

## Controller Technology



## Controller Technology

### Control systems for sophisticated automation tasks

- Integrated standard software guarantees the highest functionality
- Simple and reliable operation
- Service friendly remote maintenance
- Great value for money – optimal adaptation to DEPRAG screwdriving technology
- Open connectivity and integrated network capabilities
- Conforms to current safety standards
- Realtime data integration

Controllers in modern production systems have increasingly complex tasks to perform.

The controller system **DCOS (DEPRAG CONTROLLER SYSTEM)** is designed to fulfill the highest requirements. It is particularly user friendly and has high functionality. The DCOS controls, records, documents and analyses.

Applications from decades of experience in the fields of feeding, screwdriving, assembly and measuring technologies were combined in its development.

Multi-axe systems such as the DCAM (DEPRAG COMPACT ASSEMBLY MODULE) can be created quickly and simply using this controller technology.



## DCOS Processing and System Controllers

The integrated networkability enables unproblematic connection to SCADA and MES systems, optimal data administration and storage and above all, the access to common PC applications such as browsers, data back-up and remote access opens up almost infinite user possibilities.

A DCOS consists of:

- the control and operating unit - DPU010 (without display), DPU110 or DPU210
- the control cabinet - DSEC10, DSEC20, DSEC30 or DSEC40
- and standardised software packages - DFUN, DVIP, DPRO, DAST and DSPEC

### Control and Operating Unit DPU - (DEPRAG PROCESSING UNIT)

The DPU series controllers are based on an industrial PC. The compact controllers DPU010 run on the Windows CE operating system whereas the DPU110 and the DPU210 uses Windows 10.

The DPUs control complex motion sequences with extremely short cycle times (typically < 6 ms). A colour touch screen with VGA resolution (except on the DPU010) enables high level user comfort in the operation and display of operating conditions. Two USB ports allow the user to connect additional peripheral devices with ease. The DPU can access the company network or world wide web via the freely accessible Ethernet port.

- **DPU010 and DPU010c** - The DPU010 is the smallest controller in the DPU series. The controller was developed with 16 digital inputs and outputs each in order to meet the requirements of small screwdriving tasks where visualisation is not required. The DPU010C offers the option of communication with a higher level controller via one of the available communication modules such as EtherCat, Profinet, Profibus, CANopen, Interbus, EtherNet/IP or Ethernet. Using this method components, such as a screwdriving function module, can be programmed easily and controlled via the selected communication module. The DPU010(c) doesn't need a DSEC control cabinet.

Possible areas of application:

- Manual work stations without visual operator guidance
- Screwdriving function modules with feed system
- Control of standard range DEPRAG products

- **DPU110** – This high performance controller can guide axis systems with up to three axes. Complex manual work stations with operator guidance, sequence and screw position visualisation as well as fully automatic machines with several part stations such as rotary indexing machines with up to 4 user stations can be realised. This controller adds the option of connecting a database such as a BDE or ERP system. The DPU110 can also be used in conjunction with DSEC20, DSEC30 and DSEC40 control cabinets.

- **DPU210** – The DPU210 is the most efficient controller of the DPU series. The controller has a 15" display with XGA resolution (1024 x 768 pixels) for improved image visualisation. It can control complex fully automatic machines such as axis systems with more than three axes. It offers unproblematic connection to databases such as BDE or ERP systems. There are various interfaces and protocols available e.g. OPC, OPC-UA or TCP/IP.

The DPU210 can also be used in conjunction with DSEC20, DSEC30 and DSEC40 control cabinets.

- **DPUI210** – The DPUI210 provides the same capabilities as the DPU210. It has been developed for integration into control cabinets and does not include an HMI. It is suitable for high-performing systems without a control panel, e.g. ADAPTIVE DFS.

If you cannot find a suitable controller for your requirements in our standard range (e.g. cycle times smaller than 1 ms for regulators and fast measurement applications) we can also modify our controllers to meet your needs.



