

KI Keypad Plus User Guide / Installation Sheet

1 Introduction

The KI-Keypad Plus provides a user interface for a range of Control Techniques drives.

1.1 Features

The KI-Keypad Plus has the following features:

- 2.8" TFT color LCD screen.
- Clear parameter names and descriptions.
- Intuitive navigation for drive and option module menus and parameters.
- Provides Bluetooth interface for wireless communication with the drive from a PC.
- Real time clock.
- Remote mountable.
- User configurable status screen showing up to 8 parameters including user defined scaling and units.
- Multiple languages supported.
- Provides simple access to 'Quick Actions' such as saving parameters and defaulting the drive.
- Provides drive and application 'FastStart' actions for rapid commissioning.

1.2 Compatible drives

The KI-Keypad Plus is supported by several drives, either fitted directly on to the drive or used as a remote keypad via a 485 serial communications interface. The table below shows the compatible drives.

Table 1-1 Compatible drives

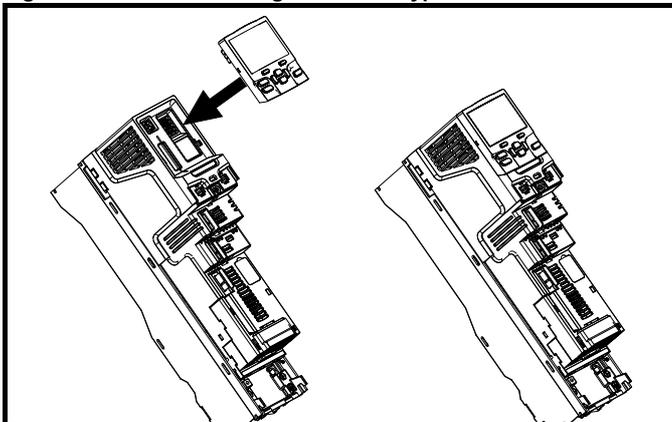
Drive	Mountable on the drive	Supports Remote Keypad
Unidrive M600, M701	Yes	Yes
Powerdrive F300	Yes	Yes
Elevator E300	Yes	Yes
Unidrive M700, M702	Yes	Yes, when using the KI-485 Adaptor
HVAC drive H300	Yes	Yes, when using the KI-485 Adaptor
Pump drive F600	Yes	Yes, when using the KI-485 Adaptor
Digitax HD	No	Yes, when using the KI-Compact 485 Adaptor
Commander C200/ C300	No	Yes, when using the AI-485 Adaptor
Unidrive M400	No	Yes, when using the AI-485 Adaptor or CI-485 Adaptor and firmware V01.05.00.xx or newer.

2 Installation



The KI-Keypad Plus is intended for use when directly attached to the drive or when mounted on a cubicle door in the manner shown in this installation sheet. It is not suitable for handheld use. Operation in any other fashion may cause a hazard and invalidates the warranty.

Figure 2-1 Drive mounting of the KI-Keypad Plus



To install, align the keypad and press gently in the direction shown until it clicks into position. To remove, reverse the installation instructions.

NOTE

The KI-Keypad Plus can be installed or removed while the drive is powered up and running a motor, provided that the drive is not operating in keypad mode.

2.1 Panel mounting of the KI-Keypad Plus

Figure 2-2 shows the dimensions of the cut-out required to mount the KI-Keypad Plus on a panel or cubicle door.

