SINAMICS G120 standard inverters

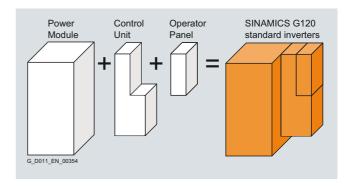
0.37 kW to 250 kW (0.5 hp to 400 hp)

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

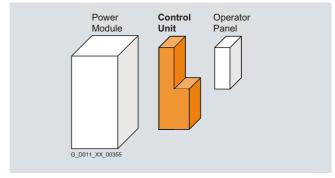
The optimum Control Unit is selected first, based on the number of I/Os and any additional functions required such as Safety Integrated or HVAC. The communication options are already integrated and do not have to be additionally ordered or plugged in. Two product series are available corresponding to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



(FFB) 4 analog 2 analog A valid controllers Pump staging Hibernation Essential service mode 2-zone control CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 x PID controller Modbus RTU / BACnet MS/TP PROFIBUS DP CU230P-2 DP 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3244-0BB3 Free function blocks (FFB) 1 analog 1 analog 1 analog 1 analog 1 analog 1 Free function blocks (FFB) 1 x PID controller Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders Free function blocks (FFB) 1 x PID controller Motor holding brake Free function blocks (FFB) 1 x PID controller Motor holding brake Modbus RTU PROFIBUS DP CU240E-2 6SL3244-0BB1 (opt. for each 2 DI) PROFIBUS DP CU240E-2 DP 6SL3244-0BB1 FROFIBUS DP CU240E-2 DP 6SL3244-0BB1	such as conveyor belts, mixers and extruders.							
CU230P-2 series – the specialist for pumps, fans, compressors, water, buildings Free function blocks (FFB)		Inputs	Outputs	safety		Communication	Designation	
 Free function blocks (FFB) 4 × PID controllers Pump staging Hibernation Essential service mode 2-zone control Free function blocks (FFB) A digital 2 analog PROFIBUS DP CU230P-2 DP 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 Free function blocks (FFB) 1 analog 1 analog 1 analog PROFIBUS DP CU240B-2 PROFIBUS DP CU240B-2 CU240B-2 Series - for basic applications with variable-speed drives Free function blocks (FFB) 1 x PID controller Motor holding brake Free function blocks (FFB) A digital 2 analog 2 analog T - DI (opt. for each 2 DI) PROFIBUS DP CU240B-2 DP 6SL3244-0BB1 Modbus RTU PROFIBUS DP CU240B-2 DP 6SL3244-0BB1 				07				Order No.
(FFB) 4 x PID controllers Pump staging Hibernation Essential service mode 2-zone control CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 x PID controller Modbus RTU / BACnet MS/TP PROFIBUS DP CU230P-2 DP 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3244-0BB3 CANopen CU240B-2 CAN 6SL3244-0BB3 CANopen CU240B-2 CAN 6SL3244-0BB3 CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 x PID controller Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders Free function blocks (FFB) 1 x PID controller Additional or a conveyor belts, mixers and extruders Free function blocks (FFB) 1 x PID controller Additional or a conveyor belts, mixers and extruders FROFIBUS DP CU240E-2 6SL3244-0BB1 (opt. for each 2DI) PROFIBUS DP CU240E-2 CU240E-2 DP 6SL3244-0BB1 PROFIBUS DP CU240E-2 DP 6SL3244-0BB1 PROFIBUS DP CU240E-2 DP 6SL3244-0BB1 PROFIBUS DP CU240E-2 DP 6SL3244-0BB1	CU230P-2 series – the specialist for pumps, fans, compressors, water, buildings							
