

SIEMENS

VERSATILE. SEAMLESS. RESILIENT.

SINAMICS G210

The versatile all-rounder for diverse continuous motion requirements.

[siemens.com/sinamics-g210](https://www.siemens.com/sinamics-g210)



SINAMICS G210

Driving the next
generation **of continuous
motion applications**

The SINAMICS G210 represents the next generation in drive technology. As a versatile all-rounder for diverse continuous motion requirements, it covers a wide range of industries and applications – from moving and positioning to

processing tasks as well as compressing. It combines seamless integration, integrated safety and cybersecurity features with high flexibility, enabling Machine Builders to handle diverse applications with one scalable product.

**Versatile**

Cover multiple continuous motion applications with a single drive series. Thanks to motor openness, modular options and flexible communication, the SINAMICS G210 adapts to diverse requirements while reducing system complexity and variants.

**Seamless**

End-to-end integration into the Siemens automation environment ensures consistent workflows from selection to operation. Built-in tools and seamless connectivity help reduce engineering effort, speed up commissioning and simplify maintenance.

**Resilient**

Integrated safety and cybersecurity functions protect machines, data and processes throughout their lifecycle. With certified standards and high availability features, the SINAMICS G210 ensures reliable operation in demanding industrial environments.



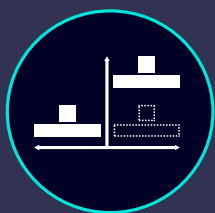
One drive series.
Many Possibilities.



Designed to adapt to **diverse industrial requirements**

Different applications demand different capabilities. SINAMICS G210 adapts to diverse machine requirements without increasing engineering complexity.

With scalable hardware and software options, broad motor support, and global standards compliance, one drive series can support a wide range of applications and machine concepts.