Figure 2-2 Panel cut out

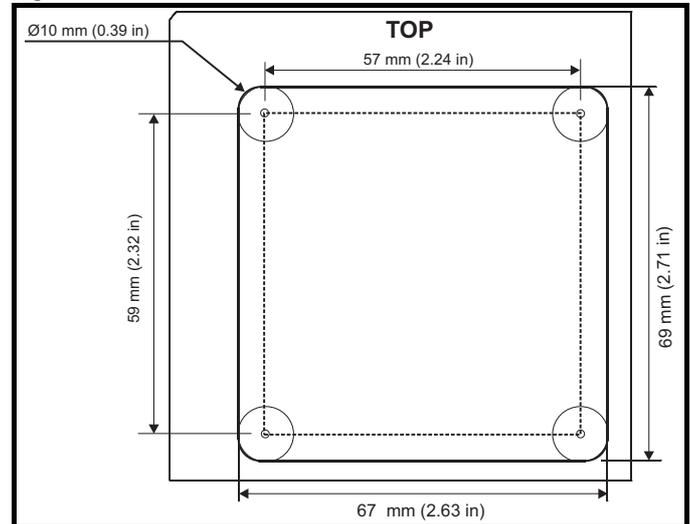
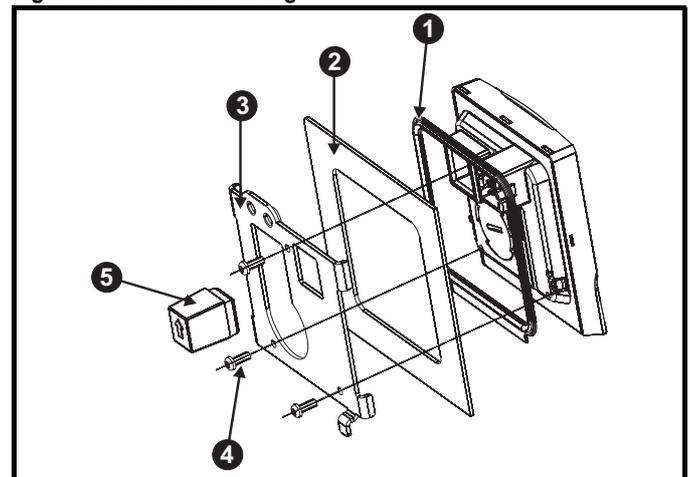


Figure 2-3 Panel mounting



1. Fit the rubber seal around the keypad.
2. Position the keypad into the panel / cubicle cut-out.
3. Attach clamping bracket.
4. Insert the 3 x mounting screws and tighten to 0.6 N m (5.3 lb in).
5. Insert the 6-pin connector cover.

The KI-Keypad Plus has an 8P8C connector on the rear for remote communications connection to the drive. The communications cable between the keypad and the drive's 485 serial port should be wired one-to-one.

The maximum cable length is 100 m when conductors of 0.129 mm² (AWG 26) or larger are used and the cable shield is connected to the grounded panel / cubicle at the keypad end of the cable. It is recommended that the cable uses the following twisted pairs: 1-8, 2-7, 3-6, and 4-5.



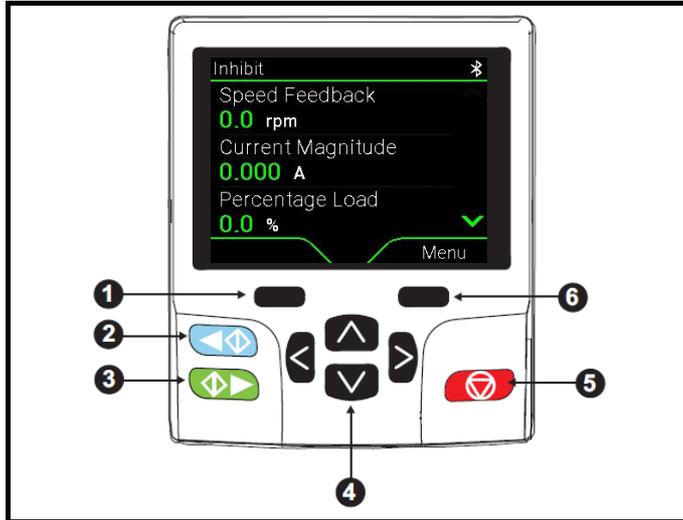
The 6-pin connector cover must be installed to prevent exposure to electrical circuits that may only be protected to ELV levels depending upon the type of drive used.



