

MASTERDRIVES Motion Control.
For cyclic high-dynamic
performance machines

Now also with
Performance 2



masterdrives

MOTION CONTROL

SIEMENS





The Servo Standard

- From 0.55 kW to 250 kW (.7 HP to 335 HP)
- Fully CE/EN/UL/CSA approved
- Wide voltage range
- For all motors, industry sectors and applications
- All encoder systems
- Comprehensive, integrated intelligence
- Perfect logistics, perfect service

SIMOVERT MASTERDRIVES Motion Control: The Servo Standard which brings your machines up to speed – world-wide

MASTERDRIVES – a complete range of unique drives

That's MASTERDRIVES – a series of drives with unique performance: A unified design from 0.2 kW to 6000 kW (.25 HP to 8040 HP) in various mechanical designs. It is available in two complete series which are optimally harmonized with one another: Motion Control (MC) for cyclic machines with a high dynamic performance and Vector Control (VC) for sophisticated continuous processes. These drives cover all applications.

Fit for every sector – starting at 0.2 kW

SIMOVERT MASTERDRIVES Motion Control covers the power range from 0.2 kW to 250 kW (.25 HP to 335 HP), across the board for all industrial sectors and with international approval – CE, EN, UL, CSA. Not only this, Motion Control with its wide voltage range can be used anywhere in the world.

If you demand extremely short clock-cycle times with the highest dynamic response and precision, then you should take a close look at SIMOVERT MASTERDRIVES Motion Control. This is a drive which is part of an integrated system. It is dynamic, efficient and flexible like no other converter system. When it comes to perfectly synchronizing drives, Motion Control has been setting the global Servo Standard for years.

It is a drive system which has been consequentially designed for low engineering costs, high precision, flexibility, performance and for world-wide use – not to mention that it is also perfectly adapted to Totally Integrated Automation. It is the optimum solution to ensure that your cyclic processes run with high dynamic performance.

Universal drives to tackle any drive application

MASTERDRIVES Motion Control can be used universally – with every motor type. Modular, plug-in option boards for encoder evaluation solve every drive task: Whether it's a pulse encoder, sine/cosine encoder, resolver or absolute value encoder – they're all easy to connect. And not only that, MASTERDRIVES Motion Control can handle any drive task. Fast, safe and reliable, no matter how complex the drive application is.

The smart servo drive

The smart servo drive is no longer a vision. The reason: The superior intelligence of Motion Control embedded in every unit. Locally, just where it is needed.

Even faster, even more flexible: Get more out of your drive concept

Highest dynamic response – 1st class flexibility and precision

The dynamic performance of MASTERDRIVES Motion Control has the same outstanding performance as an analog drive. But it beats analog technology hands-down when it comes to flexibility and accuracy. The reason – MASTERDRIVES Motion Control utilizes 32-bit technology.

An overload factor which allows you to tackle even the most difficult applications

In the lower power range, MASTERDRIVES Motion Control has an extremely high overload factor: 300 % for 250 ms. This means that there is even sufficient power reserve for high-dynamic performance servomotors.

High performer – small package

This is an important factor, especially in the lower power range: The extremely compact design. MASTERDRIVES Motion Control drives fit perfectly into every mechanical concept: They have the ideal dimensions – for example, a 0.75 kW (1 HP) Compact PLUS drive is only 45 mm (1.75 in) wide, 260 mm (10.25 in) deep and 360 mm (14.25 in) high. There is no question about it – they can be easily installed in cabinets up to 300 mm deep or mounted directly on the machine. And what makes them especially attractive is the fact that Compact PLUS drives can be lined up with the MASTERDRIVES Vector Control drives without any intermediate spacing.

Functional safety using Safety Integrated

The “safe standstill” function has been certified for the MASTERDRIVES series by a regulatory group for safety at work. This means that you can always be certain that your drives will only start when you really want them to.

Software: Flexible using BICO technology

The MASTERDRIVES Motion Control software comprises function blocks which represent self-contained autonomous units with a clearly defined functional scope. They can be used to implement all of the necessary open-loop and closed-loop control functions.

Performance 2 makes cyclic high-dynamic performance machines even more dynamic

Every product can still be improved. And we have the best proof – MASTERDRIVES Motion Control P2, where P2 stands for Performance 2. When compared to the previous model, the performance of the new generation has been increased by a factor of 2 – a convincing boost: The computational performance has been doubled which means that the computation times for all functions have been halved. The significantly improved dynamic performance allows current and speed controllers to be calculated in T_0 up to 100 μ sec – technological functions and free blocks such as F01, in 1.6 msec. And the benefit – the performance has been aligned to the new Motion Control system – SIMOTION.

