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CYTEC CORP.

BULLETIN
VM-3

2555 Baird Road, Penfield, New York 14526 (716) 381-4740 FAX (716) 381-0475

VM SERIES

VME AND VXI SWITCH MODULES

The VM Series of Switch Modules are available as either VME size 6U Modules or VXI size B Modules and include Multiplexers, Matrices, Discrete Relays and Coaxial Matrices.

FEATURES INCLUDE:

- **VXI Rev. 1.4 Register based operation.**
- **Status and Control Registers.**
- **Simple BYTE read and write for parallel access to relays.**
- **Status readback from relay coils.**
- **Reed relays include Standard, Low Thermal and Mercury.**
- **Armature relays are available for high power switching.**
- **Solid State matrices for Video switching.**
- **Microwave Switch Modules with bandpass up to 18 GHz.**
- **Software support including program examples and drivers.**



VM/8-4x1 MULTIPLEXERS

This module has 32 two pole relays arranged as eight separate 4x1 multiplexers as shown in **Fig.1**. The 32 pairs of inputs are brought out to two 34 pin header connectors and the 8 pairs of outputs with the submultiplex relay are brought out to a 20 pin header connector.
The multiplexers are available with either Type S, M or LT relays and can be supplied in the following configurations.

Multiplexers	**Multipole**
8 - 4x1 two pole	4 - 4x1 four pole
4 - 8x1 two pole	2 - 4x1 eight pole
2 - 16x1 two pole	1 - 4x1 sixteen pole
1 - 32x1 two pole	

1 - 64x1 single pole using submultiplexer
Bandpass of each 4x1 Mux exceeds 200 MHz which is reduced when combined in the larger Multiplexers.
Isolation is 40dB at 10 MHz with 50 ohm terminations.

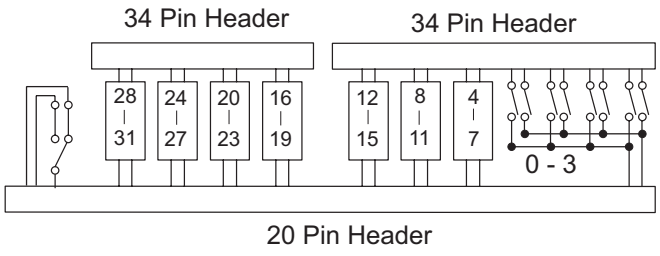


Fig.1

VM/32K DISCRETE RELAYS

This module has 32 single pole single throw reed relays with all contacts wired out separately to two 34 pin Header connectors as shown in **Fig.2**.
It is available with either Type S or Type M reed relays.
Insertion Loss is less than 0.1dB at 1 MHz.
Crosstalk is less than 60dB at 200 KHz.
DC Isolation is greater than 10^{10} ohms.

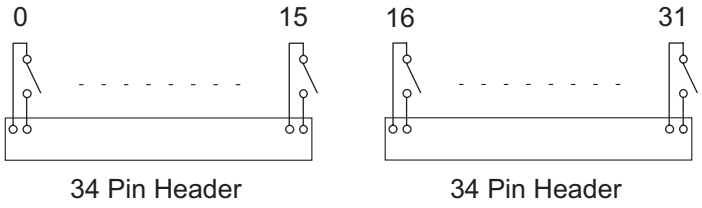


Fig.2

VM/24DRV RELAY DRIVER MODULE

This module has 24 open collector relay drive circuits with diode suppression and current drive capability of 1.8 amp DC. Relay power source can be from the +5 volt or +12 volt supplies on the VME or VXI Chassis backplane or from an external source of up to +50 volts.
There are four driver channels per driver IC with a maximum package dissipation of 3.8 watts at 25°C.
The drives can be wired to relays mounted on a blank area of the circuit board or to three 20 pin connectors on the back panel.

CONTACT 1-800-346-3117 OR WWW.CYTEC-ATE.COM FOR TECHNICAL ASSISTANCE

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VM/8x4 MATRIX SWITCH MODULE

This module has two 4x4 two wire matrices with Inputs and Outputs brought out to 16 pin Header connectors as shown in **Fig. 3**. The two matrices can be combined as one 8x4 matrix.

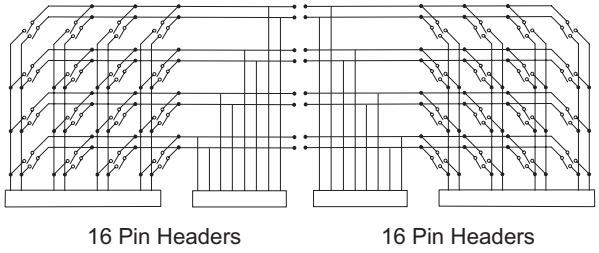


Fig. 3

The module is available with either Type S, M or LT relays.
Bandpass is DC to 100 MHz (-3dB).
Crosstalk is less than 60dB at 1 MHz.

