

SINAMICS G120 standard inverters

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

Supplementary system components > Operator panels

Overview

Operator panel	IOP-2 and IOP-2 Handheld Intelligent Operator Panel	BOP-2 Basic Operator Panel
Description		
	<p>Thanks to the high-contrast color display, menu-based operation and the wizards, commissioning of the standard drives is easy. Application wizards guide the user through the commissioning of important applications such as pumps, fans, compressors, or conveyor systems.</p>	<p>Commissioning of standard drives is easy with the menu-prompted dialog on a 2-line display. Simultaneous display of the parameter and parameter value, as well as parameter filtering, means that basic commissioning of a drive can be performed easily and, in most cases, without a printed parameter list.</p>
Possible applications	<ul style="list-style-type: none"> • Can be mounted directly on the inverter • Can be mounted in a control cabinet door using a door mounting kit (achievable degree of protection is IP55/UL Type 12 enclosure) • Available as handheld version • The following languages are integrated in the IOP-2: English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Finnish, Russian, Czech, Polish, Turkish, Chinese Simplified 	<ul style="list-style-type: none"> • Can be mounted directly on the inverter • Can be mounted in the control cabinet door using a door mounting kit (achievable degree of protection is IP55/UL Type 12)
Quick commissioning without expert knowledge	<ul style="list-style-type: none"> • Standard commissioning using the clone function • For quicker access, the parameter block names can be directly entered respectively changed on the IOP-2 using the virtual keyboard. • User-defined parameter list with a reduced number of self-selected parameters • Simple commissioning of standard applications using application-specific wizards; it is not necessary to know the parameter structure • Simple local commissioning using the handheld version • Commissioning is possible largely without documentation 	<ul style="list-style-type: none"> • Standard commissioning using the clone function
High degree of operator friendliness and intuitive operation	<ul style="list-style-type: none"> • Intuitive navigation by operating with a sensor control field • Graphic color display to show status values such as pressure or flow rate in the form of scalar values, bar-type diagrams, or trend displays • Status display with freely selectable units to specify physical values • Direct manual operation of the drive – you can simply toggle between the automatic and manual modes • Simple cloning of specific settings of the IOP-2 user interface. 	<ul style="list-style-type: none"> • 2-line display for showing up to 2 process values with text • Status display of predefined units • Direct manual operation of the drive – you can simply toggle between the automatic and manual modes
Minimization of maintenance times	<ul style="list-style-type: none"> • Diagnostics using plain text display, can be used locally on-site without documentation • The support function is used to determine the drive data for the Power Module, Control Unit and IOP-2 and makes this available as a two-dimensional code (data matrix/QR code) • Easily upgradable to new functional status via USB interface 	<ul style="list-style-type: none"> • Diagnostics with menu prompting with 7-segment display

Overview

IOP-2 Intelligent Operator Panel



IOP-2 Intelligent Operator Panel

The Intelligent Operator Panel IOP-2 is a very user-friendly and powerful operator panel for the SINAMICS G120, SINAMICS G120C, SINAMICS G120P, SINAMICS G110D, SINAMICS G120D, SINAMICS G110M and SIMATIC ET 200pro FC-2.

The IOP-2 supports both newcomers and drive experts. Thanks to the membrane keyboard with a central sensor control field, high-contrast color displays, menu-based operation and application wizards, it is easy to commission drives. A drive can be essentially commissioned without having to use a printed parameter list – as the parameters are displayed in plain text, and explanatory help texts and the parameter filtering function are provided.

Application wizards interactively guide you when commissioning important applications such as conveyor technology, pumps, fans and compressors. There is a basic commissioning wizard for general commissioning.

Up to two process values can be graphically visualized and up to four process values can be numerically visualized on the status screen/display. Process values can also be displayed in technological units.

The IOP-2 supports standard commissioning of identical drives. For this purpose, a parameter list can be copied from an inverter into the IOP-2 and downloaded into other drive units of the same type as required.

The IOP-2 can be installed in control cabinet doors using the optionally available door mounting kit.

Updating the IOP-2

The IOP-2 can be updated and expanded using the integrated USB interface.

Data to support future drive systems can be transferred from the PC to the IOP-2. Further, the USB interface allows user languages and wizards that will become available in the future to be subsequently downloaded and the firmware to be updated for the IOP-2¹⁾.