Now also with twice the performance

We are now also offering MASTERDRIVES Motion Control in version P2 – with double the arithmetic performance. This means:

- The computation times for all functions have been halved
- The dynamic performance has been improved
- The power spectrum has been expanded
- The performance has been aligned to that of SIMOTION

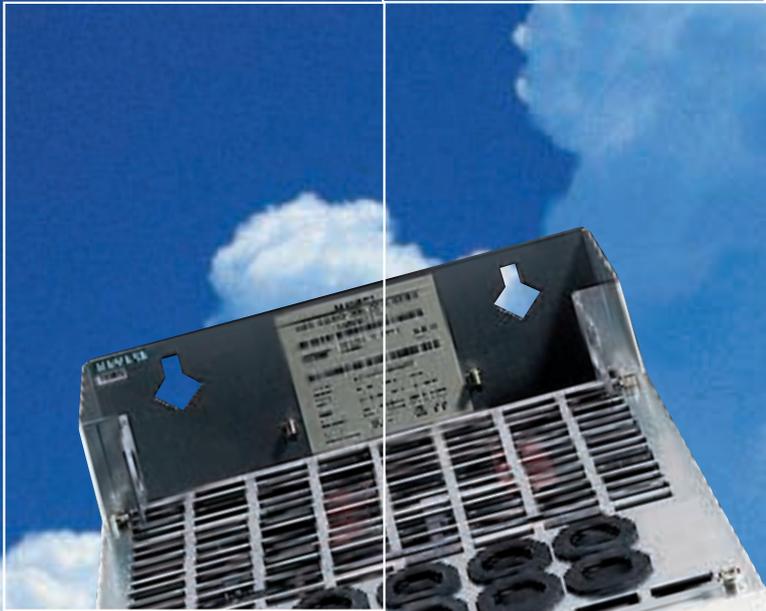
Whether as Compact PLUS, Compact or chassis unit: The MASTERDRIVES Motion Control program is integrated and unified from 0.55 kW up to 250 kW (.7 HP to 335 HP). This makes it unique – and that worldwide.



Security for every drive concept

- 32-bit technology
- 0.4 ms / 0.2 ms current rise time
- 300 % overload capability
- Space-saving Compact PLUS design
- Freely connectable BICO technology
- Safe standstill
- Twice the arithmetic performance with P2
- Optimal coupling to SIMATIC and the new Motion Control system SIMOTION via PROFIBUS





**Guaranteed solutions
across all industry sectors**

- For complex motion sequences
- For all automation systems
- Powerful engineering tool
- Optimized user-friendliness for commissioning, communication and service



Complex motion sequences are our specialty: Plug & Drive for all industry sectors

Drives which come into their own in every industry sector

MASTERDRIVES Motion Control can handle even the most complex motion sequences. It offers highly efficient drive solutions for all industry sectors – whether in the packaging, printing or paper industries, or in woodworking, textile finishing, converting, manufacturing, conveyor systems or for high-bay racking vehicles.

The reason – the modular range is extremely extensive. Whether used for stand-alone applications or for multi-drive solutions, it is extremely simple for the user. It offers everything that a machine OEM requires – tailored to the application and favorably priced.

Flexibility for the future

MASTERDRIVES Motion Control, in addition to providing drive solutions for every industry sector, is also open for the future: Thanks to its modularity, existing drive solutions can be easily and cost-effectively modified and expanded. This is because the solutions are system-based and all of the associated components are harmonized with one another.

Best connections in every automation environment

MASTERDRIVES Motion Control makes the best connections in any automation environment. No matter whether communication is established through PROFIBUS®-DP, whether integrated in SIMATIC or another automation system, whether data is transferred at the speed of light via SIMOLINK or menu-prompted operation with DriveMonitor®.

PROFIBUS-DP as example

MASTERDRIVES Motion Control drives can be quickly and simply connected to a PROFIBUS-DP bus – the most successful fieldbus standard world-wide with data transfer rates of 12 Mbit/s: Thanks to peer-to-peer communication and clock-cycle synchronism, communication between peers functions perfectly using the PROFIBUS CBP2 board. This allows functions, such as positioning and angular synchronism to be simply implemented.

It is also extremely simple to integrate MASTERDRIVES Motion Control into the SIMATIC automation environment using Drive ES (more information about this tool is provided on the next pages).

Serial interfaces with the USS protocol

MASTERDRIVES has, as standard, a serial interface (USS interface). You can use this as an RS232 port for a point-to-point coupling or as an RS485 port for bus operation. This, for example, can be used to connect DriveMonitor – the commissioning and diagnostics tool – which is used to commission drives.

DriveMonitor: Astonishingly simple commissioning using a PC or SIMATIC

DriveMonitor is a PC-based tool running under Windows 95/98/ME/NT/2000 which supports drive commissioning and drive-related diagnostics. DriveMonitor is used for menu-prompted operator control and visualization; reading, writing, managing and printing parameter sets – both online and offline.

The intelligent operator panel for fast commissioning and diagnostics on-site

The OP1S operator panel has a plain-text alphanumeric display in English, German, French, Italian and Spanish. This means that commissioning, operator control and diagnostics are always fast and straightforward using the keypad and easy-to-understand menu prompting. The OP1S can save up to six parameter sets which can then be copied to other drives using upload and download operations.

Display and setting capability is integrated into every drive inverter. All important parameters and data can always be quickly called up and changed: Drive status, bus address, speed, torque or any other parameter.



