

**CONTROL[™]
TECHNIQUES**

PRODUCT PORTFOLIO

2019 TO 2020



Drive specialists
since 1973

Nidec
—All for dreams



All for dreams

#1 for advanced motor and drive technology

Nidec Corporation is a global manufacturer of electric motors and drives. Founded in 1973, Nidec has worldwide operations and a workforce of more than 110,000 who develop, manufacture and install motors, drives and control systems in industrial plants, automobiles, home appliances, office equipment and information technology.

CONTROL TECHNIQUES™

DRIVE SPECIALISTS SINCE 1973

Drives: they are what we do. Whether you are designing a new machine or installing a replacement, we know you need quick delivery and an easy set up, with the confidence that your drive will keep on performing with accurate control.

So leave it to the specialists. We have dedicated ourselves to designing and manufacturing variable speed drives since 1973. This means quick set up, high reliability, maximum motor control and fast, efficient service.



110,000
EMPLOYEES
WORLDWIDE



\$11B
GROUP
TURNOVER



70+
COUNTRIES



230+
COMPANIES



1000+
OEM
CUSTOMER



9M+
INSTALLED
DRIVES



1600+
EMPLOYEES
WORLDWIDE



70
COUNTRIES



Outstanding performance

The outstanding performance of our drives is the fruit of over 45 years of engineering experience in drive design.



Embedded intelligence

Precision motor control is combined with the highest embedded intelligence, ensuring maximum productivity and efficiency of your machinery.



Technology you can rely on

Robust design and the highest build quality ensure the enduring reliability of millions of our drives installed around the world.



Global reach, local support

Highly experienced, locally based Application Engineers design and support drive technology to provide maximum value, wherever you are in the world.



Open design architecture

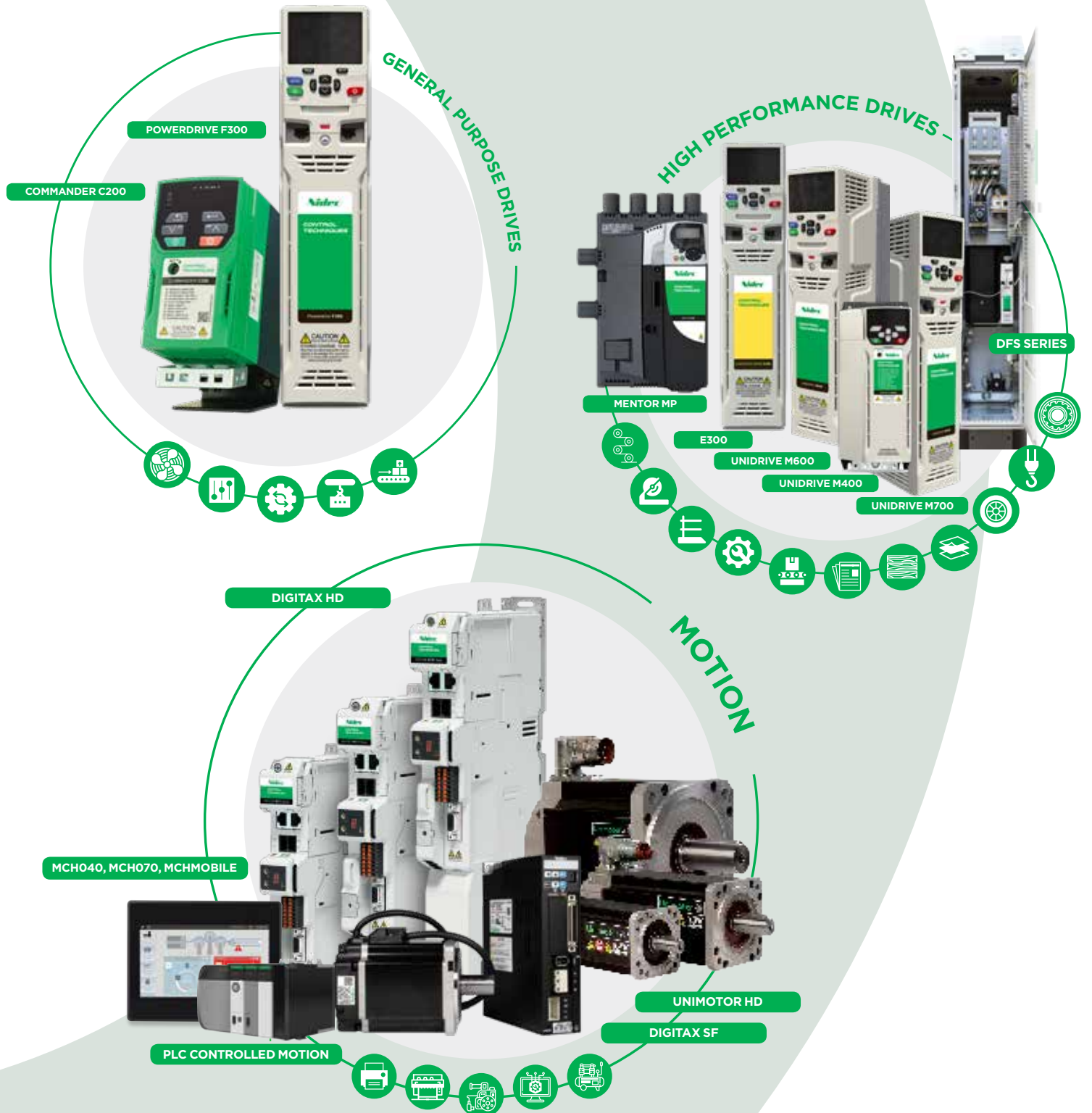
Based on open design architecture, our drives integrate with all primary communication protocols.

Our extensive sales and service networks in the Americas, Europe and Asia Pacific are backed-up by hundreds of carefully selected distributors and service partners, often in remote locations, all over the world.



Driving the World with Class-Leading Motor Control Products

Control Techniques is 100% focused on delivering **world-class motor control variable speed drives and power conversion technologies** that are used in industry, commerce and renewable energy schemes. Our drive solutions help businesses to significantly reduce energy costs and improve their operating efficiency.



Drive solutions and motion products designed with your needs in mind.

INDUSTRY 4.0: MANUFACTURING AUTOMATION

The term Industry 4.0 has been bandied about a lot in the past few years. And for some it's almost become a buzz word that doesn't really have any real meaning. That's understandable. Allow us to explain what Industry 4.0 means to us.



Defining what we mean by Industry 4.0

Industry 4.0 relates to the fourth industrial revolution. A point where IT and physical equipment converge. It marks the stage where no longer are we making decisions based on gut feeling and experience, instead solid trends of data dictate equipment behaviour. It goes beyond just a single machine, and can encompass whole factories, if not companies, on a global scale.

