

Accton

Making Partnership Work

VF-45 Slide-in Modules User Guide





Making Partnership Work

User Guide

VF-45 Slide-in Modules

EM3564VFS

Slide-in Module with 4 short-wavelength (850 nm) VF-45 ports

EM3564VFL

Slide-in Module with 4 long-wavelength (1300 nm) VF-45 ports



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EM3564VFL
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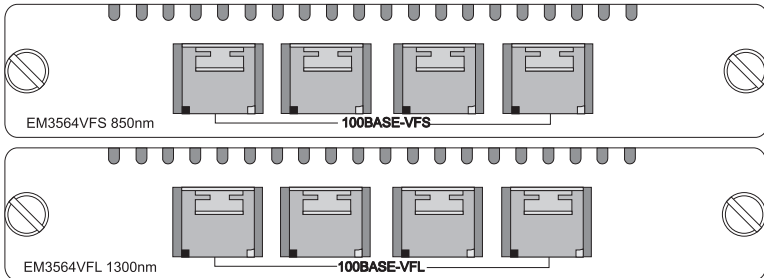
Description of Hardware

VF-45 Slide-in Modules

The EM3564 VF-45 Slide-in Modules are designed for use in Accton switch models which have a 4-port Fast Ethernet transceiver slot. At present, suitable units include the CheetahSwitch Workgroup-3508A (ES3508A). Detailed information about configuring these modules and advice about Fast Ethernet configuration rules can be found in the switch's user guide.

Safety Warning: Before installing or removing the EM3564 modules, first disconnect the switch from the main power supply. For full safety instructions, please refer to the user guide that accompanies the switch.

Accton's VF-45 Slide-in Modules provide fiber links from a switch to remote sites. These modules contain four VF-45 ports that can be connected to sites up to 2 km (1.24 miles) away with fiber cable.



The short-wavelength VF-45 fiber port enables the EM3564VFS module to support 100 Mbps transmissions at full and half duplex over 62.5/125 or 50/125 μm multimode fiber cable. A fiber cable link can extend up to 300 m (984 ft.) and offers a cost-effective solution for fiber to the desktop.

The long-wavelength VF-45 fiber port enables the EM3564VFL module to support 100 Mbps transmissions at full and half duplex over 62.5/125 or 50/125 μm multimode fiber cable. A fiber cable link operating in full-duplex mode can extend to remote sites up to 2 km (1.24 miles) away.

Note: The EM3564VFS short-wavelength and EM3564VFL long-wavelength standards are not compatible and require an end-to-end solution to operate correctly.

Fiber Port LEDs

Port LEDs are provided for the module on the front panel of the switch. These LEDs provide port status for “at-a-glance” network monitoring. The LEDs used vary for different switch models. The following table describes the key indicators for the CheetahSwitch Workgroup-3508A. For a detailed description of all the indicators, refer to the switch’s user guide.

Port LEDs		
LEDs	Condition	Status
TX/RX	On	Traffic is traversing the port.
Full Duplex	On	The port is operating in full-duplex mode.
Link	On	Port has established a valid network connection.
100M	On	Transmission speed is set to 100Mbps.

Installing the Module

Caution: Do not install these modules in any unit other than the CheetahSwitch Workgroup-3508A (ES3508A). Contact your distributor for advice on newly released switches which may be designed for use with these modules.

The VF-45 Slide-in Modules are field installable. Just follow the instructions below.

Package Contents

This package includes:

- One EM3564VFS or EM3564VFL VF-45 Slide-in Module
- This User's Guide
- Owner registration card

Handling the Modules

Caution: The EM3564VFS and EM3564VFL modules can easily be damaged by electrostatic discharge.

To prevent electrostatic damage, observe the following guidelines:

- Do not remove the module from its packaging until you are ready to install it.
- Do not touch any of the module's pins, connectors or components.
- Hold the module only by its edges or front panel.
- Wear an anti-static wristband connected to a suitable earth ground whenever handling the module.
- Store or transport this module only in appropriate anti-static packaging.

Instructions

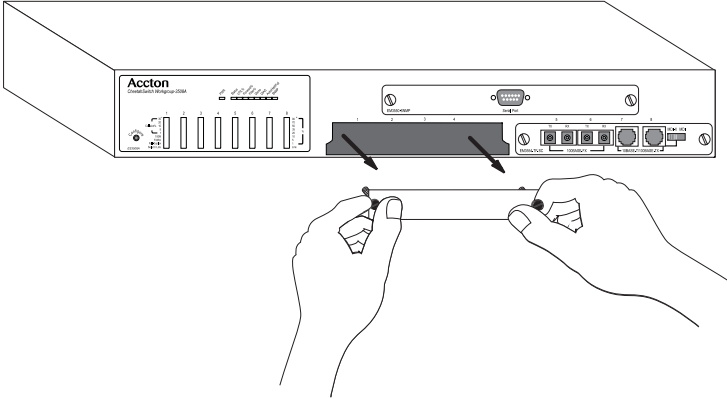
Caution: The switch must be powered off before installing or replacing any module.

