

# SINAMICS G120 standard inverters

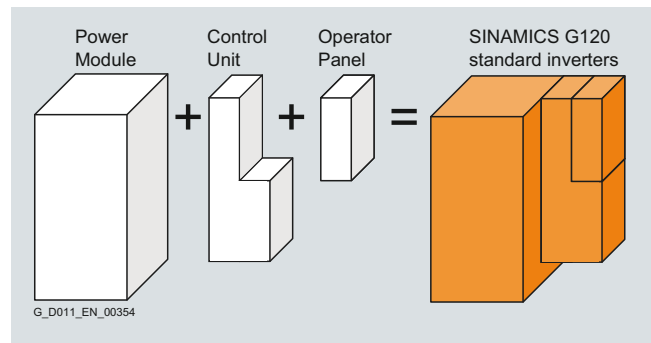
## 0.37 kW to 250 kW (0.5 hp to 400 hp)

### SINAMICS G120 standard inverters

#### Design

##### Application-orientated design of SINAMICS G120

SINAMICS G120 standard inverters are modular inverters for standard drives. Selection of the SINAMICS G120 is reduced to two or three steps thanks to the modular system used.



##### Selecting the Control Unit

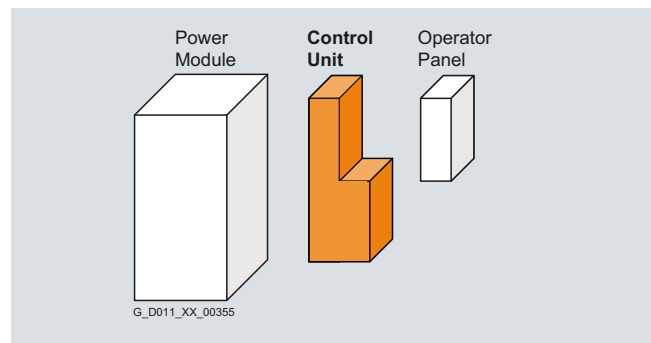
The optimum Control Unit is selected first, based on the number of I/Os and any additional functions required such as Safety Integrated or HVAC. The communication options are already integrated and do not have to be additionally ordered or plugged in. Two product series are available corresponding to the particular application.

##### CU230P-2 Control Units

The CU230P-2 Control Units have been specifically designed for pump, fan and compressor applications.

##### CU240B-2 and CU240E-2 Control Units

The CU240B-2 and CU240E-2 Control Units are suitable for a wide range of applications in general machine construction, such as conveyor belts, mixers and extruders.



Technology functions (selection)	Inputs	Outputs	Integrated safety technology	Digital inputs, fail-safe	Communication	Designation	Control Unit Order No.
<b>CU230P-2 series – the specialist for pumps, fans, compressors, water, buildings</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>4 × PID controllers</li> <li>Pump staging</li> <li>Hibernation</li> <li>Essential service mode</li> <li>2-zone control</li> </ul>	6 digital 4 analog	3 digital 2 analog	–	–	RS485/USS / Modbus RTU / BACnet MS/TP	CU230P-2 HVAC	<b>6SL3243-0BB30-1HA2</b>
					PROFIBUS DP	CU230P-2 DP	<b>6SL3243-0BB30-1PA2</b>
					PROFINET	CU230P-2 PN <b>new</b>	<b>6SL3243-0BB30-1FA0</b>
					CANopen	CU230P-2 CAN	<b>6SL3243-0BB30-1CA2</b>
<b>CU240B-2 series – for basic applications with variable-speed drives</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>1 × PID controller</li> <li>Motor holding brake</li> </ul>	4 digital 1 analog	1 digital 1 analog	–	–	RS485/USS / Modbus RTU	CU240B-2	<b>6SL3244-0BB00-1BA1</b>
					PROFIBUS DP	CU240B-2 DP	<b>6SL3244-0BB00-1PA1</b>
<b>CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>1 × PID controller</li> <li>Motor holding brake</li> </ul>	6 digital 2 analog	3 digital 2 analog	STO	1 F-DI (opt. for each 2 DI)	RS485/USS / Modbus RTU	CU240E-2	<b>6SL3244-0BB12-1BA1</b>
					PROFIBUS DP PROFIsafe	CU240E-2 DP	<b>6SL3244-0BB12-1PA1</b>
					PROFINET	CU240E-2 PN <b>new</b>	<b>6SL3244-0BB12-1FA0</b>
			STO, SS1, SLS, SSM, SDI	3 F-DI (opt. for each 2 DI)	RS485/USS / Modbus RTU	CU240E-2 F	<b>6SL3244-0BB13-1BA1</b>
					PROFIBUS DP PROFIsafe	CU240E-2 DP-F	<b>6SL3244-0BB13-1PA1</b>
					PROFINET	CU240E-2 PN-F <b>new</b>	<b>6SL3244-0BB13-1FA0</b>

