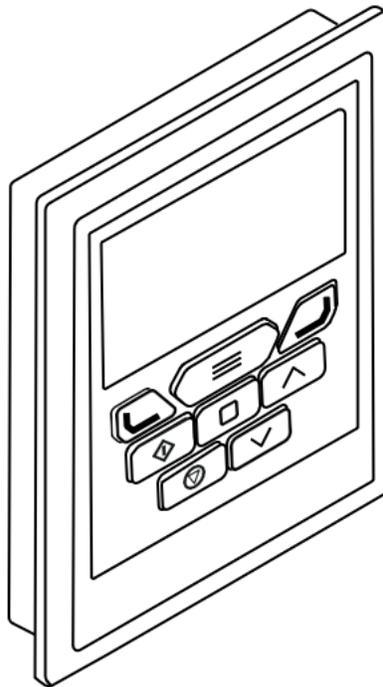


PACMotion™ VFD External Keypad

(IC866-EKPD)



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Warnings and Caution Notes as Used in this Publication

WARNING

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

CAUTION

Caution notices are used where equipment might be damaged if care is not taken.

Note: Notes merely call attention to information that is especially significant to understanding and operating the equipment.

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met during installation, operation, and maintenance. The information is supplied for informational purposes only, and Emerson makes no warranty as to the accuracy of the information included herein. Changes, modifications, and/or improvements to equipment and specifications are made periodically and these changes may or may not be reflected herein. It is understood that Emerson may make changes, modifications, or improvements to the equipment referenced herein or to the document itself at any time. This document is intended for trained personnel familiar with the Emerson products referenced herein.

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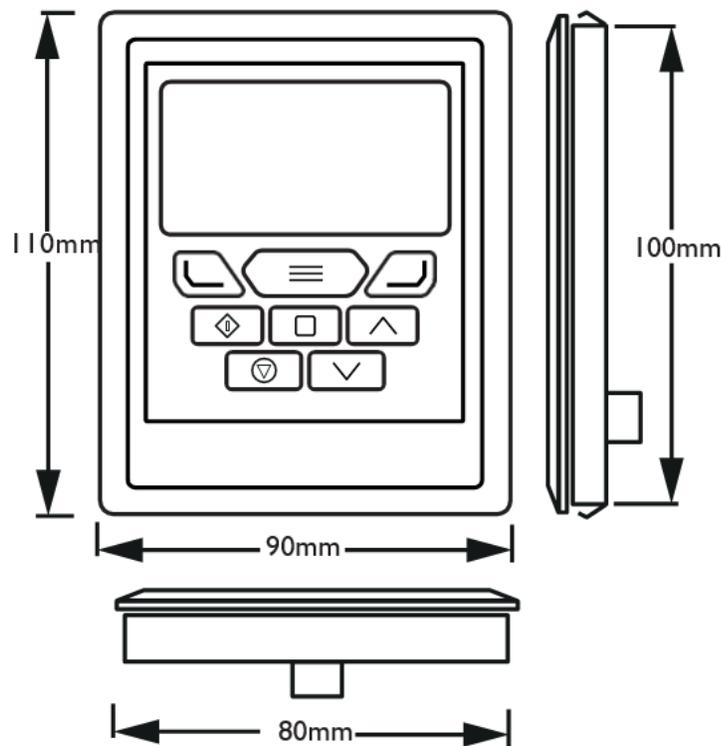
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Section 1: General Specifications and Installation

Name	Description
Supply Input	24V + / - 10%, DC, 30mA
RS485 Signal	Industry standard 2-wire +5V differential
Environmental	Operational: -10 ... 50°C Storage: -40°C ... 60°C
Relative Humidity	< 95% (non condensing)
Protection Rating	IP55
Max Cable Length	25m / 82.5ft shielded twisted pair