DPU010



DPU210



DPUI210

## DCOS Processing and System Controllers

### DPUv - external process visualisation display

- Display of process data and process sequences
- Suitable for DEPRAG screwdriving controller or for position control stand
- Capacitive 10-point multi-touch screen
- Options to use pen, hand or glove
- Full HD
- 3 different display sizes (10", 15", 22")
- Aluminium housing
- Network capability (Gigabit Ethernet)
- Operating system: Linux



### Control Cabinet DSEC - (DEPRAG SAFETY EXTENSION CONTROLLER)

As well as the DPU a control cabinet such as DSEC10, DSEC20, DSEC30 or DSEC40 is used, depending on the control task. These each contain 32 digital inputs and outputs which are connected to the DPU via the modern Ethercat field bus.

A 24V DC voltage supply is already integrated in the DSEC to supply the control components (DPU, sensors and actuators etc.). To meet the safety function requirements the DSEC10 and DSEC20 both include two inbuilt safety relays.

Both control cabinets DSEC30 and DSEC40 are equipped with freely programmable compact safety controllers enabling highly complex safety functions.

- **DSEC10** - The DSEC10 can be used anywhere it is necessary to carry out small control tasks including visualisation. This includes manual work stations with or without position control, automatic stations or semi-automatic machines with pneumatic actuators.
- **DSEC20** - More complex manual work stations, screwdriving or assembly cells call for the use of the DSEC20. Unlike the DSEC10, this control cabinet includes an additionally integrated profibus master module for unproblematic connection of additional fieldbus subscribers, a second safety relay for safety door monitoring and a separate main switch to enable the complete station to be disconnected easily from the network. Single phase devices can be supplied with voltage through the central input feed and controlled through the DSEC20. Due to the larger 24V power supply with 10A output electricity and the bus module, the DSEC20 can control a larger number of outputs in comparison with the DSEC10.
- **DSEC30** - The DSEC30 is the right solution for screwdriving and assembly automation systems with higher performance and safety requirements. The design with three phase alternating current input allows the connection of alternating current drives used for example on rotary indexing tables and belt drives. The integrated compact safety controller realises the highest safety level PL e if required. The software technical assignment of the safety components offers a high degree of flexibility when interconnecting the individual safety functions at the top level.
- **DSEC40** - The DSEC40 can additionally control up to three NC axes. As standard step motors and the corresponding power units can be used to carry out precise positioning tasks. Upon request applications with servo or linear motors are also an option. Screwdriving or assembly automation machines with axis systems compose the application areas of the DSEC40.



DSEC10

## Technical Data DPU010

<b>Compact Controller</b> DEPRAG Processing Unit		<b>DPU010</b> 951347A							
<b>Compact Controller</b> incl. communication module DEPRAG Processing Unit	<b>Type</b> Part no.	<b>DPU010C</b> <b>CANopen</b> 951412A	<b>DPU010C</b> <b>Devicenet</b> 951413A	<b>DPU010C</b> <b>Interbus</b> 951414A	<b>DPU010C</b> <b>Profibus</b> 951410A	<b>DPU010C</b> <b>Profinet</b> 951411A	<b>DPU010C</b> <b>EtherCat</b> 951415A	<b>DPU010C</b> <b>EtherNet/IP</b> 951416A	<b>DPU010C</b> <b>Ethernet</b> 951417A
Display		unavailable							
Operating voltage		24V DC + 24V DC Safety							
Current consumption	A	0.25							
Power consumption	W	6							
24V DC voltage supply internal		unavailable, external power unit optional, no bus subscriber can be connected							
Evaluation of safety functions		unavailable, must be carried out by higher level controller							
CPU		32 Bit, 400 MHz							
Number of standard inputs		16							
Number of standard outputs		16							
Working storage		64 MB							
Mass storage		256 MB Micro SD							
UPS		1 second UPS							
Operating system		Windows CE							
Operating temperature	°C	0 to 55							
Housing - safety class		IP54							
Weight	kg / lbs	approx. 8 / 17.6							
Remote maintenance		optional (Ethernet Modem)							
Programming		IEC61131-3 (AWL, KOP, FUP, ST AS, CFC)							
Ports		1xEthernet 10/100 MBit/s, 1xUSB							
Available bus systems		available communication modules (slave connections) EtherCat, Profinet, Profibus, Devicenet, Interbus, CANopen, EtherNet/IP, Ethernet							
<b>Suitable Control Cabinets</b>		no DSEC control cabinet necessary							
<b>Suitable Software Packages</b>		DFUN10 and / or DPRO10 and / or DSPEC							

