



## DEPRAG Apps

## Software Solutions and Updates



# Contents

<b>DEPRAG Cockpit Software for the Networked Factory!</b>	<b>4</b>
<b>DEPRAG Cockpit the Digital Platform for Screwdriving Technology</b>	<b>5</b>
DEPRAG Cockpit – Summary	6
The software packages and their features	7
Part numbers	7
<b>Software Solutions for Screwdriving System DEPRAG Plus with sequence controller AST12</b>	<b>9</b>
<b>as well as for the Sequence Controllers AST5-S/AST40</b>	<b>9</b>
Possible combinations with AST controllers	9
Interface Graph Loader	10
Datalogger	10
Statistics	10
ASTxx Serial Remote	10
DEPRAG Clamp Force Control	11
DEPRAG Friction Value Process	11
DCON DEPRAG CONnect	11
DEPRAG Graph Viewer for evaluation of screwdriving curves	12
DEPRAG Data eXchange	12
TIA Link / TwinCAT Link	12
Visualisation of the Process	12
DEPRAG Operator Guidance	13
Safety & Change Tracking	13
DEPRAG Universal Robots Link	13
DEPRAG Cockpit	13
Open Protocol	13
Process Control	13
Allen-Bradley Link	13
<b>DEPRAG iSERVE for the independent parameterisation of screwdriving programs</b>	<b>14</b>
<b>Software Solutions for MINIMAT-EC Cordless Screwdriver</b>	<b>15</b>
Possible combinations with MINIMAT-EC cordless screwdriver	15
Base station ComCenter 10	16
Programming kit ComCenter PC	16
Datalogger	17
Statistics	17
DEPRAG Graph Viewer for evaluation of screwdriving curves	17
DEPRAG Data eXchange	17
TIA Link	17
TwinCAT Link	17
<b>Software Solutions for MINIMAT-ED Digital Electric Screwdriver, handheld</b>	<b>18</b>
ComCenter ED for MINIMAT-ED digital electric screwdriver, handheld	18
<b>Software Solutions for MINIMAT-ED Digital Electric Screwdriver, stationary</b>	<b>19</b>
Interface 330E for MINIMAT-ED digital electric screwdriver, stationary	19

# Contents

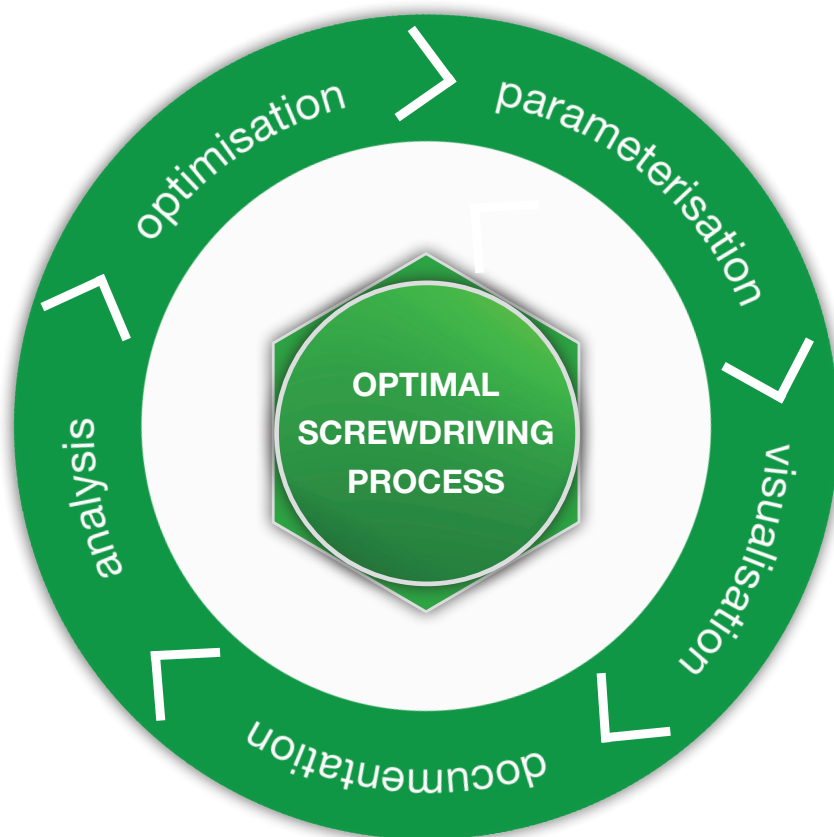
<b>Software Solutions for ADAPTIVE DFS DEPRAG FASTENING SYSTEM</b>	<b>21</b>
Possible combinations with ADAPTIVE DFS, the DEPRAG FASTENING SYSTEM	21
DEPRAG Graph Viewer for evaluation of screwdriving curves	22
ADFS Threaded Fastener	22
ADFS Calibration	22
DEPRAG Data eXchange	22
ADAPTIVE DFS Two Step Penetration	22
ADAPTIVE DFS MQTT	23
ADAPTIVE DFS Synoptic	23
ADAPTIVE DFS Adaptive Tightening	23
ADAPTIVE DFS Clamp Force Control	23
ADAPTIVE DFS OS BASIC	23
<b>Software Solutions for Position Control Stand PKS</b>	<b>24/25</b>
DEPRAG Cockpit	24
TIA Link	25
TwinCAT Link	25
Scanner	24
Update PKS	24
PKS Simulation	24
Extended Process Control	25
Industry 4.0 Interfaces	25
Safety & Change Tracking	25
<b>Software Solutions for Screwdriver Function Module with electronic stroke (E-SFM)</b>	<b>26</b>
E-SFM Manager	26
<b>Software Solutions for DEPRAG Feeding Technology</b>	<b>27</b>
PFC100 Manager	27
<b>Software Solutions for DEPRAG Automation</b>	<b>29</b>
Software packages for DCOS processing and system controllers	29
<b>Software Updates</b>	<b>31</b>
Process description for a software update	31
Your contact for questions about our software products:	31
<b>Part number index</b>	<b>32</b>
<b>Categories of our software products</b>	<b>34</b>
<b>Activation of software products via the myDEPRAG customer portal</b>	<b>35</b>
<b>Activation of software products via the back office</b>	<b>35</b>

