

iVAM

A/B Protection Switch



Features:

- Automatic or manual operation
- Main and backup signals monitored
- 1310 or 1550 bandpass
- Mounts in standard ADC VAM chassis
- -48 Vdc operation



iVAM A/B Protection Switch

Description

The iVAM A/B Protection Switch is a continuation of Alcon's Intelligent Value-Added Module (iVAM) system. The A/B switch module may be installed in any VAM system chassis and used in conjunction with other iVAM and VAM modules.

The A/B Switch module provides automatic or manual switching between two fiber lines. When a loss of optical signal is detected, it will switch to the alternate path in less than 8 msec. The switch is typically used at the receiving end to switch a transmission to a spare fiber. Upon detecting a signal loss, the switch will automatically switch to a known good fiber. The switching threshold is set at a low power level to maximize the optical power budget available in the user's network.

The dual optical monitors allow the user to know immediately if the alternate fiber has lost its optical signal. The switch is latching, so it will retain its state during a loss of electrical power. An internal microcontroller ensures that the switch does not switch to the opposite state on a power-up.

A manual switch on the front panel allows the user to force the optical switch to either the A or B position or allow it to operate automatically by monitoring the input fibers. The manual switch has a locking toggle to prevent accidental switching. All of the status indicators are also available as relay contact closures on the rear power connector.

Application

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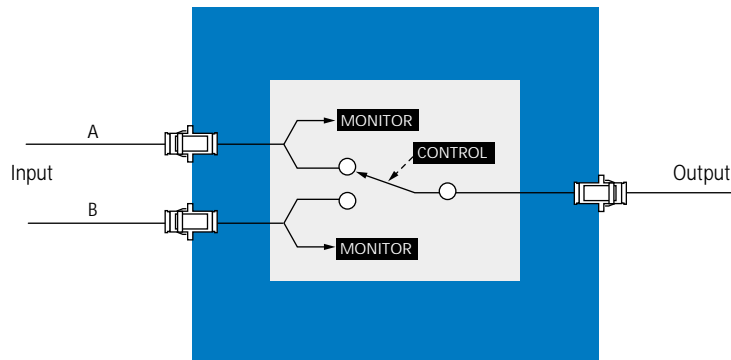


Figure 1
A/B Protection Switch Schematic

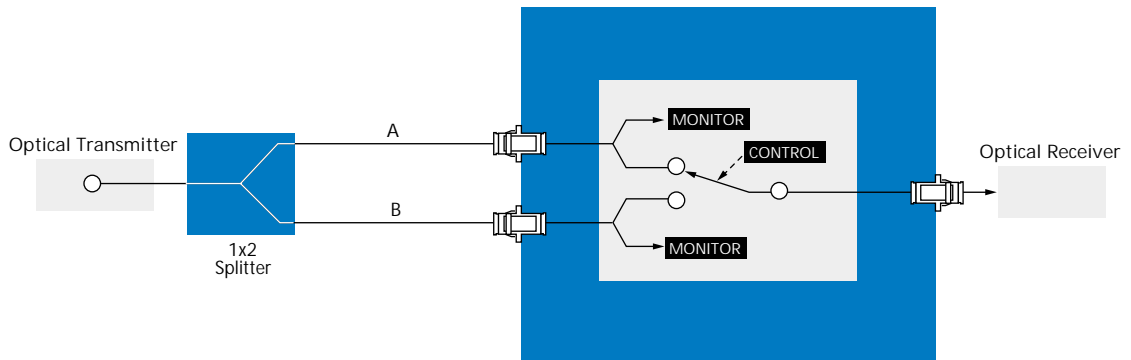


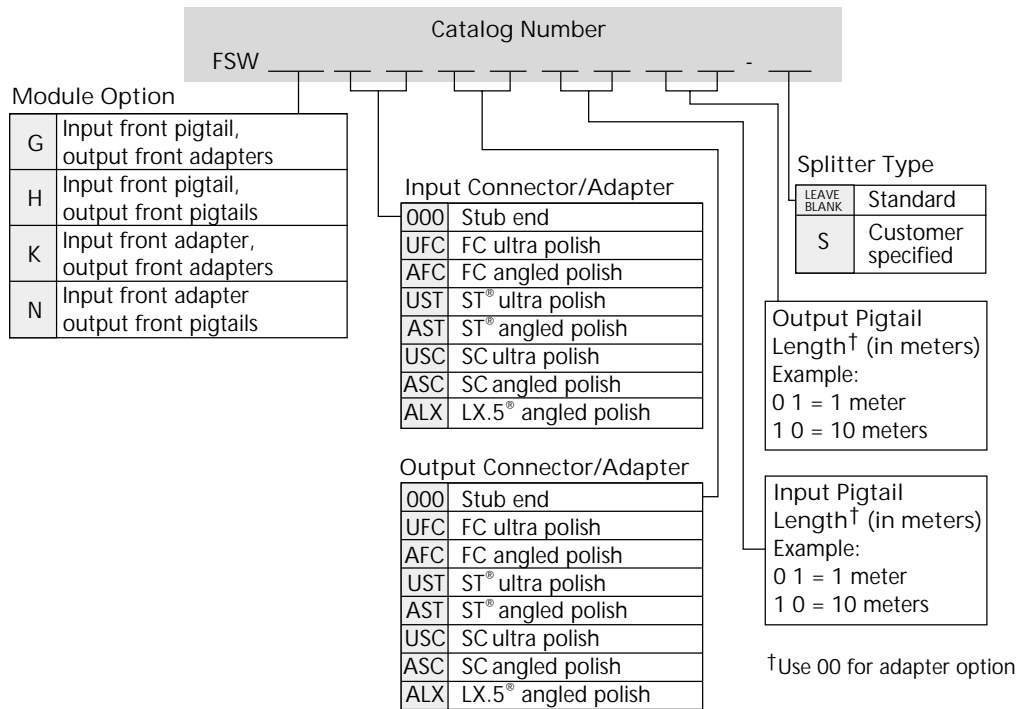
Figure 2
Sample Application of A/B Protection Switch