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3 Understanding the Keypad

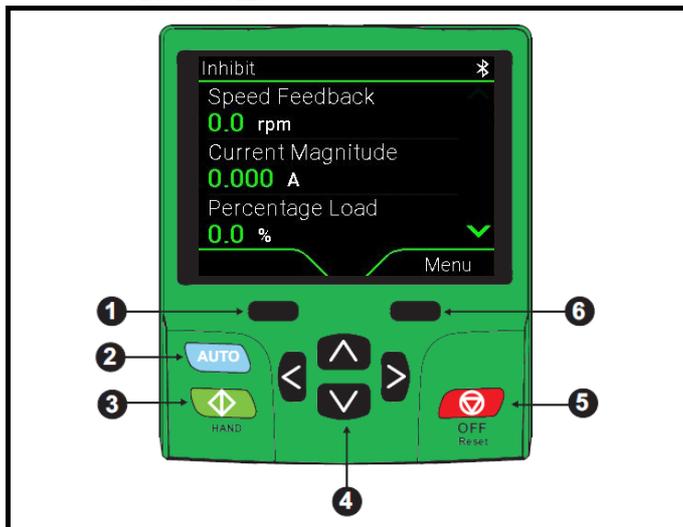
Figure 3-1 KI-Keypad Plus (Grey) Part number 824000002270



1. Left multifunction button
2. Start reverse (Auxiliary) button (Blue)
3. Start forward button (Green)
4. Navigation buttons (x4)
5. Reset/Stop button (Red)
6. Right multifunction button

The red  button is also used to reset the drive.

Figure 3-2 KI-Keypad Plus (Green, HOA) - Part number 8240000022800



1. Left multifunction button
2. Auto button (Blue)
3. Hand button (Green)
4. Navigation buttons (x4)
5. Reset/Off button (Red)
6. Right multifunction button

The red  button is also used to reset the drive.

3.1 Control buttons

The keypad consists of the following buttons:

- Multifunction buttons - The function of these buttons change depending on what the display on the keypad is showing.
- Navigation buttons - The up and down buttons are used to navigate the menus on the keypad, and increment/decrement parameter values. The left and right buttons can be used to move the cursor left and right when editing parameter values.
- Stop/Reset or Off/Reset button - This is used to reset the drive, or to stop the drive if keypad mode or Hand/Off/Auto mode is enabled.
- Start forward and Start reverse buttons - These are used to make the drive run if keypad mode is selected.
- Hand and Auto buttons - These are used to select between running in keypad mode or using the configured reference on the drive.

3.2 Icons

The top right corner of the display on the KI-Keypad Plus can show several different status icons. Table 3-1 below details the meaning of these icons.

Table 3-1 Status icons

Icon	Description
	Alarm active
	Bluetooth enabled and connected (Blue)
	Bluetooth enabled but not connected (White)
	Security active and locked
	Security active but unlocked (Orange)
	Keypad real-time clock battery low
	Onboard user program running

The following animated icon will be displayed at the bottom centre of the display when the drive is running.

Table 3-2 Running icons

Icon	Description
	Drive running in the forward direction
	Drive running in the reverse direction

3.3 Main menu

The Main menu provides the top level navigation to access drive, option module and keypad menus.



3.4 Quick actions

The Quick Actions menu provides access to FastStart setup guides and commonly used actions such as saving parameters, etc. The available Quick Actions and FastStart setup guides are drive specific.



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3.5 Keypad Menus

The keypad menus can be found by going to: *Main Menu > Keypad Menu*. Below is a list of the keypad menus.

1: Status Parameters	Parameters defining the drive or option module parameters shown on the Status screen. See section 3.7 Customising the status screen for more information.
2: FastStart Menu	Parameters used by the Quick Actions and FastStart setup guides.
3: Bluetooth Menu	Parameters relating to the Bluetooth functionality, e.g. enable/disable, clear pairings, etc. See section 4 Connecting to the keypad via Bluetooth for details of pairing the keypad to a PC.
4: Settings Menu	Customisation and set-up parameters for the keypad, e.g. language setting, screen brightness, colour customisation, restore keypad parameter defaults, etc.
5: About Keypad	Status parameters about the keypad, e.g. firmware and language file versions, etc.