# 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 ...**



**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

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

### - for parameterisation

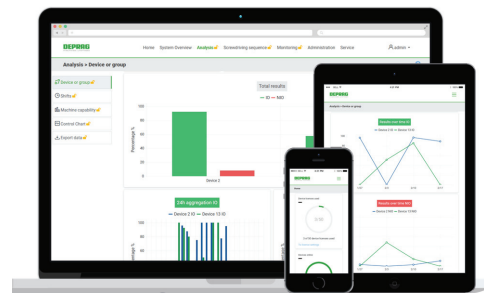
- administration of global settings
- creation and organisation of screwdriving programs
- activation of additional features under DEPRAG Apps
- creation of back-ups and logic functions

### - 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

**We now have the software packages Professional and Advanced available** to augment the software package Cockpit Basic.

**The OPC UA interface is available in all versions of Cockpit Advanced and Professional.**

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

## Demo version to test the DEPRAG Cockpit Professional free of charge:

You can try the DEPRAG Cockpit Professional version free of charge for 30 days.  
The licence is valid for 10 devices.

**30 days demo version  
activation key no.164785**

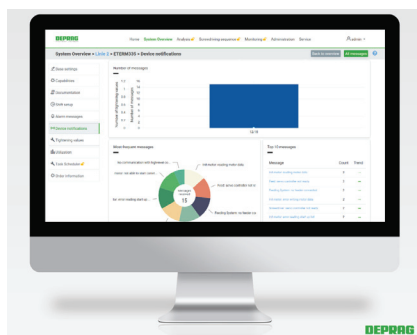
## New free of charge software Cockpit Programming Samples

The software contains quick start projects for the programmer of Beckhoff TwinCat and Siemens TIA environments. A demo procedure indicates how order information is transferred from a PLC to the DEPRAG Cockpit. These demos can be integrated quickly and simply in the PLC.

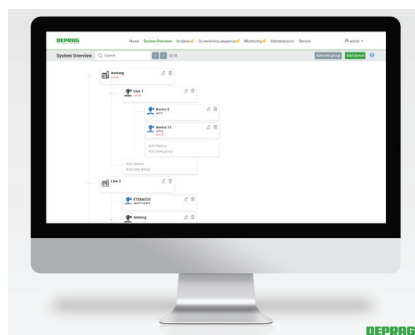
To establish a connection to the DEPRAG Cockpit, the following parameters must be entered:  
Server address, authentication, serial number, part serial number, product number

After the order information has been transmitted, the DEPRAG Cockpit links all screwdriving results with the transferred product or serial numbers. At the same time, the screwdriving results are stored in a drive and, depending on configuration, grouped according to serial numbers.

**Cockpit Programming  
Samples no. 166217**



visualisation



documentation



optimisation

## The software packages and their features

Basic 1 license	Advanced 1, 5, 10, 20, 50 licenses	Professional 1, 5, 10, 20, 50 licenses
<b>PARAMETERISATION</b> <ul style="list-style-type: none"> <li>Web-based parameterisation interface in responsive design</li> <li>Management of global settings</li> <li>Creation and organisation of screwdriving programs</li> <li>Activation of screwdriving strategies and Industry 4.0 interfaces</li> <li>Creation of backups</li> </ul>	<b>PARAMETERISATION</b> <ul style="list-style-type: none"> <li>Basic features</li> <li>Preventive maintenance: reminder function for realignment / maintenance or other tasks relating to your screwdriving tools</li> <li>Central management of documents, e.g. machine capability certificates, factory certificates, repair reports, operating manuals</li> </ul>	<b>PARAMETERISATION</b> <ul style="list-style-type: none"> <li>Basic features</li> <li>Central creation and parameterisation of screwdriving programs for all devices logged in</li> </ul>
<b>VISUALISATION</b> <ul style="list-style-type: none"> <li>Intuitive processing data display</li> </ul>	<b>VISUALISATION</b> <ul style="list-style-type: none"> <li>Basic features</li> <li>System overview: Structured overview of all screwdriving tools – digital twin</li> <li>System monitoring: automatic notification if anomalies occur with your screwdriving tools</li> </ul>	<b>VISUALISATION</b> <ul style="list-style-type: none"> <li>Basic &amp; Advanced features</li> <li>Process supervision and recognition of trends: automatic messaging function if anomalies occur in your process</li> </ul>
<b>DOCUMENTATION</b> <ul style="list-style-type: none"> <li>Process data acquisition: automatic process data acquisition of final values and screwdriving curves</li> </ul>	<b>DOCUMENTATION</b> <ul style="list-style-type: none"> <li>Basic features</li> <li>Automatic process data acquisition =&gt; no need for complex manual data collection</li> <li>Preparation of all process data (final values + screwdriving curves) for additional analysis tools</li> </ul>	<b>DOCUMENTATION</b> <ul style="list-style-type: none"> <li>Basic &amp; Advanced features</li> </ul>
<b>ANALYSIS</b> <ul style="list-style-type: none"> <li>-</li> </ul>	<b>ANALYSIS</b> <ul style="list-style-type: none"> <li>-</li> </ul>	<b>ANALYSIS</b> <ul style="list-style-type: none"> <li>User-oriented, individualised and clear display of process data =&gt; recognition of optimisation potentials such as cycle time, capacity, downtime, processing quality</li> <li>Fast development of expertise</li> <li>Fast detection of NOT OK processes</li> <li>Execution of machine capability studies (MFU)</li> <li>Analysis of shift models</li> <li>Creation of digital quality control charts</li> </ul>
<b>OPTIMISATION</b> <ul style="list-style-type: none"> <li>-</li> </ul>	<b>OPTIMISATION</b> <ul style="list-style-type: none"> <li>-</li> </ul>	<b>OPTIMISATION</b> <ul style="list-style-type: none"> <li>Predictive maintenance: The software determines the status of your screwdriving tools using various parameters and gives an early warning of potential breakdowns</li> </ul>

## Part numbers

DEPRAG Cockpit   Activation key	Part no.	Number of licenses	Comment
DEPRAG Cockpit Basic	145806	1	included in delivery of the screwdriving system DEPRAG Plus and pre-installed on the AST12
DEPRAG Cockpit Advanced1	145795	1	
DEPRAG Cockpit Advanced5	145796	5	
DEPRAG Cockpit Advanced10	145797	10	
DEPRAG Cockpit Advanced20	145798	20	
DEPRAG Cockpit Advanced50	145799	50	
DEPRAG Cockpit Professional1	145440	1	
DEPRAG Cockpit Professional5	142967	5	
DEPRAG Cockpit Professional10	142968	10	
DEPRAG Cockpit Professional20	142978	20	
DEPRAG Cockpit Professional50	142979	50	



# Software Solutions for Screwdriving System DEPRAG Plus with sequence controller AST12 as well as for the Sequence Controllers AST5-S/AST40

## Possible combinations with AST controllers

Which software is suitable for the screwdriving system?