Totally Integrated Automation: MASTERDRIVES Motion Control fits seamlessly into your automation environment – and into the future

Do you require integrated data management, integrated communications and integrated engineering? With Drive ES and MASTERDRIVES you have the perfect combination. Drive ES makes things a lot easier for you. There is nothing comparable when it comes to simply integrating drive technology into the SIMATIC (automation system) and SIMOTION (motion control system) environments – straightforward, time-saving and cost-effective!

Totally Integrated Automation: With Drive ES, everything is possible

Drive ES – Drive Engineering System – has been especially developed for Siemens drives and perfectly integrates MASTERDRIVES into the SIMATIC and SIMOTION environments through PROFIBUS-DP – just as you want it.

Drive ES Basic: The gateway to the world of Totally Integrated Automation

Commissioning, parameter editing, trace and fault evaluation: Using the Drive ES Basic package,

you can work with your automation and drives via the SIMATIC Manager interface. Drive ES Basic is the starting point for shared data archiving of complete projects and for using SIMATIC Teleservice. Should you have to replace a drive, then you no longer have to program it: You can simply download the settings from the SIMATIC CPU!

Drive ES Graphic: Freely configure your drive functions

The Drive ES Graphic operator interface is an optional package utilizing CFC to enhance Drive ES Basic. Drive ES Graphic enables user-friendly tracking for Siemens drives – online, offline or in the test mode. If you have manually changed parameters in the drive, then you can read back these changes and simply correct the generated charts.

Using Drive ES Graphic, you can

- save all of the charts in the SIMATIC format
- configure the drive functions in BICO technology using CFC
- fully utilize the online and offline functionality

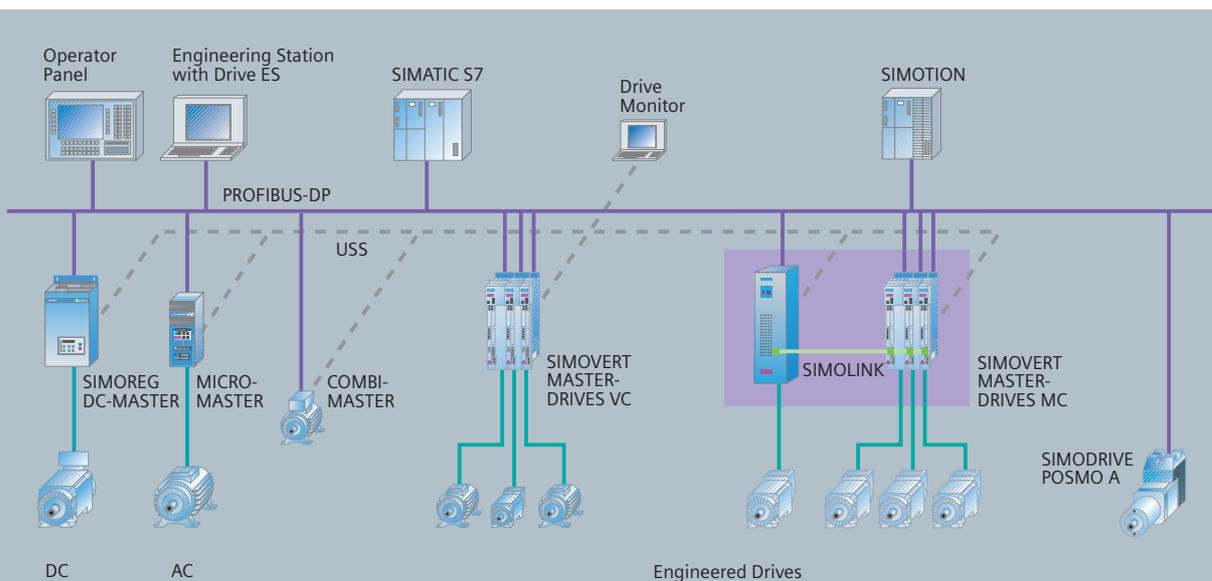
Drive ES SIMATIC: Parameterize the communication you require

Drive ES SIMATIC provides function blocks and typical projects for SIMATIC CPU's. These blocks are used to simplify the communication with Siemens drives via PROFIBUS or USS.

The decisive advantage: You no longer have to program the complete communications functionality – parameterization is sufficient.