The growing momentum of Industry 4.0

It's a grand concept, so it's understandable that for many businesses the idea of total system integration is a long way off. It is for this reason that we developed a piece of research to see **what is really holding businesses back from exploiting the possibilities of Industry 4.0.**

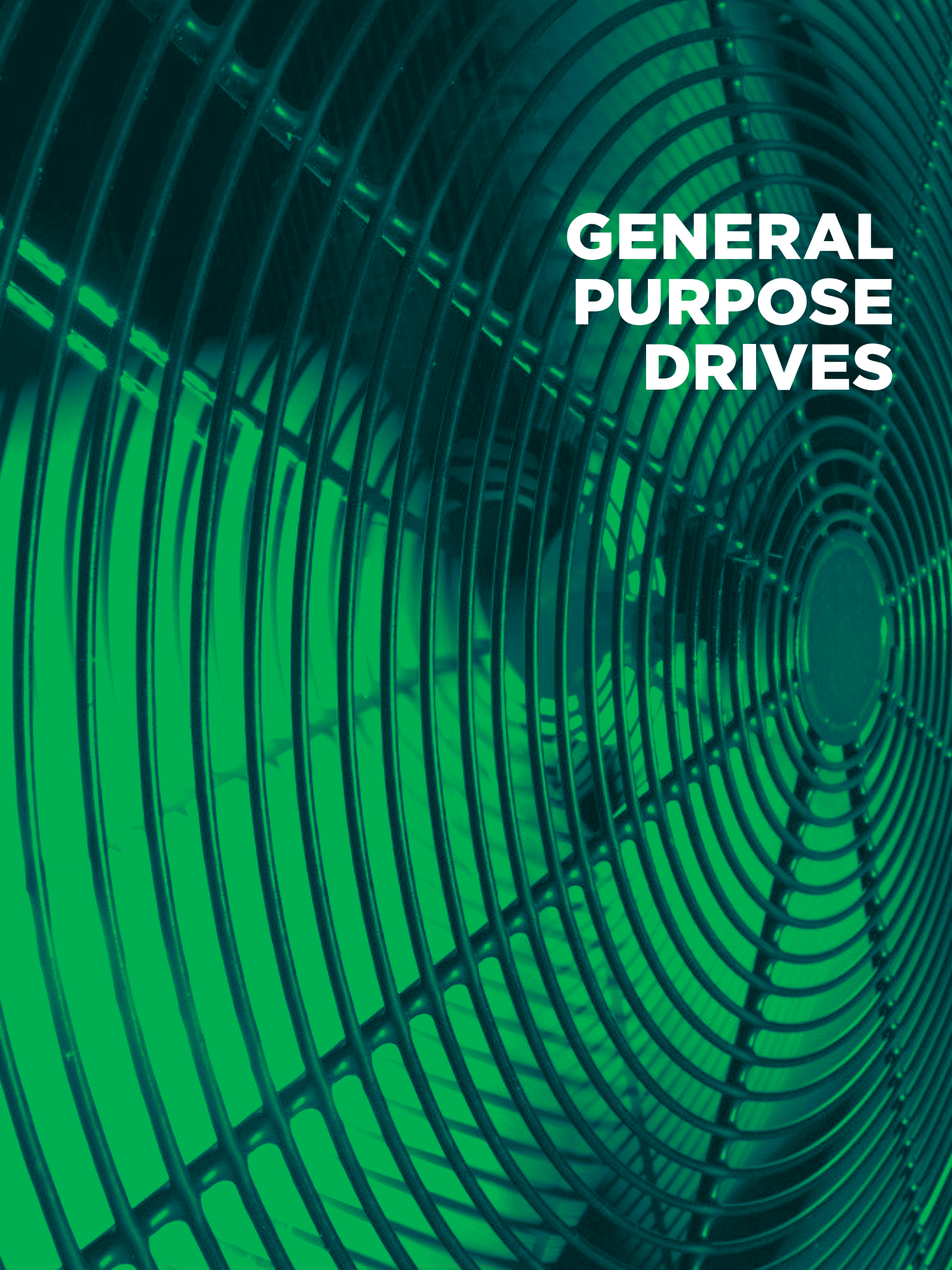
Just take a look at the disruption innovative businesses like Amazon, Google and Apple have created. Each has ran with emerging technology. It's clear that those ahead of the game will greatly benefit.

The background to our manufacturing automation research

We asked a number of people working in automation how they felt about Industry 4.0. Our goal was to analyse awareness and attitudes.

Our sample base came from businesses across the globe who operate in a wide range of sectors. We've taken the key points that came from the research and made this document. We hope that it may give some answers and help guide you on your journey towards automation transformation.

Findings available here: www.controltechniques.com (search Industry 4.0)



GENERAL PURPOSE DRIVES

COMMANDER C

0.25kW - 132kW (0.33 hp to 200hp)
100 V | 200 V | 400 V

The new Commander C series has been designed to be a simple and compact AC motor speed controller that meets advanced requirements in a wide range of applications and provides optimum user experience. Now with a free five-year warranty*



Applications



Pumping, Ventilating & Compressing



Conveying



Lifting, Hoisting & Winching



Access Control



Processing
(Mixers, Crushers, Agitators, Centrifuges, Extruders)

Commander C200 and C300 Simple, reliable motor control



Straightforward installation and commissioning

For a quick motor set-up the key parameters are printed on the front of the drive so you can be up and running within seconds.

Up to 180% over-load for high torque applications.

Dual Safe Torque Off (STO)

Commander C300 (only) features a Dual Safe Torque Off input, certified to SIL3/PLe safety rating and compliant with EN/IEC 61800-5-2.

On board PLC

Embedded intelligence eliminates the need for an external controller, saving both on cost and space when installing Commander C drives into a system.

Set just four parameters to get your drive started

Simply select the motor rated current, RPM, voltage and power factor from parameters 6 to 9.

Equipped with the latest energy saving features

Commander C helps you maximize productivity while keeping operating costs down.

Plug-in options for advanced control

Communication interfaces are available as option to support a wide range of controllers.

Wide availability and outstanding service

Through our local Drive Centres.