The IOP-2 is supplied with power via the USB interface during an update.

IOP-2 Handheld



IOP-2 Handheld

A handheld version of the IOP-2 can be ordered for mobile use. In addition to the IOP-2, it includes a housing with rechargeable batteries, a charging unit, an RS232 connecting cable, and a USB cable. The charging unit is supplied with connector adapters for Europe, the US and UK. When the batteries are fully charged, the operating time is up to 10 hours.

To connect the IOP-2 Handheld to SINAMICS G110D, SINAMICS G120D, SINAMICS G110M and SIMATIC ET 200pro FC-2, the RS232 connecting cable with optical interface is required in addition.

¹⁾ Information on updates for the IOP-2 is available at <https://support.industry.siemens.com/cs/document/67273266>

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Supplementary system components > IOP-2 Intelligent Operator Panel

Selection and ordering data

Description	Article No.
IOP-2 Intelligent Operator Panel For use with SINAMICS G120 SINAMICS G120C SINAMICS G120P SINAMICS G110D SINAMICS G120D SINAMICS G110M SIMATIC ET 200pro FC-2 Operating languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Finnish, Russian, Czech, Polish, Turkish, Chinese Simplified	6SL3255-0AA00-4JA2
IOP-2 Handheld For use with SINAMICS G120 SINAMICS G120C SINAMICS G120P SINAMICS G110D SINAMICS G120D SINAMICS G110M SIMATIC ET 200pro FC-2 Included in the scope of delivery: <ul style="list-style-type: none"> • IOP-2 • Handheld housing • Rechargeable batteries (4 × AA) • Charging unit (international) • RS232 connecting cable ¹⁾ 3 m (9.84 ft) long, can be used in combination with SINAMICS G120 SINAMICS G120C SINAMICS G120P • USB cable 1 m (3.28 ft) long 	6SL3255-0AA00-4HA1
Accessories	
Door mounting kit For mounting an operator panel in control cabinet doors with sheet steel thicknesses of 1 ... 3 mm (0.04 in ... 0.12 in) Degree of protection IP55 Included in the scope of delivery: <ul style="list-style-type: none"> • Seal • Mounting material • Connecting cable 5 m (16.4 ft) long, also supplies voltage to the IOP-2 directly via the inverter 	6SL3256-0AP00-0JA0
RS232 connecting cable 2.5 m (8.20 ft) long, with optical interface for connecting the IOP-2 Handheld to SINAMICS G110D SINAMICS G120D SINAMICS G110M SIMATIC ET 200pro FC-2	3RK1922-2BP00

Benefits

- New device design
 - Intuitive user interface – membrane keyboard with central sensor control field
 - High-contrast color display with a range of display options
 - IOP-2 device design open for future functional expansions (e.g. device functions, wizards, languages)
 - Easily upgradable to new functional status via USB interface
- Commissioning
 - Simple commissioning via wizards
 - The "Fieldbus Interface Settings" wizard is used for easy configuration of the Ethernet interface
 - Fast standard commissioning of inverters thanks to cloning function
 - For quicker access, the parameter block names can be directly entered respectively changed on the IOP-2 using the virtual keyboard.
 - Simple local commissioning on-site using the handheld version
- Operator control and monitoring
 - Simple, individual local drive control (start/stop, setpoint value specification, change in direction of rotation)
 - Application-specific scenarios such as operator concepts with additional external operating elements can be implemented easily
 - Simple cloning of specific settings of the IOP-2 user interface, such as status screen, language settings, lighting duration, date/time settings, parameter backup mode and "My Parameters" – settings made once can such be easily transferred to many further IOP-2 Intelligent Operator Panels
- Diagnostics
 - Rapid diagnostics thanks to on-site plain text display
 - Integrated plain text help function for local display and resolution of fault messages
- Support function
 - Used to determine the drive data for the Power Module, Control Unit and IOP-2 (article number, serial number, firmware version, error statuses) and makes this available as a two-dimensional code (data matrix/QR code)
 - Allows easy contact with Customer Support via a data matrix/QR code generated on the IOP-2
 - Quick access via mobile devices (e.g. smartphones, tablets) to product information, documentation, FAQs, contact persons via a two-dimensional code generated on the IOP-2 (data matrix/QR code)
 - Scanning and evaluating of the two-dimensional data matrix code using the Industry Online Support app (<https://support.industry.siemens.com/cs/ww/en/sc/2067>), see also: <https://support.industry.siemens.com/cs/document/109748340>

¹⁾ For use in conjunction with SINAMICS G110D, SINAMICS G120D, SINAMICS G110M and SIMATIC ET 200pro FC-2, the RS232 connecting cable with optical interface is required (Article No.: **3RK1922-2BP00**). The cable must be ordered separately.