 Pump staging Hibernation Essential service mode 2-zone control Free function blocks (FFB) Modbus RTU PROFIBUS DP CU230P-2 DP GSL3243-0BB3 GANopen CU230P-2 CAN GSL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3243-0BB3 GESL3244-0BB3 Modbus RTU PROFIBUS DP CU240E-2 DP GESL3244-0BB3 GESL3244-0BB3 <li< td=""><td>(FFB)</td><td></td><td>-</td><td>-</td><td>Modbus RTU /</td><td>CU230P-2 HVAC</td><td>6SL3243-0BB30-1HA2</td></li<>	(FFB)		-	-	Modbus RTU /	CU230P-2 HVAC	6SL3243-0BB30-1HA2	
 Hilbernation Essential service mode 2-zone control CU230P-2 CAN CU230P-2 CAN 6SL3243-0BB3 CANopen CU230P-2 CAN 6SL3243-0BB3 CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 analog 1 analog 1 analog 1 analog 1 analog Modbus RTU PROFIBUS DP CU240B-2 DP 6SL3244-0BB0 Modbus RTU PROFIBUS DP CU240B-2 DP 6SL3244-0BB0 Free function blocks (FFB) 6 digital 2 analog 2 analog 1 F-DI (opt. for each 2 DI) PROFIBUS DP CU240E-2 DP Modbus RTU PROFIBUS DP CU240E-2 DP 6SL3244-0BB1 						PROFIBUS DP	CU230P-2 DP	6SL3243-0BB30-1PA2
mode 2-zone control CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 analog 1 F-DI (opt. for each (opt. for each (apt. for each								6SL3243-0BB30-1FA0
CU240B-2 series – for basic applications with variable-speed drives Free function blocks (FFB) 1 x PID controller Motor holding brake Free function blocks (FFB) 2 analog 3 digital 2 analog 1 x PID controller Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders Free function blocks (FFB) 1 x PID controller Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders Free function blocks (FFB) PROFIBUS DP CU240E-2 GSL3244-0BB1 (opt. for each 2 DI) PROFIBUS DP CU240E-2 DP GSL3244-0BB1 PROFIBUS DP CU240E-2 DP GSL3244-0BB1						CANopen	CU230P-2 CAN	6SL3243-0BB30-1CA2
 Free function blocks (FFB) 1 analog 1 curved Analog 2 curved Analog 3 curved Analog 4 curved Analog 4 curved Analog	 2-zone control 							
(FFB) 1 analog 1 analog 1 analog PROFIBUS DP CU240B-2 DP 6SL3244-0BB0 • 1 x PID controller • Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders • Free function blocks (FFB) 2 analog 2 analog 2 analog 2 analog 2 analog 2 PROFIBUS DP CU240E-2 PROFIBUS DP CU240E-2 DP PROFI	CU240B-2 series – for basic applications with variable-speed drives							
Motor holding brake CU240E-2 series – for standard applications in general machinery construction, such as conveyor belts, mixers and extruders Free function blocks (FFB) 1 F-DI 2 analog 2 analog 2 analog 5 TO 1 F-DI (opt. for each 2 DI) 7 PROFIBUS DP PROFIBUS D					-		CU240B-2	6SL3244-0BB00-1BA1
 Free function blocks (FFB) 1 × PID controller Motor holding brake 6 digital 2 analog 2 analog 2 analog 2 analog 1 F-DI (opt. for each 2 DI) 1 F-DI (opt. for each 2 DI) PROFIBUS DP (CU240E-2 DP PROFIsafe) 6SL3244-0BB1 6SL3244-0BB1 						PROFIBUS DP	CU240B-2 DP	6SL3244-0BB00-1PA1
(FFB) 2 analog 2 analog (opt. for each 2 DI) Modbus RTU • 1 × PID controller • Motor holding brake (opt. for each 2 DI) PROFIBUS DP CU240E-2 DP PROFIsafe	S S S S S S S S S S S S S S S S S S S							
• Motor holding brake PROFISafe PROFISafe					(opt. for each		CU240E-2	6SL3244-0BB12-1BA1
PROFINET CU240F-2 PN 6SL 3244-0BB1							CU240E-2 DP	6SL3244-0BB12-1PA1
THOUNGE COLUMN						PROFINET	CU240E-2 PN new	6SL3244-0BB12-1FA0
SLS, SSM, (opt. for each Modbus RTU							CU240E-2 F	6SL3244-0BB13-1BA1
SDI 2 DI) PROFIBUS DP CU240E-2 DP-F 6SL3244-0BB1 PROFIsafe							CU240E-2 DP-F	6SL3244-0BB13-1PA1
PROFINET CU240E-2 PN-F OSL3244-0BB1						PROFINET	CU240E-2 PN-F new	6SL3244-0BB13-1FA0

SINAMICS G120 standard inverters 0.37 kW to 250 kW (0.5 hp to 400 hp)