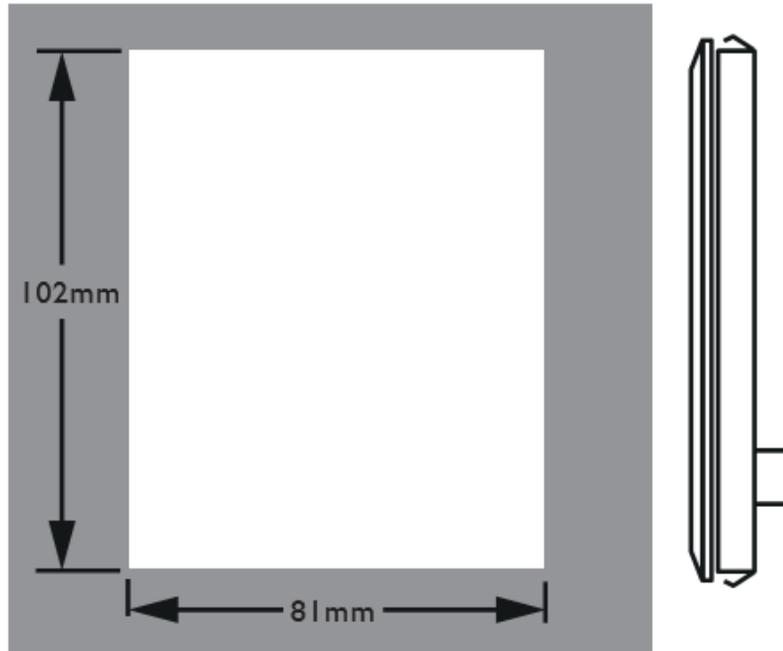
Mechanical Installation

Figure 1: Dimensions



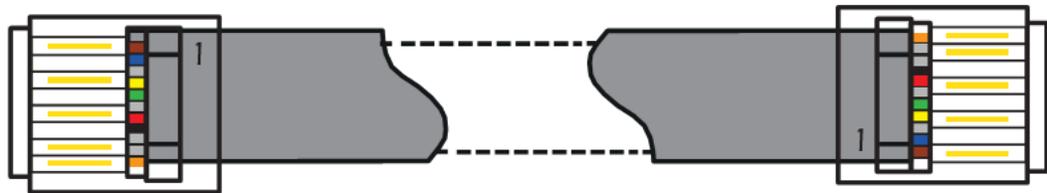
Through Panel Mount

Figure 2: Through Panel Mount



Electrical Installation

Figure 3: Cable Requirements



⚠ CAUTION

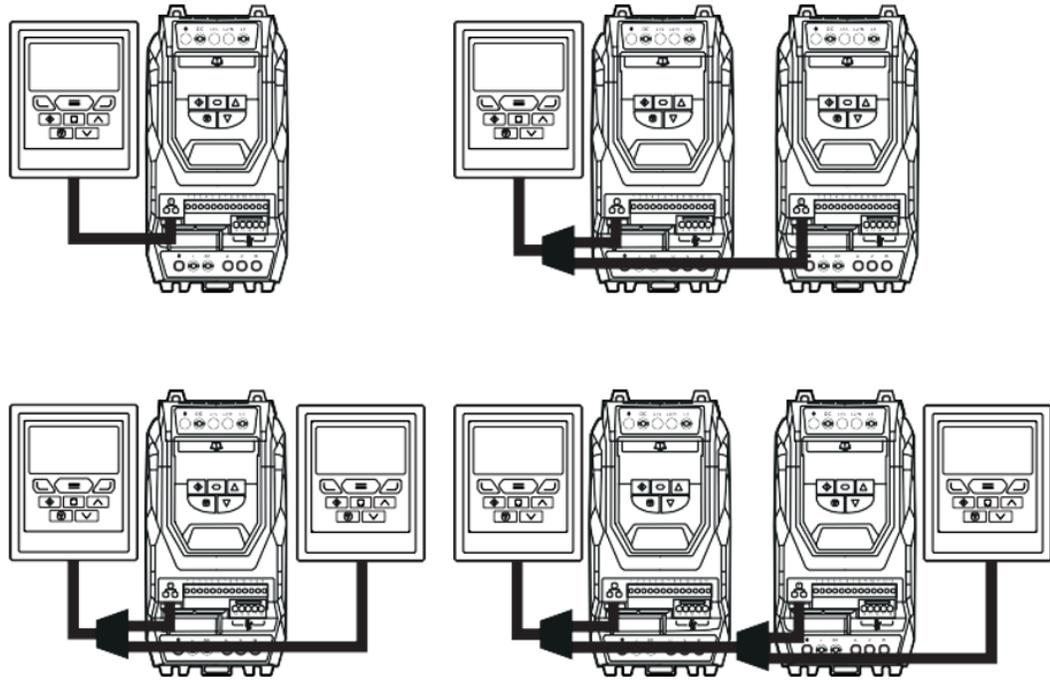
Incorrect cable connection may damage the drive. Extra care should be taken when using third party cable.