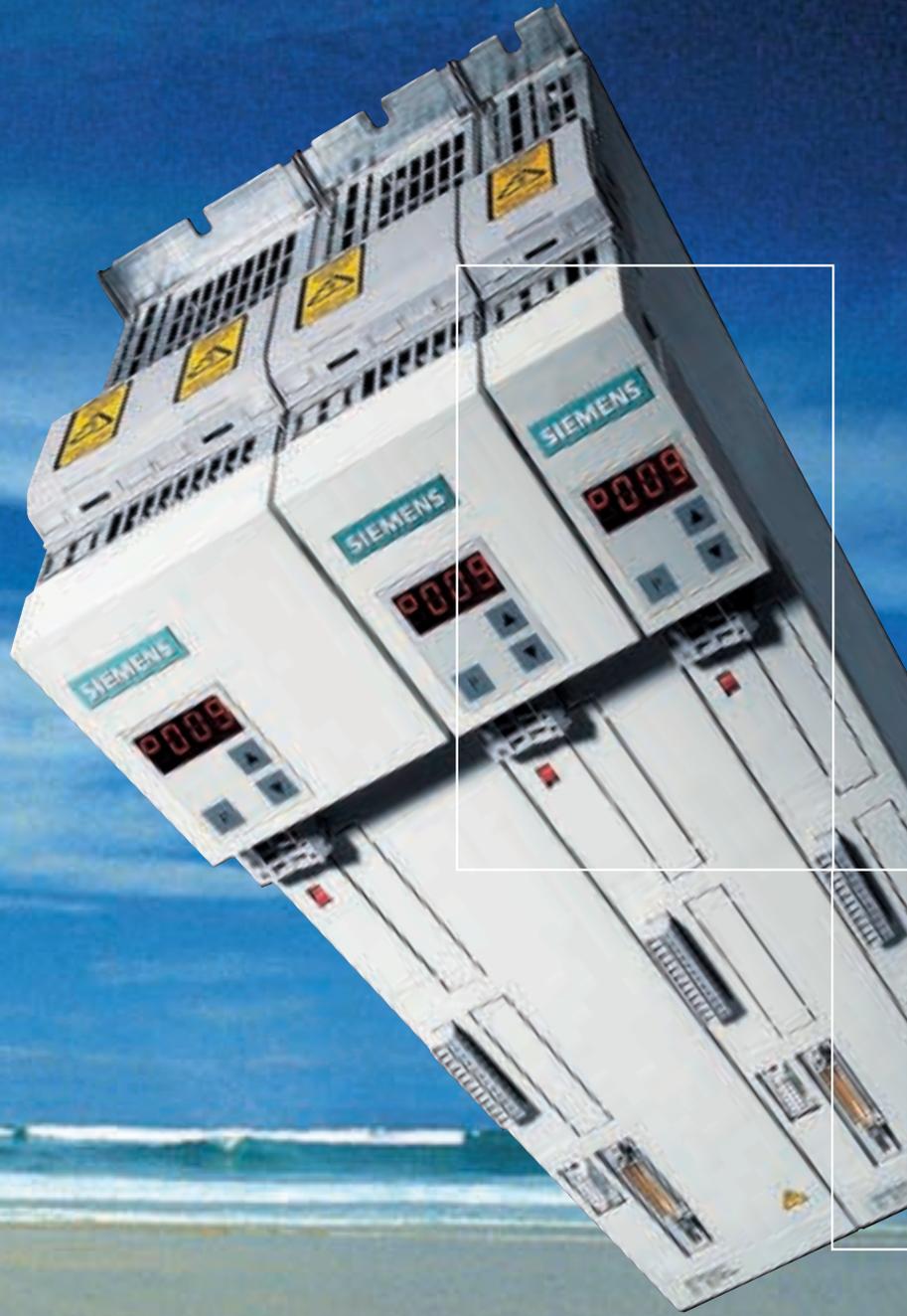
Drive ES PCS7: For user-friendly integration into the process control system

You can simply integrate MASTERDRIVES Motion Control into the PCS7 process control system using Drive ES PCS7 – it's child's play. In this case, Drive ES PCS7 provides the control block for the automation station and also a harmonized faceplate for the operator station.



**Consequentially
integrated: Drive ES**

- For simple engineering and process optimization
- For fast diagnostics
- For simple, menu-prompted commissioning
- Unified, integrated data management
- Perfect integration into the automation and process environment



Technology inside: Intelligence where it's needed

The automation system can be significantly relieved if the drive handles technology and control functions. This simplifies configuring and service and reduces both system and engineering costs.

MASTERDRIVES Motion Control for the highest dynamic response and distributed intelligence

The control software represents the core of Motion Control. It ensures optimum dynamic response, excellent control characteristics and a high degree of flexibility. It handles all of the motor-related control tasks and has an exceptionally large number of free function blocks. You can use these function blocks to flexibly implement drive-related control systems.

Comprehensive BICO library for control and logic functions

The control structure of MASTERDRIVES Motion Control is pre-assigned in the factory and can be selected using parameters. Furthermore, the signals can be injected and picked-off at specified points. This means that you can interrupt connections established in the software and establish new connections. BICO technology makes this all possible. This is used to freely connect control blocks – just the same as with programmable logic controllers. This means that you no longer have to program the system – it only has to be parameterized. Not only this, MASTERDRIVES Motion Control drive units have the same functionality as a basic SIMATIC PLC.

The blocks are simply interconnected using binectors and connectors. Binectors connect binary signals, while connectors connect 16-bit or 32-bit data. You have the advantage that you can always use the optimum functional scope. Simply select a structure from the permanently installed standards and commissioning has been completed and the drive is ready to be powered up.

Frequently required functions are included as standard:

- Arithmetic and control blocks
- User-friendly ramp-function generator
- Technology controller
- Brake control
- Basic positioning function, and many more

Using these standard functions, you can implement most of the technology functions such as, e.g., positioning linear and rotary axes.