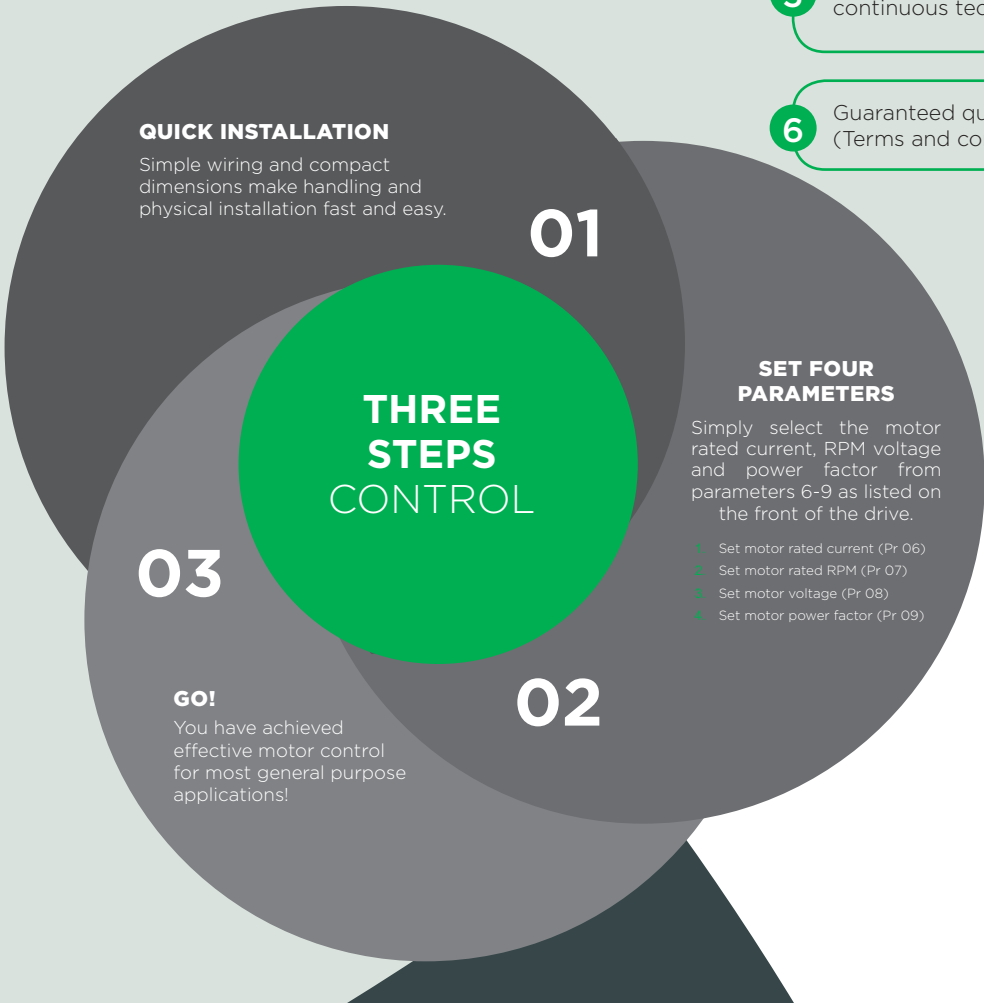
*Warranty terms and conditions apply



Value Proposition

- 1 Commander C provides superior motor control for a broad range of general applications
> improved machine productivity
- 2 Easy & fast installation, online start-up guides & videos
> lower start up costs

- 3 Common control philosophy for both our general purpose and high performance drives
- 4 Advanced control with extensive on board feature set, PLC and plug-in option modules
> lower system costs
- 5 Commander Brand - a platform that has driven continuous technological advancements since 1983
- 6 Guaranteed quality - 5 year free warranty (Terms and conditions apply)



Simple set up. Three steps to control

Setting up a drive can require training, specialist knowledge and time. **Commander C will have you up and running, from out of the box to controlling your motor, in minutes.** Three simple steps will set up your drive for most fan, pump, compressor, conveyor and general purpose applications! Minimize downtime and system set-up time with advanced keypad options.

COMMANDER C
 SIMPLE,
 RELIABLE
 MOTOR
 CONTROL



POWERDRIVE F300

1.1 kW – 2.8 MW (1.5 - 4,200 hp)
200 V / 400 V / 575 V / 690 V

Designed to control all AC induction motors and sensorless permanent magnet motors on the market.

Powerdrive F300 High Power Modular AC drives are tailor-made for the fan, pump and compressor market.



Optimum energy efficiency, flexible functionality and ease of use



Reliability and high uptime enabled by robust product design and quality service support

Lowering system costs with flexible intelligent drives

Reducing design, build and commissioning time

Fast and simple drive set-up and management plus efficient customer care from a complete drive and motor solution provider

Eliminate the need for mechanical transmission devices

Energy Saving Features:

- Up to 98% efficient with very low losses
- Low Power Standby Mode and Sleep/Wake using programmable real-time clock (with KI-HOA Keypad RTC) ensure minimal wasted energy
- Advanced Rotor Flux Control (RFC) for optimum energy and performance
- Lower losses at part load for open loop induction motor control as a result of Dynamic V-F

On-board PLC Reduce system build cost, increase programming flexibility

Fast, flexible system build: Powerdrive F300 can be mounted directly into a panel or cabinet for efficiency of design in a variety of flexible positions

Rapid, easy to use commissioning tools

- Powerdrive F300 enables fast, simple drive commissioning via keypad interfaces, PC tools, SD cards and Smartcards, and manuals.





**HIGH
PERFORMANCE
DRIVES**

UNIDRIVE M700

0.75 kW – 2.8 MW (1.0 - 4,200 hp)
200 V / 400 V / 575 V / 690 V

Provides class-leading motor control for induction, permanent magnet and servo applications, plus onboard real-time Ethernet. It also provides ultimate control flexibility to satisfy the requirements of machine builders and high specification industrial applications. Unidrive M700 offers an enhanced upgrade for existing Unidrive SP users.

Applications



Hoists



Winding



Web Handling



Cutting



Test Stands



Speed & Position Control
For Gearing & Ratio Control



Packaging Machines



Textiles



Woodworking



Tire Manufacturing



Printing

Class Leading Induction, Servo and PM Motor Performance



Optimize system performance

- Onboard Advanced Motion Controller
- 1.5 axes control

Conform to safety standards

- Integrate directly with safety systems
- Onboard STO
- Add a safety option for safe motion functions

Flexible communications

- Synchronized RTMoE comms
- Fieldbus communications: PROFINET, Ethernet/IP, Modbus TCP/IP & EtherCAT
- Onboard web-server for flexible setup and monitoring

Maximize throughput

- High bandwidth motor control
- Flexible speed & position feedback

Flexible control systems

- Ideal for centralized & decentralized control
- MCI module advanced system control capability
- Onboard PLC for logic programs
- IEC61131-3 programming
- Onboard real-time Ethernet (IEEE 1588 V2 PTP)

Variants

- M701 – Unidrive SP replacement with RS485 port
- M702 – 2 x STO, real-time Ethernet & digital I/O



RoHS Compliant



UNIDRIVE M600

0.75 kW – 2.8 MW (1.0 - 4,200 hp)
200 V / 400 V / 575 V / 690 V

Perfect choice for applications that require high performance open-loop control of induction or permanent magnet motors. SI-Encoder option modules are available for applications that require more precise closed-loop velocity and digital lock/frequency following of induction motors.