Positioning



Processing



Moving



Compressing



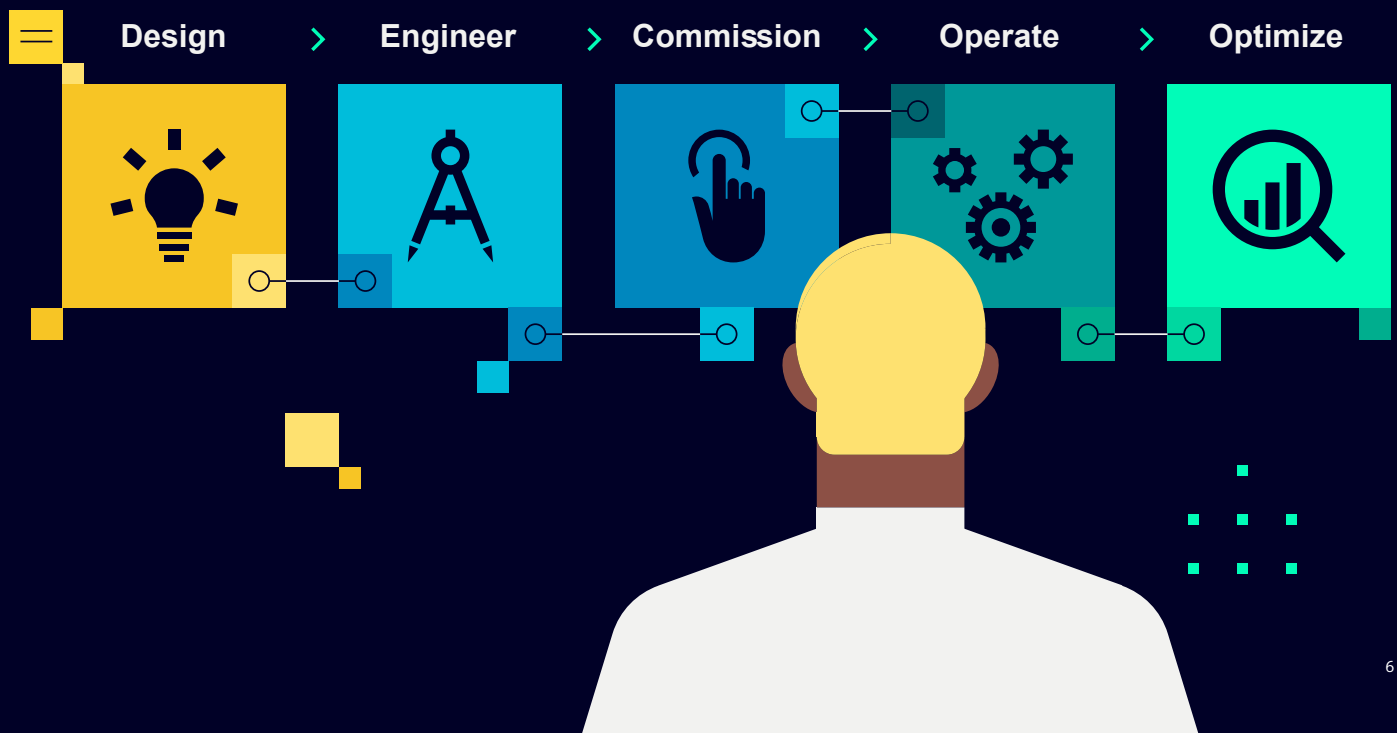
Versatile

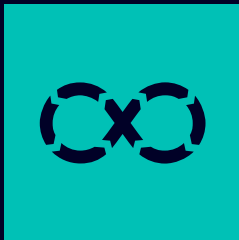
- Out of the box, ready to switch on.
- Support of **induction, SRM and PEM motors** including IE4/IE5 for high-efficiency.
- Achieve accurate speed and torque control, improved process stability, and reliable machine performance across the entire operating range with **encoder based vector control and torque control** for induction and synchronous motors.
- Adapt the drive to exact application needs with **pluggable Option Modules** for encoder support, including DRIVE-CLiQ and other HTL, TTL and SSI encoder, as well as additional digital and analog I/Os, safe motor temperature monitoring, and IIoT connectivity.
- Optimize Motion Control with the integrated **encoder-based and encoder-less position control**, enabling precise axis positioning while reducing PLC workload.
- Unlock custom functionalities with **DCC (Drive Control Chart)** using control, arithmetic, and logic blocks, all seamlessly engineered within TIA Portal via SINAMICS Startdrive.
- **Standards compliance** that enables global deployment and use across multiple industries.
- **Flexible communication options** via PROFINET, PROFIBUS, Modbus RTU/TCP, EtherNet/IP and secure vertical communication via OPC UA.

Engineered for **effortless system integration**

Engineering complexity can slow innovation, increase costs, and extend time-to-market.

Reduce engineering effort and simplify operation with integrated tools, user-friendly system integration and intuitive access. The SINAMICS G210 features native TIA Portal integration via Startdrive and an integrated web server, enabling fast commissioning, efficient parameterization and easy diagnostics.