### Optional Accessories for DPU010

Power supply DPU010 24V DC EU DPU010 24V DC USA	Part no. Part no.	951420A 951421A	Power supply data: Input: AC 100-240V 50-60Hz Output: DC 24V 1.67A Dimensions WxLxH: 1140 x 62 x 31.5 mm Accreditations: UL, GS, TÜV certified	
Port RS232 *)	Part no.	951422A	Port data: Transmission channels: Transmission rate:  Data buffer: Level interface: Dimensions (WxHxD):	TxD and Rx D, full duplex 2400.... 115200 Baud default: 9600, 8 data bits, no parity, 1 stop bit 864 Byte receive buffer, 128 Byte transmit buffer RS232 15 x 100 x 70 mm

\*) The DSPEC software is necessary to operate the RS232 interface.

## Technical Data DPU110

<b>Panel PC</b>	<b>Type</b> Part no.	<b>DPU110 WIN10 TC3 PLC HMI licence</b> 1248192
		<b>Features</b> <ul style="list-style-type: none"> <li>- 12" TFT display, 800x600 resolution</li> <li>- touch screen</li> <li>- aluminium housing, splash water protected IP65</li> <li>- INTEL Atom E3845 processor, 1,91GHz, 4 cores</li> <li>- 4GB DDR3L-RAM, SLC Flash</li> <li>- 40GB-CFast-card, extended temperature range</li> <li>- 2 RJ45-Ethernet ports in the rear wall, 10/100/1000MBit, IP65</li> <li>- 24V power supply, connection in the rear wall</li> <li>- operating temperature 0...45°C</li> <li>- uninterruptible USV power supply, integrated in the 24V power unit, without battery</li> <li>- MICROSOFT Windows 10 IoT Enterprise, LTSB, 64 bit</li> <li>- emergency stop 2 openers and 1 closer</li> <li>- 2 port USB A interface under the panel rubber cap</li> <li>- 8 short stroke keys with RGBW LED</li> <li>- 19 pol. connector in the connection section for emergency stop and switch</li> </ul>
<b>Suitable Control Cabinets</b>	DSEC20, DSEC30 or DSEC40	
<b>Suitable Software Packages</b>	DFUN100 and / or DVIP100 and / or DPRO100 and / or DAST100 and / or DSPEC	