High performance drive for induction and sensorless control of permanent magnet motors



Enhance throughput with high performance open-loop control of induction and permanent magnet motors

- Advanced Rotor Flux Control (RFC) algorithm gives maximum stability and control of induction and permanent magnet motors
- Up to 200% motor overload suitable for heavy industrial machinery applications

Reduce system costs by directly integrating with applications

- Incorporates an onboard PLC which can execute Machine Control Studio (IEC61131-3) programs for logic control, sequencing, speed following and digital lock - removing the need for additional PLCs
- Fit up to three SI modules to add safe motion, speed feedback and additional I/O

Flexible communications

- Modbus RTU communications onboard
- Full Ethernet based and traditional fieldbus
- Support available through user-fit SI options

Energy Efficiency

- Low power standby mode
- Easy common DC bus configuration enables braking energy to be recycled within the drive system, reducing energy usage and eliminating external supply components
- Supports sensorless (open loop) control of compact high efficiency permanent magnet motors
- Active Front End for regenerative AC drive systems
- Dyneo®: perfectly synergized permanent magnet motor and Unidrive M solutions - optimized for performance and energy saving
- Dyneo®, Unidrive M and permanent magnet motor solutions offer exceptional efficiency levels across all operating speeds, especially at lower speeds where the efficiency is much higher than induction motors
- Low losses, up to 98% efficiency

Fast and Easy access for Commissioning, Monitoring and Diagnostics



UNIDRIVE M400

0.25 - 132 kW (0.33 - 200 hp)

100 V / 200 V / 400 V / 575 V / 690 V

Unidrive M400 minimizes downtime with an intuitive LCD display for rapid set-up and clear diagnostic help. The integrated PLC can execute a substantial range of sequencing and logic programs. Coupled with an impressive I/O count complete with two STO inputs and an SI interface for a fieldbus option or extended I/O, the feature set ensures Unidrive M400's flexible integration with any system. Unidrive M400 provides an upgrade path for existing Commander SK users who use LogicStick.

Optimized throughput, open automation systems, maximum ease of use



Minimize downtime and system set-up time with advanced keypad options

- Informative, multi-language, 3 line display aids set up and provides diagnostic information
- 4 navigation buttons facilitate intuitive navigation and programming
- Keypad options available:
 - CI Keypad - Drive mounted LCD keypad
 - Remote IP66 keypad - rapid panel mount (1 x 32mm Ø hole)
 - No Keypad - Control/programming performed by PC or fieldbus

Reduced system costs by directly integrating with applications

- Incorporates an onboard PLC which can execute Machine Control Studio (IEC61131-3) programs for logic and sequencing with real-time tasks - removing the need for additional PLC's
- Fit an SI module to add a fieldbus communications option or additional I/O

Improve throughput with advanced openloop motor control algorithms

- Rotor Flux Control (RFC-A) gives maximum stability and control of induction motors at all powers
- 180% motor overload suitable for heavy industrial machinery applications
- Precise frequency following is possible from an encoder or frequency/ direction inputs

Conform to safety standards, maximize uptime and reduce costs by integrating directly with safety systems

- M400 has integrated dual STO inputs for SIL3 / PLe conformity, eliminating the need for external safety components.

Energy Savings

- Low power standby mode for applications where drives can sit idle for significant periods
- Automatic 3-speed cooling fan keeps energy usage and acoustic noise to a minimum by intelligently responding to load and environmental conditions (from 0.37W)
- Square law V/F mode is optimized for quadratic loads like pumps and fans to keep motor losses to a minimum
- Dynamic V to F mode keeps energy usage and motor losses to a minimum in low load conditions
- Unidrive M400 is highly efficient (above 98%)



DFS SERIES

High Power Free Standing Drives

55 kW to 540 kW 400 V | 690 V

Efficient System Build

For many drive users, designing and building a high power drive cubicle requires extensive in house engineering expertise that they do not have...

The DFS Drive is a pre-assembled, ready to install drive cubicle system designed for use in high power applications where energy saving and high ingress protection are key. With fast, easy installation, plant availability is maximised with virtually zero requirement from your engineering resource.

Applications



Fans and Pumps



Compressor



General Automation



Key Highlights: Ready to use



● **Industry standard cubicles which integrate with your existing installation**

● **Includes power disconnect and fuses**

● **Pre-installed options available include:**

- EMC filter
- Energy monitoring
- 24V back-up supply wiring
- Empty sections can be integrated for customer equipment and installation cables

● **Water cooling is available on request**

● **Fast turnaround**

- Control Techniques Drive Centres and Partners have all the tools required to generate fast quotations to minimise delays in the ordering process.
- For emergency breakdowns where a replacement drive is needed quickly, DFS can be shipped in as little as one week.
- Standard lead-times are six weeks.

● **Easy set-up**

- Door-mounted multi-language HMI for easy commissioning
- Real time clock for enhanced diagnostics
- Connect PC tool for optimised commissioning
 - Full parameter management features including cloning
 - Real time visualisation and manipulation of drive control system with dynamic logic diagrams

● **Rugged, reliable drive systems**

- Highly robust cabinets with ingress protection options to meet the needs of the application - IP23 as standard
 - IP54 as selectable option - IP55 water-cooled on request
- Cabinet temperature control via intelligent fan system
- Built with stringent quality controls with full traceability and rigorous testing gives our plant ISO-9001 accreditation
- High quality auxiliary components sourced from leading automation industry vendors

● **Optimum local service support to minimise downtime**

- Rapid on-site support, in your language, from highly qualified and experienced service and application engineers
- Efficient service with replacement parts available locally
- Comprehensive online support including:
 - Drive set-up, diagnostic tool and
 - online support system with dynamic logic diagrams