Hardware including software	Part no.	AST5-S	AST(i)40
Interface Graph Loader	385834A	✓	✓
Interface Graph Loader activation key	118742		

Software	Part no.	AST5-S	AST(i)40	AST12	ComCenter ED Interface 330E
Datalogger activation key	202699	✓	✓	✗	✗
Statistics activation key	206081	✓	✓	✗	✗
ASTxx Serial Remote activation key	206565	✓	✓	✗	✗
DEPRAG Clamp Force Control activation key		✗	109108	142961	✗
DEPRAG Friction Value Process activation key		201820	201820	142959	201820
DCON DEPRAG CONnect activation key	136244	✗	✓	✓	✗
DEPRAG Graph Viewer activation key	128901	✓	✓	✓	✗
DEPRAG Data eXchange activation key	132680	✓	✓	✓	✗
TIA Link activation key	135839	✗	✓	✓	✗
TwinCAT Link activation key	140996	✗	✓	✓	✗
DEPRAG Operator Guidance activation key	146536	✓	✓	✓	✓ for ComCenter ED
Visualisation of the process activation key	144248	✗	✗	✓	✗
Safety & Change tracking activation key	144251	✗	✗	✓	✗
DEPRAG Universal Robots Link activation key	164982	✗	✗	✓	✗
DEPRAG iSERVE (software download)	145458B/C/E/F	✗	✓	✗	✓
DEPRAG Cockpit Advanced 1/ 5/ 10/20/ 50	145795/145796/ 145797/145798/ 145799	✗	✓	✓	✓
DEPRAG Cockpit Professional 1/ 5/ 10/20/ 50	145440/142967/ 142968/142978/ 142979	✗	✓	✓	✓
Open Protocol	178341	✗	✓	✗	✗
Process Control activation key	179966	✗	✗	✓	✗
Process Control (duration 30 days) activation key	179972	✗	✗	✓	✗
Allen-Bradley Link activation key	190928	✗	✓	✓	✗

**Note:** Please find details on the DEPRAG Cockpit on pages 4 to 7.

## Interface Graph Loader

the hardware with installed software for EC- and EC-Servo screwdriving systems  
in combination with the sequence controllers AST5-S and AST40

Interface Graph Loader  
385834A

Activation key  
118742

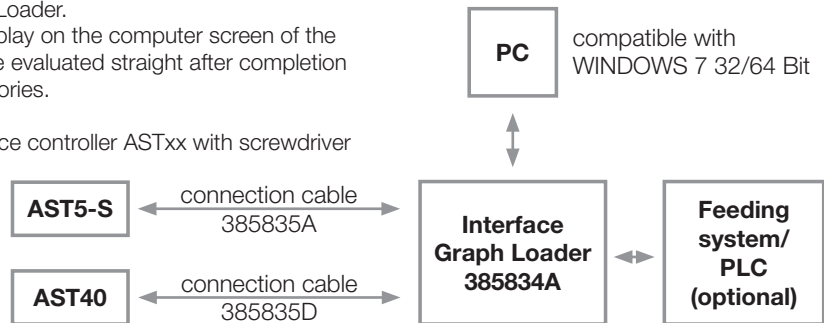
The Interface Graph Loader is an optional accessory for the automatic transfer of screwdriving curves and final value data sets from DEPRAG screwdriving controllers. The Interface can be used with EC and EC servo screwdriving systems in combination with screwdriving controllers AST5-S and AST40.

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 35.



## Datalogger

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

Activation key  
202699

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.

## Statistics

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

Activation key  
206081

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.

## ASTxx Serial Remote

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

Activation key  
206565

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.



## 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.

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 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.

Single license activation key 109108 / 142961 (*)
5 licenses 171939 / 171966 (*)
10 licenses 171941 / 172017 (*)
20 licenses 171961 / 172019 (*)
50 licenses 171964 / 172022 (*)

## 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-S/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.

Single license activation key 201820 / 142959 (*)
5 licenses 172193 / 172231 (*)
10 licenses 172194 / 172257 (*)
20 licenses 172209 / 172276 (*)
50 licenses 172229 / 172286 (*)

## DCON DEPRAG CONnect

the software for the screwdriving system DEPRAG Plus in combination with the sequence controller AST12 and for the sequence controller AST(i)40

Activation key 136244
--------------------------

Simple, fast connection of DEPRAG devices in the Beckhoff TwinCAT programming. The software is available as a download. To activate this software, proceed as described on page 35.

## 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:

- 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 screw-driving 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.

The software is also available as free trial software in demo mode.

Single license  
activation key 128901

Upgrade to the current  
software version 139522

5 licenses 172649

10 licenses 172650

20 licenses 172689

50 licenses 172713

## 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 screw-driving 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.

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.

Activation key  
132680

## TIA Link / 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 AST12, AST40, for the ComCenter 10, for the position control stand and for the screwdriver function module with electronic stroke (E-SFM)

Activation key  
TIA Link 135839

Activation key  
TwinCAT Link 140996

**TIA Link:** Integration in the Siemens programming environment (Totally Integrated Automation (TIA) Portal) is required to operate DEPRAG devices with the current SIMATIC controllers.

**TwinCAT Link:** Integration in the Beckhoff programming environment is required to operate DEPRAG devices with the current Beckhoff controllers. This integration is quite time-consuming and requires expert domain knowledge of the DEPRAG devices. Therefore, the software TIA link and TwinCAT link have been created to enable simple integration of the following DEPRAG products:

AST12, AST40 incl. i-versions, ComCenter 10, position control stand, E-SFM

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.

As well as the fieldbus connection, there are additional examples provided for controlling the screwdriving system.