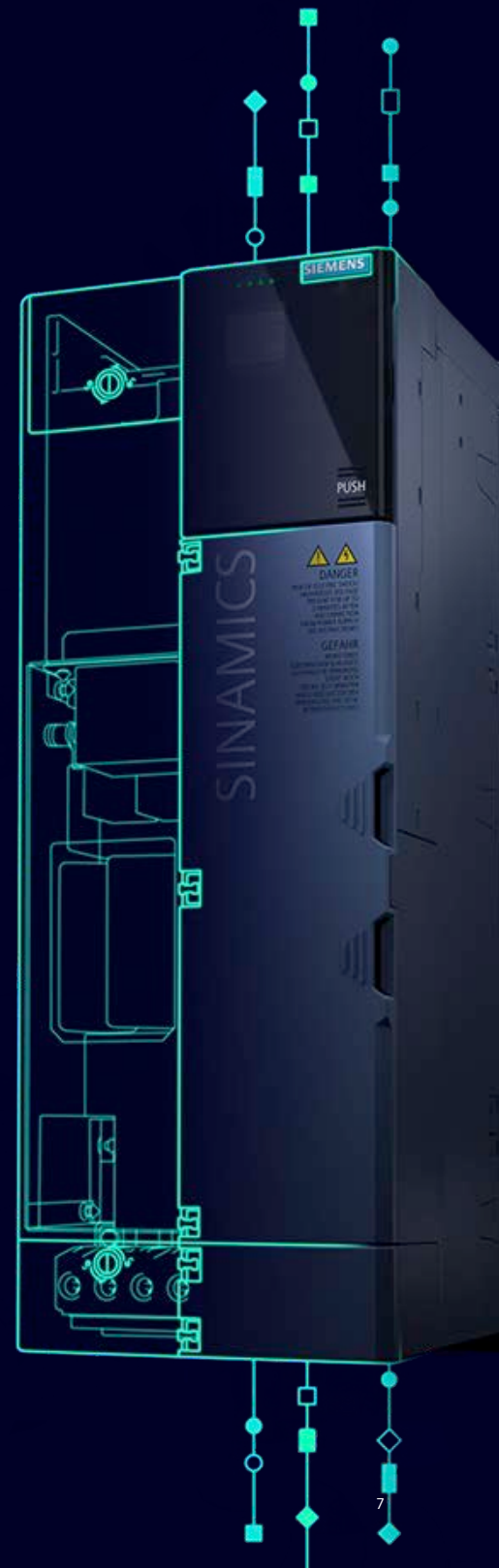


Seamless

- Efficient selection and configuration via Siemens Product Configurator and step-by-step configuration of mechanical system via TIA Selection Tool.
- Designed for **long motor cable lengths** - up to 150-meter C2 filtered.
- **Integrated power and energy hardware**: DC choke, braking resistor and optional EMC filter.
- Fully integrated into **TIA Portal / Startdrive** with user friendly interfaces and innovated setup, as well as **PCS7/neo integration**.
- **Coordinated engineering** of SIMATIC PLC, HMI, I/Os, drive & motors.
- On-site friendliness via **integrated webserver**, SDI Standard/Pro Panel and Wi-Fi Smart Adapter.
- Faster engineering and optimization with the **Digital Twin & Condition Monitoring***.

From engineering and commissioning to operation and optimization, SINAMICS G210 simplifies integration and creates a seamless user experience.

SINAMICS G210 supports a streamlined workflow throughout the machine lifecycle, reducing complexity while increasing efficiency and transparency.





Safety

Protect people and machines with integrated functional safety.

Security

Secure access to automation processes with built-in cybersecurity by design.

Reliability

Ensure stable operation with robust drive technology.

Resilient operation

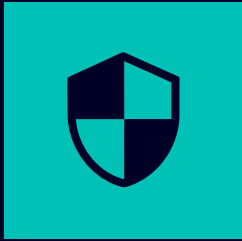
A reliable drive series that helps you protect machines, data and processes through their lifecycle – today and into the future.

Three layers of protection

Safety, security, and reliability work together to ensure resilient machine operation over the entire lifecycle.

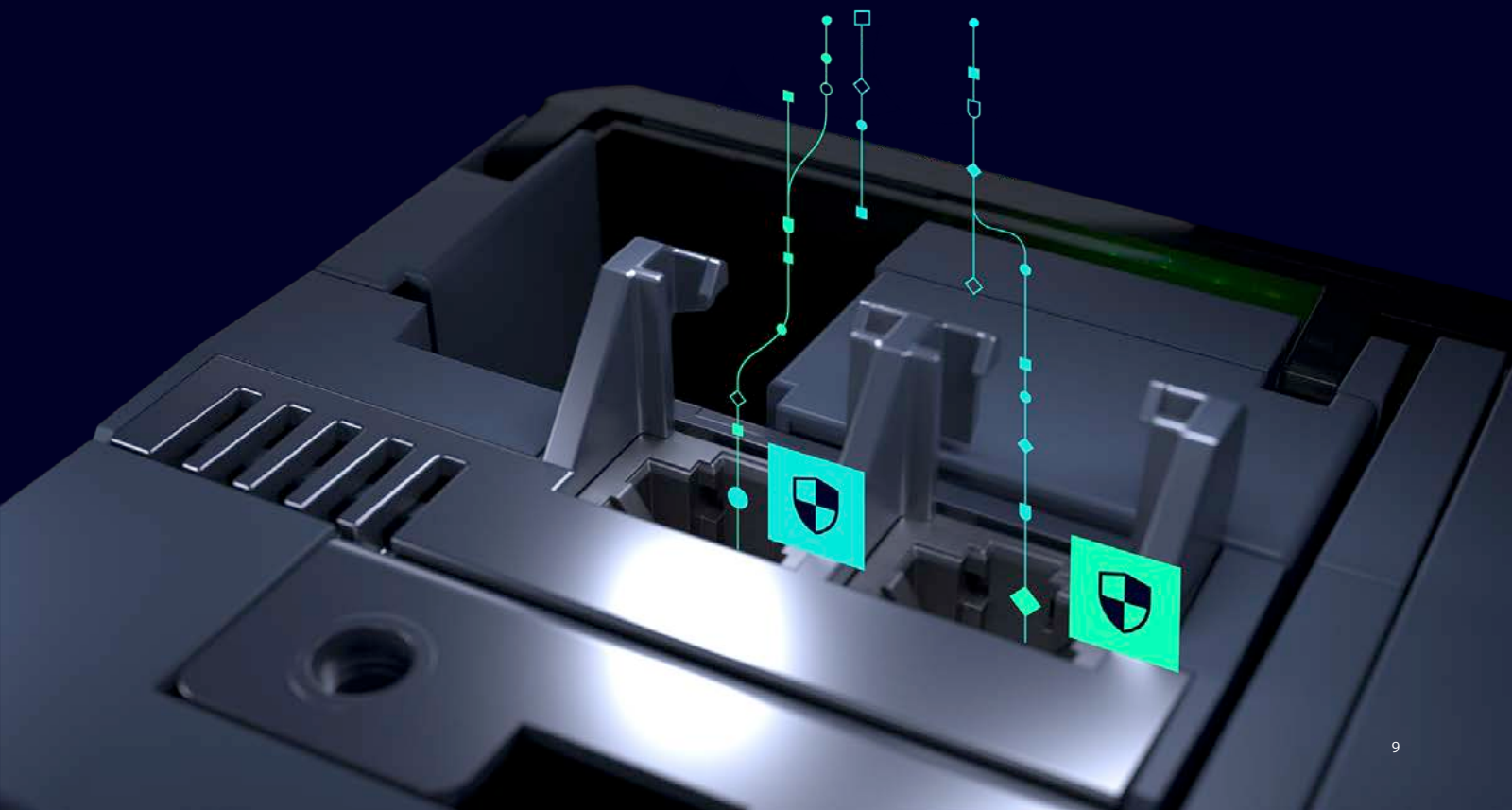
Built to ensure reliable machine operation