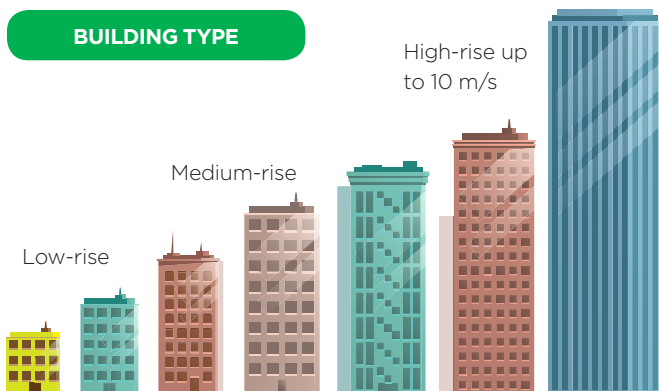
ELEVATOR DRIVES: E300

Dedicated drives for elevator applications

2.2 – 250 kW (3 – 400 hp)
200 V, 400 V, 575 V, 690 V

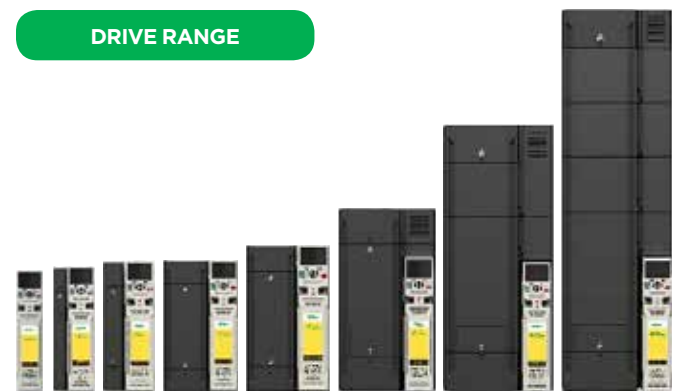
Match all requirements seamlessly

We provide elevator drive solutions for any size of building, from the smallest residential to the luxury high rise; new build or modernization projects. Our mission is to make every step of the process as easy as possible, from product selection to installation, setup and service.



Unparalleled performance

We design and rate our drives to offer top performance, regardless of traffic requirements or installation preference. Control Techniques' low noise and jerk-free drives are the product of choice in modern elevator systems. Our reputation for industry benchmark ride comfort is second to none.



Taking elevator drives to another level throughout the lifetime of your application

FREEDOM TO DESIGN

Broad range, compact form factor

A full range of some of the smallest drives in the industry per kW rating, for all elevator applications, giving flexibility without constraints.

Match any control interface

Analog speed reference, digital I/O control, comms control, digital communications control (CANopen, DCP & Ethernet).

Encoder range

Flexible encoder interface supporting resolvers and 16 different encoder types as standard. Ranging from incremental encoders to EnDat, Hiperface and BiSS. All without the need for additional encoder cards.

Safe Torque Off

Our TÜV certified STO function provides a highly dependable method for preventing the motor from being driven, removing the need for both output motor contactors

QUICK SETUP

Elevator specific menu structure

Easily make adjustments to drive settings, even without having the manual at hand.



Stationary autotune

Encoder offset detection and optimum current loop configuration without the need to lift the brake or de-rope the system.

Simple UPS connection

The easy connectivity ensures optimum backup and rescue operation.

Pluggable drive terminals

Control terminal connections are pluggable across the full range and biased to ensure correct connection. Supply and motor power terminal connections are pluggable up to 22 kW.

EASY OPTIMIZATION

Keypad with backlit LCD display

The Remote Keypad RTC provides clear parameter descriptions and units. All laid out in a logical sequence to support a rapid and effortless system start up.

PC tools

The advanced graphic interface lets you fine-tune your elevator system with just a few clicks.

Parameter storage & cloning

Quickly back up drive configurations to an SD Card or Smartcard, or use the Elevator Connect PC tool.

Diagnostics

- Simple trip code system makes it easy to diagnose drive errors
- Records the last 10 trip codes within the drive to aid troubleshooting
- Time and date stamp option with the Remote Keypad RTC

CLASS-LEADING PERFORMANCE AND MAINTENANCE SUPPORT

Brake contact monitoring

The TÜV certified Brake Contact Monitoring allows monitoring of up to four motor brakes. This can help even old lift systems to comply with Unintended Car Movement, and EN81-20 and EN81-50.

Enhanced data logger

All drives have a built in data logger that can monitor any parameter, recording events such as drive trips. This can be written onto an SD Card or retrieved by the elevator controller via the communications link.

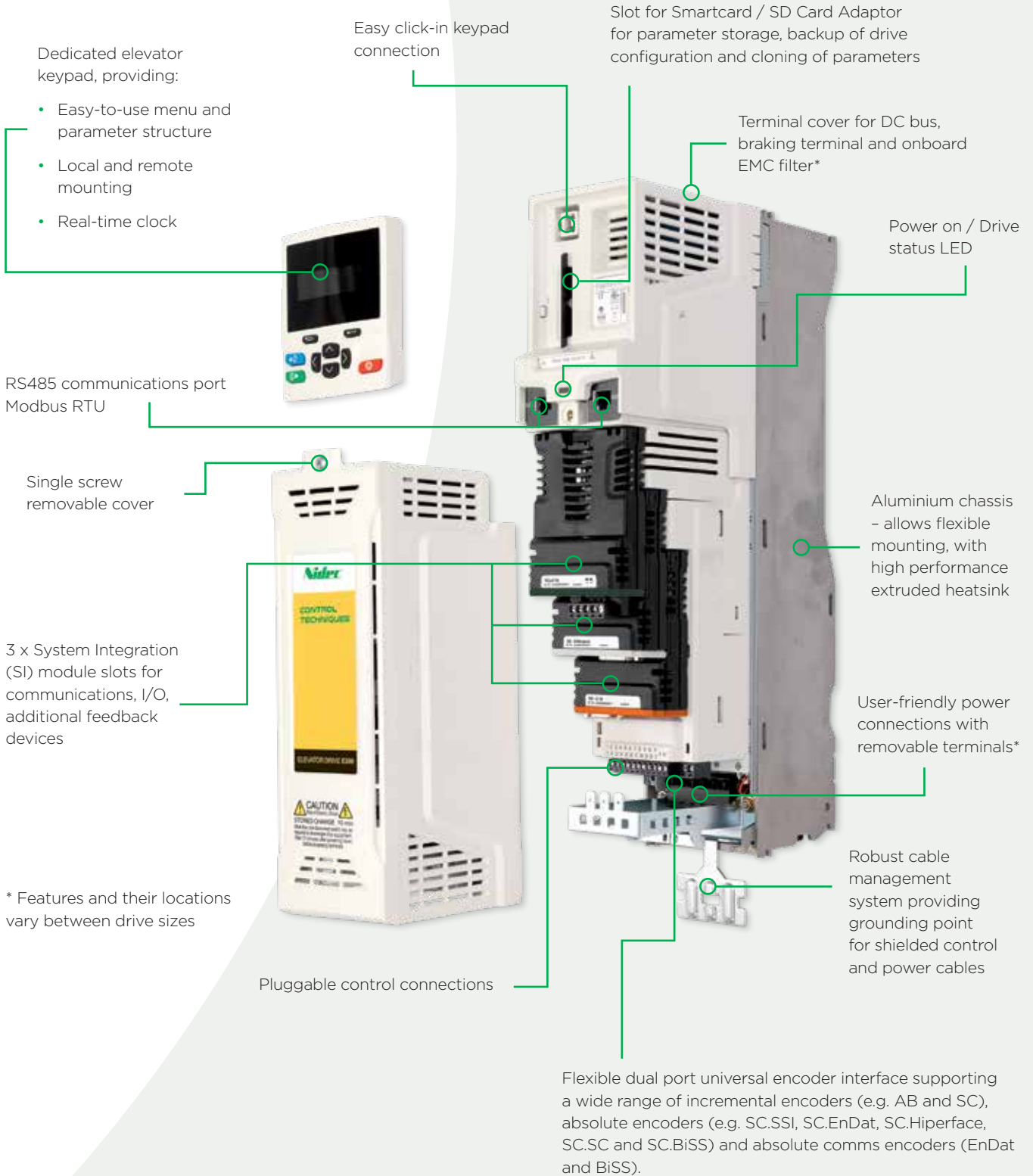
Travel counter

The built in travel counter helps keep track of rope lifetime when plastic ropes are used in the elevator system. The drive warns when critical thresholds have been reached, and maintenance is necessary.