## Technical Data DPU210

	Panel PC	Control cabinet industry PC
<b>Type</b>	<b>DPU210 WIN10 TC2 PLC HMI licence</b>	-
<b>Part no.</b>	1248112	-
<b>Type</b>	<b>DPU210 WIN10 TC2 NC-PTP licence</b>	<b>DPUI210 WIN10 TC2 NC-PTP licence</b>
<b>Part no.</b>	1248114	1248151
	<ul style="list-style-type: none"> <li>- industry PC with control panel for mounting arm installation</li> <li>- rotatable mounting arm adaptor with 48mm tube from above</li> <li>- connection space for up to 6 IP65 connectors</li> <li>- 1 slot for a 21/2" hard drive or SSD and 1 slot for a CFast card</li> <li>- system clock lithium battery can be exchanged externally</li> <li>- passive cooling due to cooling fins between control panel and add-on PC, internal fan for even heat distribution over all housing walls</li> <li>- protection class IP65</li> <li>- operating temperature 0...45°C</li> </ul> <p><b>Front panel:</b> 15" TFT display, 1024x768 resolution, touch screen, without keypad</p> <p><b>Features</b></p> <ul style="list-style-type: none"> <li>- INTEL Core i3-6100TE processor, 6th generation, 2.7GHz, 2 cores</li> <li>- 31/2" motherboard for INTEL Celeron</li> <li>- 8GB DDR4-RAM, expandable to 32GB</li> <li>- graphic adaptor integrated in INTEL processor, 1DVI-D connection assigned through front panel display</li> <li>- on-board dual Ethernet adaptor with 2x 100/1000BASE-T connection, one fed out of the connection section</li> <li>- on-board SATA-RAID-1 controller, INTEL RAPID STORAGE technology</li> <li>- hard drive, solid state disk SSD, 3D Flash, 21/2", 240GB</li> <li>- M23 built-in socket for power supply and 1 Harting push-pull Ethernet connector</li> <li>- 24V DC power unit</li> <li>- 1 port USB interface in the PC rear wall panel</li> <li>- IP65 connector in connection section of the CP72 for the second on-board Ethernet adaptor, HARTING push-pull</li> <li>- IP65 connector M12 socket in connection section of the CP72 for a USB 2.0 port</li> <li>- uninterruptible USV power supply, integrated in the 24V power unit, without battery</li> <li>- MICROSOFT Windows 10n IoT Enterprise, LTSB, 64 bit</li> <li>- without mounting arm adaptor with open connection section, connector above, for assembly 4 threaded holes, M6x18mm in the control panel rear wall</li> <li>- aluminium insertion plate in the mounting arm fixture area</li> <li>- customer-specific front cover DEPRAG</li> <li>- emergency stop 2 openers and 1 closer</li> <li>- 2 port USB A interface under the panel rubber cap</li> <li>- 12 short stroke keys with RGBW LED via USB</li> <li>- 19 pol. connector in the connection section for emergency stop and switch</li> <li>- battery pack for PCs with 24V power unit and integrated USV</li> </ul>	<p><b>Housing</b></p> <ul style="list-style-type: none"> <li>- industry PC for control cabinet integration</li> <li>- assembly plate on the rear wall</li> <li>- all connections on the front panel</li> <li>- status LEDs</li> <li>- lithium battery accessible behind the front plate</li> <li>- 1 slot for a 21/2" hard drive or SSD behind the front cover</li> <li>- 1 slot for a CFast card behind the front cover</li> <li>- fan cartridge with dual ball-bearing and speed monitored fans, accessible from the front</li> <li>- protection class IP20</li> <li>- operating temperature 0...55°C</li> <li>- dimensions 65x235x121mm without assembly plate</li> </ul> <p><b>Features</b></p> <ul style="list-style-type: none"> <li>- INTEL Core i3-6100TE processor, 6th generation, 2.7GHz, 2 cores</li> <li>- 31/2" motherboard for INTEL Celeron</li> <li>- 8GB DDR4-RAM</li> <li>- graphic adaptor integrated in INTEL processor, 1DVI-D connection</li> <li>- on-board dual Ethernet adaptor with 2x 100/1000BASE-T connection</li> <li>- on-board SATA-RAID-1 controller, INTEL RAPID STORAGE tech.</li> <li>- hard drive, 2 1/2", 240GB solid state disk SSD, 3D Flash</li> <li>- 1 serial interface and 4 USB 3.0 ports</li> <li>- 24V DC power unit</li> <li>- MICROSOFT Windows 10n IoT Enterprise, LTSB, 64 Bit</li> <li>- battery pack for PCs with 24V power unit and integrated USV</li> </ul>

### Suitable Control Cabinets

DSEC20, DSEC30 or DSEC40

### Suitable Software Packages

DFUN200 and / or DVIP200 and / or DPRO200 and / or DAST200 and / or DSPEC

## Technical Data External Display DPUv

External display	Type	DPUv10	DPUv15	DPUv22
	Part no.	125249A	125250A	126181A
Resolution		1920 x 1200		
Size		10"	15"	22"
Connections		Gigabit Ethernet/2x USB 3.0/2x USB 2.0/2x Micro HDM		
Weight	kg / lbs	1.9 / 4.18	3.8 / 8.36	6.9 / 15.18
Dimensions	mm	249x170x78	386x238x78	522x317x86
Voltage		12V DC		
Operating temperature		0 - 50° C		
<b>Optional accessories for DPUv</b>		Mount 127460A		



## Technical Data Control Cabinet DSEC..

Control cabinet	Type	DSEC10	DSEC20	DSEC30	DSEC40-1	DSEC40-2	DSEC40-3
DEPRAG Safety Extension Controller	Part no.	951401	809969	809970	383527A	383527B	383527C
Power supply		230V / 115V	230V / 115V	3/N/PE 400V / 50 Hz	3/N/PE 400V/ 50 Hz		
Power input max.	VA	150	2000	4000	4000		
24V DC Internal power supply	A	5	10	10	10		
		1 bus subscriber can be connected	Connection options to up to 4 active bus sharing units (e.g. valve blocks)				
Analysis of safety functions		discretely assembled safety circuit		through small safety controller			
Safety category emergency stop		Category 4, PL e possible according to EN13849					
Safety category safety door circuit		Category 2, PL c possible according to EN13849		Category 4, PL e possible according to EN13849			
Amount of standard inputs		32 inputs, 2 of which are pre-reserved	32 inputs, 4 of which are pre-reserved	32 inputs, 4 of which are pre-reserved	32 inputs, 5 of which are pre-reserved		
Amount of standard outputs		32 outputs, 1 of which is pre-reserved	32 outputs, 1 of which is pre-reserved	32 outputs, 1 of which is pre-reserved	32 outputs, 1 of which is pre-reserved		
Bus systems present		EtherCat	EtherCAT, Profibus	EtherCAT, Profibus	EtherCAT, Profibus		
Space reserved for extension terminals		max. 8 TE	max. 24 TE	max. 24 TE	max. 24 TE		
		Optional extension package (OK, communication, ..)					
Axle system DCAM (Standard)		-	-	-	Step motor controller, Servo motor controller		
Axle system DCAM XS (Option)		-	-	-	Linear motors		
Housing dimensions (WxHxD)	mm	380 x 380 x 210	600 x 600 x 210	760 x 760 x 300	600 x 600 x 350		
	in.	14 <sup>31/32</sup> x 14 <sup>31/32</sup> x 8 <sup>17/64</sup>	23 <sup>5/8</sup> x 23 <sup>5/8</sup> x 8 <sup>17/64</sup>	29 <sup>15/16</sup> x 29 <sup>15/16</sup> x 11 <sup>13/16</sup>	23 <sup>5/8</sup> x 23 <sup>5/8</sup> x 13 <sup>25/32</sup>		
Housing protection class		IP54	IP54	IP54	IP54		
Weight	kg / lbs.	approx. 15 / 33	32 / 70.4	40 / 88	40 / 88		

## Optional Equipment

### Remote Maintenance for Controllers DPU...

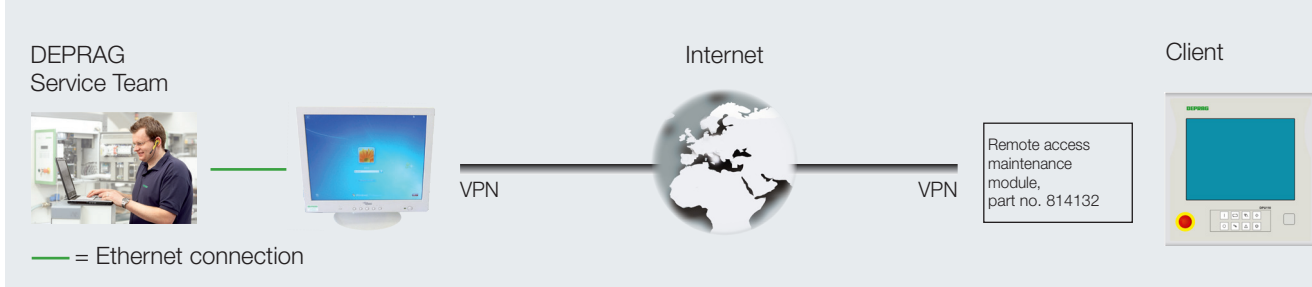
Remote access maintenance module	Part no.	814132
<b>Technical Data:</b>		
Version		Din rail device for controller housing
Telephone connection		Internet connection via network, WAN interface or modem (analog)
Voltage		24V DC
Dimensions (W x H x D)	mm / in.	48 x 137 x 140 / 1.87 x 5.34 x 5.46
Weight	kg / lbs	0.65 / 1.43
Dial modes		MFV / IWF

If you order a complete controller together with the remote access maintenance module, the installation into the controller is included. The remote access module is available with din rail mounting bracket (for installation into a control box). The diagnosis and servicing of your controller can be done very fast and economically by data transmission via a remote access module and telephone. With this remote access maintenance module, trouble shooting diagnosis- and software updates can be performed from any location.

#### Example: Remote access module connected to the Screwdriving- or Assembly System

The remote access module can be mounted on a din rail in the control box and connected to your PLC with a cable. An analogue telephone line, connected to the remote access module is necessary for the set-up. If an ISDN line is used a pulse code modulator must be available.

## Application Example



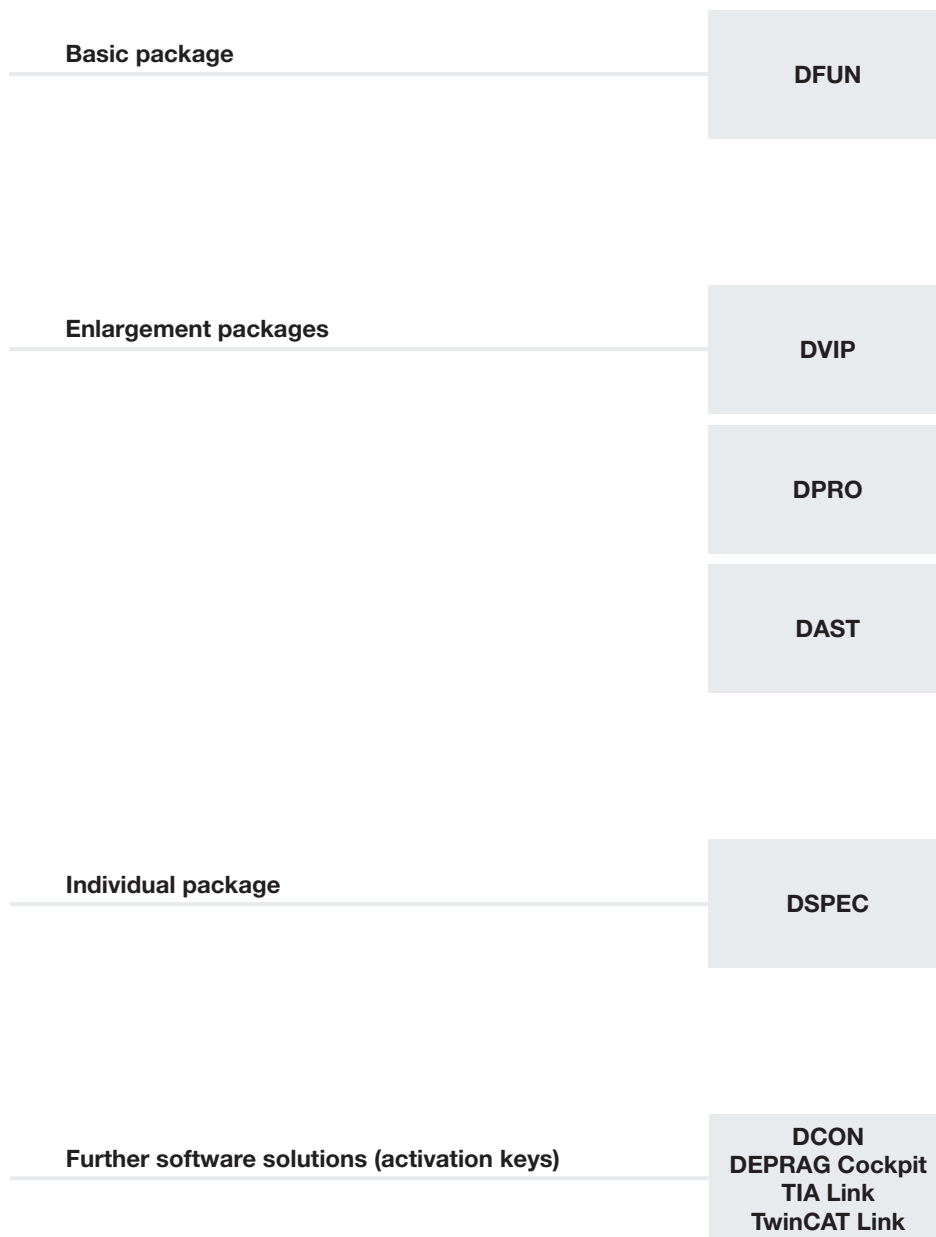
## Software Modules

DCOS is particularly attractive due to its innovative software packages!

The use of tried and tested standard components reconfirms their functionality. This facilitates greater processing reliability for the operator.

Software packages with various scopes of performance have been developed for DCOS. Despite standardisation the software can also be quickly and simply adapted to meet customer specific requirements.

**Our 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.



## Software Modules - Description

### DFUN – DEPRAG FUNction

The **basic package** DFUN covers all basic functions, which can stem from the various combinations of DEPRAG components (e.g. sequence controller with feeder, sequence controller with screwdriving function module and feeder, sequence controller with position control stand and feeder, etc.). This comprehensive software is required as the basis for all other packages.

