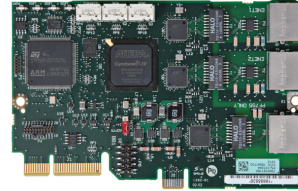


# Product Details and Certifications

**Cross Reference RA Part Number: &\$!+) \$!9 B9 HF**

**Product: 20!+) \$!9 B9 HF**

Description: PowerFlex AC Drive, User Installed Options, PF750 Dual-port EtherNet/IP Module




Representative Photo Only (actual product may vary based on configuration selections)

## **~~CDHCBG'IN: CFA5HCB~~**

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Communications Kits	PF750 Dual-Port EtherNet/ IP Module
Tap Mode	Only with PowerFlex 755 Drives
Compatible Products	PowerFlex 753 Drives (All firmware revisions) PowerFlex 755 Drives (firmware rev 1.010 or later)
Afapter Module Default	ENET1 and ENET2 network ports

## Communication Option Kits


Description	Cat. No.	Used with PowerFlex Drive		AFE
		70	753/755	
BACnet/IP Option Module	20-750-BNETIP		✓	
BACnet® MS/TP RS485 Communication Adapter	20-COMM-B	✓		✓
Coaxial ControlNet™ Option Module	20-750-CNETC		✓	
ControlNet™ Communication Adapter (Coax)	20-COMM-C	✓	✓ (1)	✓
DeviceNet™ Option Module	20-750-DNET		✓	
DeviceNet™ Communication Adapter	20-COMM-D	✓	✓ (1)	✓
 Dual-port EtherNet/IP Option Module	20-750-ENETR		✓	
EtherNet/IP™ Communication Adapter	20-COMM-E	✓	✓ (1)	✓
Dual-port EtherNet/IP™ Communication Adapter	20-COMM-ER	✓		✓
HVAC Communication Adapter	20-COMM-H	✓	✓ (1)	✓
CANopen® Communication Adapter	20-COMM-K	✓	✓ (1)	✓
LonWorks® Communication Adapter	20-COMM-L	✓	✓ (1)	✓
Modbus/TCP Communication Adapter	20-COMM-M	✓	✓ (1)	✓
Profibus DPV1 Option Module	20-750-PBUS		✓	
Single-port Profinet I/O Option Module	20-750-PNET		✓	
Dual-port Profinet I/O Option Module	20-750-PNET2P		✓	
PROFIBUS™ DP Communication Adapter	20-COMM-P	✓	✓ (1)	✓
ControlNet™ Communication Adapter (Fiber)	20-COMM-Q	✓	✓ (1)	✓
Remote I/O Communication Adapter (2)	20-COMM-R	✓	✓ (1)	✓
RS485 DF1 Communication Adapter	20-COMM-S	✓	✓ (1)	✓
External Communications Kit Power Supply	20-XCOMM-AC-PS1	✓	✓	✓
DPI External Communications Kit	20-XCOMM-DC-BASE	✓	✓	✓
External DPI I/O Option Board (3)	20-XCOMM-IO-OPT1	✓	✓	✓
Compact I/O Module (3 Channel)	1769-SM1	✓	✓	✓

(1) Requires a Communication Carrier Card (20-750-20COMM or 20-750-20COMM-F1). Refer to PowerFlex 750-Series Legacy Communication Compatibility for details.

(2) This item has Silver Series status.

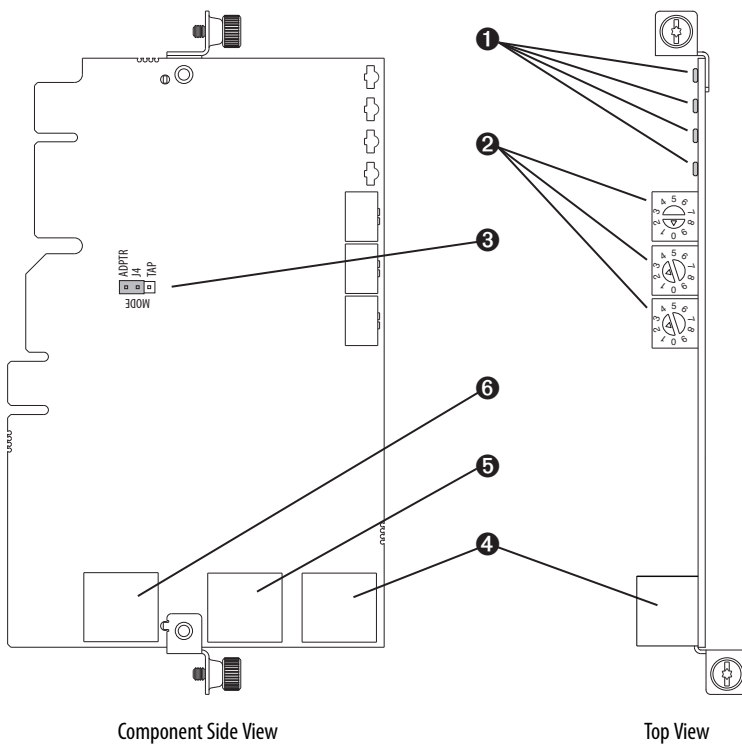
(3) For use only with DPI External Communications Kits 20-XCOMM-DC-BASE.