Allowed System Configurations

Different drive models can be used on the same PACMotion VFD External Keypad network provided a unique communications address is assigned to each.

Note: Cannot be used with Master – Slave or Cascade Control

Figure 4: Supported Configurations



Section 2: Easy Startup

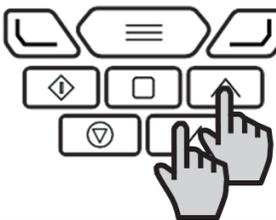
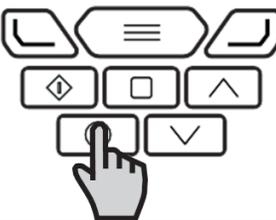
To Setup The PACMotion VFD External Keypad Communication Address

By default, the PACMotion VFD External Keypad (IC866-EKPD) will try to communicate with the drive that has Address1 in the network after powering up for the first time.

The PACMotion VFD External Keypad will display **Scanning for Drive 01** after power up, which indicates that the PACMotion VFD External Keypad is searching for the drive with the correct drive address in the network. Once the drive has been found, the message **Load...** will be displayed on the PACMotion VFD, which indicates that the PACMotion VFD External Keypad is reading the configuration information from the drive. Usually it will take 1~2 seconds for the PACMotion VFD External Keypad to read this information. After the data has been loaded, the PACMotion VFD External Keypad will display the drive real time status.

NOTE In the case where the keypad is connected to a drive where the network address is not 1, the following steps can be used to set the address of the drive.

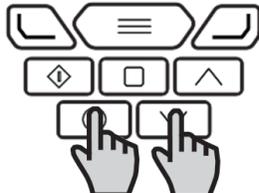
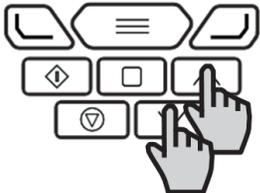
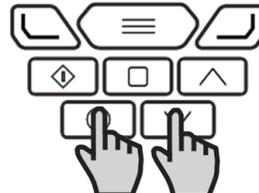
Figure 5: Select Drive Address

Select Drive Address 01	Select Drive Address 01
	
Use the Up and Down arrows to select the address.	Press the Stop button once address has changed to match the connected drive.

Working with Multiple Drive Networks

When the PACMotion VFD External Keypad is used on networks with multiple drives, the user can change the drive address to set up communication with another drive in the same drive network at any time.

Figure 6: Set Drive Address

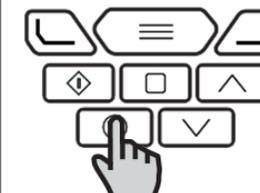
Select Drive Address XX	Select Drive Address XX	Select Drive Address XX
		
Briefly press the Stop and Down keys to display the above message.	Use the Up and Down arrows to select the desired address.	After selecting the new address, press the Stop and Down keys to establish communications with the drive.

Networks with Two PACMotion VFDs Connected

A maximum of two PACMotion VFD External Keypads can be connected within the same drive network to communicate with the same drive or different drives.

When using two PACMotion VFD External Keypads simultaneously on a network, the user must change the PACMotion VFD External Keypads Device Number on the second PACMotion VFD External Keypads to ensure correct operation. All PACMotion VFD External Keypads units are set to Device Number 1 by default.