1. **Power off the switch:** Disconnect the AC power cord from the switch.
2. **Remove network cables:** If you are replacing a module, remove the cable attached to the port on the module.
3. **Loosen the screws on the installed module or slot faceplate:** Using your fingers or a flathead screwdriver, turn the screws securing the module (or faceplate on the slot) in a counter-clockwise direction until they are free of the chassis. Be sure not to completely remove the screws from the module or faceplate.

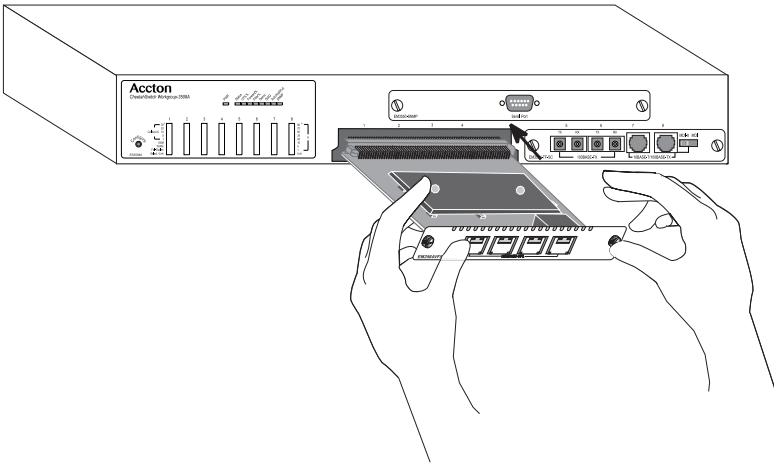
VF-45 Slide-in Modules

4. **Remove the installed module or faceplate:** Firmly pull on the screws until the module is free of the switch. Carefully slide the module straight out of the slot.

Keep the original faceplate for future use. If you should remove the module, replace the faceplate to prevent dust and debris from entering the unit and to maintain proper air flow.

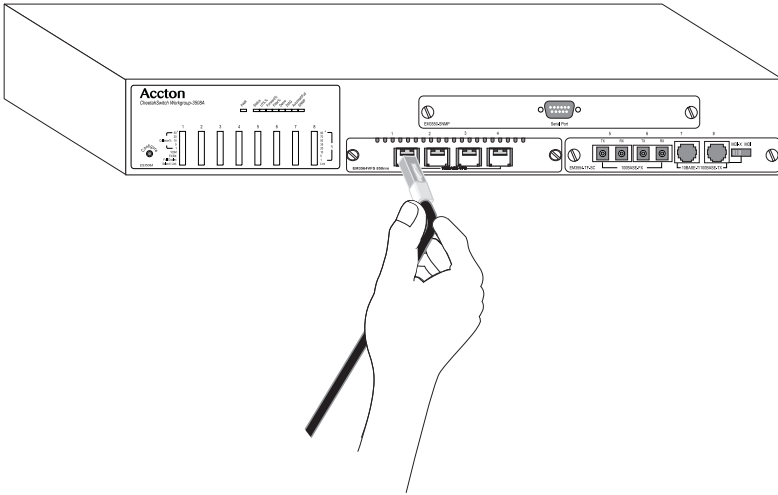


5. **Insert the new module into the switch:** Holding the new module with the text on the front panel upright, carefully slide the module into the upper left slot on the rear panel, and press gently until it snaps into place. Be sure the new module's front panel is flush with the switch panel.



6. **Secure the new module:** Secure the new module in place by screwing the attached screws clockwise into the switch's chassis. Tighten them enough to secure the module, but not so tight as to prevent them from being unscrewed by hand.

7. **Connect the network cable to the module:** Connect fiber cable to the port on the newly installed module. See “Maximum Cable Length” on page 6 in this guide for further information.



8. **Attach the cable to a network device:** Attach the male connector on the other end of the fiber cable directly to a Fast Ethernet device. Be sure that the device port supports the VF-45 short-wavelength or long-wavelength standard, depending on the module you are using.
9. **Power on the switch:** Reconnect the previously removed power sources to the switch. The switch's front-panel LEDs should indicate the status of the new connection. Check the LED indicators for the fiber ports to ensure that they are operating correctly. Refer to “Fiber Port LEDs” on page 2 for a description of the LED indications. If the module does not respond, see “Troubleshooting” on page 6.

More details concerning the module's configuration options and network applications can be found in the switch's user guide.