Engineering complexity can slow innovation, increase costs, and extend time-to-market. Ensure safe and secure machine operation with integrated protection mechanisms. The SINAMICS G210 combines certified safety functions up to SIL 3 / PL e / Cat. 4 with Cybersecurity features SL-C 2 certified according to IEC62443-4-2, helping to protect machines, data and processes across the entire lifecycle.



Resilient

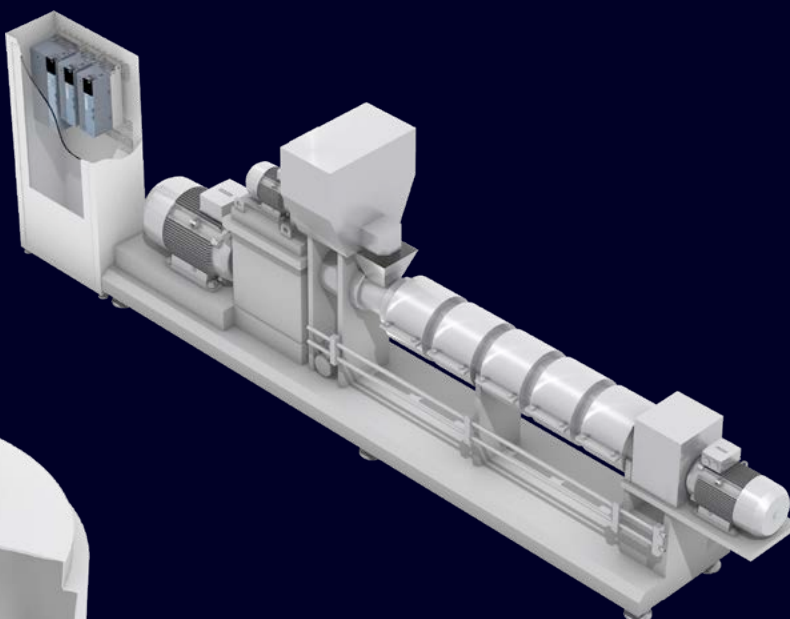
- **Integrated Security protection** against unauthorized access, manipulation and data loss according IEC62443-4-2, SL-C 2.
- Security features easily enabled through the **Security Wizzard** integrated into TIA Portal and webserver.
- Always on the safe side with SIL 3 / PL e Cat. 4 for all **Safety Integrated functions** including an online self-test.
- Expand safety in your machine with **SINAMICS Safety Extended** - controlled via terminals or PROFIsafe.
- Suitable for the connection to motors in Ex-environments thanks to the safety function SMT – **Safe Motor Temperature** (via OM-SMT).
- Robust design: **Optional 3C3 coating** for reliability in harsh environments & enhanced **overload capability**.
- Avoid unplanned system downtimes with **PROFINET Media & System Redundancy** (MRP & S2).



Enabling a wide range of **industrial applications**

Industrial applications require different motion profiles, machine concepts, and performance characteristics. From moving and positioning to processing and compressing tasks, SINAMICS G210 provides a flexible drive series that supports a wide range of applications while helping machine builders standardize engineering, operation, and performance.