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Supplementary system components > IOP-2 Intelligent Operator Panel

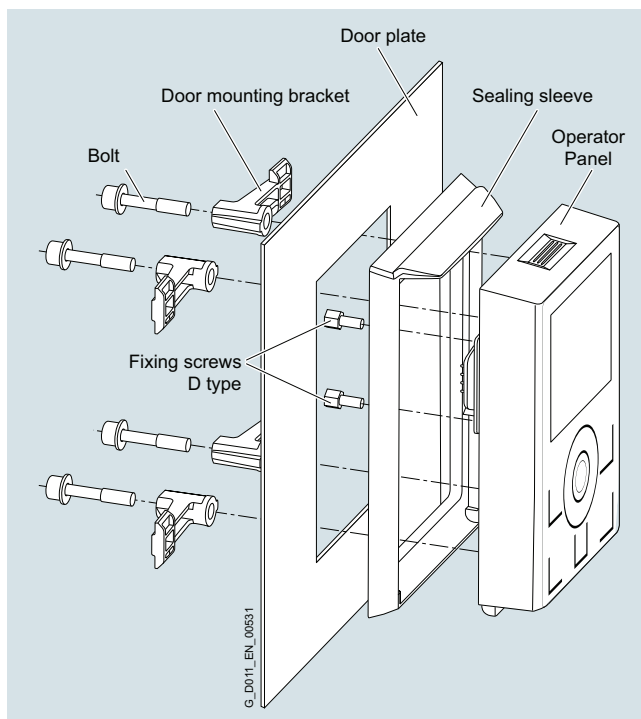
Integration

Using the IOP-2 with the inverters

	<ul style="list-style-type: none"> • SINAMICS G120 with CU230P-2, CU240E-2 or CU250S-2 • SINAMICS G120C • SINAMICS G120P with CU230P-2 	<ul style="list-style-type: none"> • SINAMICS G110D • SINAMICS G120D • SINAMICS G110M • SIMATIC ET 200pro FC-2
Plugging the IOP-2 onto the inverter (Voltage supply via inverter)	✓	–
Door mounting of the IOP-2 with the door mounting kit (Voltage supply via inverter. For this purpose, the IOP-2 must be connected up by means of the connecting cable supplied with the door mounting kit.)	✓	–
Mobile use of the IOP-2 Handheld (supplied from rechargeable batteries)	✓	✓ (RS232 connecting cable with optical interface required, article number 3RK1922-2BP00)

Door mounting

Using the optionally available door mounting kit, an operator panel can be simply mounted in a control cabinet door with just a few manual operations. In the case of door mounting, the IOP-2 Operator Panel achieves degree of protection IP55/UL Type 12 enclosure.



Door mounting kit with plugged-on IOP-2

Technical specifications

	IOP-2 6SL3255-0AA00-4JA2	IOP-2 Handheld 6SL3255-0AA00-4HA1
Display	High-contrast color display, a variety of display options	
• Resolution	320 × 240 pixels	
Operator panel	Membrane keyboard with central sensor control field	
Operating languages	English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Finnish, Russian, Czech, Polish, Turkish, Chinese Simplified	
Ambient temperature		
• During transport and storage	-40 ... +70 °C (-40 ... +158 °F)	-20 ... +55 °C (-4 ... +131 °F)
• During operation	For direct mounting on the inverter: 0 ... 50 °C (32 ... 122 °F) For installation with door mounting kit: 0 ... 55 °C (32 ... 131 °F)	0 ... 40 °C (32 ... 104 °F)
Humidity	Relative humidity < 95 %, non-condensing	
Degree of protection	For direct mounting on the inverter: IP20 For installation with door mounting kit: IP55, UL Type 12 enclosure	IP20
Dimensions (H × W × D)	106.86 × 70 × 19.65 mm (4.21 × 2.76 × 0.77 in)	195.04 × 70 × 37.58 mm (7.68 × 2.76 × 1.48 in)
Weight, approx.	0.134 kg (0.3 lb)	0.724 kg (1.6 lb)
Compliance with standards	CE, RCM, cULus, EAC, KC-REM-S49-SINAMICS	

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Supplementary system components > BOP-2 Basic Operator Panel**Overview**

BOP-2 Basic Operator Panel

The Basic Operator Panel BOP-2 can be used to commission drives, monitor drives in operation and input individual parameter settings.