Blocked cabin release function

The release blocked cabin control will release the elevator's safety gear when it has been deployed, and helps return the blocked cabin to normal operation. This removes the need to climb into the elevator shaft to release the safety gear.

E300 Drive Key Features



DC DRIVES

MENTOR MP

25A to 7400A Two or four quadrant operation (regenerative)
24V - 480V / 500V - 575V / 500V - 690V

The ultimate DC drive Mentor MP is Control Techniques' fifth generation DC drive and integrates the control platform from the world's leading intelligent AC drive technology.

This makes Mentor MP the most advanced DC drive available, giving optimum performance and flexible system interfacing capability. This drive allows you to maximize motor performance, enhance system reliability and interface digitally with modern control equipment using Ethernet and fieldbus networks. The drive is designed for easy retrofitting from Mentor II and for high power configuration.

Mentor MP Drive Features



Designed for easy set-up and commissioning

Drive intelligence and system integration

Machine communications flexibility

Greater motor field control

Enhanced system design

Fast set-up, configuration and monitoring





MOTION

DIGITAX SF

0.05 kW - 2 kW
200 V

Digitax SF responds to the needs of customers requiring low powered precision servo solutions, with a dedicated servo range from 50W to 2 kW. With 17-bit resolution, robust magnetic encoder technology and pulse train or analog control interface, Digitax SF offers a cost effective servo solution, without compromising on performance.

Multiple motor inertia levels are available, covering a wide range of applications, from semiconductor manufacturing to textile, packaging machines, robotics, extruders, metering and other applications requiring speed, precision and accuracy.

Servo solutions for continuous and pulse duty applications



Versatile analog or pulse train interface, offering easy integration with any plc or motion controller

Digitax SF can also operate standalone using the on-board 16-point positioning table

Built-in keypad with 6 digit 7-segment status display for easy startup, parameter setting, and tuning

PC-USB interface for parameter settings, tuning, and status display in the dedicated software Digitax SF Connect

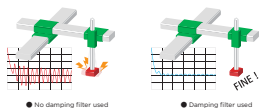
Magnetic encoder technology

- Robust in harsh environments
- Ultra-low energy consumption for reduced maintenance

- Standardised flange sizes
- IP 65 or 67 motors

Digitax SF Connect

Digitax SF Connect is a user-friendly PC tool with a familiar Windows interface and intuitive graphical tools for easy parameter setting, tuning and diagnostics. Ease of machine start-up is further facilitated through a positioning table and test run features.



FREE
DOWNLOAD



Drive Set-Up

Quickly find everything you need for quick and easy installation of your drives.

Visit: www.drive-setup.com

FREE
DOWNLOAD



Diagnostics tool

Quickly solve any error codes that the drive may show.

Download: www.controltechniques.com/mobile-applications



*For Microsoft users, please note that this mobile app operates with Windows 10 only.

Straightforward to setup and tune, Digitax SF offers high servo performance at the click of a button. For demanding applications, a rich selection of filters to dampen mechanical resonances and suppress tip vibration can be easily configured within Digitax SF Connect with the aid of FFT frequency analysis.



DIGITAX HD

Servo Drive Series

0.7 Nm - 51 Nm with 153 Nm peak
1.5 A - 16 A with 48 A peak
200 V | 400 V
0.25 kW - 7.5 kW

The Digitax HD range brings ultimate performance to high dynamic applications, where high peak torque is required for fast acceleration.

Optimised for high-dynamic applications, Digitax HD provides the flexibility of both standalone and modular configurations. The drive offers full servo control plus open loop permanent magnet motor and induction motor control across three functionality levels: EtherCAT, EtherNet and the flexible Base servo drive.

Minimum size, maximum performance



Reduce cost by maximising cabinet space

- Drive width of only 40mm
- Reduce cabinet height with UltraFlow™ technology which dissipates heat directly outside of the cabinet
- Install Digitax HD in a cabinet just 200mm deep

Boost throughput with high dynamic motion control

Digitax HD brings maximum throughput and production quality to your machines.

- 300% peak current performance pulse-duty overload
- Optimised control loops for high dynamic performance
- Up to 16 kHz switching frequency
- Advanced bi-quad filters for suppression of mechanical resonances

Rapid installation and commissioning from standalone to a modular servo system

- Single AC input, 24 V and communication links, and common DC bus
- DIN rail alignment, single cable technology and easy access pluggable connectors
- Fast programming and commissioning PC tools

**DIGITAX HD
M750 EtherNet**



**DIGITAX HD
M751 BASE**



**DIGITAX HD
M753 EtherCAT**



DIGITAX HD: Application Flexibility

Three functional variants and support for all common industrial field-buses guarantee flexible adaptation to any automation architecture



Applications



Digital printing: Label and packaging print machines



Textile: Knitting machines

UNIMOTOR FM & HD

Unimotor hd High Dynamic AC Brushless Servo Motor

055 to 190 Frames | 0.72 Nm to 85 Nm | (255 Nm Peak)

High dynamic brushless AC servo motor range designed for use in pulse duty applications where rapid acceleration and deceleration are required. The motors are available in frame sizes from 055 to 190.

Unimotor fm High Performance AC Brushless Servo Motor

075 to 250 Frames | 1.4 Nm to 136 Nm | (408 Nm Peak)

High dynamic brushless AC servo motor range designed for use in pulse duty applications where rapid acceleration and deceleration are required. The motors are available in frame sizes from 055 to 190.

The Ultimate Motor and Drive Combination

Control Techniques offer drive and motor combinations that provide an optimized system in terms of ratings, performance, cost and ease of use. Unimotor hd motors fitted with high resolution Sin Cos or Absolute encoders are pre-loaded with the motor "electronic nameplate" data during the manufacturing process. This data can be read by any of our servo drives and used to automatically optimize the drive settings. This feature simplifies commissioning and maintenance, ensures consistent performance and saves time.