Technology package F01 – fulfills every requirement

The F01 software technology package, possible with every MASTERDRIVES Motion Control, includes all of the technology functions which are required for complex motion control:

- Electronic gearbox
- Virtual axes
- Cam controller
- Automatic programs
- Electronic cam discs and much more

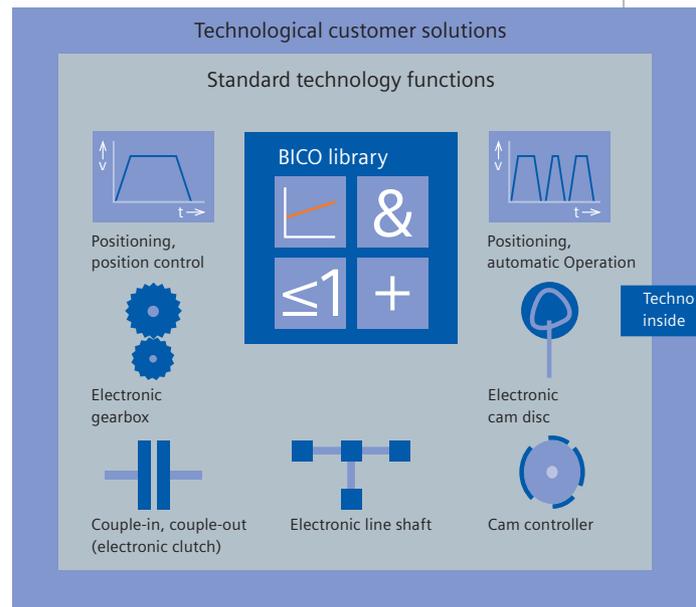
This means that you can implement all of your requirements – from positioning in the automatic mode to complex high-precision angular synchronism tasks such as an electronic shaft.

Electronic shaft with clock-cycle synchronous PROFIBUS

The unique technology of MASTERDRIVES Motion Control with fully integrated positioning control, speed and angular synchronization allows electronic shafts and gearboxes to be directly implemented in the drive. Up to approximately 20 drives can be synchronized – jitter-free – using the clock-cycle synchronization PROFIBUS function.

SIMOLINK: Synchronizing up to 200 drives

Up to 200 MASTERDRIVES Motion Control drives can be synchronized, jitter-free, using the super-fast SIMOLINK. Utilizing fiber-optic cables – all of the drives interact smoothly with one another at high speed and in any situation. SIMOLINK has set new standards in many industrial sectors, for example, in the printing industry.





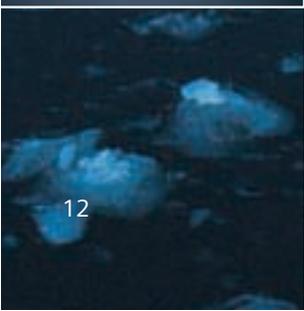
**Everything directly
in the drive**

- Distributed motion control
- All standard functions are integrated
- Positioning and synchronous operation
- Main shaft, coupling, cam disc – everything electronically
- BICO library
- SIMOLINK – up to 200 drives can be perfectly synchronized



Integrated system-based technology

- For Siemens servomotors
- Also for standard induction motors
- Resolvers, absolute-value encoders, high-resolution encoders, pulse encoders
- For single and multi-axis systems
- Integrated braking chopper
- Mounting rail system for extremely fast installation
- Filters and reactors



Modularity the way it should be: Unified system-based technology

Modular hardware

The hardware of the complete MASTERDRIVES range is modular. Each unit can be seamlessly coupled to the next. This means that the drive converter can always be adapted to the widest range of application demands – when it comes to motor technology, mounting space, technological issues, number of axes and communications.

Optimum interaction with Siemens servomotors

Motion Control is optimally harmonized to the compact and high dynamic performance, permanent-magnet Siemens servomotors (1FK, 1FT6) and asynchronous servomotors (1PH).

An effective drive system is even obtained when using standard asynchronous motors.

High power density in the smallest space: Compact PLUS design

Whether for the Motion Control (MC) or Vector Control (VC) versions – the MASTERDRIVES family, in the Compact PLUS design, can optimally handle all of the requirements when it comes to a high power density in the smallest space. Power ratings extend from 0.2 up to 18.5 kW (.25 HP to 25 HP). The MASTERDRIVES VC Compact PLUS series complements Motion Control solutions in pre- and post-processing across all industry sectors. Typical applications include stretching, winding and drawing continuous material webs. With the highest torque precision, with and without encoder feedback, for low power ratings with extremely compact dimensions. The ideal solution for industry sectors such as printing, wire, presses, textiles, packaging and high-bay racking systems.

All encoders can be connected

All conventional encoder types can be connected to MASTERDRIVES Motion Control:

- Resolvers:
Rugged and favorably priced
- Sine/cosine encoders:
For the highest dynamic performance and accuracy – 0.3" resolution
- Absolute value encoders:
If reference travel is not permissible; EnDat and SSI protocols
- Pulse encoders:
For asynchronous motors

MASTERDRIVES Motion Control can simultaneously evaluate two encoders.