## Getting Started

 The **20-750-ENETR** Option Module is intended for installation into a PowerFlex 750-Series drive and is used for network communication.

Topic	Page
<a href="#">Components</a>	9
<a href="#">Features</a>	10
<a href="#">Option Module Operating Modes</a>	11
<a href="#">Compatible Products</a>	13
<a href="#">Required Equipment</a>	13
<a href="#">Safety Precautions</a>	14
<a href="#">Quick Start</a>	15

### Components



Item	Part	Description
1	Status Indicators	Four status indicators that indicate the status of the option module and network communication. See <a href="#">Chapter 7, Troubleshooting</a> .
2	Node Address Switches	Sets the network node address of the option module when <b>not</b> using: <ul style="list-style-type: none"> <li>A BOOTP or DHCP server</li> <li>Option module parameters</li> </ul> See <a href="#">Setting the Node Address on page 20</a> .
3	Operating Mode Jumper (J4)	Selects the mode in which the option module operates. See <a href="#">Setting the Operating Mode on page 19</a> .
4	ENET1 Network Port	RJ-45 connector for the Ethernet network cable. The connector is CAT-5 compliant to ensure reliable data transfer on 100Base-TX Ethernet connections. Either port may be used in Adapter mode.
5	ENET2 Network Port	
6	ENET3 (DEVICE) Port (PowerFlex 755 only)	RJ-45 connector to connect the short Ethernet cable (provided with the option module) to the Ethernet port on the PowerFlex 755 drive embedded EtherNet/IP adapter. This is intended for 'Integrated Motion on the EtherNet/IP network' data transfer.

 **Features**

The features of the option module include the following:

- Adapter or Tap mode of operation that is selected by using the Operating Mode Jumper (J4). In Adapter mode (default), the option module operates as a network communication adapter supporting star, linear or device-level ring (DLR) network topologies. In Tap mode—only intended for use with PowerFlex 755 drives—the option module uses ENET3 (DEVICE) port as a connection point to transfer ‘Integrated Motion on the EtherNet/IP network’ data to the PowerFlex 755 drive’s embedded EtherNet/IP adapter.
- Industrial Ethernet switch, and ENET1 and ENET2 network ports that provide connections for EtherNet/IP star, linear, or device-level ring (DLR) network topologies.
- ENET3 (DEVICE) port—for use with only PowerFlex 755 drives—that supports the transfer of ‘Integrated Motion on the EtherNet/IP network’ data for that drive.
- Embedded electronic data sheet (EDS) files for PowerFlex 750-Series drives that eliminate the need to download an EDS file from the Rockwell Automation website. Instead, the EDS file is uploaded from the option module by using RSLinx software.
- Automatic Device Configuration (ADC), which is an ‘RSLogix 5000 software, version 20 or later, feature’ that supports the automatic download of configuration data. This occurs after the Logix controller establishes an EtherNet/IP network connection to a PowerFlex 750-Series drive (firmware revision 4.001 or later) and its associated peripherals.
- Captive screws to secure and ground the module to the drive.
- Switches to set a network node address before applying power to the drive—or you can disable the switches and use a BOOTP server, a Dynamic Host Configuration Protocol (DHCP) server, or option module parameters to configure the IP address.
- Compatibility with various configuration tools to configure the option module and host drive. The tools include the enhanced PowerFlex 7-Class HIM (catalog number 20-HIM-A6 or 20-HIM-C6S) on the drive, and drive-configuration software, such as DriveExplorer software, version 6.01 or later, or DriveExecutive software, version 5.01 or later.
- Status indicators that report the status of the option module and network communication. They are visible when the drive cover is removed.
- Parameter-configured 32-bit Datalinks in the I/O to meet application requirements (16 Datalinks to write data from the network to the drive, and 16 Datalinks to read data to the network from the drive).
- Explicit Messaging support.

- Master-Slave or Peer-to-Peer hierarchy that can be configured to transmit data to and from a controller or another PowerFlex 750-Series drive on the network by using another 20-750-ENETR option module or the embedded EtherNet/IP adapter in a PowerFlex 755 drive.
- Supports ‘Integrated Motion on the EtherNet/IP network’ operation (Tap mode only) for only the PowerFlex 755 drive, firmware revision 2.003 or later. For details to set up ‘Integrated Motion on the EtherNet/IP network’ operation, see Integrated Motion on the EtherNet/IP Network User Manual, publication [MOTION-UM003](#).

**TIP** For best reliability in ‘Integrated Motion on the EtherNet/IP network’ applications, we recommend that you always use Rockwell Automation Cat5e shielded Ethernet cable.