Extruders

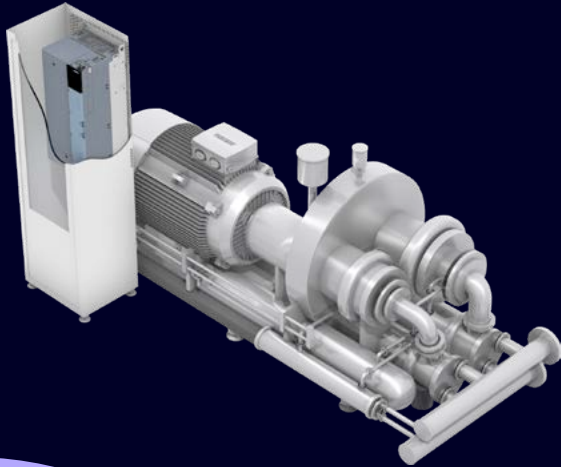


Mixers



processing

Compressors



Industrial Screw Compressors

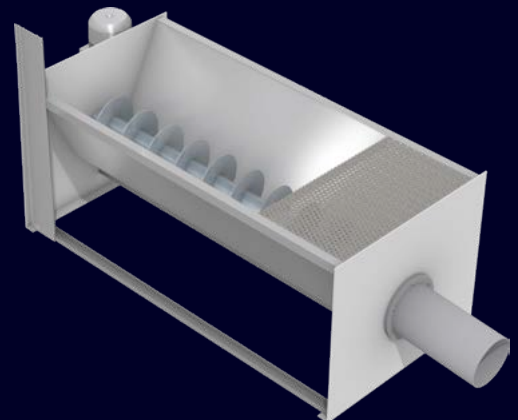


Compressing

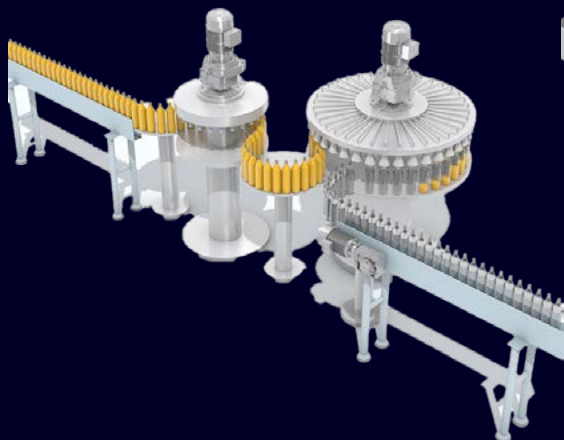


Moving & Positioning

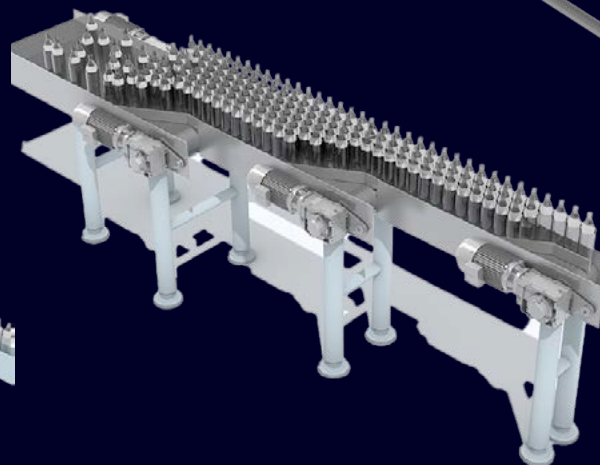
Screw conveyor



Bottling



Conveying



Delivering value across **diverse** **industries**

While industries differ in their processes and requirements, the challenges faced by machine builders remain remarkably similar: increasing efficiency, reducing complexity, ensuring reliable operation, and preparing for future demands. From General Machinery and Consumer Packaged Goods to Life Sciences, SINAMICS G210 delivers a versatile drive series that provides consistent engineering, operation, and performance across diverse industrial environments.

General Machinery

Standardize diverse machine concepts with one flexible drive platform. From conveyors and compressors to mixers and centrifuges, the SINAMICS G210 enables scalable and high-performance machine designs. Integrated engineering, digital tools and seamless system integration help reduce complexity and adapt machines to changing requirements.