Features

Unimotor fm and hd are suitable for a wide range of industrial applications, due to their extensive range of features:

- Torque range: from 0.72 Nm to 85 Nm
- High torque to inertia ratio for high dynamic performance
- Compact but powerful
- High energy dissipation parking brakes
- IP65 conformance; sealed against water spray and dust when mounted and connected
- Segmented stator design
- World class performance
- Supported by rigorous testing for performance and reliability
- Winding voltages for inverter supply of 400 V and 220 V
- Rated speeds from 1,000 to 6,000 rpm
- Larger shafts to increase torsional rigidity
- Thermal protection by PTC thermistor/optional KTY84.130 sensor



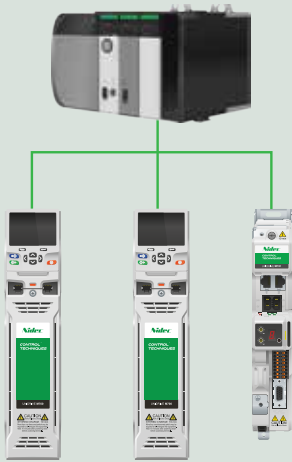
PLC CONTROLLED MOTION

FOR MAJOR PLC'S

PLC Controlled Motion greatly simplifies the integration of Control Techniques drives into major systems.

Composed of two parts, a function block for the PLC and a guided setup within the Connect PC tool, the process of creating the PLC control logic and configuring the powerful onboard motion capabilities of the drive is greatly simplified.

Installation and Configuration

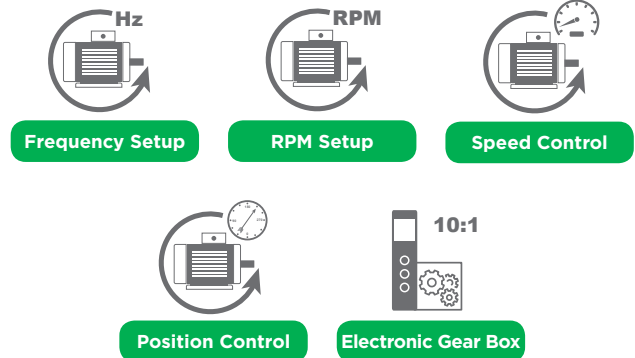


A single installation will load all the function blocks and documentation required, as well as example projects to get the application up and running as quickly as possible. Also included, is a library of utility function blocks that may be used to further reduce application development time.

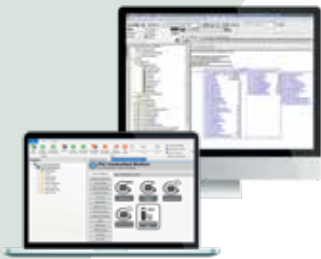
PLC Controlled Motion fully configures the Ethernet/IP links thus reducing setup time and leaving more time to focus on the application development.

Motion Configuration

Five function blocks provide functionality to support applications across the motion spectrum.



Application Benefits



Utilising the high-performance Advanced Motion Controller (AMC) inside the drive not only yields significant performance benefits but gives the possibility to create complex and high-performance motion without the need to use very powerful PLCs.

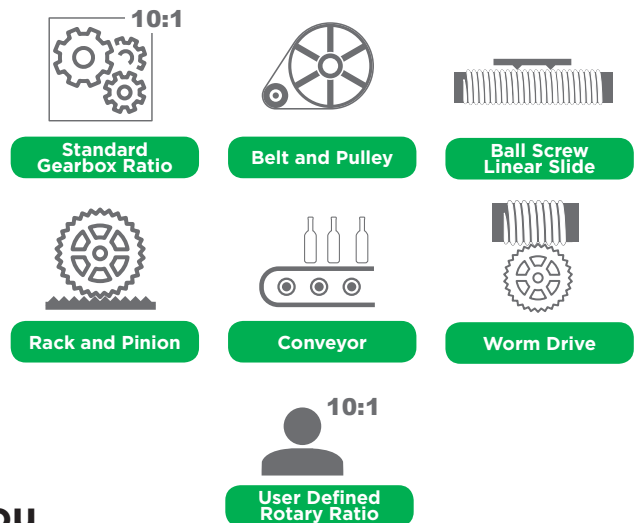
All common control and commissioning parameters can be adjusted from the PLC reducing the need to leave the programming environment.

Ladder logic is used extensively in the implementation to ease understanding and facilitate debugging of the application logic.

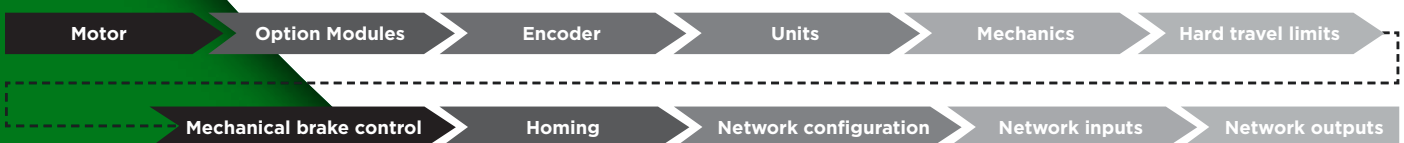
A level of customisation is also possible by the application developer should the function blocks provided not quite meet the needs of the application.

Machine Mechanics

Entering the machine mechanics allows the use of user selectable units across the application; removing the burden of scaling calculations.



PLC controlled motion will guide you through the steps needed to easily configure your application



MCh040, MCh070, MChMOBILE

HMI PANELS & SOFTWARE

The MCh040 & MCh070 panels and MChMobile Software have been designed for the easy development of HMI applications including factory and building automation.

MCh040 features a bright 4.3" TFT widescreen (16:9) display and MCh070 features a bright 7" TFT widescreen (16:9) display with a fully dimmable LED backlight.



Powerful, flexible and easy to use



Full vector graphic support. Native support of SVG graphic objects, transparency and alpha blending.



Screen object dynamics: control visibility and transparency, move, resize and rotate any object on screen. Change properties of basic and complex objects.



Multi-language applications with TrueType fonts. Easily create, install and maintain applications in multiple languages to meet global requirements.



Data display in numerical, text, bargraph, analogue gauges and image formats.



Rich set of state-of-the-art HMI features: data acquisition and logging, trend presentation, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, security and user management, e-mail and RSS feeds.



Wide selection of communication drivers available to communicate with our drives with multiple-driver communication capability.

Standard Modbus

- Modbus RTU
- Modbus RTU server
- Modbus TCP
- Modbus TCP server

CT Modbus

- CT Modbus TCP
- ### Others
- OPC UA Client



Remote monitoring and control with Client-Server functionality.