**Software TIA Link:** The following SIMATIC controllers are supported: SIMATIC S7-1200, SIMATIC S7-1500 and SIMATIC ET 200SP (CPU)

**Software TwinCAT Link:** 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.

## Visualisation of the Process

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

Activation key  
144248

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.

## 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-S, 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.

The software is also available as free trial software in demo mode.

Single license  
activation key 146536

5 licenses 172733

10 licenses 172734

20 licenses 172735

50 licenses 172736

## 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

## DEPRAG Universal Robots Link

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

The DEPRAG Universal Robots Link is available for quick and easy integration of the DEPRAG AST12 sequence controller into the robot's program sequence. The URCap for the screwdriving system DEPRAG Plus means the system has an intuitive user interface for the whole process - from feeding to fastener assembly. The interface guarantees smooth integration of the screwdriving system.

The URCap can be downloaded from the AST12 sequence controller or from [software.deprag.com](https://software.deprag.com). The robots of the „e-series“ generation from software version 5.9.1 or higher are supported. The software download is available from the myDEPRAG customer portal ([my.deprag.com](https://my.deprag.com)). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
164982

## DEPRAG Cockpit Advanced and Professional

The sequence controllers AST12 and AST(i)40 support the connection to the DEPRAG Cockpit. Please find details on pages 4 to 7.

## Open Protocol

the software for the EC-Servo screwdriving systems in combination with the sequence controllers AST40

Protocol for active efficient data exchange. The software is already pre-installed on your hardware (e.g. sequence controller, position control stand). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
178341

## Process Control

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

The process control provides a logic function which can be configured intuitively to realise simple control tasks without a higher-level controller. Ready-made function blocks such as „screw“ or basic logic functions such as „AND links“ are used.

In addition, the process control can evaluate the signals of 8 digital inputs (for example, evaluating a sensor to ascertain whether a part is present) and set 5 digital outputs (for example part locking). The sequences for the process control are configured on the AST12 website.

Available from AST12 software version 2022.09.

Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
179966

Activation key  
179972 (duration 30 days)

## Allen-Bradley Link

the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems in combination with the sequence controllers AST12, AST(i)40 and for the position control stand

Integration in the programming environment “Studio 5000 Logix Designer” is required for the operation of DEPRAG devices with the current Allen-Bradley (Rockwell Automation) Logix controllers. The Allen-Bradley Link software is used for simple quick integration of the AST12, AST(i)40 controllers as well as the DEPRAG position control stand. The software contains integration in the Studio 5000 Logix Designer as well as several Quick Start projects in the “Kontaktplan” (contact plan) programming language which enable immediate screw assembly without having to spend time mastering the time-consuming communication processes using the user manual.

All Logix series controllers which are programmable with Studio 5000 Logix Designer are supported. The software is available for Windows 10 onwards. The software is available as a download. To activate this software, proceed as described on page 35.

Activation key  
190928

# DEPRAG iSERVE

## DEPRAG iSERVE for the independent parameterisation of screwdriving programs

for sequence controller AST(i)40

DEPRAG iSERVE is available as a cloud application on the myDEPRAG customer portal and enables the creation and optimisation of screwdriving programs, without the need to be in the same physical location as the controller and screwdriving tool. This means that from one central location, screwdriving programs can be configured, analysed and, after completion, made available to all decentralised users for transfer to their screwdriving systems (24/7, worldwide).

A licence is needed to save program packages created with DEPRAG iSERVE. There are various options available for a usage period of 12 months:

**up to 50 storage spaces**  
**part no. 145458E**

**up to 250 storage spaces**  
**part no. 145458B**

**up to 100 storage spaces**  
**part no. 145458F**

**up to 500 storage spaces**  
**part no. 145458C**

DEPRAG iSERVE quick guide:

1. Select the required screwdriving system
2. Create new program package or open/upload existing package
3. Save the newly created or edited program package in the customer portal
4. Download the program package from the customer portal and transfer to the screwdriving controller



# 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	✓
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

Programming kit ComCenter PC

for MINIMAT-EC Cordless Screwdriver, wireless and battery operated EC Screwdriver

the hardware with integrated software

the software

ComCenter 10 385582A
Programming kit 385597A

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.

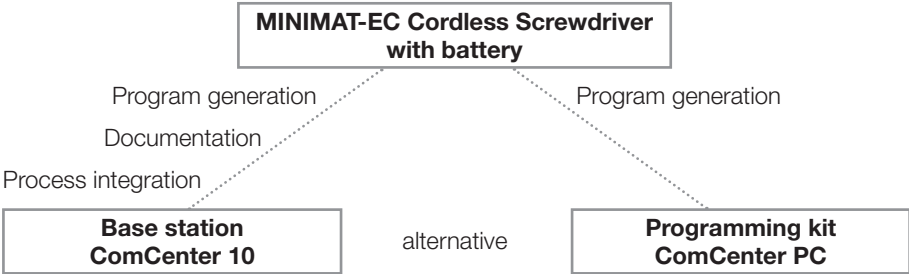
This creates the best framework for successful quality management and documentation. The base station ComCenter 10 provides temporary storage and easy access all daily results data over a whole week. The software datalogger can be used to transfer the measurement data of several base stations (up to 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.





## Datalogger

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

Activation key 202699

See page 10 for details.

## Statistics

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

Activation key 206081

See page 10 for details.

## 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

Activation key 128901

See page 12 for details.

## 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

Activation key 132680

See page 12 for details.

## 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 AST12, AST40, for the ComCenter 10 and  
for the position control stand

Activation key 135839

See page 12 for details.

## 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 AST12, AST40, for the ComCenter 10 and  
for the position control stand

Activation key 140996

See page 12 for details.

# Software Solutions for MINIMAT-ED Digital Electric Screwdriver, handheld



## Possible combinations with MINIMAT-ED, the digital electric screwdriver

Software		MINIMAT-ED	
		ComCenter ED with software OS BASIC 103196A	ComCenter ED with software OS ADVANCED 103196B
Upgrade to software OS ADVANCED activation key	Part no.	160491	-
DEPRAG Friction Value Process activation key (details on page 11)	Part no.	-	201820
DEPRAG Operator Guidance activation key (details on page 13)	Part no.	146536	146536

The ComCenter ED supports the connection to the DEPRAG Cockpit. Please find details on the DEPRAG Cockpit on pages 4 to 7.