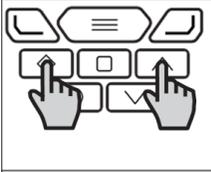
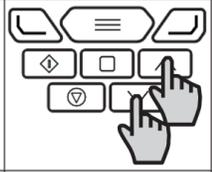
Figure 7: Select PACMotion VFD External Keypad ID

Select Keypad ID XX	Select Keypad ID XX	Select Keypad ID XX
		
To change the Device Number, press the Navigate, Stop and Down keys together.	Use the Up and Down arrows to select the desired Keypad Number (1 or 2).	Press the Stop key to return to normal operation.

Note: Once the user has set the PACMotion VFD External Keypad as Device Number 2, PACMotion VFD Studio software cannot be used on the same drive network. The PACMotion VFD External Keypad device address should only be changed to 2 if two PACMotion VFD External Keypad units are connected on a network. A PACMotion VFD External Keypad with Device Number 1 must always be present for the network to function correctly.

Changing the Display Language

Figure 8: Select Language

STOP	Select Language Español Deutsch English	Select Language Español Deutsch English
		
<p>Hold down the Start and Up keys for >1s</p>	<p>Use the Up and Down arrows to select a language.</p>	<p>Press the Navigate button to select.</p>

Drive Fault Message and Trip Codes

See the PACMotion VFD Advanced User Manual (GFK-3112) for further information.

PACMotion VFD External Keypad Display Messages

The PACMotion VFD External Keypad uses various display messages to indicate different working statuses.

Status	Description
Scanning for Drive xx	The PACMotion VFD External Keypad is searching for the drive with address 'xx' in the network.
Load...	The PACMotion VFD External Keypad has found the drive in the network and is loading the initialisation information from the drive.
SC-OBS	The communication link between the PACMotion VFD and PACMotion VFD External Keypad has failed.
Select Language	Displayed in the language selection screen, with a list of available languages. Press the Navigate key to select a language
Select drive address xx	Displayed when selecting the address of the PACMotion VFD that the PACMotion VFD External Keypad should try to communicate with. Press the Stop key to select the drive address.
Select PACMotion VFD External Keypad ID	Displayed when selecting the PACMotion VFD External Keypad ID (1 or 2) so that two PACMotion VFD External Keypads can be connected to a single drive, or network of multiple drives.

Section 3: Troubleshooting

Status	Description
Select Drive Address XX Displayed After SCAN . . message	<p>The PACMotion VFD External Keypad failed to successfully communicate with the specified drive address in the network.</p> <p>Check that the RJ45 data cable connection is correct. Check that the drive with address XX is available in the network.</p> <p>If XX > 1 and only one PACMotion VFD External Keypad is connected, then check the PACMotion VFD External Keypad device number, make sure the number is 1.</p>
Display Err-id on power up	<p>This status normally occurs when there are two PACMotion VFD External Keypad units in the same drive network and both of them have the same device number. Check and change the device number of one PACMotion VFD External Keypad.</p>
Display Err-id on normal operation	<p>This status normally occurs when the user plugs a second PACMotion VFD External Keypad into the drive network. Change the device number of one of the PACMotion VFD External Keypad units.</p>
Display SC-OBS	<p>The Communication link between the PACMotion VFD External Keypad and PACMotion VFD has failed during operation.</p> <p>Check the electrical connection, and make sure the cable is connected correctly between the PACMotion VFD External Keypad and the drive. Press STOP button to enable the PACMotion VFD External Keypad to search for the drive again.</p>

General Contact Information

Home link: <http://www.emerson.com/industrial-automation-controls>

Knowledge Base: <https://www.emerson.com/industrial-automation-controls/support>

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Technical Support: support.mas@emerson.com

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+420-225-379-328 (If toll free option is unavailable)
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+65-6955-9413 (All other Countries)

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Any escalation request should be sent to: mas.sfdcescalation@emerson.com

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