.

Example: Order of activation key DEPRAG friction value process, part no. 201820 for AST40 sequence controller

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www.deprag.nl- Sales partner van: