



EMERSON
Industrial Automation

Digitax *ST*

Servo drives range
Intelligent, Compact
and Dynamic

From 0.72Nm to 18.8Nm
(56.4Nm Peak)



**CONTROL
TECHNIQUES**

www.controltechniques.com

The ultimate servo drive

Meeting the demands of modern lean manufacturing environments requires smaller more flexible machinery. Digitax ST is the first ever drive designed to help machine designers and system integrators meet these challenges, the ultimate compact servo drive with an unmatched depth of flexible integration features.

Designed around you

Digitax ST is optimised for servo applications requiring high peak torque, dynamic response, ease of use and flexible integration features. Four product variants ensure that the drive's personality perfectly matches your servo applications.

- Digitax ST – Base**
 Optimised for centralised control, to operate with motion controllers, motion PLCs and Industrial PC based motion systems using a wide range of digital or analogue interface technologies.
- Digitax ST – Indexer**
 Designed for simple stand alone positioning applications using an onboard position controller. Fieldbus, Ethernet and I/O enable connectivity to other automation components.
- Digitax ST – EZ Motion**
 This drive offers a stand alone solution for many common indexing and synchronised motion applications. This is achieved using a unique, PC programming interface that guides the user through the drive, I/O and motion configuration.
- Digitax ST – Plus**
 Features a full functionality motion controller, optimised for high performance machine cells requiring drive-to-drive networking and precision synchronisation. The motion and communications are configured within a flexible IEC61131-3 software development environment using PLCopen function blocks. Fieldbus, Ethernet and I/O connectivity enable interfacing with other automation components and Intellectual Property protection ensures that your valuable knowledge remains secure.



Reliability and innovation

Digitax ST is designed using a well proven development process that prioritises innovation and reliability. This process has resulted in Control Techniques having a market leading reputation for both product performance and quality.



Global service

Control Techniques' 53 Drive Centres located in 31 countries ensure that service, support and expertise are just around the corner, all around the world.



Compact & complete

More compact machinery

Digitax ST is an extremely compact servo drive that can be mounted side-by-side with other drives or components without leaving space. The result is an incredibly high packing density for multiple axes. Onboard features such as synchronised motion control and Safe Torque Off reduce the need for external components further reducing cubicle sizes and cost.

Matched motors

Unimotor hd is Control Techniques' high dynamic brushless AC servo motor range, designed for operation with Digitax ST drives. Unimotor hd provides an exceptionally compact, low inertia solution for applications where very high torque is required during rapid acceleration and deceleration profiles. The Unimotor hd torque profile is matched to Digitax ST servo drives, providing up to 300% peak overload for maximum dynamic performance.

Increased value

How do you increase the value of your machines while reducing your costs? Digitax ST offers reliability, and the performance to increase speed, repeatability and accuracy while also reducing the size and cost. Digitax ST addresses all of the challenges associated with modern machine design.



	Digitax ST - Base	Digitax ST - Indexer	Digitax ST - EZ Motion	Digitax ST - Plus
Two option module slots	✓	✓	✓	✓
Digital and analogue I/O with pluggable connector	✓	✓	✓	✓
Smartcard	✓	✓	✓	✓
High speed Freeze input for position capture	✓	✓	✓	✓
Safe Torque Off (Secure Disable)	✓	✓	✓	✓
CTSoft and CTScope commissioning software	✓	✓		✓
Removable keypad (optional)	✓	✓	✓	✓
RS485 PC programming port	✓	✓	✓	✓
Intellectual Property Protection		✓		✓
Index motion programming within CTSOFT		✓		*
Program multi-tasking			✓	✓
PowerTools Pro programming environment			✓	
SyPT Pro programming environment with PLCopen programming				✓
Drive-to-drive networking				✓

* Able to import Index Motion into SYPTPro

AC Input Power, 48Vdc &
Dynamic Brake Terminals

Optional
Removable Keypad

Programming Port

Analogue I/O

Digital I/O & 24Vdc

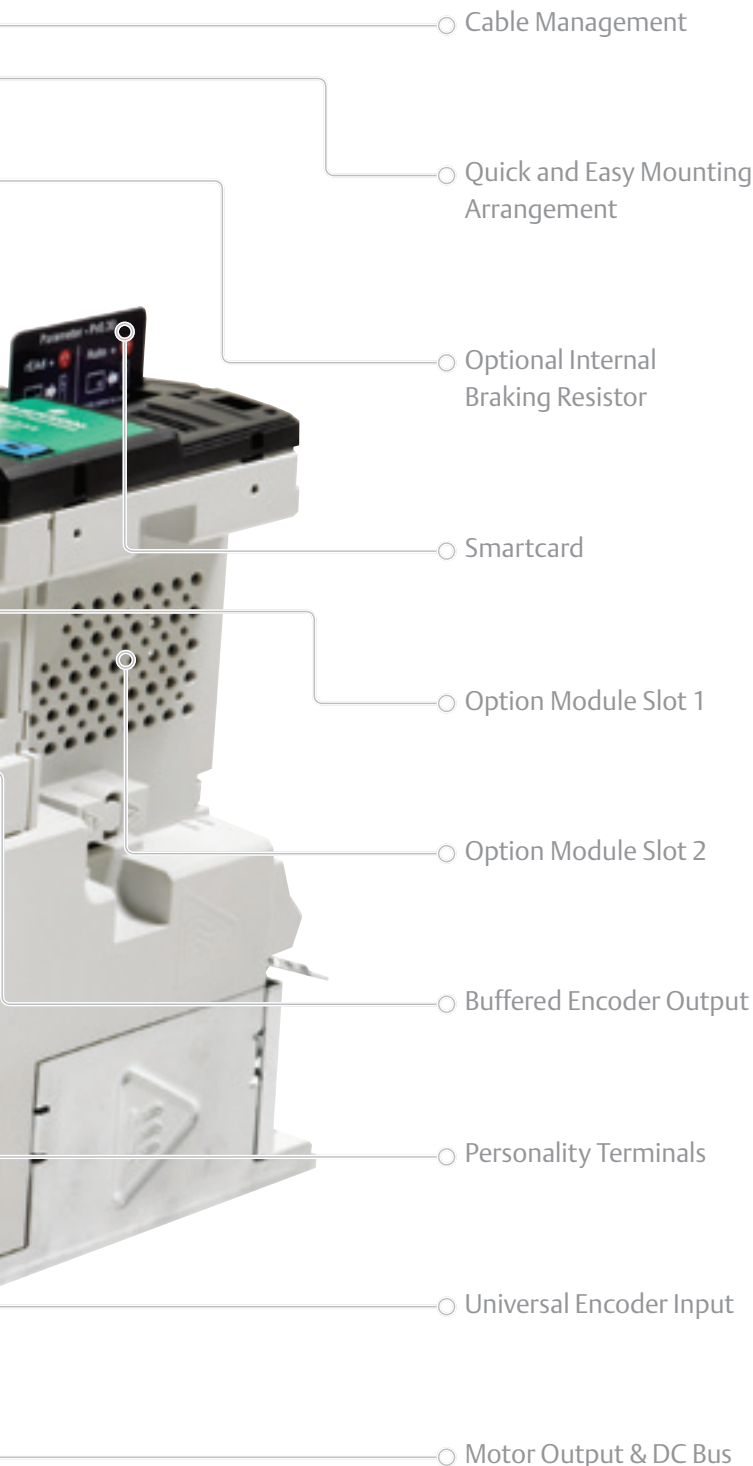
Safe Torque Off

Relay Output

Cable Management

Quick and easy
mounting arrangement
with DIN rail clip





Value your time

Reduced development time

- Three motion programming options allow you to choose the method you prefer:
 - CTSofT index motion
 - IEC61131-3 environment with PLCopen functions
 - PowerTools Pro with drag and drop functionality and a BASIC-like programming language
- Servo and fieldbus option modules independently certified for conformity with open standards to ensure interoperability
- 2D and 3D CAD files to make it easier and quicker to design the drive into your machine

Quicker installation

- Innovative mounting arrangements enable the bottom of the drive to be quickly clipped on to standard DIN rail
- Cable management system features rigid mounting and grounding brackets
- Pluggable control terminals enable looms to be easily prepared
- Click-in option modules mean the drive can be customised to your needs at the point of installation without specialist tools and gives the flexibility to customise the functionality at a future time.

Reduced commissioning time

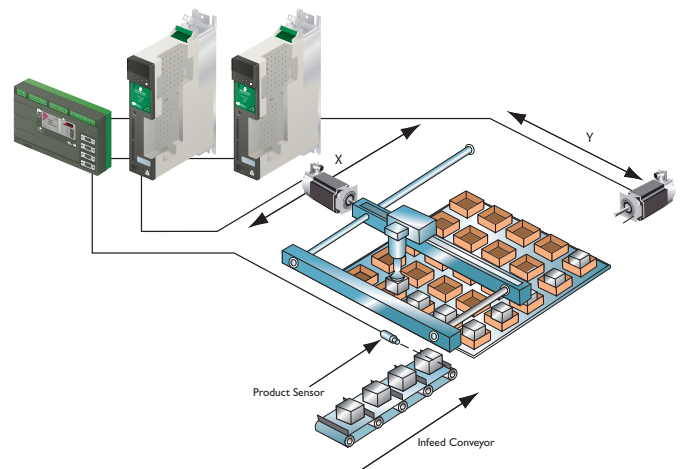
- Digitax ST may be quickly configured using:
 - Removable keypad
 - Smartcard that enables parameters to be safely stored and copied quickly from one drive to another
 - Supplied commissioning software
- Unimotor hd enables the motor dimensions to be stored onboard the encoder as an 'electronic nameplate', enabling automatic motor set-up
- Autotune features help you to get the best performance by measuring the machine dynamics and automatically optimising the control loop gains
- CTScope, a real-time software oscilloscope, is supplied for tuning the drive and monitoring performance



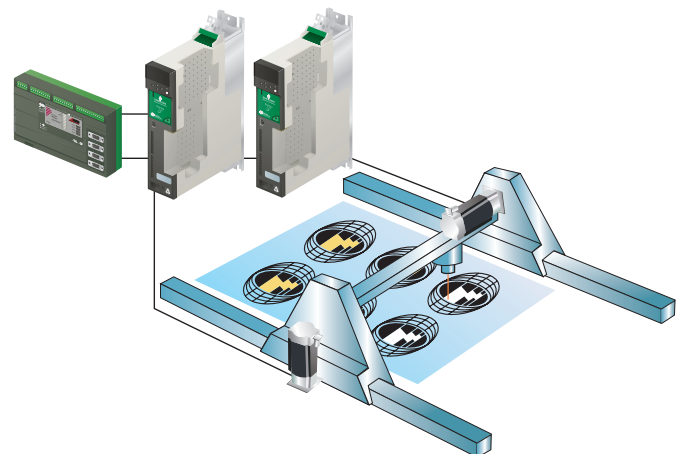
Typical applications

- Packaging
- Pick and place
- Glue depositing
- Metal, glass, plastic and fabric x y cutting tables
- Materials Handling
- Profiling applications

Pick and place machine



Laser cutting machine

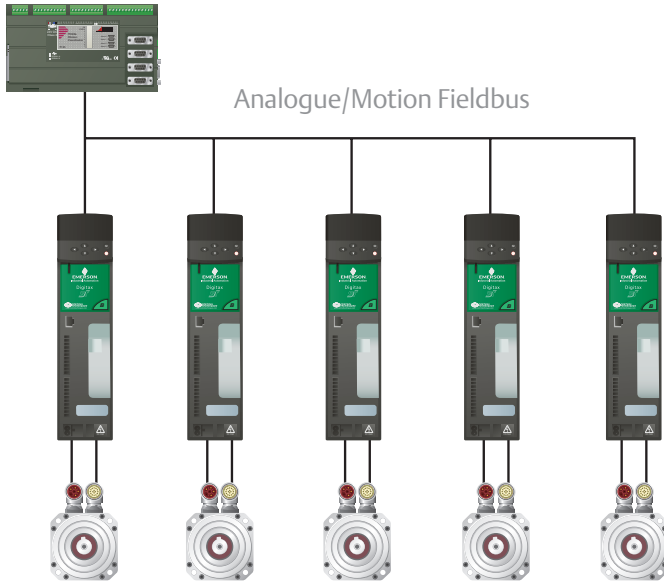


Digitax ST - Base

Centralised, coordinated motion

Digitax ST - Base is designed for integration with centralised motion controllers, connected using either digital communications or analogue technologies. The drive offers optimised servo performance, flexible connectivity and is quick and simple to configure using either the optional keypad, Smartcard or CTSOft, an intuitive drive configuration software that is included with every drive.

Typical architecture



Key benefits

Option modules with synchronous drive connectivity allow the drive to interface using dedicated servo networks such as EtherCAT, SERCOS and CANopen. Compliance certification ensures interoperability with other manufacturers' equipment.

The standard I/O includes high speed Freeze input for position capture, high resolution analogue input and an encoder output to enable the drive to be connected to traditional motion controllers.

The on-board universal encoder input is able to connect to Incremental, SinCos, Hiperface, EnDAT and SSI encoders allowing you to choose the best feedback device for each application.

As standard the drive features a Safe Torque Off input, which disables the output stage of the drive with a high degree of security. This reduces the cost of complying with machine safety standards and enables the drive to integrate easily with the machine safety system.

Key option modules

Communications



EtherCAT



SERCOS



CANopen

Feedback



SLM



Resolver

Applications



Register





Digitax ST - Indexer

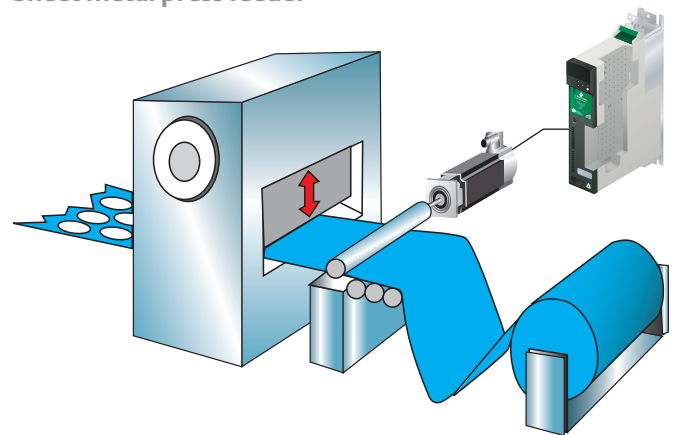
Easy to use, point-to-point positioning

Digitax ST - Indexer has the same high performance features as the Base model, but additionally offers easy to use point-to-point positioning functionality. The drive can operate as a standalone controller or integrate with a wider automation system using fieldbus and I/O. The drive and positioning features are commissioned using CTSOft, an intuitive drive configuration software that is included free with every drive.

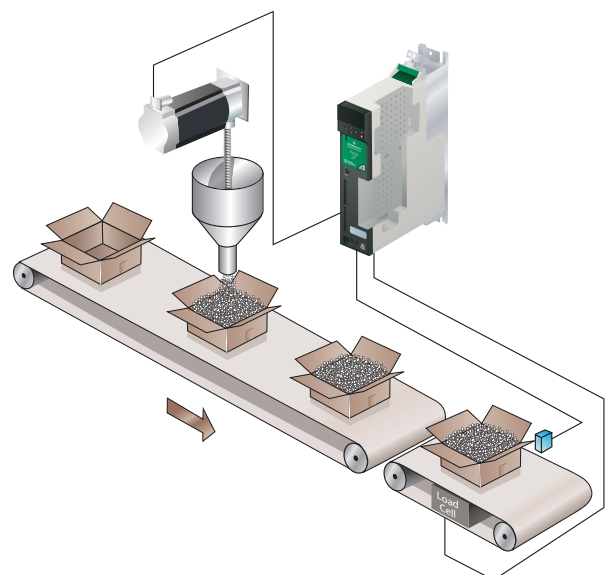
Typical applications

- Indexing tables
- Fast conveyor positioning
- Cut-to-length machines
- Punching
- Transfer mechanisms
- Fast and precise fluid dispensing

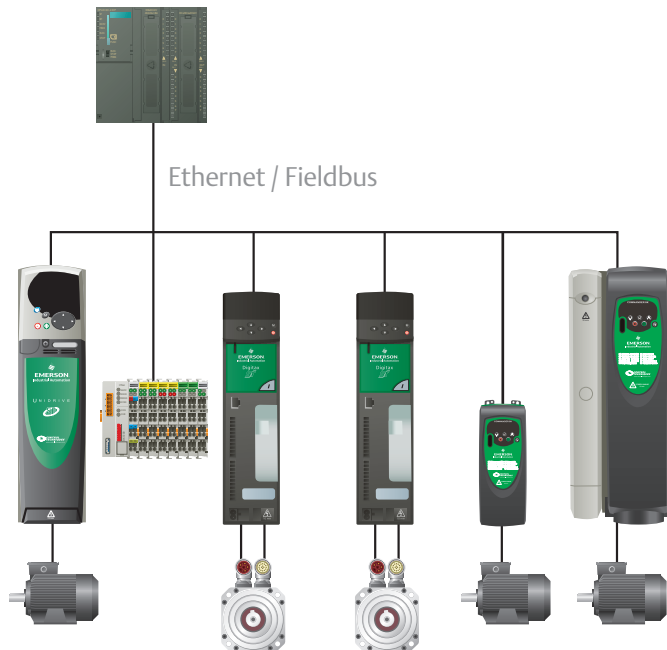
Sheet metal press feeder



Box filling machine



Typical architecture



Key benefits

On-board motion controller with easy-to-use yet powerful graphical software tools enable positioning applications to be configured quickly and easily using the graphical sequential function chart language.

Option modules for Ethernet and fieldbus connectivity such as Profibus and DeviceNet allow the drive to integrate with a wider automation system.

Positioning applications developed for the Indexer can be imported into SyPT Pro, giving access to more advanced features and drive-to-drive communications.

Key option modules

Communications



Ethernet



Ethernet/IP



PROFIBUS-DP



DeviceNet



CANopen



INTERBUS



CTNet

Feedback



SLM



Resolver

Input and output



Additional I/O Lite



Additional I/O Plus



High Density I/O



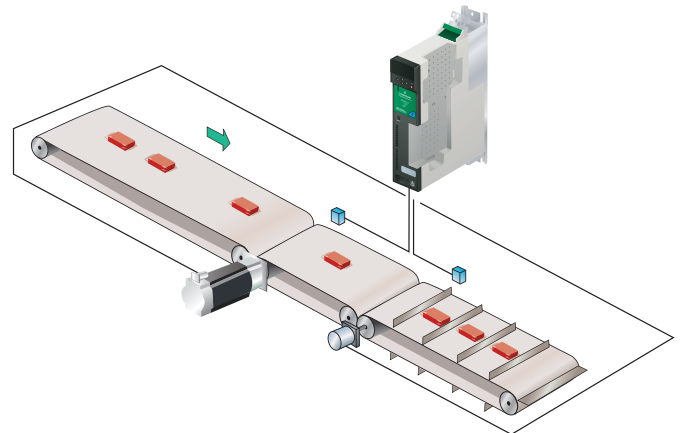
I/O with real time clock



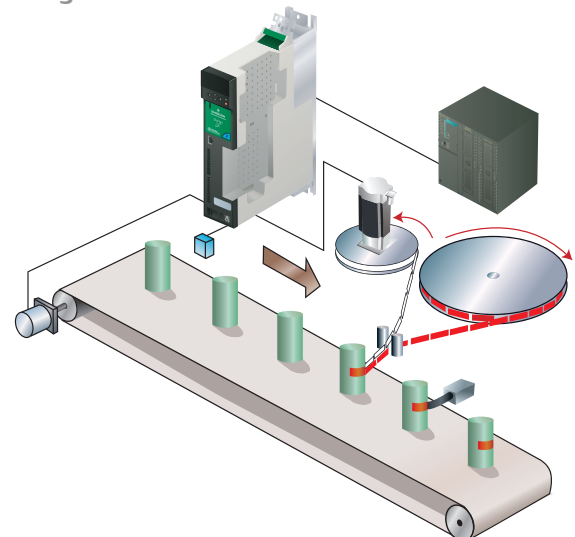
Typical applications

- Indexing table
- Pick and place
- Packaging machines
- Dancer arm loop control
- High speed labelling
- Rotary knife

Random infeed - smart belt



Labelling machine

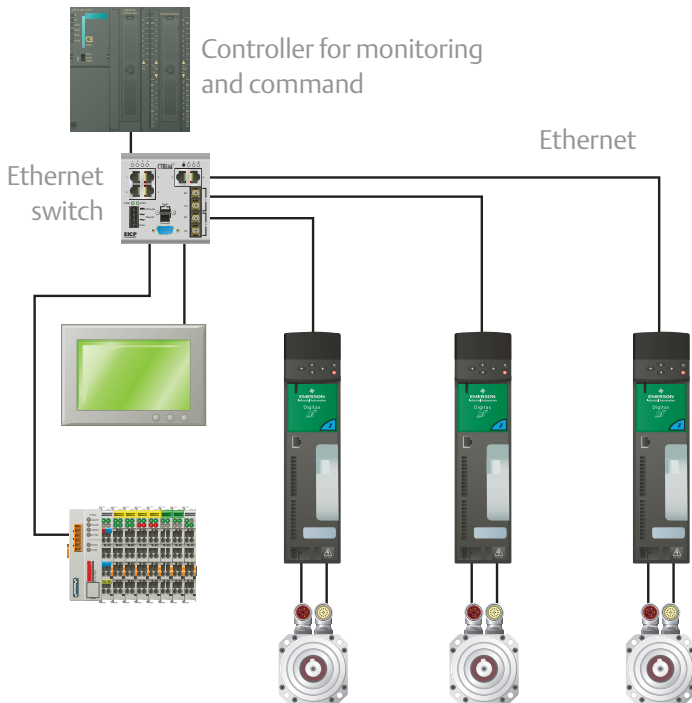


Digitax ST - EZ Motion

Easy motion for indexing and synchronised motion applications

Digitax ST - EZ Motion features an easy to use programming environment making motion control accessible to experienced and first time motion users alike. While simplicity is a primary focus, performance is not compromised, offering a precision servo solution for many common indexing and synchronised motion applications.

Typical architecture



Key benefits

Digitax ST - EZ Motion is supplied with PowerTools Pro, an easy-to-use software tool for configuration, commissioning and monitoring of all aspects of the drive and motion application.

High level software features help you to reduce your development time. Motion configurations such as travel limits, queuing and gearing are easily deployed within PowerTools Pro software using easy to complete forms and drag and drop functionality.

Six additional high-speed digital I/O points can be used for position capture and system interfacing enabling more complex applications and registration features to be implemented.

Key option modules

Communications



Ethernet



Ethernet/IP



PROFIBUS-DP



DeviceNet



CANopen



INTERBUS

Feedback



Resolver



Universal Encoder



Incremental Encoder

Input and output



Additional I/O Lite



Additional I/O Plus



High Density I/O



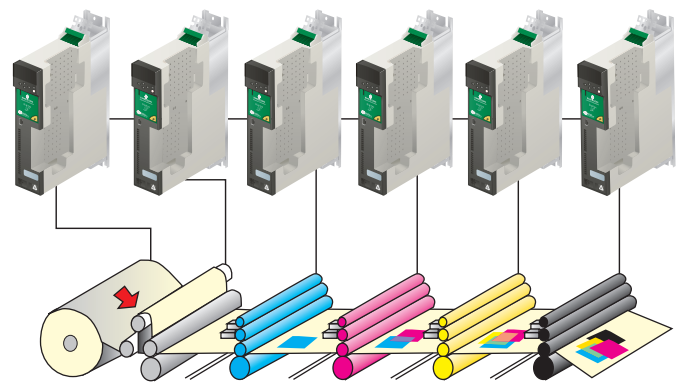
I/O with real time clock



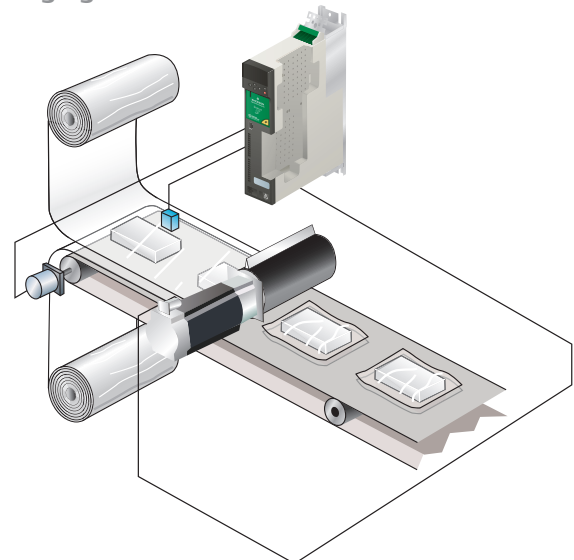
Typical applications

- Printing
- Packaging
- Synchronising conveyors
- Flying shear
- Rotary knife
- Winder traverse for textile/cable

In-line printing



Packaging machine

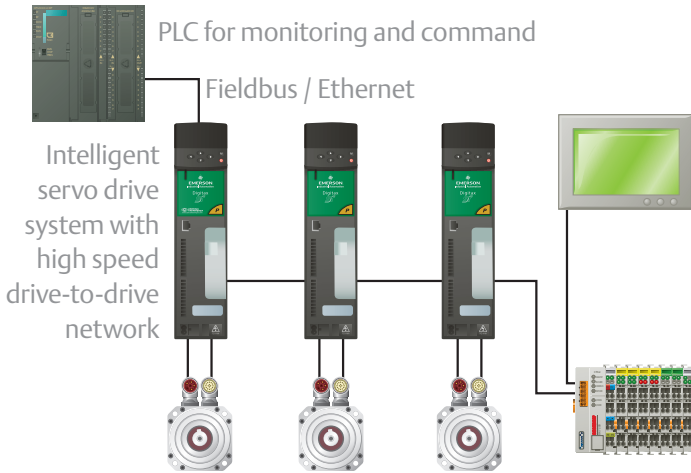


Digitax ST -Plus

Flexibility for the most demanding motion applications

Digitax ST - Plus offers all of the features available on the indexer drive together with more advanced motion functionality including cam profiling and synchronised motion. Onboard drive-to-drive networking links multiple axes and enables true distributed control. The drive is commissioned using CTSOft, an intuitive drive configuration software that is included free with every drive. The advanced motion features are configured using PLCopen motion function blocks within Control Techniques SyPT Pro automation development environment.

Typical architecture



Key benefits

On-board position controller ensures superior performance and reduced cubicle space.

Digitax ST - Plus is configured using Control Techniques market leading development environment, SyPT Pro. Standard IEC61131-3 languages, multi-tasking and PLCopen motion function blocks increase familiarity and reduce the development time.

Digitax ST - Plus prevents others benefiting from your unique knowledge. SyPT Pro can protect your Intellectual Property by downloading only the compiled binary version of your software (not the source code) therefore preventing your customers and competitors from accessing your work.

Many machinery users have different site standards for PLCs. This presents you with the challenge of designing standard machine sections that are independent of your customers PLC preference. With on-board intelligence, drive-to-drive synchronisation and a wide range of network communication options, Digitax ST makes it easy for you to standardise your designs whilst retaining full connectivity to any PLC.

High speed, deterministic drive-to-drive communications reduces wiring and improves the system performance.

Control Techniques drive-to-drive network allows Digitax ST - Plus to integrate closely with other automation devices such as HMIs, PCs, I/O and other Control Techniques drives such as Unidrive SP and Mentor.

Key option modules

Communications



Ethernet



Ethernet/IP



PROFIBUS-DP



DeviceNet



CANopen



INTERBUS

Feedback



Resolver



Universal Encoder



Incremental Encoder



SLM

Input and output



Additional I/O Lite



Additional I/O Plus



High Density I/O



I/O with real time clock



Distributed I/O

Control Techniques software

Control Techniques makes it easier to access the drive's full feature set. Our software allows you to optimise the drive tuning, back-up the configuration, configure the on-board motion controller and design the drive-to-drive network data links. There are five main software packages:

- **CTSoft** - Drive configuration and index motion editor
- **CTScope** - Real-time software oscilloscope
- **PowerTools Pro** - Easy to use, all in one drive configuration software for Digitax ST - EZ Motion drives
- **SyPT Pro** - Drive automation and motion programming environment
- **CTOPCServer** - OPC compliant server for interfacing your own PC software with Control Techniques drives



The software packages connect using Ethernet, CTNet, Serial or USB connections. Ethernet communications allow the drives to be accessed remotely, anywhere in the world.

	Ethernet	RS485	CTNet	USB
CT Soft	✓	✓	✓	✓
CTScope	✓	✓	✓	✓
PowerTools Pro	✓	✓		✓
SyPT Pro	✓	✓	✓	✓
CTOPCServer	✓	✓	✓	✓

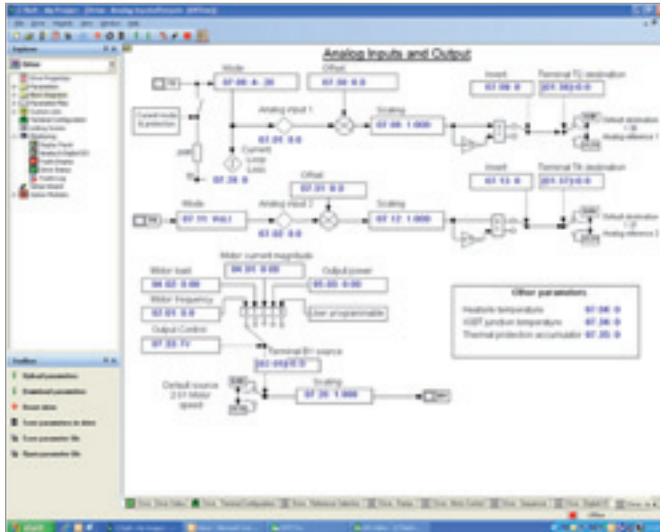


CTSoft

	Base	Indexer	EZ Motion	Plus
Available for	✓	✓		✓

CTSoft is a drive configuration tool for commissioning, optimising and monitoring Control Techniques drives. It allows you to:

- Use the configuration wizards to commission your drive
- Program the Digitax ST on-board motion controller
- Read, save and load drive configuration settings
- Manage the drive's smartcard data
- Visualise and modify the configuration with live animated diagrams



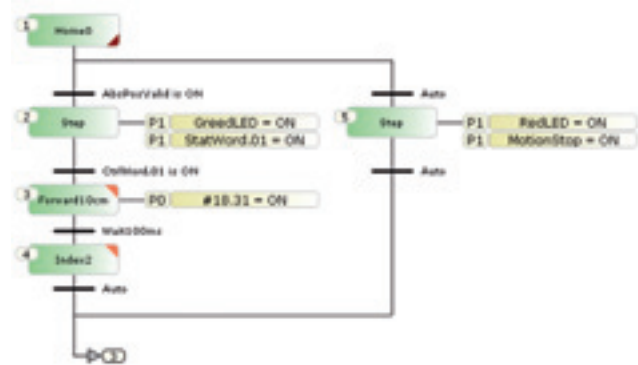
For evaluation, download the full software from www.controltechniques.com



Index Motion Controller

	Base	Indexer	EZ Motion	Plus
Available for		✓		

Digitax ST - index motion controller is programmed within CTSoft using industry standard Sequential Function Chart (SFC) language. The user can quickly configure a range of motion commands such as homing and various index moves. The focus is on reducing development time and ease of use.



The status of the program can be monitored, and the speed of the motion reduced for commissioning and testing purposes:

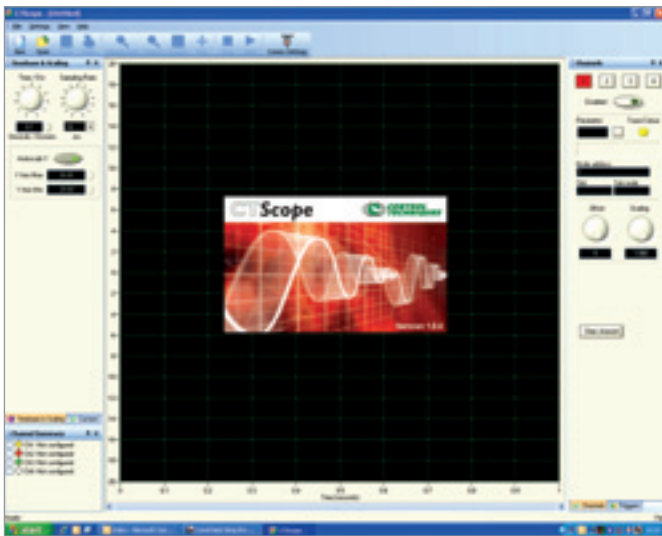


For evaluation, download the full software from www.controltechniques.com



CTScope

	Base	Indexer	EZ Motion	Plus
Available for	✓	✓		✓



CTScope is a full featured software oscilloscope for viewing and analysing changing values within the drive. The time base can be set to give high speed capture for tuning or intermittent capture for longer term trends. The user interface is based on a traditional oscilloscope, making it familiar and friendly to all engineers across the globe.

For evaluation, download the full software from www.controltechniques.com



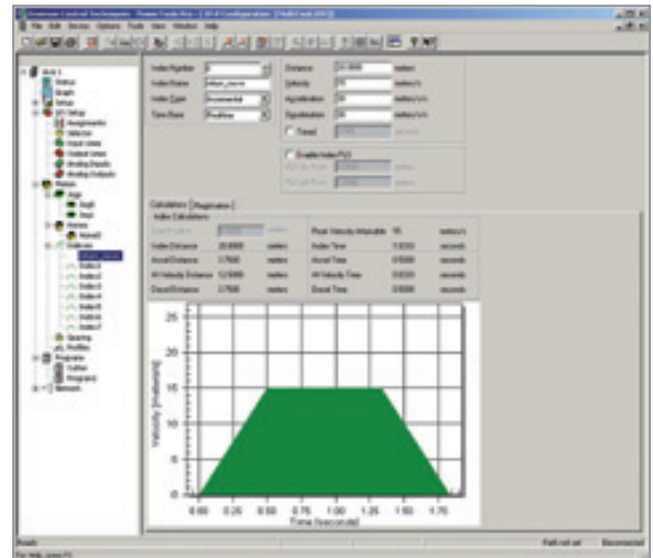
PowerTools Pro

	Base	Indexer	EZ Motion	Plus
Available for			✓	

Developing motion applications with PowerTools Pro is a simple “five step, top-down process”. The five steps are displayed within an explorer bar that allows easy intuitive navigation. Each step is configured using simple check boxes, drop down selections and drag and drop functionality. The five steps are:

- Hardware Configuration
- Drive Setup
- I/O Setup
- Motion
- Programs

A “BASIC”-like programming language enables users to develop more complex applications and sequencing with functions being selected by dragging and dropping onto the work area.



For evaluation, download the full software from www.controltechniques.com

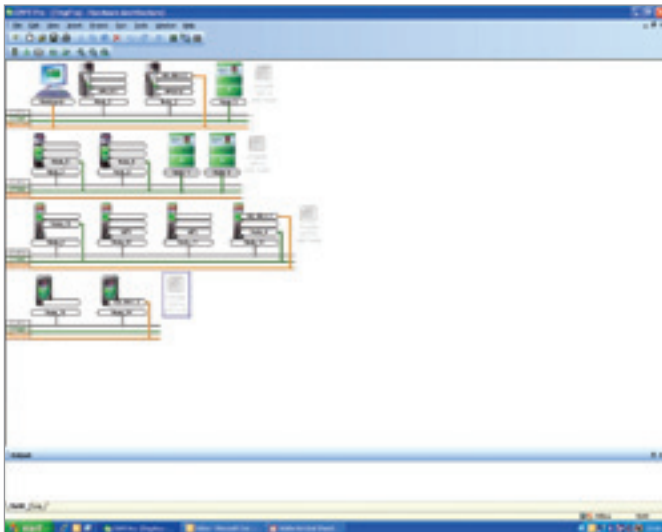


SyPTPro

	Base	Indexer	EZ Motion	Plus
Available for				✓

SyPT Pro is a full featured automation development environment that can be used for developing solutions for single or multiple axis applications. The programming environment supports three industry standard languages: Function Block, Ladder and Structured Text. Motion control is configured using the new PLCopen motion language, supporting up to 1.5 axes. CTNet, a high-speed, drive-to-drive network links the drives, SCADA and I/O together to form an intelligent networked system. SyPT Pro manages both the system programming and motion communications.

For evaluation, download a demo version of the software at www.syptpro.com.



For more information please refer to SyPT Pro brochure, part number 0175-0334



CTOPCserver

	Base	Indexer	EZ Motion	Plus
Available for	✓	✓	✓	✓

CTOPCServer is an OPC compliant server which allows PCs to communicate with Control Techniques drives. The server supports communication using Ethernet, CTNet, RS485 and USB. OPC is a standard interface on SCADA packages and is widely supported within Microsoft™ products. The server is supplied free of charge and may be downloaded from www.controltechniques.com.

Unimotor hd

0.72Nm - 18.8Nm
56.4Nm Peak

Compact servo motor for demanding applications

Overview

Unimotor hd is Control Techniques' high dynamic servo motor range, designed for maximum torque density. This brushless AC servo motor range provides an exceptionally compact, low inertia solution for applications where very high torque is required during rapid acceleration and deceleration profiles.

When used with Digitax ST, this combination is designed for high torque output in dynamic applications.

Benefits

Unimotor hd has been developed by a dedicated team using our design process that prioritises product innovation, performance and reliability. This enables new ideas to be quickly evaluated, prototyped and tested using a suite of in-house development and modelling software tools.

Control Techniques drive and motor combinations provide an optimised system in terms of ratings, performance, cost and ease of use.

Unimotor hd motors fitted with high resolution SinCos or Absolute encoders are pre-loaded with the motor "electronic nameplate" data during the manufacturing process. This data can be read by Control Techniques' servo drives and used to automatically optimise the drive settings. This feature simplifies commissioning and maintenance, ensures consistent performance and saves time.



Performance enhancing design features include:

- High torque to inertia ratio for high dynamic performance
- High energy dissipation brakes
- IP65 conformance: sealed against water spray and dust when mounted and connected
- Segmented stator design
- Larger shafts to increase torsional rigidity

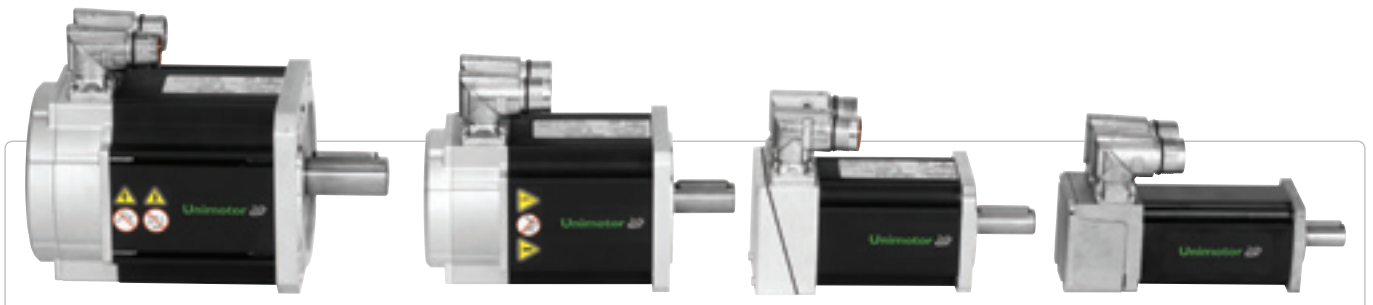
For more information please refer to the Unimotor hd Product Data.



Higher torque applications

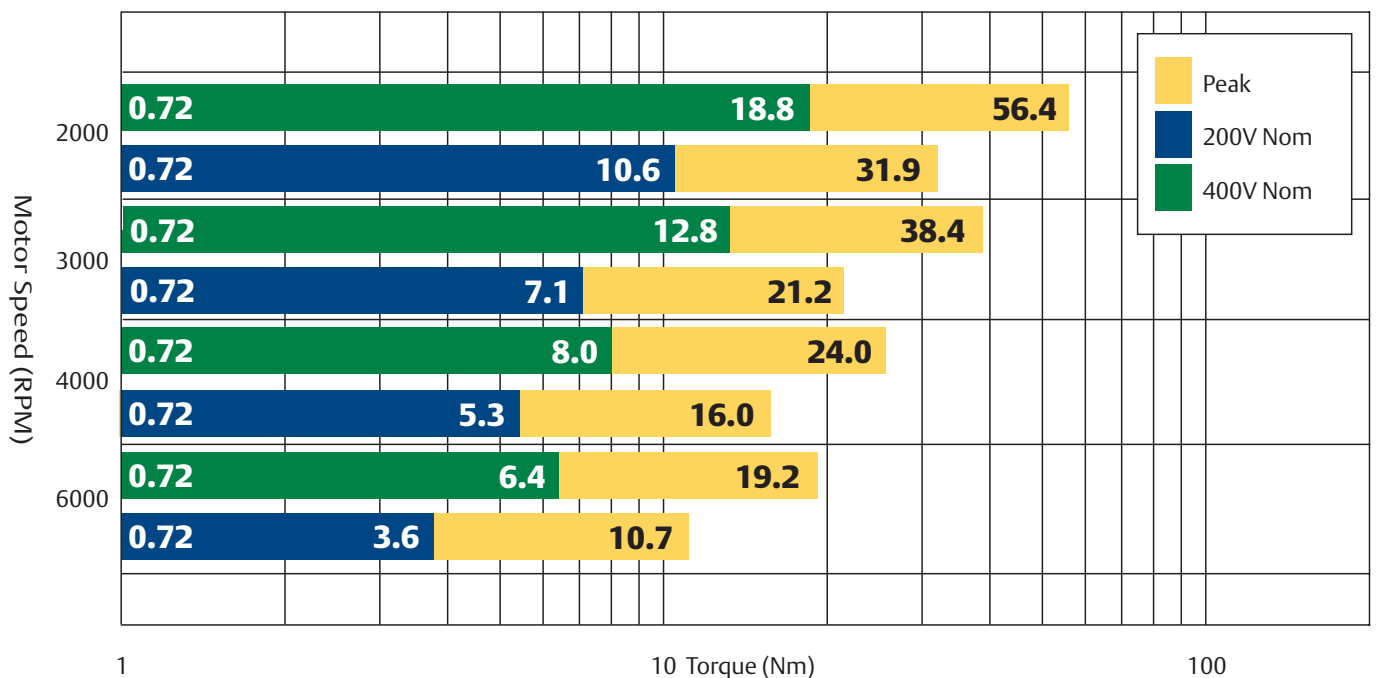
For applications above 18.8Nm, Unidrive SP and Unimotor fm are available. For more information please refer to the Unidrive SP brochure and Unimotor fm Product Data.

All brochures can be downloaded from www.controltechniques.com





Available motor / drive combinations



NB: The selection of Drive-Motor combinations should be based on Duty/Load Profiles of the application

Digitax ST / Unimotor hd combinations

Table data based on 2000 rpm motors 3x stall torque

200V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1204	10.20	7.29	30.60	21.86	4.41	115EDB200
DST1204	10.60	7.60	31.90	22.80	6.39	115EDC200*
DST1204	10.60	7.60	31.90	22.80	8.38	115EDD200*

Table data based on 2000 rpm motors 3x stall torque

400V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1402	10.20	4.25	30.60	12.75	4.41	115UDB200
DST1405	14.60	6.08	43.80	18.25	6.39	115UDC200
DST1405	18.80	7.83	56.40	23.50	8.38	115UDD200

Table data based on 3000 rpm motors 3x stall torque

200V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1201	0.72	0.97	2.88	3.89	0.14	055EDA300
DST1201	1.18	1.36	4.72	5.43	0.25	055EDB300
DST1201	1.45	1.56	4.35	4.68	0.30	067EDA300
DST1202	1.65	1.81	6.60	7.25	0.36	055EDC300
DST1202	2.55	2.74	7.65	8.23	0.53	067EDB300
DST1202	3.20	3.44	9.60	10.32	0.87	089EDA300
DST1203	3.70	3.98	11.10	11.94	0.75	067EDC300
DST1204	5.50	5.91	16.50	17.74	1.61	089EDB300
DST1204	7.10	7.60	21.20	22.80	2.34	089EDC300*
DST1204	7.10	7.60	21.20	22.80	4.41	115EDB300*
DST1204	7.10	7.60	21.20	22.80	6.39	115EDC300*

Table data based on 3000 rpm motors 3x stall torque

400V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1401	0.72	0.97	2.88	3.89	0.14	055UDA300
DST1401	1.18	0.79	4.72	3.17	0.25	055UDB300
DST1402	1.45	1.56	4.35	5.44	0.30	067UDA300
DST1401	1.65	1.00	6.60	4.00	0.36	055UDC300
DST1402	2.55	2.74	7.65	4.78	0.53	067UDB300
DST1402	3.20	2.00	9.60	6.00	0.87	089UDA300
DST1402	3.70	3.98	11.10	6.94	0.75	067UDC300
DST1403	5.50	3.44	16.50	10.31	1.61	089UDB300
DST1404	8.00	5.00	24.00	15.00	2.34	089UDC300
DST1405	10.20	6.38	30.60	19.13	4.41	115UDB300
DST1405	12.80	8.00	38.40	24.00	6.39	115UDC300*
DST1405	12.80	8.00	38.40	24.00	8.38	115UDD300*

Table data based on 4000 rpm motors 3x stall torque

200V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1203	3.20	4.57	9.60	13.71	0.87	089EDA400
DST1204	5.30	7.60	16.00	22.80	1.61	089EDB400*
DST1204	5.30	7.60	16.00	22.80	2.34	089EDC400*

Table data based on 4000 rpm motors 3x stall torque

400V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1402	3.20	2.67	9.60	8.00	0.87	089UDA400
DST1404	5.50	4.58	16.50	13.75	1.61	089UDB400
DST1405	8.00	6.67	24.00	20.00	2.34	089UDC400

Table data based on 6000 rpm motors 3x stall torque

200V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1201	0.72	1.61	2.88	6.40	0.14	055EDA600
DST1202	1.18	2.74	4.72	10.98	0.25	055EDB600
DST1202	1.45	3.12	4.35	9.26	0.30	067EDA600
DST1202	1.65	3.44	6.60	13.75	0.36	055EDC600
DST1203	2.55	5.48	7.65	16.28	0.53	067EDB600
DST1204	3.20	6.88	9.60	20.43	0.87	089EDA600
DST1204	3.60	7.60	10.70	22.80	1.61	089EDB600*
DST1204	3.60	7.60	10.70	22.80	2.34	089EDC600*

Table data based on 6000 rpm motors 3x stall torque

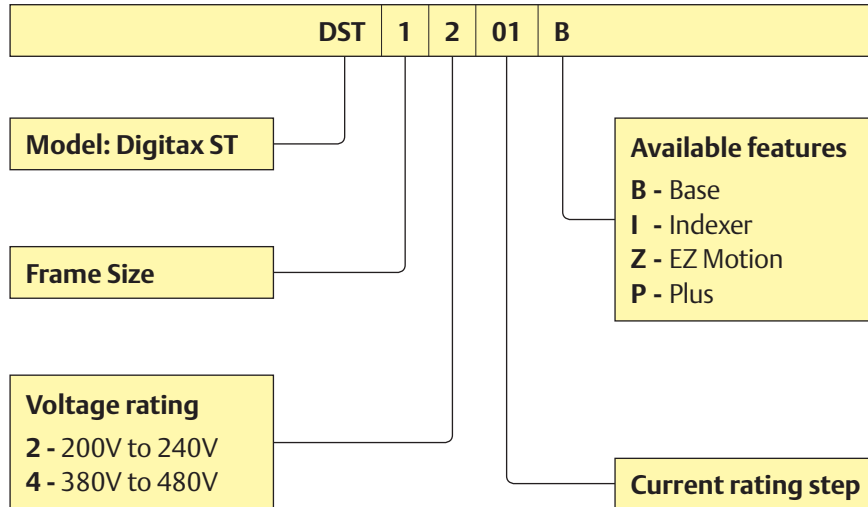
400V						
Drive Part No.	Stall Nm	Stall Amp	Peak Nm	Peak Amp	Inertia kg/cm ²	Motor Part No.
DST1401	0.72	0.97	2.88	3.89	0.14	055UDA600
DST1401	1.18	1.49	4.72	5.97	0.25	055UDB600
DST1402	1.45	1.81	4.35	5.44	0.30	067UDA600
DST1402	1.65	1.99	6.60	7.95	0.36	055UDC600
DST1403	2.55	3.19	7.65	9.56	0.53	067UDB600
DST1403	3.20	4.00	9.60	12.00	0.87	089UDA600
DST1404	3.70	4.63	11.10	13.88	0.75	067UDC600
DST1405	5.50	6.88	16.50	20.63	1.61	089UDB600
DST1405	6.40	8.00	19.20	24.00	2.34	089UDC600*

*Motor rating limited by drive

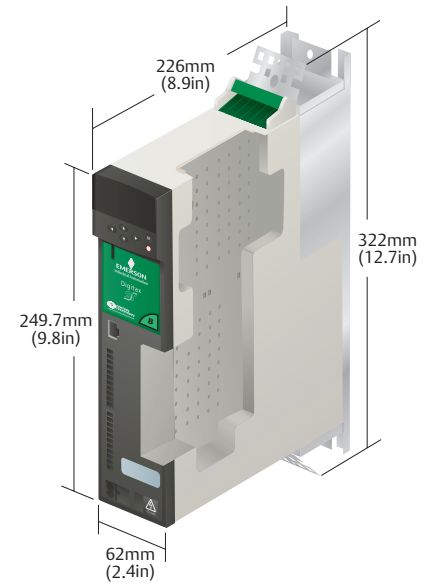
Technical data for Digitax ST

Model reference

Model code explanation



Drive dimensions



Drive Model Ratings				
Model	Rated voltage (V)	No of input phases	Nominal current (Arms)	Peak current (Arms)
DST1201	230	1	1.1	2.2
DST1202	230	1	2.4	4.8
DST1203	230	1	2.9	5.8
DST1204	230	1	4.7	9.4
DST1201	230	3	1.7	5.1
DST1202	230	3	3.8	11.4
DST1203	230	3	5.4	16.2
DST1204	230	3	7.6	22.8
DST1401	400	3	1.5	4.5
DST1402	400	3	2.7	8.1
DST1403	400	3	4.0	12.0
DST1404	400	3	5.9	17.7
DST1405	400	3	8.0	24.0

NOTE: The drive selection should be based on the duty/load profile of the application.

Supply requirements		
Model	Supply voltage	Supply frequency range
DST120X	200V to 240V +/-10% single phase	48Hz to 65Hz
DST120X	200V to 240V +/-10% three phase	48Hz to 65Hz
DST140X	380V to 480V +/-10% three phase	48Hz to 65Hz

Internal braking resistor option	
Part number	1299-0001
DC resistance at 25 °C	70R
Average power	50W
Peak instantaneous power over 1 ms at nominal resistance	2.2kW (230V) 8.7kW (400V)

Foot mounted EMC filters			
Model	Voltage	Phases	Part number
DST120X	230	1	4200-6000
DST120X	230	3	4200-6001
DST140X	400	3	4200-6002

Other options			
Description	Part number	Description	Part number
Keypad	Digitax ST Keypad	CT Comms Cable RS232	4500-0087
Additional Standard Smartcard	2214-4246	CT Comms Cable USB	4500-0096
High Capacity Smartcard	2214-1006		

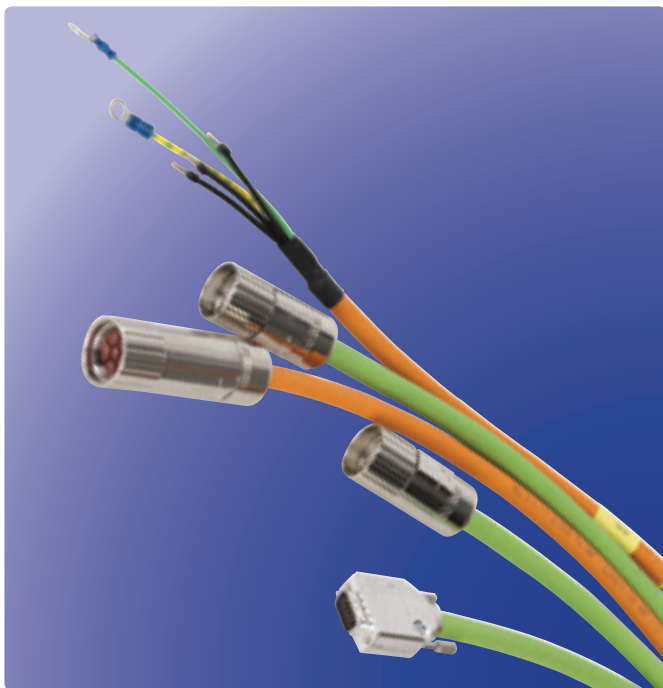
General drive data	
Type	Details
IP rating	1P20 (UL Type 1 / NEMA 1)
Weight (net)	2.1kg (4.6 lb) Excluding keypad and option modules
Ambient operating temperature	0 °C to 50 °C (32 °F to 122 °F) Output current is derated at ambient temperatures >40 °C (104 °F)
Operating humidity	Maximum relative humidity 95% non-condensing
Altitude	0m to 3000m (9900ft). Derate the maximum output current for the specified figure by 1% per 100m (330 ft) above 1000m (3300 ft).
Power cycles per hour	60 starts per hour equally spaced
Digital and analogue I/O	3 Dedicated inputs 3 Bi-directional input/outputs 1 Relay output 1 High resolution analogue input (16 bit + sign) 2 Analogue outputs 1 Standard analogue input (10 bit + sign) 1 Freeze input (1µs)
Vibration	Tested in accordance to IEC60068-2-6/64
Mechanical shock	Tested in accordance to IEC60068-2-29
Electromagnetic immunity	Complies with EN61800-3 (2nd Environment)
Electromagnetic emissions	Complies with EN61800-3 (2nd Environment) with onboard filter. EN61000-6-3 and EN61000-6-4 with optional footprint EMC filter
Safe Torque Off	Approved by BGIA as meeting the requirements of the following standards for the prevention of unexpected starting of the drive: EN 61800-5-2:2007 SIL 3 EN ISO 13848-1:2006 PL e EN 954-1:1997 Category 3

Motor cables for servo drives

Cables - A critical part of any servo system

Problems experienced with servo systems are often caused by poor quality connections between the drive and the motor. The motor cables form a critical part of the servo system, carrying instrumentation signals that require comprehensive noise immunity and integrity to ensure successful and reliable operation.

Control Techniques' readymade cables meet the highest quality standards and are fully RoHS compliant. They are manufactured to order to meet your precise requirements.



Designed and manufactured to meet your exact needs

Control Techniques servo cables can be made any length from 1m to 100m, depending on your specific requirements. Power and signal cables are custom-made to fit any combination of Control Techniques servo products. Optional brake wires or ferrules for hybrid boxes are available and connectors can be in-line or right-angle for total flexibility

Optimised for quality and cost

As standard, Control Techniques use PUR sheathed cables offering an optimum combination of performance and cost. These are suitable for dynamic applications that require the motor cables to continuously flex. Lower cost OFS sheathed cables are also available for static applications across a limited range of motor-drive combinations.

Other benefits include:

- DESINA coding (orange sheaths for power and green for signal cables)
- Power cables, signal cables and plugs are UL recognised
- Constructed to help your servo system meet EMC standards
- Encoder cable has low volt drop for long cable lengths and separately shielded thermistor wires, for optimum system performance
- No need for crimp and insertion/removal tools, to simplify installation
- Production build gives unparalleled quality and overall project savings
- Power cables with and without brake wires, for flexible servo system design
- Cable assembly type identification label, for user friendliness
- Brake wires are separately shielded within the power cable for maximising system integrity



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