Typical applications:

- Conveyors
- Compressors
- Mixers
- Centrifuges





Consumer Packaged Goods

Achieve consistent product quality and efficient production across diverse manufacturing processes. From mixers and conveyors to bottling, the SINAMICS G210 combines precise control, integrated engineering, and scalable automation capabilities to help maximize uptime and production flexibility.

Typical applications:

- Mixers
- Agitators
- Granulators
- Mills
- Bottling
- Conveyors
- Centrifuges

Life Science

Support product quality and process reliability in highly regulated manufacturing environments. The SINAMICS G210 enables precise and dependable operation of mixers, agitators and clean room air-control systems through integrated safety, advanced motor control, and digitalization capabilities.

Typical applications:

- Bioreactors
- Media and Buffer Preparation Systems
- Clean Room Air-Control Systems
- Centrifuges



Tire Industry

Achieve reliable and efficient operation across tire production processes. From extrusion to batch off, calendering, utility, and intralogistics, the SINAMICS G210 ensures high availability and consistent performance. Robust design, integrated safety and seamless system integration enable stable operation in demanding environments.

Technical data



SINAMICS G210 IP20

Drive Offerings

3 AC 380 V ... 500 V + 10 % - 20 %	1.1 – 75kW (1.5 – 100 hp)
Motors supported	Asynchronous motor (induction), synchronous reluctance motor, permanent magnet motor
Target verticals	General Machinery, Consumer packaged goods, Life Sciences, Tire Industry
EMC	C2 / Removal of functional grounding (IT system) possible
Cooling	Air cooling using an integrated fan
Ambient temperatures	–20 to 45 °C / to 60 °C (> 45°C with derating)
Motor cable length	Up to 150 m depending on power rating (EMC Category C2)
Motor control	U/f, FCC, ECO, Vector control (speed and torque) w/ and w/o encoder; Torque control w/ and w/o encoder
Overload capability	HO: 160% 3s, 150% 57s, LO: 135% 3s, 110% 57s every 300s
Inputs / outputs	4 DI, 2 DI/DO, 1 F-DI, 1 DO (DC30V relay), 2 AI, 2 AO, 1 input for PTC / KTY84 / Pt100 / Pt1000 motor temperature sensor
Communication Modules	CM-PN: PROFINET (RT, MRP & S2-Redundancy), Modbus TCP/IP, EtherNet/IP CM-DP: PROFIBUS CM-RS485: Modbus RTU
Safety functions	Integrated: Safe Torque Off (STO), Safe Stop 1 (SS1-t), SIL 3, PL e, Cat. 4 via terminals or PROFIsafe SINAMICS Safety Extended license: SS1, SLS, SSM, SDI



Dimensions

	FSA	FSB	FSC	FSD1	FSD2	FSE
Supply voltage	3 AC 380 ... 500 V, –20% / +10%					
Rated power	1.1kW ... 5.5kW 1.5hp ... 7.5hp	7.5kW ... 11kW 10hp ... 15hp	15kW ... 18.5 kW 20hp ... 25hp	22kW ... 30kW 30hp ... 40hp	37kW ... 45kW 50hp ... 60hp	55kW ... 75kW 75hp ... 100hp
Height	250 mm	355 mm	355 mm	400 mm	442 mm	520 mm
Rear panel height	288 mm	395 mm	395 mm	443 mm	492 mm	566 mm
Width	73 mm	85 mm	125 mm	150 mm	200 mm	250 mm
Depth	208 mm	208 mm	209 mm	245 mm	245 mm	245 mm

Hardware & Software options

Hardware options

Operator panels SINAMICS SDI Pro 5.5"



Color touch display (5.5"),
multilingual operator interface,
multi-drive access

Wi-Fi access SINAMICS Smart Adapter



Wi-Fi connection to access the drive
via mobile devices (smartphone,
tablet, laptop)

Communication modules

CM-PN

PROFINET, Modbus TCP/IP,
Ethernet /IP



CM-RS485

Modbus RTU



CM-RS485

Modbus RTU



Optional modules

OM-DQ

DRIVE-CLiQ



OM-IIoT

Industrial Internet
of Things



OM-SMT*

Safe Motor
Temperature



OM-ENC

Encoder



OM-DIO

Digital I/Os



OM-AIO

Analogue I/Os



ER-OM

Expansion Rack



*Coming soon



Software options

SINAMICS Safety Extended

SS1, SLS, SSM, SDI



6SL5977-0AA00-2HA0

SINAMICS OPC UA Single Extended

Seamless connectivity from field
level to e.g. Edge, SCADA, MES,
ERP and HMI systems