Keypad parameters are automatically saved after editing.

3.6 Language selection

At first power up the keypad will display the language selection. To change the language displayed by the keypad at any time after the initial selection go to keypad parameter *Select Language* (04.000).

3.7 Customising the status screen

The status screen is the screen shown by the keypad after power up and can show up to ten parameters (eight in the main body of the screen plus top left and top right of the screen). The up and down buttons can be used to scroll through the status parameters. The keypad is pre-configured to display a selection of drive parameters based on the drive model and mode of operation. It is possible to change the parameters shown on the status screen and to apply different units and scaling to these parameters.

To customise the parameters shown on the status screen, set keypad parameter *Use Custom Status Parameters* (01.012) to On. Keypad parameters 01.000 to 01.009 can then be used to select the drive or option module parameter to show in the status screen.

Keypad parameters 01.020 to 01.039 can be used to apply scaling and different units to the status screen parameters selected in keypad parameters 01.002 to 01.009. Scaling and units can be applied without setting keypad parameter *Use Custom Status Parameters* (01.012) to On.

All status parameters, scaling and units can be returned to defaults by setting keypad parameter *Reset Status Parameters* (01.011) to On.

3.8 Security

The keypad supports drive security. If the drive is configured to only show menu 0 parameters, then the keypad will change this to show all menus. If security is set on the drive, then the keypad will request the security code when attempting to go to the main menu on the keypad independent of the level of security set on the drive. Entering the correct security code will allow the keypad to show the main menu. Entering an incorrect security code will cause the keypad to return to showing the status screen.

See the relevant drive user guide for details of how to set drive security.

4 Connecting to the keypad via Bluetooth

The KI-Keypad Plus supports Bluetooth to provide the ability for a PC running the Connect PC tool to communicate with the drive wirelessly. The KI-Keypad Plus must be physically connected to the drive either by being fitted to the drive or connected as a remote keypad via a 485 serial link. The KI-Keypad Plus does not communicate with the drive via Bluetooth but instead adds a Bluetooth interface to the drive.

To pair a PC running the Connect PC tool with the KI-Keypad Plus follow the instructions below.

1. Ensure Bluetooth is enabled on the KI-Keypad Plus (a white Bluetooth icon will be shown). This is the default condition.
2. Ensure Bluetooth is enabled on the PC.
3. Ensure that Connect V02.21.00 or later is installed on the PC.
4. Run Connect and select "New project from network scan".
5. Select "Scan BluetoothLE".
6. Once the drive has been detected, tick the checkbox next to the drive that you would like to add to the Connect project.

7. Connect will then ask for the Bluetooth pairing code. This will be shown on the display of the keypad for approximately 10 seconds. If the code needs to be displayed again, click cancel and tick the checkbox next to the required device again. Alternatively, go to keypad parameter *Bluetooth Pairing Code* (03.006). The Bluetooth Pairing Code is generated every time the keypad is powered up.
8. The PC and keypad are now paired. Click "New project with selected drives" to add the drive to the Connect project.
9. Connect can then go online with the drive via Bluetooth. The Bluetooth icon on the keypad will turn blue when a Bluetooth connection is active between the drive and keypad.

NOTE

Connect will only go online with one drive via Bluetooth at a time.

5 FCC certification

This Bluetooth module in the keypad complies with the FCC part 15 rules.

This product contains FCC ID: S9NBNRGM2SA or S9NBNRGM2SP

This device complies with part 15 of the FCC rules. Operation is subjected to the following two conditions:

1. this device may not cause harmful interference and
2. this device must accept any interference received, including any interference that may cause undesired operations.

NOTE

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (Part. 15.21).

NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.



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