## ComCenter ED for MINIMAT-ED digital electric screwdriver, handheld

The ComCenter ED enables user-friendly parameterisation of screwdriving programs using the web interface. The integrated input/output port can now also be used to select MINIMAT-ED screwdriving programs. In addition, an external start release of the screwdriver is available. The main advantage: If this function is activated, the handheld screwdriver can be used in combination with other products or a higher-level PLC. This value-for-money option presents attractive opportunities. One example is combination with a position control stand (PKS). Only when the screwdriver has reached the right position is the correct screwdriving program selected and the start approval given.

Furthermore, there is the option of use in applications where sensors are used for supervision, such as in the detection of components, pick-and-place procedures or the use of a toolbox or scanner.

### Your advantages:

- flexible
- low cost solution
- for varying tightening parameters
- upgraded communication

**ComCenter ED  
OS BASIC 103196A**

**ComCenter ED  
OS ADVANCED 103196B**

## ComCenter ED – comparison of the software

Characteristics	ComCenter ED in combination with standard software OS BASIC	ComCenter ED in combination with software OS ADVANCED
Maximum number of screwdriving programs	5 tightening programs / 5 loosening programs	16
Maximum number of program steps	3	25
Tightening to torque	✓	✓
Tightening to torque with angle control	✗	✓
Tightening to angle	✓	✓
Tightening to angle with torque control	✗	✓
Loosening to angle	✓	✓
DEPRAG Friction Value Process	✗	✓
Search run / save values / waiting time	✗	✓
Statistics	✗	✓
Automatic speed reduction	✗	✓
Documentation	7 days production	7 days production
DEPRAG Operator Guidance	✗	✓
Communication interfaces	I/O interface	I/O interface and http interface
Category B (VDI/VDE 2862)	✓	✓
Category C (VDI/VDE 2862)	✓	✓

Please note: In combination with OS ADVANCED, the MINIMAT-ED screwdriver requires display version 2.0. The display can be upgraded in house at DEPRAG. Please send the MINIMAT-ED screwdriver to Amberg for the update.

# Software Solutions for MINIMAT-ED Digital Electric Screwdriver, stationary



## Possible combinations with MINIMAT-ED, the digital electric screwdriver

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

The Interface 330E supports the connection to the DEPRAG Cockpit. Please find details on the DEPRAG Cockpit on pages 4 to 7.

### Interface 330E with software 330 OS BASIC

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

**Interface 330E  
OS BASIC 106744B**

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.

### Interface 330E with software 330 OS ADVANCED

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

**Interface 330E  
OS ADVANCED 106744C**

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

- 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 11 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 Generation 5
DEPRAG Graph Viewer activation key	128901	✓
ADFS Threaded Fastener activation key	111914	✓
ADFS Calibration, annual license, activation key	135894	✓
DEPRAG Data eXchange activation key	132680	✓
ADAPTIVE DFS Two Step Penetration activation key	138918	✓
ADAPTIVE DFS MQTT activation key	138445	✓
ADAPTIVE DFS Synoptic activation key	185355	✓
ADAPTIVE DFS Adaptive Tightening activation key	185356	✓
ADAPTIVE DFS Clamp Force Control activation key	185129	✓
ADAPTIVE DFS OS BASIC activation key	160639	✓

## 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

Activation key  
128901

See page 12 for details.

## ADFS Threaded Fastener

the software for ADAPTIVE DFS

Activation key  
111914

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

## ADFS Calibration

the software for ADAPTIVE DFS

Annual license  
Activation key  
135894

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.

## 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

Activation key  
132680

See page 12 for details.

## ADAPTIVE DFS Two Step Penetration

the software for ADAPTIVE DFS

Activation key  
138918

This innovative screwdriving procedure provides the user with even more flexibility when it comes to parameterisation of the ADAPTIVE DFS.

After activation, the relevant parameters are displayed in the processing step "Penetration". This enables independent adjustment of the drive speed and/or feed rate.

The start and end of the ramp for the speed and/or feed rate is configured over two set positions.

Due to the unique drive concept of the ADAPTIVE DFS, the precise time that the position will be reached can be calculated in advance. Thus, ensuring that the essential parameters relating to speed and feed rate have been applied.

The new screwdriving procedure can be used in conjunction with:

- Die-cast aluminium, to optimise flow in combination with the shortest possible cycle time
- High tensile steel, to optimise the energy transfer of fasteners in the material

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



## ADAPTIVE DFS MQTT

the software for ADAPTIVE DFS

Activation key  
138445

This modern industry 4.0 interface allows continuous processing parameters to be received on demand.

All process-relevant results are transmitted to an MQTT broker. Alongside the classic parameters of torque, angle and processing time, these also include a wide variety of other outputs, such as screwdriving curves.

Initial commissioning is fast and cost-effective due to the simple protocol and high reliability.

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

## ADAPTIVE DFS Synoptic

the software for ADAPTIVE DFS

Activation key  
185355

The complete ADAPTIVE DFS system can be schematically displayed using the Synoptic visualisation software. When notifications relating to components appear, they can be allocated and displayed. Just click on the highlighted component for the message detail, a description of the possible causes and a suggested solution. This fast diagnosis is a significant time saver.

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

## ADAPTIVE DFS Adaptive Tightening

the software for ADAPTIVE DFS

Activation key  
185356

In the new screwdriving procedure Adaptive Tightening, the shut-off torque for each assembly is individually calculated according to the threadforming torque recorded. This new procedure is therefore ideally suited to battery pack assemblies and assemblies with or without pilot hole.

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

## ADAPTIVE DFS Clamp Force Control

the software for ADAPTIVE DFS

Activation key  
185129

The new screwdriving procedure Clamp Force Control enables detection of the seating point of the fastener with subsequent angle or torque assembly (difference torque). This procedure is therefore suitable for assemblies of battery packs and the installation of covers. Assembly with pilot hole using the ADAPTIVE DFS System is a prerequisite for ADAPTIVE DFS Clamp Force Control.

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

## ADAPTIVE DFS OS BASIC

the software for ADAPTIVE DFS

Activation key  
160639

The activation includes the operating system for an ADAPTIVE DFS (DEPRAG Fastening System).