#### Application examples

##### Screwdriving unit

- Mouthpiece and screwdriver stroke
- Mouthpiece lock and rotary functions
- Depth control
- Injection lubricator
- Start / stop control

##### Part feeding

- Screw presence control
- Fill level control
- Storage hopper
- Particle killer
- Distributor

##### Axis control

- DCAM: XYZ direction

##### Part movement

- Slide carrier
- Rotary table

##### Manual work station

- Toolbox
  - Scanner
  - Pick nest
- 

### DVIP – DEPRAG VIsion and Position

The **extension package** DVIP is required if positioning control is needed for a position control stand/portal or actions should be initiated via the screwdriving position (e.g. allocation of various tools via toolbox, etc.). The package is not available for the DPU010(C).

#### Application examples

##### Position stand, position gantry, XYZ screwdriving systems (DCAM)

- Position controlled parameter selection
  - Position controlled tightening sequence
  - Product and process visualisation
- 

### DPRO – DEPRAG PROcess

The **extension package** DPRO supports the process control through BDE, MDE and MES connections. The torque, angle and screwdriver position parameters which can be deduced from the screwdriving process are matched with the date and time, attributed to assembly shifts or operating personnel, evaluated using cycle counters with OK/NOT OK indication etc.

#### Application examples

##### Record data

- Make data available for BDE, MDE, MES connection
- 

### DAST – DEPRAG AblaufSTeuerung

The **extension package** DAST is the software panel for EC and EC-Servo systems. DAST is used to supervise the operation and visualisation of the screwdriver sequence controller through the system control.

#### Application examples

- AST data processing
- AST data analysis
- AST data display



## Software Modules - Description

### DSPEC – DEPRAG customer SPECification

The individual package DSPEC is required if special software is needed for customer-specific tasks (e.g. creating a whole manual work station with functions, which are not covered by the packages DFUN, DVIP and DPRO). DSPEC does not depend on the DPU used.

#### Application examples

##### customer-specific requirements

- e.g. belt control (stopper, lift, reading and coding systems)
- e.g. part sensor and part lock
- e.g. connection to higher-level IT systems
- e.g. connection of customer-specific functions

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### DCON – DEPRAG CONnect

DEPRAG Connect is the software for PLC programmers who program using Beckhoff TwinCAT and DEPRAG end devices. The software product provides a simple, fast connection of DEPRAG devices in the programming environment. Time-consuming and error-prone individual programming and parameterisation is a thing of the past.

Typical basic functionalities which arise regularly in PLC programming are, of course included: Display of detailed error messages, websites, manuals, files etc.

#### Basis software module

The Basis software extends the known Beckhoff TwinCAT environment to include valuable add-on functionalities which are not included in the programming environment. In this way, it is possible to communicate simply with the internet, TCP/IP protocols, mouse and keypad entries.

Amongst others, the following features are included:

- Simple and detailed display of TwinCAT error messages using a Beckhoff error number: The user is shown a detailed description of suggested solutions/possible causes as well as the error message.
- A fast integrated web browser to display any amount of data. This could be e.g. websites, log files, pdf handbooks, manuals etc.
- Improved usability through mouse clicks and positions. The programmer can, e.g. search the position of a mouse click. This is, for example used to realise the display of a component and its evaluation relating to the position within the component selected by the user.
- Search of available hard drive memory space in a certain path (local, network)
- Search of file information for a certain path (local, network)
- Establishing connection and the management of diverse DEPRAG end devices
- Comprehensive diagnostics and log functions

#### AST module

The module enables communication with our DEPRAG AST components. Currently the following devices are supported: AST6, ASTi6, AST10, AST11, AST40, ASTi40, screwdriving system DEPRAG Plus. The software provides almost total functionality of the AST websites in the Beckhoff PLC.

#### ComCenter 10 module

- Immediate use of the device with TwinCAT
- Search of system data & versions
- Saving of final values for all connected screwdrivers
- Saving of screwdriving curves for all connected screwdrivers

#### PFCI module

- Immediate use of the device with TwinCAT
- Configuration of the PFCI device via the configuration window
- Frequency, amplitude, ramp and wave form are adjustable
- System settings can be set via the configuration window
- On/soft on/off

The DCON software requires activation.