Control Units

Selection and orderi	ng data						
Technology functions	Inputs	Outputs	Integrated	Digital inputs, fail-safe	Communication	Designation	Control Unit
(selection)			safety tech- nology	iali-sale			Order No.
CU230P-2 series – the	specialist fo	or pumps, far	s, compresso	rs, water, build	dings		
Free function blocks (FFB)4 × PID controllers		3 digital 2 analog	_	-	RS485/USS / Modbus RTU / BACnet MS/TP	CU230P-2 HVAC	6SL3243-0BB30-1HA
Pump staging					PROFIBUS DP	CU230P-2 DP	6SL3243-0BB30-1PA
 Hibernation 					PROFINET	CU230P-2 PN new	6SL3243-0BB30-1FA
 Essential service mode 					CANopen	CU230P-2 CAN	6SL3243-0BB30-1CA
 2-zone control 							
CU240B-2 series – for	basic applic	ations with v	ariable-speed	drives			
Free function blocks (FFB)	4 digital 1 digital 1 analog 1 analog	-	-	RS485/USS / Modbus RTU	CU240B-2	6SL3244-0BB00-1BA	
1 × PID controller					PROFIBUS DP	CU240B-2 DP	6SL3244-0BB00-1PA
 Motor holding brake 		_					
CU240E-2 series – for	standard ap	plications in	general mach	inery construc	tion, such as co	nveyor belts, mixers and	d extruders
Free function blocks (FFB)	6 digital 2 analog	3 digital 2 analog	(op		RS485/USS / Modbus RTU	CU240E-2	6SL3244-0BB12-1BA
1 × PID controllerMotor holding brake			2 DI)	PROFIBUS DP PROFIsafe	CU240E-2 DP	6SL3244-0BB12-1PA	
, and the second					PROFINET	CU240E-2 PN new	6SL3244-0BB12-1FA
		STO, SS1, SLS, SSM, SDI	3 F-DI (opt. for each 2 DI)	RS485/USS / Modbus RTU	CU240E-2 F	6SL3244-0BB13-1BA	
				PROFIBUS DP PROFIsafe	CU240E-2 DP-F	6SL3244-0BB13-1PA	
					PROFINET	CU240E-2 PN-F new	6SL3244-0BB13-1FA

SINAMICS G120 standard inverters 0.37 kW to 250 kW (0.5 hp to 400 hp)

Control Units

Technical	specifications
IECIIIIICAI	Specifications

Control Unit	CU230P-2 series 6SL3243-0BB30-1 . A2 6SL3243-0BB30-1FA0	CU240B-2 series 6SL3244-0BB00-1 . A1	CU240E-2 series 6SL3244-0BB11 . A1 6SL3244-0BB11FA0			
Integrated bus interface						
USS/Modbus RTU	CU230P-2 HVAC	CU240B-2	CU240E-2			
RS485 connected at a terminal, isolated, bus terminating resistors can be switched in, slave address can be set using DIP switches	6SL3243-0BB30-1HA2	6SL3244-0BB00-1BA1	6SL3244-0BB12-1BA1 CU240E-2 F 6SL3244-0BB13-1BA1			
USS: max. 187.5 kBaud Modbus RTU:19.2 kBaud						
BACnet MS/TP	CU230P-2 HVAC	-	-			
RS485 connected to a terminal, isolated, bus terminating resistors can be switched in	6SL3243-0BB30-1HA2					
Max. 187.5 kBaud						
PROFIBUS DP 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			
PROFINET 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			
CANopen	CU230P-2 CAN	_	-			
9-pin SUB-D socket, isolated, slave address can be set using DIP switches	6SL3243-0BB30-1CA2					
Max. 1 Mbit/s						
Tool interfaces						
Memory card	1 SINAMICS micro memory card (MM	MC) or 1 SINAMICS SD card				
Operator panels	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.) BOP-2 Supported connection options between CU230P-2 and BOP-2: can be directly plugged on or door-mounted 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					
PC interface	USB (connection via PC inverter conn	nection kit 2)				
Open-loop/closed-loop control	techniques					
V/f linear/square/parameteriz- able	✓					
V/f with flux current control (FCC)	✓					
V/f ECO linear/square	✓					
Vector control, sensorless	✓					
Vector control, with sensor	-					
Torque control, sensorless	✓					
Torque control, with sensor	-					