6SL5977-0AA00-1GA0

SINAMICS Positioning Extended

Encoderbased position control
(EPOS)



6SL5977-0AA00-2EA0

SINAMICS Positioning Advanced

Encoderless position control



6SL5977-0AA00-3EA0

SINAMICS DCC Extended

Flexible software tool with
graphical programming up to 100
blocks



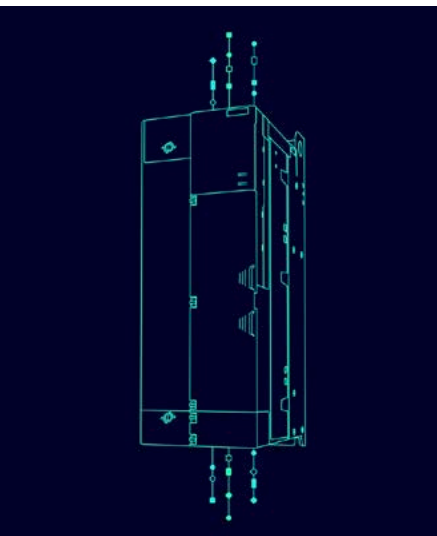
6SL5977-0AA00-2FA0

SINAMICS DCC Advanced

Flexible software tool with
graphical programming up to 500
blocks and DCB Extension



6SL5977-0AA00-3FA0



Seamless connectivity across your automation landscape with SINAMICS OPC UA

Key highlights

- Vendor-independent vertical communication
- Unrestricted parallel operation of OPC UA and PROFINET within the same Ethernet network
- Integrated security with session encryption and authentication for protected vertical communication to partners outside the protected zone
- Powertrain Information Model 40400-1 for inventory management of hardware and firmware
- SINAMICS Functional Model for acquisition of process data

With its integrated OPC UA server, SINAMICS G210 enables secure, vendor-independent communication and seamless data exchange from the field level to Industrial Edge, HMI and SCADA systems. Gain real-time insights, simplify integration and accelerate your digital transformation.

SINAMICS Drive Control Chart (DCC) for SINAMICS G210

Create custom programs in DCC using intuitive drag-and-drop blocks, then download them directly to the SINAMICS drive. This allows the drive to take on more tasks which reduces the load on the PLC. DCC is fully integrated into TIA Portal and available via SINAMICS Startdrive for seamless engineering.

- **Easy**
Enjoy effortless setup and configuration with a drag-and-drop interface in TIA Portal.
- **Scalable**
Get 20 free blocks with SINAMICS G220, expandable up to 500 for greater flexibility.
- **Customizable**
Access a rich library of arithmetic, logic, and close-looped control blocks to meet your machine-specific needs.



Discover more about
SINAMICS DCC

In [SINAMICS Startdrive](#)

SINAMICS Positioning for **optimized motion control**

From encoder-based to encoderless operation, SINAMICS Positioning enables precise and reliable axis positioning. The integrated positioning technology simplifies machine design and shifts positioning tasks directly to the drive. This reduces the load on the higher-level controller and frees up its processing power for additional automation tasks.