## Software Modules - Description

### 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 software is available as a download. For more details to the software products, please see brochure D3900E.

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## DEPRAG Software Solutions TIA Link and TwinCAT Link

#### TIA Link

Integration in the Siemens programming environment is required to operate the DEPRAG devices with the current SIMATIC controllers. This is where the TIA Link software comes in. This software not only includes integration in the TIA portal but also several Quick-Start projects in the “structured text” programming language which enable immediate execution of screw assemblies without completing time-consuming communication using the user manual.

As well as the fieldbus connection, you also receive extensive examples for the control of your screwdriving system.

The following SIMATIC controllers are supported: SIMATIC S7-1200, SIMATIC S7-1500, SIMATIC ET 200SP (CPU).

The software is available to download.

#### TwinCAT Link

Integration in the Beckhoff programming environment is required for the operation of the DEPRAG devices with the current Beckhoff controllers. This is where the TwinCAT Link software comes in. This software the integration, as well as several Quick-Start projects in the “structured text” programming language which enable immediate execution of screw assemblies without completing time-consuming communication using the user manual

The Quick-Start projects are available for the version TwinCAT 2 as well as TwinCAT 3.

As well as the fieldbus connection, you also receive extensive examples for the control of your screwdriving system. The following Beckhoff software systems are supported: TwinCAT 2 and TwinCAT 3

The software is available to download.

**Both software solutions provide a significant time saving due to dramatically reduced programming requirements.**

## Software Modules - Part Numbers

Software package DFUN	Suitable control and operating unit	Suitable control cabinets
DFUN10 part no. 815454	DPU010	no DSEC control cabinet necessary
DFUN100 part no. 815456	DPU110	DSEC10, DSEC20, DSEC30 or DSEC40
DFUN200 part no. 815457	DPU210	DSEC10, DSEC20, DSEC30 or DSEC40

Software package DVIP	Suitable control and operating unit	Suitable control cabinets
DVIP100 part no. 815630	DPU110	DSEC10, DSEC20, DSEC30 or DSEC40
DVIP200 part no. 815631	DPU210	DSEC20, DSEC30 or DSEC40

Software package DPRO	Suitable control and operating unit	Suitable control cabinets
DPRO10 part no. 815632	DPU010	no DSEC control cabinet necessary
DPRO100 part no. 815634	DPU110	DSEC10, DSEC20, DSEC30 or DSEC40
DPRO200 part no. 815635	DPU210	DSEC20, DSEC30 or DSEC40

Software package DAST	Suitable control and operating unit	Suitable control cabinets
DAST100 part no. 815641	DPU110	DSEC10, DSEC20, DSEC30 or DSEC40
DAST200 part no. 815642	DPU210	DSEC20, DSEC30 or DSEC40

Software package DSPEC	Suitable control and operating unit	Suitable control cabinets
DSPEC part no. based upon order	DPU010	no DSEC control cabinet necessary
	DPU110	DSEC10, DSEC20, DSEC30 or DSEC40
	DPU210	DSEC20, DSEC30 or DSEC40

Further software solutions activation keys	Part no.	Remark
DCON DEPRAG Connect	136244	For the optimised programming environment.  The cost-effective alternative to individual programming, to save and analyse final values and curves.
DEPRAG Cockpit Basic	145806 (1 licence)	
DEPRAG Cockpit Advanced1	145795 (1 licence)	
DEPRAG Cockpit Advanced5	145796 (5 licences)	
DEPRAG Cockpit Advanced10	145797 (10 licences)	
DEPRAG Cockpit Advanced20	145798 (20 licences)	
DEPRAG Cockpit Advanced50	145799 (50 licences)	
DEPRAG Cockpit Professional1	145440 (1 licence)	
DEPRAG Cockpit Professional5	142967 (5 licences)	
DEPRAG Cockpit Professional10	142968 (10 licences)	
DEPRAG Cockpit Professional20	142978 (20 licences)	
DEPRAG Cockpit Professional50	142979 (50 licences)	
TIA Link	135839	For integration of DEPRAG devices in the PLC.
TwinCAT Link	140996	

For more details to the software products, please see brochure D3900E.

# DEPRAG

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