Maximum Cable Length

Cable Types and Specifications			
Cable	Type	Max. Length	Connector
VF-45, 850 nm (EM3564VFS)	50/125 or 62.5/125 μm core multimode fiber		
	Full and half duplex	300 m (984 ft.)	VF-45
VF-45, 1300 nm (EM3564VFL)	50/125 or 62.5/125 μm core multimode fiber		
	Half duplex	412 m (1,351.4 ft.)	VF-45
	Full duplex	2 km (1.24 miles)	VF-45

Maximum Fast Ethernet Network Diameter		
Repeater Type and Number	Twisted Pair 100BASE-TX	Twisted Pair/Fiber 100BASE-TX / VF-45
1 Class I	200 m (656 ft)	260.8 m (855.4 ft)
1 Class II	200 m (656 ft)	308.8 m (1012.6 ft)
2 Class II	205 m (672.4 ft)	216.2 m (709.1 ft)

Note: Network diameter is defined as the wire distance between two end stations in the same collision domain.

Troubleshooting

If you experience any problems with the module, check the following items before contacting Accton Technical Support:

- Ensure that the switch with the VF-45 Slide-in Module is powered up.
- Ensure that the device attached to the module is powered up and operating correctly.
- Ensure that the module is properly seated in the slot.
- Verify that the attached device is configured to match the communication mode used by the module (full or half duplex).
- Check the connectors on both ends of the cable to be sure they are properly engaged. When attaching fiber cable to an VF-45 port, be sure the plug clicks into place to ensure that it is properly seated.
- Also, be sure the fiber terminators are clean. You can clean the cable plugs by wiping them gently with a clean tissue or cotton ball moistened with a little ethanol. Dirty fiber terminators on fiber optic cables will impair the quality of the light transmitted through the cable.

Product Specifications

Access Method	CSMA/CD
Ports	4 VF-45 fiber
Optical Wavelength	EM3564VFS: 850 nm, short wavelength EM3564VFL: 1300 nm, short wavelength
Network Interface	VF-45 connector: 62.5/125 or 50/125 μm multimode fiber cable
Communication Mode	Full and half duplex, manual configuration
Size	14 x 11.1 x 2.46 cm (5.51 x 4.37 x 0.97 in.)
Power Consumption	9W maximum
Temperature	Operating: 0 to 50°C (32 to 122°F) Storage: -40 to 158°F (-40 to 70°C)
Humidity	5% to 95%
Standards	IEEE 802.3u Fast Ethernet ISO/IEC 8802-3
Compliances	CE Mark
Emissions	FCC Class A VCCI Class A Industry Canada Class A EN55022 (CISPR 22) Class A C-Tick - AS/NZS 3548 (1995) Class A
Immunity	IEC 1000-4-2/3/4/6
Warranty	Three years

EMI Certification

FCC Class A Certification (USA)

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

You may use 50/125 or 62.5/125 μm multimode fiber optic cable for VF-45 connections.

Canada Department of Communications - Class A

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

BSMI Class A (Taiwan)

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

VCCI Class A Compliance (Japan)

この装置は、情報技術装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

CE Mark Declaration of Conformance for EMI and Safety

This is to certify that this product complies with ISO/IEC Guide 22 and EN45014.

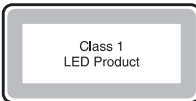
It conforms to the following specifications:

EMC:	EN55022(1988)/CISPR-22(1985)	class A
	EN60555-2(1995)	class A
	EN60555-3	
	IEC1000-4-2(1995)	4kV CD, 8kV AD
	IEC1000-4-3(1995)	3V/m
	IEC1000-4-4(1995)	1kV - (power line), 0.5kV - (signal line)
	IEC1000-4-6(1995)	3Vrms

This product complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Safety Compliance

Warning: Fiber Optic Port Safety



Never look at the transmit LED through a magnifying device while it is powered on. Never look directly at the fiber TX port and fiber cable ends when they are powered on.

Avertissement: Ports pour fibres optiques — sécurité sur le plan optique.



Ne regardez jamais le voyant (DEL) d'émission en utilisant un dispositif d'agrandissement, tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de cables à fibres optiques tant qu'ils sont sous tension.

Warnhinweis: Faseroptikanschlüsse — Optische Sicherheit.



Niemals mit einem Vergrößerungsgerät ein Übertragungs-LED betrachten, während dieses eingeschaltet ist. Niemals direkt auf den Faser-TX-Anschluß und auf die Faserkabelenden schauen, während diese eingeschaltet sind.

Warranty

Accton warrants to the original owner that the product delivered in this package will be free from defects in material and workmanship for a period of three (3) years from the date of purchase from Accton or it's Authorized reseller. For the warranty to apply, you must register your purchase by returning the registration card indicating the date of purchase and including proof of purchase. There will be a minimal charge to replace consumable components, such as fuses, power transformers, and mechanical cooling devices. The warranty does not cover the product if it is damaged in the process of being installed. Accton recommends that you have the company from whom you purchased this product install it.

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