Commissioning of standard drives is easy with the menu-prompted dialog on a 2-line display. Simultaneous display of the parameter and parameter value, as well as parameter filtering, means that basic commissioning of a drive can be performed easily and, in most cases, without a printed parameter list.

The drives are easily controlled manually using directly assigned navigation buttons. The BOP-2 has a dedicated switchover button to switch from automatic to manual mode.

Diagnostics can easily be performed on the connected inverter by following the menus.

Up to two process values can be numerically visualized simultaneously.

BOP-2 supports standard commissioning of identical drives. For this purpose, a parameter list can be copied from an inverter into the BOP-2 and when required, downloaded into other drive units of the same type.

The operating temperature of the BOP-2 is 0 °C ... 50 °C (32 °F ... 122 °F).

Selection and ordering data

Description	Article No.
BOP-2 Basic Operator Panel	6SL3255-0AA00-4CA1

Accessories

Door mounting kit For mounting an operator panel in control cabinet doors with sheet steel thicknesses of 1 ... 3 mm (0.04 ... 0.12 in) Degree of protection IP55 Included in the scope of delivery: <ul style="list-style-type: none"> • Seal • Mounting material • Connecting cable (5 m/16.4 ft long, also supplies voltage to the operator panel directly via the inverter) 	6SL3256-0AP00-0JA0
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Benefits

- Shorten commissioning times – Easy commissioning of standard drives using basic commissioning wizards (setup)
- Minimize standstill times – Fast detection and rectification of faults (Diagnostics)
- Greater transparency in the process – The status display of the BOP-2 makes process variable monitoring easy (Monitoring)
- Direct mounting on the inverter
- User-friendly user interface:
 - Easy navigation using clear menu structure and clearly assigned control keys
 - Two-line display

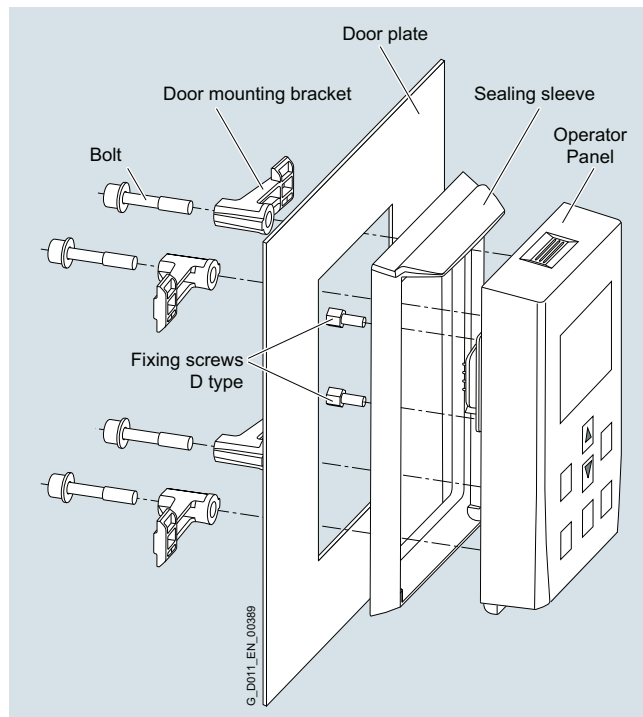
Integration

Using the BOP-2 with SINAMICS G120 inverters

	CU230P-2	CU240E-2	CU250S-2
Plugging the BOP-2 onto the inverter	✓	✓	✓
Door mounting with door mounting kit	✓	✓	✓

Door mounting

Using the optionally available door mounting kit, a BOP-2 can be simply mounted in a control cabinet door with just a few manual operations. Degree of protection IP55 is achieved for door mounting.



Door mounting kit with plugged-on BOP-2