

**SIEMENS**

# Simply switch over now from **MICROMASTER to SINAMICS**

[usa.siemens.com/sinamics](http://usa.siemens.com/sinamics)



# SINAMICS—more power, more functions the next generation of drives from Siemens

**As a manufacturing plant or machine builder,** you're well aware that the requirements placed upon drives and motors are continually increasing—and you're used to obtaining components from us with which you can completely fulfill these needs.

**It's also just as true to say:** when our components provide more power and overall performance, as well as increased functionality, then this opens up new possibilities for you to improve your factories, systems and products. It also means that you can offer your customers more—and expand your position in the marketplace.

**However, in one generation of devices,** this can only be implemented to a certain degree with justifiable costs. At some point, constraints are reached that can no longer be resolved using the existing technology—and a new approach must be found. This point has been reached with our well-proven MICROMASTER drives.

**Therefore, we've decided** to replace MICROMASTER with drives from the current SINAMICS family.

**This offers you some decisive advantages**—when switching over from MICROMASTER to SINAMICS, you have drives with significantly increased power and functionality that are ideal for even more applications.



## System-based advantages of SINAMICS

### You will become faster



Simple engineering with graphical commissioning, trace (oscilloscope function) and integration in the TIA Portal

- Faster commissioning
- Easier to diagnose and troubleshoot
- Simple to connect to the control system



Parameters are cloned instead of programmed

- Simple data exchange using a memory card
- Straight-forward series commissioning
- Simplified device replacement when service is required



Wired or Wireless commissioning wizards

- NEW web interface wireless access module for easy connectivity to the drive
- Intuitive operator panels with optimized application settings
- Graphical displays for control, visualization and diagnostics

### You will become more flexible and perform better



Wide range of hardware versions for various applications

- Push-through mounting for simplified cabinet cooling
- Modular design for reduced spare parts inventory (SINAMICS G120 and G120X FSD–G)
- UL Type 1 wall-mount or distributed installation outside electrical cabinets in an IP65 design (G110M/G110D/G120D)



Integrated DC link reactor

- Lower costs and less space as an input reactor is not required
- Allows longer motor cables to be used



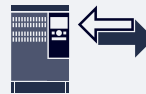
Standard USB interface to connect a PC

### You will become safer and more efficient



SINAMICS with Safety Integrated

- Integrated and certified safety functions are standard without requiring any additional components
- Safety-related communication via PROFIsafe
- Depending upon the drive, "Safe Torque Off (STO)", "Safe Stop (SS1)", "Safe Brake Control (SBC)", "Safely Limited Speed (SLS)", "Safe Speed Monitoring (SSM)" as well as "Safe Direction of Rotation (SDI)" can be used



Simple connection to the automation system and improved control response

- The PROFIBUS or PROFINET fieldbus interface is integrated in SINAMICS, along with EtherNet/IP and BacNet MSTP. Dual PN/EIP ports available as standard.
- Rugged open-loop and closed-loop control response for drives with low dynamic requirements—as well as demanding drives with speed and torque control



Consequential cost reduction

- Integrated functionality, for example Safety Integrated, integrated DC link reactor, energy-saving functions etc.



High energy efficiency

- ECO mode in partial load operation or integrated energy recovery without requiring any additional modules



Positioning technology function integrated in the drive (EPos)

- No additional positioning modules and encoder interfaces are required

## The added value of SINAMICS drives

### MICROMASTER 4 family

### MM420



3AC 480V
1/3 AC 230V

### SINAMICS G family

### G120C V20



### G120 (modular design) V20



#### An overview of additional functions:

Power range up to	132 kW/150 hp (LO)	30 kW/40 hp (LO)	55 kW/75 hp (LO)	3 kW/4 hp (LO)
Safety Integrated	STO	—	STO (SIL 3 from FSD)	—
Extended Safety Integrated functions (version)	—	—	SS1, SBC, SLS, SSM, SDI	—
PROFINET communication	•	—	•	—
Graphical commissioning, trace, TIA Portal	•	—	•	—
Parameters are copied using an SD card	•	•	•	•
Integrated DC link reactor	from 22 kW/25 hp	—	from 11 kW/15 hp	—
Push-through design (depending upon the power module)	—	•	•	•
Degree of protection UL Type 1	•	—	•	—
Rugged and dynamic control response	•	—	•	—
Integrated positioning function (depending upon the control unit)	—	—	•	—
Integrated energy recovery (depending upon the power module)	—	•	•	•
Extended pump, fan and compressor functions	—	—	—	—

LO = Low Overload    STO = Safe Torque Off    SS1 = Safe Stop 1    SBL = Safe Brake Control    SLS = Safe Limited Speed    SSM = Safe Speed Monitor    SDI = Safe Direction