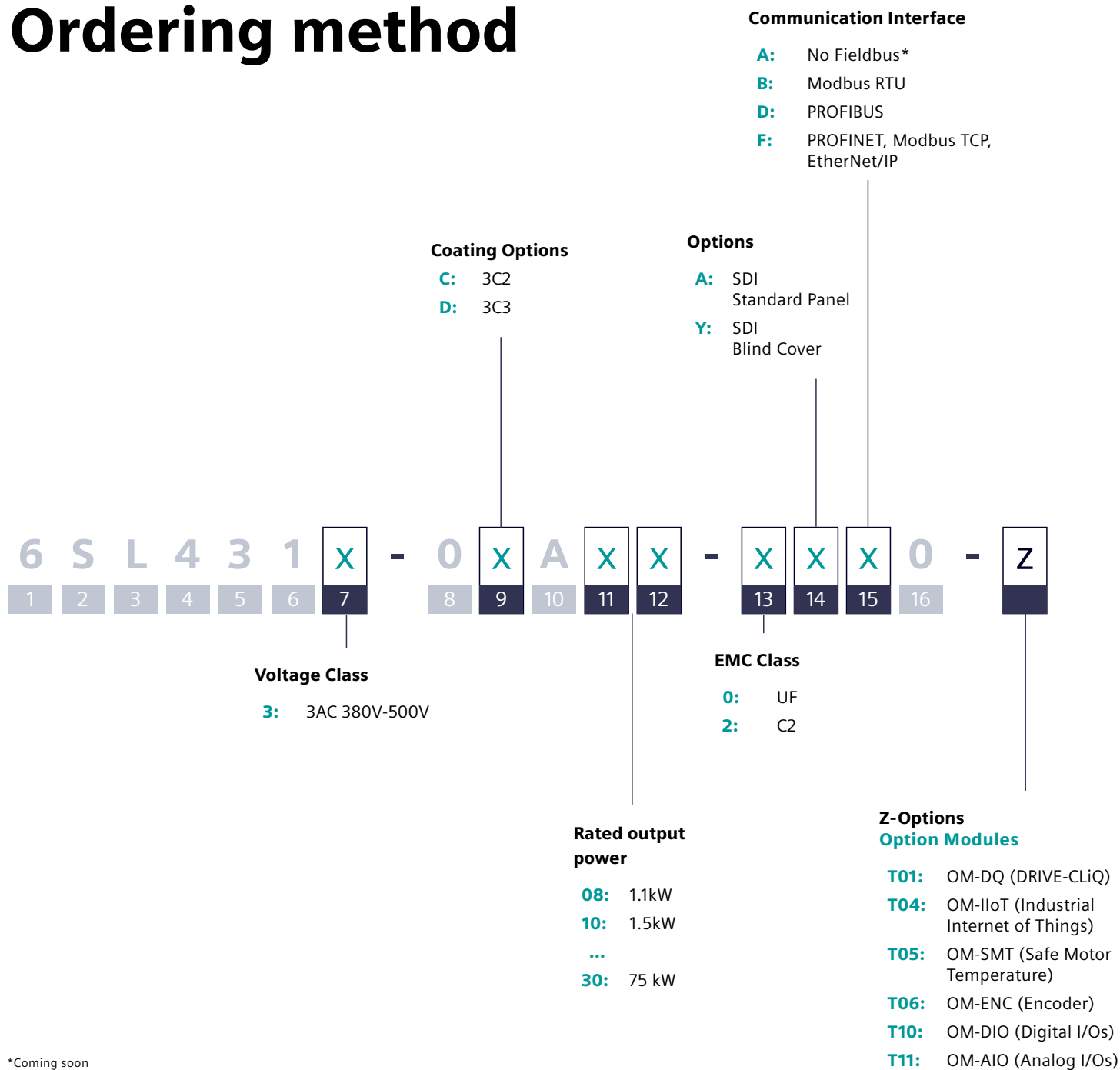
Main benefits

- Accurate positioning with or without an encoder
- Easy integration and simplified machine design thanks to built-in positioning functions
- Flexible solution for a wide range of motion control applications
- Reduced load on the higher-level controller by executing positioning tasks directly in the drive

Efficient usability is achieved through the integrated SINAMICS Smart Drive Interface (SDI Standard)



Ordering method



*Coming soon

Rated output power												
11	0	1	1	1	1	1	1	1	1	2	2	2
12	8	0	1	2	3	5	6	7	8	0	1	3
Rating	1.1 kW/ 1.5 hp	1.5 kW/ 2.0 hp	2.2 kW/ 3.0 hp	3 kW/ 4.0 hp	4 kW/ 5.0 hp	5.5 kW/ 7.5 hp	7.5 kW/ 10 hp	11 kW/ 15 hp	15 kW/ 20 hp	18.5 kW/ 25 hp	22 kW/ 30 hp	30 kW/ 40 hp
11	2	2	2	3								
12	4	6	7	0								
Rating	37 kW/ 50 hp	45 kW/ 60 hp	55 kW/ 75 hp	75 kW/ 100 hp								

Service offerings

To ensure that you are benefiting as much as possible from your SINAMICS G210, we offer a variety of services – from technical support and repairs to extended coverage options. The most comprehensive offering is Service Protect, which includes 7.5 years of extended warranty.



Support and consulting services

- Technical support via phone, e-mail and chat
[mySupport Cockpit](#)
- [Siemens Industry Online Support App](#)



Warranty

- Standard: 24 months
- Plus 6 months free of charge (FoC) with product registration via myregistration.siemens.com



Spares and repairs, field services

- Spare parts express delivery
- Fast spare units exchange
- In-house repair standard & express option
- Two levels of repair: Advanced / Premium



Added-value services

- Training services via [SITRAIN](#)
- Extended warranty via Service Protect (+3 years or +5 years)
- Retrofit and modernization service



Siemens Industry Online Support App

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on the App
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Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>