Off-line and on-line simulation.



Powerful scripting language for automating HMI applications. Efficient script debugger improves productivity in application development.



Rich gallery of objects and symbols.

	MCh040	MCh070
System Resources		
Display - Colors	4.3" TFT 16:9 - 64K	7" TFT 16:9 - 64K
Resolution	480x272	800x480, WVGA
Brightness	200 Cd/m ² typ.	200 Cd/m ² typ.
Dimming	Yes	Yes
Touchscreen	Resistive	Resistive
CPU	ARM Cortex-A8 - 300 MHz	ARM Cortex-A8 - 1 GHz
Operating System	Linux 3.12	Linux 3.12
Flash	2 GB	4 GB
RAM	256 MB	512 MB
Real Time Clock, RTC Back-up, Buzzer	Yes	Yes
Interface		
Ethernet port	1 (port 0 - 10/100)	1 (port 0 - 10/100)
USB port	1 (Host v. 2.0, max. 500 mA)	1 (Host v. 2.0, max. 500 mA)
Serial port 1	1 (RS-232, RS-485, RS-422, software configurable)	1 (RS-232, RS-485, RS-422, software configurable)

INTEGRATE, AUTOMATE, COMMUNICATE

Integration is at the heart of everything we do. Our modular drive expansion systems are designed to integrate into virtually any setup, no matter which communication protocol you use.

Our communication, I/O, feedback and machine control modules ensure anyone can experience the benefits of Control Techniques drives.

Connectivity

SI-Ethernet



SI-EtherCAT



SI-PROFINET V2



SI-CANOpen



SI-PROFIBUS



SI-DeviceNet



SI-Interbus



Machine Control

SI-Applications
Compact

MCI200



MCI210



I/O

SI-I/O



Safety

SI-Safety



Feedback

SI-Encoder



SI-Universal Encoder



MOBILE APPLICATIONS



Diagnostic Tool



Diagnostic Tool is a fast and simple tool, which allows users of Control Techniques' drives to quickly solve any error codes that the drive may show. Built within the app are easy to locate wiring diagrams for first time setup and fault finding with links to the relevant comprehensive manuals. The app also has full contact details of the technical support teams around the world to aid you with technical assistance.



*For Microsoft users, please note that this mobile app operates with Windows 10 only.

Virtual Reality Tour



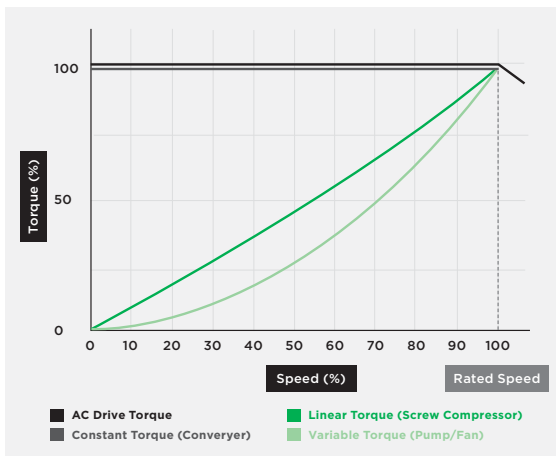
This mobile application brings Control Techniques operation directly to you, wherever you are in the world. Use the provided Cardboard viewer to see our high-tech manufacturing facility, our new technology lab, and experience breath-taking 360 degree aerial photography.



ENERGY SAVINGS

How Variable Speed Drives Save Energy?

Control Techniques Variable speed drives provide effective speed control of AC motors by manipulating voltage and frequency. Controlling the speed of a motor provides users with improved process control, reduced wear on machines, increased power factor and large energy savings.

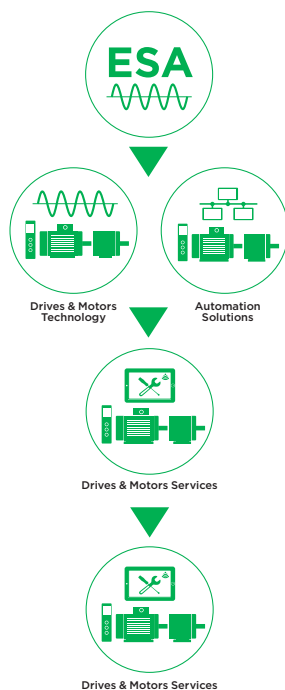


Most applications can be grouped into the following torque categories:

- Constant torque load applications such as conveyors often require a starting torque close to the rated torque of the motor, and show only small changes as they approach rated speed
- Linear torque load applications such as screw compressors have a more linear torque requirement that increases proportionately with speed
- Variable torque load applications like fans and pumps have torque requirements that increase in proportion to the square of the speed and reach 100% torque just below rated speed

The most significant energy savings can be achieved in applications with a variable torque load. The cube law relationship between speed and power means that reducing a fan's speed in a variable torque load application by 20% can achieve energy savings of 50%. Therefore, for most motion control applications, reducing motor speed is often the easiest way to get large energy savings.

Count on our expertise from diagnostics to turn-key solutions and maintenance



Energy Audits

- Pre-diagnostics (identifying main sources).
- Energy audit (gathering information and measuring electricity consumption).
- Report (measuring, suggesting and calculating achievable yield and ROI).
- Provide turnkey, high-yield solutions.
- The Energy Savings Advisor app performs a customized analysis of motor and drive energy consumption.

Complete Offering

- IMfinity® high premium and super premium efficiency induction motors IE3, IE4.
- Dyneo® best-in-class efficiency (>IE4) permanent magnet motors.
- Geared motor execution for low speed, high torque applications.
- Unidrive M and Powerdrive standard and customised drives. Scalable automation solutions – from small machine automation projects up to complete automation and electrical turnkey solutions. High performance soft starter range.
- Express availability: an offer to deliver products with a guaranteed short lead time.

Installation & Commissioning

- Accredited personnel ensure reliability and safety of equipment.
- Installation in compliance with local technical regulations and safety standards.
- Onsite commissioning.
- Extended system guarantee.
- Installation and maintenance .

After Sales

- Emergency services: 24/7 telephone and web support, onsite technical assistance, express round-the-clock delivery of products or spare parts and urgent repairs.
- Assembly centers for ongoing maintenance work (replacement, retrofit and upgrades).
- Maintenance contracts. Services are optimized on a country-to-country basis, so please refer to your local sales contact for full details. Advisor app with your smartphone or tablet, simply scan the QR-code.

Connect with us at:



www.controltechniques.com

Control Techniques is your global drives specialist.

With operations in over 70 countries, we're open for business wherever you are in the world.

For more information, or to find your local drive centre representatives, visit

www.controltechniques.com



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