In terms of hardware, a DPUi is required. In order to operate the system, a process activation, such as these below, is additionally required:

- ADFS Threaded Fastener 111914
- ADFS Adaptive Tightening 185356
- ADFS Clamp Force Control 185129

The software download is available from the myDEPRAG customer portal ([my.deprag.com](https://my.deprag.com)). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

## DEPRAG Cockpit Advanced and Professional

The position control stand types with electronics support the connection to the DEPRAG Cockpit. Please find details on the DEPRAG Cockpit on pages 4 to 7.

### Scanner, the software for the position control stand

- Sequence selection using a scanned code
- Automatic matching of processing data with the scanned code

The software is already pre-installed on your hardware (e.g. sequence controller, position control stand).

Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

### Update PKS, the software for the position control stand

You receive the latest security updates, extended functions and drivers. By keeping your software version up-to-date, you can ensure that your device is optimally prepared and protected for all the innovations relating to Industry 4.0.

The software download is available from the myDEPRAG customer portal ([my.deprag.com](https://my.deprag.com)).

Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

### PKS Simulation, the software for the position control stand

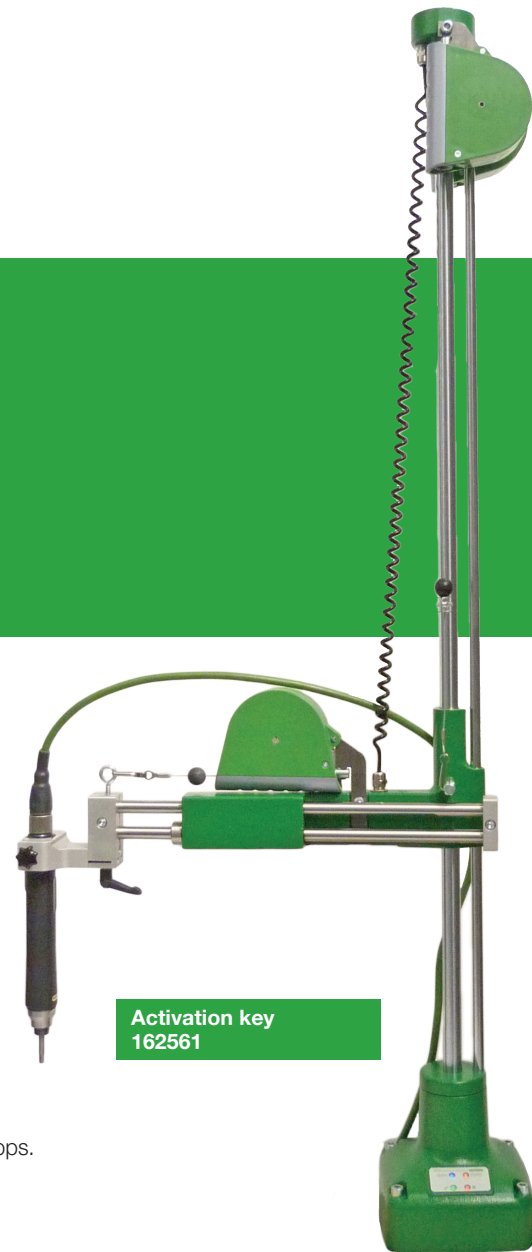
The PKS simulation software enables operation, configuration and set-up without a hardware component. This means that it is possible to create and test sequences and simulate functions in the development and process planning stages.

The PKS simulation software is available for Windows operating systems from Windows 10 and requires activation. The software download is available from the myDEPRAG customer portal ([my.deprag.com](https://my.deprag.com)). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

## Allen-Bradley Link

the software for the screwdriving system DEPRAG Plus as well as EC- and EC-Servo screwdriving systems in combination with the sequence controllers AST12, AST(i)40 and for the position control stand

See page 13 for details.



Activation key  
162561

Activation key  
162557

Activation key  
167387

Activation key  
190928

# Software Solutions for Position Control Stand PKS

## **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 AST12, AST40, for the ComCenter 10 and for the position control stand

See page 12 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 AST12, AST40, for the ComCenter 10 and for the position control stand

See page 12 for details.

Activation key  
140996

## **Extended Process Control,** the software for the position control stand

- Documentation of screwdriving results and position in the PKS final value data set (screwdriving system DEPRAG Plus)
- Digital operator guidance with questions and instructions
- The use of several component images per sequence

The software download is available from the myDEPRAG customer portal (my.deprag.com). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
162562

## **Industry 4.0 Interfaces,** the software for the position control stand

REST: interface for communication (M2M)

WebSocket: interface for communication (M2M)

The software is already pre-installed on your hardware (e.g. sequence controller, position control stand). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
162558

## **Safety & Change Tracking,** the software for the position control stand

Process reliability and traceability – Ensure your process is secure! With this software, you can track who has changed what and when. Any unauthorised changes to the processing parameters can quickly be traced.

The software is already pre-installed on your hardware (e.g. sequence controller, position control stand). Registered users can activate the activation code and manage licences in MY ACCOUNT > DEPRAG Apps.

Activation key  
162560

# Software Solutions for Screwdriver Function Module with electronic stroke (E-SFM)

## E-SFM Manager

the parameterisation software for screwdriver function module with electronic stroke

Activation key  
192336

The E-SFM Manager is used for parameter adjustment of travel programs (sequences), as well as to save these defined sequences on the E-Control.

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

DEPRAG E-SFM MANAGER

File Tools Info

Current position: 0.00 mm

COM1 / Connection status

Load all sequences from controller Save all sequences to controller

Teaching Status

Sequence 1 Sequence 2 Sequence 3 Sequence 4 Sequence 5 Sequence 6

PARAMETER NAME	VALUE	UNIT
Current position	0.00	mm
Speed	0.00	mm/s
Thrust	0.00	
Target position	0.00	mm
Current step number	0.00	

Inputs

Input 0 Input 1 Input 2 Input 3 Input 4 Input 5 Hold position Servo on Reset Setup Input invalid flag

Outputs

Output 0 Output 1 Output 2 Output 3 Output 4 Output 5 Busy Servo ready In position Area 1 Area 2 Emergency stop Alarm