iVAM A/B Protection Switch

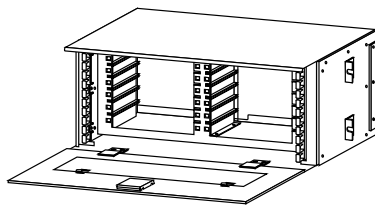
Ordering Information

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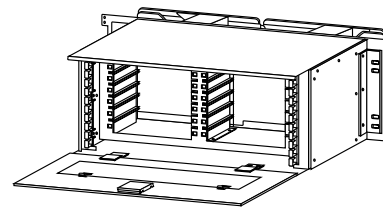


8 Inch Chassis – 12 Single Plug-In Modules

The chassis fits into an open chassis location within an existing fiber distribution frame (fdf). The chassis is available with or without rear cable management. It can accommodate a maximum of either 12 plug-in modules, 12 bulkhead plates, 12 blank panels or any combination thereof. The 8" Rear Load chassis mounts in EIA or WECO racks.



FDF-STDVAM
For Front Load Frames ONLY



FDF-FCMVAM
For Rear Load Frames ONLY

Ordering Information

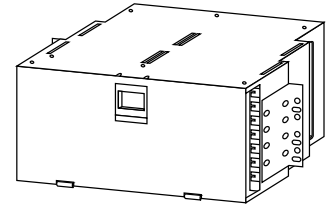
| Description | Dimensions (HxWxD) | Catalog Number* |
|--|--|-----------------|
| Unloaded chassis for Front Load frames No rear cable management or doors attached to module | 8.0" x 21.6" x 8.7" (20.32 x 54.86 x 22.10 cm) | FDF-STDVAM |
| Unloaded chassis for Rear Load frame Rear cable management and doors attached to module | 8.0" x 24.4" x 12.1" (20.32 x 61.98 x 30.73 cm) | FDF-FCMVAM |



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7 Inch Chassis – 12 Single Plug-In Modules

The 7" chassis fits into any open chassis location within an existing 7" module system FDF or in an LGX-style frame. It can accommodate a maximum of 12 single plug-in modules, 12 bulkhead plates, 12 blank panels or any combination thereof. Adjustable mounting brackets are provided for 19" or 23" rack mounting environments. The 7" chassis mounts in EIA or WECO racks.



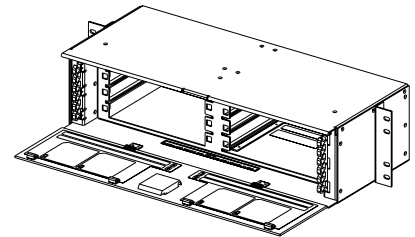
FVM-19X700

Ordering Information

| Description | Dimensions (HxWxD) | Catalog Number* |
|--|--|-----------------|
| Unloaded chassis for 7" style frames; 23" Vertical Cable Guide (VCG) included | 7.0" x 19.0" or 23" x 12" (17.78 x 48.26 or 58.42 x 30.48 cm) | FVM-19X700 |
| Unloaded chassis for LGX 7" style frames with rear doors; 23" VCG included | 7.0" x 19.0" or 23" x 11.03" (17.78 x 48.26 or 58.42 x 28.02) | FVM-19X700X11 |
| Unloaded chassis for 7" style frames; 19" VCG included | 7.0" x 19.0" or 23" x 12" (17.78 x 48.26 or 58.42 x 30.48 cm) | FVM-19X719 |
| Unloaded chassis for LGX 7" style frames with rear doors; 19" VCG included | 7.0" x 19.0" or 23" x 11.03" (17.78 x 48.26 or 58.42 x 28.02) | FVM-19X719X11 |
| Front vertical cable guides for 19" mounting environments | | VCG-25 |
| Front vertical cable guides for 23" mounting environments | | VCG-45 |

5.25 Inch Chassis – 8 Single Plug-In Modules

The 5.25" chassis fits into any 23" rack mounting environment. It can accommodate a maximum of 8 plug-in modules, 8 bulkhead plates, 8 blank panels, or any combination thereof.