# SINAMICS G120 standard inverters

## 0.37 kW to 250 kW (0.5 hp to 400 hp)

### Control Units

#### Selection and ordering data

Technology functions (selection)	Inputs	Outputs	Integrated safety technology	Digital inputs, fail-safe	Communication	Designation	Control Unit Order No.
<b>CU230P-2 series – the specialist for pumps, fans, compressors, water, buildings</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>4 × PID controllers</li> <li>Pump staging</li> <li>Hibernation</li> <li>Essential service mode</li> <li>2-zone control</li> </ul>	6 digital 4 analog	3 digital 2 analog	–	–	RS485/USS / Modbus RTU / BACnet MS/TP	CU230P-2 HVAC	<b>6SL3243-0BB30-1HA2</b>
					PROFIBUS DP	CU230P-2 DP	<b>6SL3243-0BB30-1PA2</b>
					PROFINET	CU230P-2 PN <small>new</small>	<b>6SL3243-0BB30-1FA0</b>
					CANopen	CU230P-2 CAN	<b>6SL3243-0BB30-1CA2</b>
<b>CU240B-2 series – for basic applications with variable-speed drives</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>1 × PID controller</li> <li>Motor holding brake</li> </ul>	4 digital 1 analog	1 digital 1 analog	–	–	RS485/USS / Modbus RTU	CU240B-2	<b>6SL3244-0BB00-1BA1</b>
					PROFIBUS DP	CU240B-2 DP	<b>6SL3244-0BB00-1PA1</b>
<b>CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders</b>							
<ul style="list-style-type: none"> <li>Free function blocks (FFB)</li> <li>1 × PID controller</li> <li>Motor holding brake</li> </ul>	6 digital 2 analog	3 digital 2 analog	STO	1 F-DI (opt. for each 2 DI)	RS485/USS / Modbus RTU	CU240E-2	<b>6SL3244-0BB12-1BA1</b>
					PROFIBUS DP PROFIsafe	CU240E-2 DP	<b>6SL3244-0BB12-1PA1</b>
					PROFINET	CU240E-2 PN <small>new</small>	<b>6SL3244-0BB12-1FA0</b>
			STO, SS1, SLS, SSM, SDI	3 F-DI (opt. for each 2 DI)	RS485/USS / Modbus RTU	CU240E-2 F	<b>6SL3244-0BB13-1BA1</b>
					PROFIBUS DP PROFIsafe	CU240E-2 DP-F	<b>6SL3244-0BB13-1PA1</b>
					PROFINET	CU240E-2 PN-F <small>new</small>	<b>6SL3244-0BB13-1FA0</b>

# SINAMICS G120 standard inverters

## 0.37 kW to 250 kW (0.5 hp to 400 hp)

### Control Units

#### Technical specifications

Control Unit	CU230P-2 series 6SL3243-0BB30-1 . A2 6SL3243-0BB30-1FA0	CU240B-2 series 6SL3244-0BB00-1 . A1	CU240E-2 series 6SL3244-0BB1 . -1 . A1 6SL3244-0BB1 . -1FA0
<b>Integrated bus interface</b>			
<b>USS/Modbus RTU</b> RS485 connected at a terminal, isolated, bus terminating resistors can be switched in, slave address can be set using DIP switches USS: max. 187.5 kBaud Modbus RTU: 19.2 kBaud	CU230P-2 HVAC 6SL3243-0BB30-1HA2	CU240B-2 6SL3244-0BB00-1BA1	CU240E-2 6SL3244-0BB12-1BA1  CU240E-2 F 6SL3244-0BB13-1BA1
<b>BACnet MS/TP</b> RS485 connected to a terminal, isolated, bus terminating resistors can be switched in Max. 187.5 kBaud	CU230P-2 HVAC 6SL3243-0BB30-1HA2	–	–
<b>PROFIBUS DP</b> 9-pin SUB-D connector, isolated, PROFIdrive profile V4.1, slave address can be set using DIP switches Max. 12 Mbit/s	CU230P-2 DP 6SL3243-0BB30-1PA2	CU240B-2 DP 6SL3244-0BB00-1PA1	CU240E-2 DP 6SL3244-0BB12-1PA1  CU240E-2 DP-F 6SL3244-0BB13-1PA1
<b>PROFINET</b> 2 × RJ45, PROFIdrive profile V4.1, device name can be stored on the device Max. 100 Mbit/s (full duplex)	CU230P-2 PN 6SL3243-0BB30-1FA0	–	CU240E-2 PN 6SL3244-0BB12-1FA0  CU240E-2 PN-F 6SL3244-0BB13-1FA0
<b>CANopen</b> 9-pin SUB-D socket, isolated, slave address can be set using DIP switches Max. 1 Mbit/s	CU230P-2 CAN 6SL3243-0BB30-1CA2	–	–
<b>Tool interfaces</b>			
<b>Memory card</b>	1 SINAMICS micro memory card (MMC) or 1 SINAMICS SD card		
<b>Operator panels</b>	<ul style="list-style-type: none"> <li>• IOP Supported connection options between CU230P-2 and IOP: can be directly plugged on, door mounting (not possible in conjunction with PM230 IP55) or handheld (use of the IOP Handheld in conjunction with the PM230 Power Module in degree of protection IP55 is restricted since degree of protection IP55 is no longer assured when the IOP Handheld is connected.)</li> <li>• BOP-2 Supported connection options between CU230P-2 and BOP-2: can be directly plugged on or door-mounted</li> <li>• Blanking cover Necessary in combination with the PM230 Power Module degree of protection IP55/UL Type 12 if an operator panel is not inserted in order to achieve degree of protection IP55</li> </ul>		
<b>PC interface</b>	USB (connection via PC inverter connection kit 2)		
<b>Open-loop/closed-loop control techniques</b>			
<b>V/f linear/square/parameterizable</b>	✓		
<b>V/f with flux current control (FCC)</b>	✓		
<b>V/f ECO linear/square</b>	✓		
<b>Vector control, sensorless</b>	✓		
<b>Vector control, with sensor</b>	–		
<b>Torque control, sensorless</b>	✓		
<b>Torque control, with sensor</b>	–		