VM/8x8-CX COAXIAL MATRIX

This module uses single pole Type S coaxial reed relays in two 4x8 matrix configurations with 50 ohm impedance as shown in **Fig. 5**. The isolation relays form an 8x8 matrix in a way that shortens stub length, increases bandpass and reduces crosstalk. This module is also offered as one 4x8 matrix or one 4x4 matrix.
The input and output connectors are SMA or SMB.

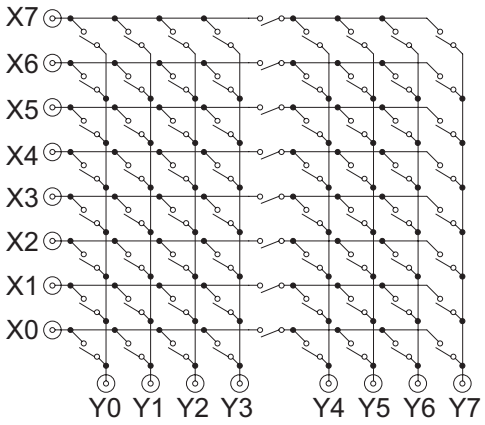


Fig. 5

Bandpass is DC to 200 MHz (-3dB)
Crosstalk is less than 60dB at 1 MHz.
Insertion Loss is less than 0.2dB at 10 MHz.
VSWR at 10 MHz is 1.07.

VM/V8X8 VIDEO MATRIX

This module is a solid state 8x8 non-blocking matrix as shown in **Fig. 5** with full fanout so that any input can be connected to 8 outputs. Signal impedance is 75 ohms and input and output connectors are SMA.

Gain - Unity **Impedance** - 75 ohms
Bandpass: **1 input to 1 output** - 90 MHz (-3dB)
1 input to full fanout - 70 MHz (-3dB)
Crosstalk -60dB at 10 MHz
Max Input Signal - ±5 volt
Max Output Signal - ±1.5 volt

VM/24KCP POWER RELAYS

This module has 24 single pole double throw armature type power relays wired out in groups of 8 relays to 25 pin D type connectors shown in **Fig. 4**.

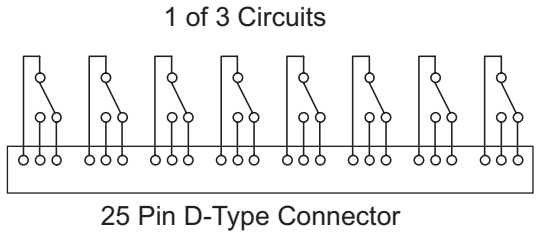


Fig. 4

Mechanical life is 10 million operations. Electrical life is 100,000 operations if operated within the following ratings:
Contact Rating AC -2000VA
Contact Rating DC -150W
Maximum Switch Voltage - 380VAC
Maximum. Switch Current - 8 amp
Breakdown Voltage - 1000V RMS
Operate Time - 10msec

VM/MW MICROWAVE MODULE

Modules can be supplied with microwave relays for band-pass from DC to 18 GHz.
Up to three 2x1 relays can be mounted on a single width slot. Other relays are available from 3x1 up to 6x1 multiplexers and are mounted on double or triple slot width depending on the specific requirement.
The relays are available with Fail Safe, Latching or Terminated mode of operation.
Call and discuss your specific application with our Sales Engineers.

REED RELAY SPECIFICATIONS

- **Type S** - Standard Dry Reed Relays.
- **Type M** - Mercury Wetted Reed Relays.
- **Type LT** - Low Thermal Reed Relays.

All relays have a guaranteed life of 100 million operations if operated within the following ratings:

	Type S	Type M	Type LT
Contact Rating	10VA	50VA	10VA
Max. Switch Voltage	200V	500V	100V
Max. Switch Current	0.5A	2.0A	0.2A
Breakdown Voltage	400V	1000V	200V
DC Isolation	10^{10} ohms	10^{10} ohms	10^{12} ohms
Operate Time, less than	1ms	2ms	1ms

OPERATING SPECIFICATIONS

OPERATING TEMPERATURE: 0^0 C to 55^0 C
STORAGE TEMPERATURE: -25^0 C to 80^0 C
HUMIDITY: less than 95% RH
POWER: +5 Volt - less than 1.5A.
+12 Volt - less than 20mas per reed relay or armature relay.
For Microwave relays, consult our Sales Engineers.

WARRANTY

CYTEC Corp warrants that all products are free from defects in Materials and Workmanship for a period of 5 years, except Microwave Relays which are warranted for 1 year only.

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