For single and multi-axis systems

MASTERDRIVES Motion Control opens up applications in the area of single and multi-axis systems for servo drives. AC/AC drive units (drive converters) can be directly connected to the line supply and operate completely autonomously. In the lower power range, the integrated braking chopper enables independent high-dynamic braking performance.

A drive converter and two inverters in one: For even more compact multi-axis systems

Two inverters (DC/AC drive units) can be combined with an autonomous Compact PLUS drive converter unit. The inverters are fully functional without the need for an additional rectifier unit. A piece of genius: A DC link bus ensures the fastest possible installation and mounting. High-power rating rectifier units are available to supply the DC bus for more complex multi-axis systems.

Coping with the highest demands: MASTERDRIVES with Active Front End

MASTERDRIVES provide the optimum solution – in every industry sector and for every application. They can also be supplied with Active Front End for sinusoidal currents on the line side. The harmonics are almost zero over the widest range of operating conditions. Brief line supply failures are compensated and high dynamic performance is guaranteed under changing load conditions as a result of the self-commutated rectifier/regenerative input unit.

Always an issue: The cost-effectiveness of your machine

MASTERDRIVES Motion Control offers the security of system components which are optimally harmonized with one another – for example

- Radio interference suppression filters, line reactors
- Braking units with matching brake resistors
- Pre-assembled encoder and motor cables
- Capacitor module

Highest investment security as a result of compatibility

For MASTERDRIVES Motion Control P2, new hardware components have been used.

This has created a new firmware which optimally utilizes all of the resources. All DNL and script files can run because the new development is download-compatible. The mechanical and electrical connections are also compatible. This is the reason that for existing plant and system designs it is easy to changeover to the new MC P2. The result: Engineering services providing the highest degree of investment security.

The technology:

Only pay for what you need – but still be able to fulfill all of your requirements

Technology which you can depend on – around the globe

Our sophisticated supply and logistics system ensures that your MASTERDRIVES Motion Control arrives where you need it. Put simply: Shortest delivery times and straightforward order processing for each and every product.

We have an extensive world-wide service network that can provide personnel training and can support you wherever and whenever you require us – this means that your drive is always up-to-speed. Locally or immediately by telephone.

All of the Order Nos. for drive converters and inverters, designated with ◀ are also available in version P2 – then with a 7