Sequence 1

0 Return-Stroke 1 Target Position: 5.00 mm, Speed: 381.00 mm/s

Sequence 2

1 Return-Stroke 2 Target Position: 19.28 mm, Speed: 197.00 mm/s

Sequence 3

2 Drive-Stroke 1 Target Position: 22.49 mm, Speed: 159.00 mm/s, Pushing force: 0 N

Target position Speed Pushing force

22.49 mm 159 mm/s 0 N Show additional parameters

Teaching

Current position: 0.00 mm

Referencing run Forward Backward

Target position

10.00 mm

Speed 15

5.00 mm/s 30.00 mm/s

Move forward Move backward

+

Load single sequence Save single sequence

DEPRAG SCHULZ GMBH u. CO. 1.1-TP (DEMO)

# Software Solutions for DEPRAG Feeding Technology



## PFC100 Manager

the parameterisation software for PFC100 controllers

Activation key  
122000

### 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 connection cable 385520B required to connect the PC and PFC100 must be ordered separately.**

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

Available languages: German and English

Serial no.: 1234567

**General Settings**

Serial number: 1234567  
 Language: Deutsch  
 Backlight: on  
 Waveform: 1  
 Screw presence: none  
 Fill level control: no  
 PKS: no

Software version: 1.8  
 Password: 0000  
 Display settings: Standard  
 Galvanic isolation: no  
 Load control: no  
 Value for load regulation: 0  
 DFM delay: 0.0 s

**Device-specific Settings**

Amplitude: 100  
 Range amplitude minimum: 0  
 Range amplitude maximum: 1000  
 Pulse length (rail blow-back): 0.0 s  
 Pause length (rail blow-back): 0.0 s

Frequency: 2050  
 Range frequency minimum: 1050  
 Range frequency maximum: 2500  
 Rise time soft start: 0.0 s  
 EP delay timer: 0.0 s

**Test Settings**

Amount of screws: 0  
 Test mode: Rail 1 only  
 Pause between screws: 0.0 s  
 Pause after amount of screws: 0.0 s

Upload PFC100 settings

**User Times**

User: 1  
 Minimum driver run-time: 0.3 s  
 Load cycle start delay: 0.0 s  
 Separator forward duration: 0.1 s  
 Air blast extension: 0.0 s  
 ST Max Einschaltzeit: 0.0 s

Air-push duration: 0.1 s  
 Air-push delay: 0.0 s  
 Vibratory bowl run duration: 0.4 s  
 ST Nachlaufzeit: 0.0 s

Upload user settings

Save Close

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 Automation

## Software packages for DCOS processing and system controllers

Intelligent software packages									
DFUN		DVIP		DPRO		DAST		DSPEC	DCON
	Part no.		Part no.		Part no.		Part no.		
DFUN10	815454			DPRO10	815632			Part no. based upon order.	Part no. 136244
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** – DEPRAG **FUN**ction – combines and controls all standard functions on the manual work station.

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

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

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

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

**DCON** – DEPRAG **CON**nect – Simple, fast connection of DEPRAG devices in the Beckhoff TwinCAT programming.

**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-S	AST40	ASTi40
	Part no.	117217	114254	114261
Firmware update one-time	Part no.	-	148168	166165
Firmware update annual license	Part no.	-	148167	166163

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

UPDATE for	controller	AST10	AST5	AST6	ASTi6	AST11	AST30-31
	Part no.	117340	114268	114269	114270	114271	117343

## for EC screwdriver, EC-Servo screwdriver, electric screwdriver

UPDATE for Screwdriver		MINIMAT-EC cordless screwdriver	NANOMAT-EC, MICROMAT-EC, MINIMAT-EC	MINIMAT-ED digital electric screwdriver	MINIMAT-ED digital electric screwdriver	MINIMAT-E	MINIMAT-EC- Servo
		318Axx-.. handheld	320E-.. stationary	330E36-.. stationary	330EG36-.. handheld	342Ex36-.. stationary	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.	160640

## 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](mailto:verkauf@deprag.de)

Export department                    E-Mail: [export@deprag.de](mailto:export@deprag.de)

Further contact details can be found on our website at [www.deprag.com](http://www.deprag.com).

# Part number index

Part no.	Cat-egory	Designation	Description
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	Single license, activation key
111914	SFS	Activation key ADFS Threaded Fastener	Process software for flow forming screws
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
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 / activation key	upgrade from software 330 OS BASIC to software 330 OS ADVANCED
117246	SDL	Update	Interface 330E
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-..
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
122000	SFS	PFC100 Manager	Activation key
125134	SDL	DEPRAG Datalogger	
125135	SDL	Update for ASTxx Serial Remote	
128901	SFS	Single license Graph Viewer activation key	For sequence controller AST (software requires activation)
132680	SFS	DEPRAG Data eXchange activation key	Software requires activation
135839	SFS	TIA Link activation key	
135894	SFS	ADFS Calibration, annual license	Activation key
136244	SFS	DEPRAG Connect	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
138445	SFS	ADAPTIVE DFS MQTT	Activation key
138918	SFS	ADAPTIVE DFS Two Step Penetration	Activation key
139522	SFS	Upgrade of an existing license	to the current version (DEPRAG Graph Viewer)
140996	SFS	TwinCAT Link activation key	
142959	SFS	DEPRAG Friction value process	Single license, activation key (for AST12)
142961	SFS	DEPRAG Clamp Force Control	Single license, activation key (for AST12)