- User-defined fault actions to determine how the option module and its connected host drive respond to the following:
  - I/O messaging communication disruptions (Comm Flt Action)
  - Controllers in Idle mode (Idle Flt Action)
  - Peer device communication disruptions (Peer Flt Action)
  - Explicit messaging disruptions for drive control via PCCC, the CIP Register Object or the CIP Assembly object (Msg Flt Action)
- Accessing parameters by their name or their number.
- Web pages, viewed by using a web browser, that show information about the option module, its host drive, and DPI devices connected to the drive. Depending on its selected operating mode (Adapter or Tap), the option module provides a unique set of web pages with different information.
- Configured e-mail messaging (Adapter mode only) to desired addresses when selected drive faults occur and/or are cleared, and/or when the option module takes a communication or idle fault action.
- Access to any PowerFlex drive and its connected peripherals on the network to which the option module is connected.

## Option Module Operating Modes

The option module can be operated in Adapter mode (default) or Tap mode. The Operating Mode Jumper J4 (item 3 in [Figure 1 on page 19](#)) is used to select the operating mode. If the jumper is missing, the option module operates in the Adapter mode.

### Adapter Mode (default)

In the Adapter mode, the option module operates as an EtherNet/IP network communication module. With its EtherNet/IP embedded switch technology and ENET1 and ENET2 network ports, the option module enables the drive to be

used in a linear or device-level ring (DLR) network topology. When using a star network topology, either the ENET1 or ENET2 network port may be used. In Adapter mode, the ‘Integrated Motion on the EtherNet/IP network’ functionality is not supported.

### Tap Mode (only with PowerFlex 755 drives)

In the Tap mode, the option module operates like a gateway and functions similar to the 1783-ETAP module. By connecting the supplied Ethernet cable between the option module’s ENET3 network port and the embedded EtherNet/IP adapter port on the PowerFlex 755 drive, the option module enables the PowerFlex 755 drive to extend its I/O connection to a linear or device-level ring (DLR) network topology. This also enables ‘Integrated Motion on the EtherNet/IP network’ functionality supported by the PowerFlex 755 drive to be used with these topologies.

## Understanding Parameter Types

The option module has two types of parameters:

- *Device* parameters are used to configure the option module to operate on the network. *Device* parameters, when viewed with DriveExplorer or DriveExecutive software, appear below the 20-750-ENETR listing in the treeview in a separate Device Parameters folder. When viewed with the 20-HIM-A6 or 20-HIM-C6S HIM, these parameters appear in the DEV PARAM folder.

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**IMPORTANT** Some *Device* parameters are not applicable when operating the option module in Adapter mode while others are not applicable in Tap mode. Therefore, these non-applicable parameters are labeled ‘Reserved’ in the Adapter and Tap mode operation parameter tables in [Appendix B](#).

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- *Host* parameters are used to configure the option module Datalink transfer and various fault actions with the drive. *Host* parameters, when viewed with DriveExplorer or DriveExecutive software, appear below the 20-750-ENETR listing in the treeview in a separate Host Parameters folder. When viewed with the 20-HIM-A6 or 20-HIM-C6S HIM, these parameters appear in the HOST PARAM folder.

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**IMPORTANT** When operating the option module in Tap mode, *Host* parameters are **not** supported.

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## → Compatible Products

At the time of publication, the option module is compatible with the following:

- PowerFlex 753 drives (all firmware revisions)
- PowerFlex 755 drives (firmware revision 1.010 or later) <sup>(1)</sup>

(1) When the option module is connected to an incompatible drive, its PORT status indicator will flash orange indicating that it is not compatible with the drive.

## → Required Equipment

Some of the equipment that is required for use with the option module is shipped with the module, but some you must supply yourself.

### Equipment Shipped with the Option Module

When you unpack the option module, verify that the package includes the following:

- One 20-750-ENETR Dual-port EtherNet/IP Option Module
- One short Ethernet cable (spare part catalog number 1585J-M8CBJM-0M3; for Tap mode use only with PowerFlex 755 drives)
- One Network Communication Option Card Installation Instructions, publication [750COM-IN002](#)

### User-supplied Equipment

To install and configure the option module, you must supply the following:

- A small screwdriver
- Ethernet cable (for details, see the EtherNet/IP Media Planning and Installation Manual, ODVA publication 148 available on the ODVA website at <http://odva.org/Home/ODVATECHNOLOGIES/EtherNetIP/EtherNetIPLibrary/tabid/76/Default.aspx>)
- Configuration tool, such as the following:
  - PowerFlex 20-HIM-A6 or 20-HIM-C6S HIM
  - DriveExplorer software, version 6.01 or later
  - DriveExecutive standalone software, version 5.01 or later, or bundled with the DriveTools SP suite, version 5.01 or later
  - BOOTP, version 2.1 or later, or DHCP Server for network setup only
- Controller configuration software, such as RSLogix 5000 software
- A computer connection to the EtherNet/IP network