| MASTERDRIVES Motion Control drive units | | | | | | | | | |
|---|-------------|---------------------------|------|-------------------------|-------|-----------------------------------|----------------------|--|---|
| Nominal power rating kW (HP) | | Rated output current A | | Short-time current A | | Dimension W x H x D mm (in) | | Drive converter 3-ph. 380 V DC –15% to 480 V AC +10% | Drive inverter 510 V DC +15% to 650 V DC +10% |
| AC | DC | AC | DC | AC | DC | | | AC | DC |
| 0.55 (0.7) | 0.75 (1.0) | 1.5 | 2.0 | 4.5 | 6.0 | 45 x 360 x 260 | (1.8 x 14.2 x 10.2) | 6SE7011-5EP50 ▶ | 6SE7012-0TP50 ▶ |
| 1.1 (1.5) | 1.5 (2.0) | 3.0 | 4.0 | 9.0 | 12 | 67,5 x 360 x 260 | (2.7 x 14.2 x 10.2) | 6SE7013-0EP50 ▶ | 6SE7014-0TP50 ▶ |
| 1.5 (2.0) | 2.2 (3.0) | 5.0 | 6.1 | 15 | 18.3 | 67,5 x 360 x 260 | (2.7 x 14.2 x 10.2) | 6SE7015-0EP50 ▶ | 6SE7016-0TP50 ▶ |
| 3.0 (4.0) | 4.0 (5.4) | 8.0 | 10.2 | 24 | 30.6 | 90 x 360 x 260 | (3.5 x 14.2 x 10.2) | 6SE7018-0EP50 ▶ | 6SE7021-0TP50 ▶ |
| 4.0 (5.4) | | 10 | | 30 | | 90 x 360 x 260 | (3.5 x 14.2 x 10.2) | 6SE7021-0EP50 ▶ | |
| | 5.5 (7.4) | | 13.2 | | 39.6 | 135 x 360 x 260 | (5.3 x 14.2 x 10.2) | | 6SE7021-3TP50 ▶ |
| 5.5 (7.4) | 7.5 (10.1) | 14 | 17.5 | 42 | 52.5 | 135 x 360 x 260 | (5.3 x 14.2 x 10.2) | 6SE7021-4EP50 ▶ | 6SE7021-8TP50 ▶ |
| 7.5 (10.1) | 11 (14.8) | 20.5 | 25.5 | 61.5 | 76.5 | 135 x 360 x 260 | (5.3 x 14.2 x 10.2) | 6SE7022-1EP50 ▶ | 6SE7022-6TP50 ▶ |
| 11 (14.8) | 15 (20.1) | 27 | 34 | 81 | 102 | 180 x 360 x 260 | (7.1 x 14.2 x 10.2) | 6SE7022-7EP50 ▶ | 6SE7023-4TP50 ▶ |
| 15 (20.1) | 18.5 (24.8) | 34 | 37.5 | 102 | 112.5 | 180 x 360 x 260 | (7.1 x 14.2 x 10.2) | 6SE7023-4EP50 ▶ | 6SE7023-8TP50 ▶ |
| 2.2 (3.0) | | 6.1 | | 9.6 | | 90 x 425 x 350 | (3.5 x 16.7 x 13.8) | 6SE7016-1EA51 ▶ | 6SE7016-1TA51 ▶ |
| 3.0 (4.0) | | 8.0 | | 12.8 | | 90 x 425 x 350 | (3.5 x 16.7 x 13.8) | 6SE7018-0EA51 ▶ | 6SE7018-0TA51 ▶ |
| 4.0 (5.4) | | 10.2 | | 16.3 | | 90 x 425 x 350 | (3.5 x 16.7 x 13.8) | 6SE7021-0EA51 ▶ | 6SE7021-0TA51 ▶ |
| 5.5 (7.4) | | 13.2 | | 21.1 | | 135 x 425 x 350 | (5.3 x 16.7 x 13.8) | 6SE7021-3EB51 ▶ | 6SE7021-3TB51 ▶ |
| 7.5 (10.1) | | 17.5 | | 28 | | 135 x 425 x 350 | (5.3 x 16.7 x 13.8) | 6SE7021-8EB51 ▶ | 6SE7021-8TB51 ▶ |
| 11 (14.8) | | 25.5 | | 40.8 | | 180 x 600 x 350 | (7.1 x 23.6 x 13.8) | 6SE7022-6EC51 ▶ | 6SE7022-6TC51 ▶ |
| 15 (20.1) | | 34 | | 54.4 | | 180 x 600 x 350 | (7.1 x 23.6 x 13.8) | 6SE7023-4EC51 ▶ | 6SE7023-4TC51 ▶ |
| 18.5 (24.8) | | 37.5 | | 60 | | 270 x 600 x 350 | (10.6 x 23.6 x 13.8) | 6SE7023-8ED51 ▶ | 6SE7023-8TD51 ▶ |
| 22 (29.5) | | 47 | | 75.2 | | 270 x 600 x 350 | (10.6 x 23.6 x 13.8) | 6SE7024-7ED51 ▶ | 6SE7024-7TD51 ▶ |
| 30 (40.2) | | 59 | | 94.4 | | 270 x 600 x 350 | (10.6 x 23.6 x 13.8) | 6SE7026-0ED51 ▶ | 6SE7026-0TD51 ▶ |
| 37 (50) | | 72 | | 115.2 | | 270 x 600 x 350 | (10.6 x 23.6 x 13.8) | 6SE7027-2ED51 ▶ | 6SE7027-2TD51 ▶ |
| 45 (60) | | 92 | | 147 | | 270 x 1050 x 365 | (10.6 x 41.3 x 14.4) | 6SE7031-0EE50 ▶ | 6SE7031-0TE50 ▶ |
| 55 (74) | | 124 | | 198 | | 360 x 1050 x 365 | (14.2 x 41.3 x 14.2) | 6SE7031-2EF50 ▶ | 6SE7031-2TF50 ▶ |
| 75 (100) | | 155 | | 248 | | 360 x 1050 x 365 | (14.2 x 41.3 x 14.2) | 6SE7031-8EF50 ▶ | 6SE7031-8TF50 ▶ |
| 90 (121) | | 175 | | 280 | | 508 x 1450 x 465 | (20 x 57.1 x 18.3) | 6SE7032-1EG50 ▶ | 6SE7032-1TG50 ▶ |
| 110 (148) | | 218 | | 345 | | 508 x 1450 x 465 | (20 x 57.1 x 18.3) | 6SE7032-6EG50 ▶ | 6SE7032-6TG50 ▶ |
| 132 (177) | | 262 | | 419 | | 508 x 1450 x 465 | (20 x 57.1 x 18.3) | 6SE7033-2EG50 ▶ | 6SE7033-2TG50 ▶ |
| 160 (215) | | 308 | | 493 | | 508 x 1450 x 465 | (20 x 57.1 x 18.3) | 6SE7033-7EG50 ▶ | 6SE7033-7TG50 ▶ |
| 200 (268) | | 423 | | 575 | | 800 x 1750 x 565 | (31.5 x 68.9 x 22.2) | 6SE7035-1EK50 ▶ | |
| 200 (268) | | 423 | | 575 | | 800 x 1400 x 565 | (31.5 x 55.1 x 22.2) | | 6SE7035-1TJ50 ▶ |
| 250 (335) | | 491 | | 667 | | 800 x 1750 x 565 | (31.5 x 68.9 x 22.2) | 6SE7036-0EK50 ▶ | |
| 250 (335) | | 491 | | 667 | | 800 x 1400 x 565 | (31.5 x 55.1 x 22.2) | | 6SE7036-0TJ50 ▶ |
| MASTERDRIVES Motion Control rectifier modules for DC drives | | | | | | | | | |
| | | | | | | | | Refer to Catalog DA 65.11 for additional rectifier and rectifier-regenerative feedback units | |
| 15 (20) | | 41 | | 123 | | 90 x 360 x 260 | (3.5 x 14.2 x 10.2) | 6SE7024-1EP85-0AA0 | |
| 50 (67) | | 120 | | 360 | | 135 x 360 x 260 | (5.3 x 14.2 x 10.2) | 6SE7031-2EP85-0AA0 | |
| 100 (134) | | 230 | | 690 | | 180 x 360 x 260 | (7.1 x 14.2 x 10.2) | 6SE7032-1EP85-0AA0 | |