# Part number index

Part no.	Cat-egory	Designation	Description
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	AST12, activation key
144251	SFS	Safety & Change tracking	AST12, activation key
145440	SCO	DEPRAG Cockpit Professional1	Activation key
145458B		DEPRAG iSERVE 250 Slots	
145458C		DEPRAG iSERVE 500 Slots	
145458E		DEPRAG iSERVE 50 Slots	
145458F		DEPRAG iSERVE 100 Slots	
145795	SCO	DEPRAG Cockpit Advanced1	Activation key
145796	SCO	DEPRAG Cockpit Advanced5	Activation key
145797	SCO	DEPRAG Cockpit Advanced10	Activation key
145798	SCO	DEPRAG Cockpit Advanced20	Activation key
145799	SCO	DEPRAG Cockpit Advanced50	Activation key
145806	SCO	DEPRAG Cockpit Basic	Activation key
146536	SFS	DEPRAG Operator Guidance	Single license, activation key
148167	SFS	Update annual license AST40	Activation key
148168	SFS	Update one-time AST40	Activation key
160491	SFS	Upgrade ComCenter ED	Activation key
160639	SFS	ADAPTIVE DFS OS BASIC	Activation key
160640	SFS	ADAPTIVE DFS Update	Activation key
162557	SFS	Update PKS	Activation key
162558	SFS	Industry 4.0 Interfaces (PKS)	Activation key
162560	SFS	Safety & Change tracking (PKS)	Activation key
162561	SFS	Scanner	Activation key
162562	SFS	Extended Process Control	Activation key
164785	SFS	30 days demo version	DEPRAG Cockpit Professional, activation key
164982	SFS	DEPRAG Universal Robots Link	Activation key
166163	SFS	Update annual license ASTi40	Activation key
166165	SFS	Update one-time ASTi40	Activation key
166217	SDL	Cockpit Programming Samples	
167387	SFS	PKS Simulation	Activation key
171939	SFS	5 licenses	for the activation of the software Clamp Force Control 109108
171941	SFS	10 licenses	for the activation of the software Clamp Force Control 109108
171961	SFS	20 licenses	for the activation of the software Clamp Force Control 109108
171964	SFS	50 licenses	for the activation of the software Clamp Force Control 109108
171966	SFS	5 licenses	for the activation of the software Clamp Force Control 142961 (AST12)
172017	SFS	10 licenses	for the activation of the software Clamp Force Control 142961 (AST12)
172019	SFS	20 licenses	for the activation of the software Clamp Force Control 142961 (AST12)
172022	SFS	50 licenses	for the activation of the software Clamp Force Control 142961 (AST12)
172193	SFS	5 licenses	for the activation of the software Friction value process 201820
172194	SFS	10 licenses	for the activation of the software Friction value process 201820
172209	SFS	20 licenses	for the activation of the software Friction value process 201820
172229	SFS	50 licenses	for the activation of the software Friction value process 201820
172231	SFS	5 licenses	for the activation of the software Friction value process 142959 (AST12)
172257	SFS	10 licenses	for the activation of the software Friction value process 142959 (AST12)
172276	SFS	20 licenses	for the activation of the software Friction value process 142959 (AST12)
172286	SFS	50 licenses	for the activation of the software Friction value process 142959 (AST12)
172649	SFS	5 licenses	for the activation of the software DEPRAG Graph Viewer
172650	SFS	10 licenses	for the activation of the software DEPRAG Graph Viewer
172689	SFS	20 licenses	for the activation of the software DEPRAG Graph Viewer
172713	SFS	50 licenses	for the activation of the software DEPRAG Graph Viewer
172733	SFS	5 licenses	for the activation of the software DEPRAG Operator Guidance
172734	SFS	10 licenses	for the activation of the software DEPRAG Operator Guidance
172735	SFS	20 licenses	for the activation of the software DEPRAG Operator Guidance
172736	SFS	50 licenses	for the activation of the software DEPRAG Operator Guidance
178341	SFS	Open Protocol	Activation key
179966	SFS	Process Control	Activation key
179972	SFS	Process Control (duration 30 days)	Activation key
185129	SFS	ADAPTIVE DFS Clamp Force Control	Activation key
185355	SFS	ADAPTIVE DFS Synoptic	Activation key
185356	SFS	ADAPTIVE DFS Adaptive Tightening	Activation key

# Part number index

Part no.	Cat-egory	Designation	Description
190928	SFS	Allen-Bradley Link	Activation key
192336	SFS	E-SFM Manager	Activation key
201820	SFS	DEPRAG Friction value process	Single license, activation key
202699	SFS	Datalogger	Activation key
206081	SFS	Statistics	Activation key
206565	SFS	ASTxx Serial Remote	Activation key
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		
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		

## Categories of 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	<b>Independent of a special machines project:</b> Purchase order / PO and request file	Activation key (via my deprag)
	<b>As part of a special machines project:</b> Purchase order / PO	Activation already done by DEPRAG

# Activation of software products via the myDEPRAG customer portal

## Category SCO / SFS – Activation (e.g. DEPRAG Cockpit Advanced version / Update AST12 annual licence)

- Navigate the menu guide for the software which requires activation to reach the request file procedure.
- Save the request file on your end device.
- Log in to the myDEPRAG customer portal under my.deprag.com.
- Search for the order number of the required software activation and place an order.
- Under **My account > Order processing**, you can view the status of your order.
- As soon as the order confirmation shows under the order number, the ordered licence appears in software management under **My account > DEPRAG Apps**.
- Select the licence number of the purchased software product.
- Activate the licence by selecting the saved request file and executing the activation.
- Download the activation file from the customer portal and save this on your end device.
- Activate the software product by uploading the activation file via the appropriate dialog in the software product.

## Category SCO / SFS – Deactivate activation

- To reach the deactivation file procedure navigate the menu guide for the software product for which activation should be deactivated.
- Deactivate the software product and save the deactivation file on your end device.
- Log in to the myDEPRAG customer portal under my.deprag.com.
- Licence management is found under **My account > DEPRAG Apps**.
- Select the licence number of the originally purchased software product.
- Deactivate the licence by selecting the saved deactivation file and executing deactivation.
- The licence is now available to activate on another device.

## Category SDL (e.g. Update package ComCenter ED with part number 117234)

- Log in to the myDEPRAG customer portal under my.deprag.com.
- Search for the required software product and place an order.
- You will find the link to download the software product on the invoice you receive for this order.
- Follow the instructions for installation in the device software and installation dialog.

## Category SIN (e.g. Update package for PFC100 Controller with part number 117288)

**In this instance ordering via the customer portal is not an option.** Installation is only carried out in house at DEPRAG. The hardware must be sent to Amberg.

# Activation of software products via the back office

For activation we require:

- the request key  
found to the right of the corresponding extension  
under System -> Extensions for sequence controller AST5-S  
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](mailto: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.

Activate the software product, by uploading the activation file via the appropriate software product dialog.

**We recommend activation via the myDEPRAG customer portal. There is a service charge for activations which are handled via the office.**



# DEPRAG

**DEPRAG SCHULZ GMBH u. CO.**

P.O. Box 1352, D-92203 Amberg, Germany  
Carl-Schulz-Platz 1, D-92224 Amberg  
Phone (+49) 9621 371-0, Fax (+49) 9621 371-120  
[www.deprag.com](http://www.deprag.com)  
[info@deprag.de](mailto:info@deprag.de)

CERTIFIED AS PER DIN EN ISO 9001

---