Ordering Information

| Description | Dimensions (HxWxD) | Catalog Number* |
|----------------------------|---|-----------------|
| Unloaded chassis 23" racks | 5.25" x 23" x 12" (13.34 x 58.42 x 30.48 cm) | FDM24-VAM525 |

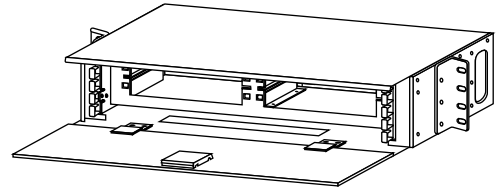
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4 Inch Chassis – 6 Single Plug-In Modules

The 4" chassis fits into any 23" rack mounting environment. It accommodates a maximum of 6 plug-in modules, 6 bulkhead plates, 6 blank panels or any combination thereof.



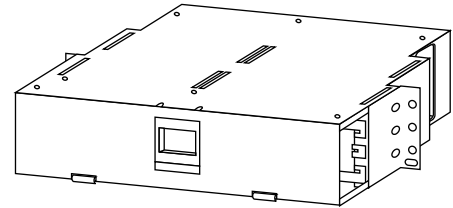
FVM-23X400

Ordering Information

| Description | Dimensions (HxWxD) | Catalog Number* |
|--------------------------------|--|-----------------|
| Unloaded chassis for 23" racks | 4.0" x 23" x 12" (10.16 x 58.42 x 30.48 cm) | FVM-23X400 |

3.5 Inch Chassis – 4 Single Plug-In Modules

The 3.5" chassis fits into any 19" rack mounting environment. It accommodates a maximum of 4 plug-in modules, 4 bulkhead plates, 4 blank panels or any combination thereof. Adjustable mounting brackets are provided for 23" mounting environments.



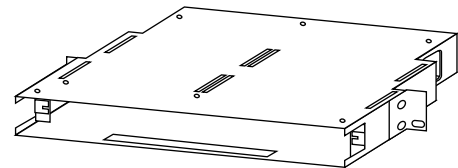
FVM-19X350

Ordering Information

| Description | Dimensions (HxWxD) | Catalog Number* |
|---------------------------------------|---|-----------------|
| Unloaded chassis for 19" or 23" racks | 3.5" x 19" or 23" x 12" (8.89 x 48.26 or 58.26 x 30.48 cm) | FVM-19X350 |

1.75 Inch Chassis – 2 Single Plug-In Modules

The 1.75" chassis fits into any 19" rack mounting environment. It accommodates a maximum of 2 plug-in modules, 2 bulkhead plates, 2 blank panels or any combination thereof. Adjustable mounting brackets are provided for 23" mounting environments.



FVM-19X175

Ordering Information

| Description | Dimensions (HxWxD) | Catalog Number* |
|---|--|-----------------|
| Unloaded chassis for 19" or 23" racks; no front door | 1.75" x 19" or 23" x 12" (4.45 x 48.26 or 58.26 x 30.48 cm) | FVM-19X175 |

* This product is available in black; for this option, simply add "-BK" to the end of the catalog number.

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Specifications

ELECTRICAL

| | |
|----------------|----------------|
| Input Voltage: | -37 to -60 Vdc |
| Input Current | |
| @-37 Vdc: | 30 mA maximum |
| @-48 Vdc: | 25 mA nominal |

OPTICAL

| | |
|-------------------|--|
| Wavelength: | 1290-1330 nm, 1530-1570 nm, 830-870nm (MM) |
| Insertion Loss *: | 1.7 dB maximum 1.0 dB typical |

| | |
|------------------------------------|--------------------------------------|
| Return Loss (both ways) *: | 50 dB minimum (SM) |
| Isolation: | 60 dB minimum |
| Repeatability: | ±0.05 dB maximum ±0.03 dB typical |
| Polarization Dependent Loss (PDL): | 0.3 dB maximum |
| Switching Speed: | 10 msec maximum, 5 msec typical |
| Switching Lifetime: | 10 million cycles |
| Switching Threshold: | |
| Loss of Signal: | -32.0 dBm ± 1.5 dB |
| Restoral of Signal (hysteresis): | 0.6 to 1.2 dB > loss of signal |
| Vibration Stability: | <0.1 dB change |

ENVIRONMENTAL

| | |
|-----------------------|--|
| Operating Conditions: | 0°C to 50°C |
| Storage Conditions: | -40°C to 70°C 5% to 95% relative humidity, non-condensing |

AGENCY COMPLIANCE

| | |
|---------|--|
| Safety: | UL1459 / CSA 22.2 / EN60950 (CE) |
| EMC: | FCC Part 15 Subpart B, Class A/EN50082 |

* Includes connector losses

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