1FK7 servomotors for SIMOVERT MASTERDRIVES
Motion Control with a 3 phase 380 V to 480 V AC line supply

| Rated speed | M ₀ | I ₀ | M _n | I _n | P _n | Moment of inertia without brake | Weight without brake | 1FK7 servomotor, non-ventilated |
|-------------|--------------------------|----------------|--------------------------|----------------|----------------|--|----------------------|---------------------------------|
| RPM | Nm (lb _f -in) | A | Nm (lb _f -in) | A | kW (HP) | kg/cm ² (x10 ⁻³ lb _f -in-s ²) | kg (lb) | Order No. |
| 3000 | 3 (27) | 2.2 | 2.6 (23) | 1.95 | 0.82 (1.10) | 3 (2.7) | 4.9 (10.8) | 1FK7042-5AF71-1... |
| 3000 | 6 (53) | 4.5 | 4.7 (42) | 3.7 | 1.48 (1.98) | 8 (7.1) | 7 (15.4) | 1FK7060-5AF71-1... |
| 3000 | 11 (97) | 8 | 7.3 (65) | 5.6 | 2.29 (3.07) | 15 (13) | 11.5 (25.4) | 1FK7063-5AF71-1... |
| 3000 | 8 (71) | 4.8 | 6.8 (60) | 4.4 | 2.14 (2.87) | 15 (13) | 10 (22.0) | 1FK7080-5AF71-1... |
| 3000 | 16 (142) | 10.4 | 10.5 (93) | 7.4 | 3.3 (4.43) | 27 (24) | 14 (30.9) | 1FK7083-5AF71-1... |
| 3000 | 18 (159) | 11.2 | 12 (106) | 8 | 3.77 (5.06) | 55 (49) | 19 (41.9) | 1FK7100-5AF71-1... |
| 3000 | 27 (239) | 19 | 15.5 (137) | 11.8 | 4.87 (6.53) | 80 (71) | 21 (46.3) | 1FK7101-5AF71-1... |
| 2500 | 36 (319) | 27.5 | 20.5 (181) | 16.5 | 5.37 (7.20) | 110 (97) | 29 (63.9) | 1FK7103-5AF71-1... |
| 4500 | 6 (53) | 6.2 | 3.7 (33) | 4.1 | 1.74 (2.33) | 8 (7.1) | 7 (15.4) | 1FK7060-5AH71-1... |
| 4000 | 11 (97) | 12 | 5 (44) | 6.1 | 2.09 (2.80) | 15 (13) | 11.5 (25.4) | 1FK7063-5AH71-1... |
| 4000 | 8 (71) | 7.4 | 5.7 (50) | 5.6 | 2.38 (3.19) | 15 (13) | 10 (22) | 1FK7080-5AH71-1... |
| 3500 | 16 (142) | 15 | 8.3 (73) | 9 | 3.04 (4.08) | 27 (24) | 14 (30.9) | 1FK7083-5AH71-1... |
| 6000 | 0.85 (7.5) | 1.8 | 0.63 (5.6) | 1.4 | 0.4 (0.54) | 0.3 (0.27) | 1.8 (4.0) | 1FK7022-5AK71-1... |
| 6000 | 1.1 (10) | 1.7 | 0.85 (7.5) | 1.4 | 0.47 (0.63) | 0.6 (0.5) | 2.7 (6.0) | 1FK7032-5AK71-1... |
| 6000 | 1.6 (14) | 2.25 | 1.1 (10) | 1.7 | 0.69 (0.93) | 1.7 (1.5) | 3.5 (7.7) | 1FK7040-5AK71-1... |
| 5000 | 3 (27) | 4.4 | 20 (18) | 3.1 | 1.02 (1.37) | 3 (2.7) | 4.9 (10.8) | 1FK7042-5AK71-1... |

Options for MASTERDRIVES Motion Control

| Function | Designation | |
|-----------------------------------|-------------|---|
| PROFIBUS | CBP2 | 12 Mbaud, clock-cycle synchronization, peer-to-peer communication |
| SIMOLINK | SLB | Fast synchronization |
| Resolver evaluation | SBR1 | Without pulse encoder simulation |
| Resolver evaluation | SBR2 | With pulse encoder simulation |
| Pulse encoder evaluation | SBP | |
| Absolute-value encoder evaluation | SBM2 | High-resolution encoder, absolute-value encoder |



Additional servomotors

1FT6 permanent-magnet servomotors up to 34.6 kW/160 Nm (46 HP/1416 lb_f·in)

1PH7 compact asynchronous motors up to 215 kW/1145 Nm (288 HP/844 lb_f·ft)

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