**MM430**



3AC 480V

**MM440**



3AC 480V

1/3 AC 230V   3AC 480V   3AC 600V

**G120X**



**G120C**



**G120 (modular design)**



560 kW/700 hp  
(LO)

STO  
(SIL3)

—

•

— (TIA via GSD file)

•

up to  
250 kW/400 hp

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—

•

132 kW/150 hp  
(LO)

STO

—

•

•

•

from  
22 kW/25 hp

•

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—

55 kW/75 hp (LO) (230V);  
250 kW/400 hp (LO) (460V);  
132 kW/150 hp (LO)(575V)

STO  
(SIL 3 from FSD)

SS1, SBC, SLS, SSM, SDI

•

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from  
11 kW/15 hp (230V)/18.5 kW/25 hp  
(460V)/11 kW/10 hp (600V)

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# SINAMICS is the solution to your wish list

"I wish to simply implement safety functions without having to purchase and connect additional external components."

"To address my special application requirements, I'd like to have functions and macros already integrated in the drive that make it easier for me to configure my application during the commissioning phase."

"As I'm also using a SIMATIC-S7 controller, it's important that I can engineer my control and drive technology quickly, simply and in a standard fashion via the TIA Portal."

"I want to fully utilize the advantages of Ethernet-based communication—such as the high-performance, simple cabling and fast replacement of devices, i.e. just like PROFINET offers."

"To make my system even more efficient, I'd like to use the integrated energy saving function. This will allow me to save energy in standby mode and in partial load operation—it can also offer energy recovery functionality, too."




"For my series commissioning and when it comes to service, I'm looking for a simple and quick way of copying parameters from one drive to the other—for example, using a pluggable memory card."

## Switch now!

- You will become **faster with SINAMICS**
- You will become **more flexible and perform better with SINAMICS**
- You will become **safer and more efficient with SINAMICS**

# Switch now from **MICROMASTER to SINAMICS**

It's quite simple—these three easy steps can help you to make the switch from **MICROMASTER** to **SINAMICS**

		
<b>Step 1</b>  Go to the website: <a href="http://www.siemens.com/tool-micromaster">www.siemens.com/tool-micromaster</a>	<b>Step 2</b>  Enter the order number of your MICROMASTER device into the tool—the alternative article list is displayed.  You can find the order number on the rating plate or in your last order.	<b>Step 3</b>  Select the suggested SINAMICS drive to address your specific requirements—using the “Article number list” button, go directly to the Siemens Industry Mall and order your drive.

## Alternatively

- Determine the output current of your MICROMASTER. This is specified on the rating plate or in the data sheet.
- Then select the appropriate drive from the SINAMICS portfolio in the Motion Control Drives Catalog D31.1 or via the Siemens Drive Technology Configurator—[www.siemens.com/dt-configurator](http://www.siemens.com/dt-configurator)

### Example:

<div>MICROMASTER 420</div> <div>Order No.</div> <div>Without filter Line voltage 3AC 380–480</div> <div>Rated output current</div> <div>6SE6420-2UD21-5AA14.0 A</div>	<div>SINAMICS G120C</div> <div>Article No.</div> <div>Without filter Line voltage 3AC 380–480</div> <div>Output current – base load current (I<sub>N</sub>)</div> <div>6SL3210-1KE15-8UB24.1 A</div>		
<div>MICROMASTER 430</div> <div>Order No.</div> <div>Without filter Line voltage 3AC 380–480</div> <div>Rated output power</div> <div>6SE6430-2UD31-5CA015 kW / 20 hp</div>	<div>SINAMICS G120X</div> <div>Article No.</div> <div>Without filter Line voltage 3AC 380–480</div> <div>Rated output power</div> <div>6SL3220-3YE28-0UF015 kW / 20 hp</div>		
<div>MICROMASTER 440</div> <div>Order No.</div> <div>Without filter Line voltage 3AC 200–240</div> <div>Rated output current (CT)</div> <div>6SE6440-2UC25-5CA122 A</div>	<div>MICROMASTER 440</div> <div>Order No.</div> <div>PROFIBUS module</div> <div>6SE6400-1PB00-0AA0</div>	<div>SINAMICS G120 modular</div> <div>Article No. (PM240-2 Power Module)</div> <div>Without filter Line voltage 3AC 380–480</div> <div>Output current – base load current (I<sub>N</sub>)</div> <div>6SL3210-1PC22-8ULO22 A</div>	<div>Article No.</div> <div>(CU240E-2 DP Control Unit) with Safety Integrated functions and PROFIBUS communication.</div> <div>6SL3244-0BB12-1PA1</div>

Additional information and detailed technical data for SINAMICS drives is provided in our Motion Control Drives Catalogs (D31.1 for SINAMICS V20, G120C and G120 // D31.5 for G120X). For more information, visit: [usa.siemens.com/std-drives](http://usa.siemens.com/std-drives)

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