

# 10-610A/620A

## 8/16 Channel Multiplexer Module

8/16 CHANNEL MULTIPLEXER  
10-610A/620A

- 8 or 16 Channels per Module
- 2, 3, 4 & 5 Pole Switching Formats
- Easy Expansion allowing additional Channels using external cabling.
- Switch up to 100Volts, 0.5A (1A Carry) with 20W Max Power
- Single or Multiple Channel Operation
- Uses High Reliability Pickering Ruthenium Reed Relays For Maximum Performance



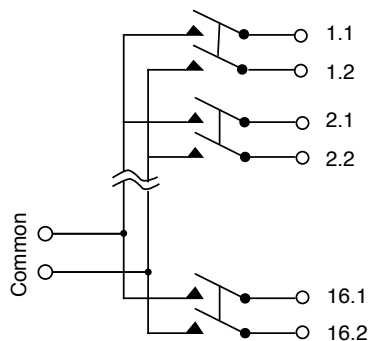
The 8 and 16-Channel Multiplexer Modules are available with up to 5-pole switching and are fitted with Ruthenium Reed relays.

The 10-610A/620A range of general purpose 8 and 16-channel multiplexer modules are available in a variety of configurations to suit many switching requirements. Typical applications include signal routing in ATE and data acquisition systems.

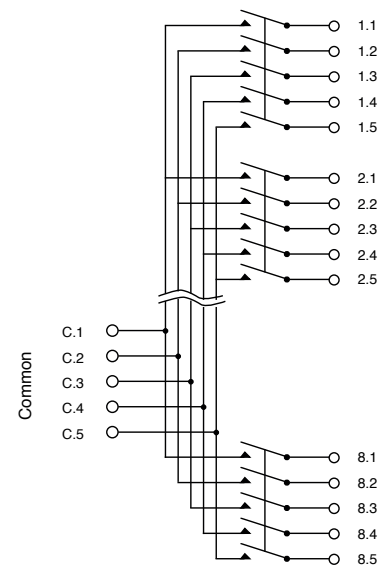
Connections are made via two 37-way D-type male connectors. Larger multiplexers may be constructed by cascading modules, with selected signals routed via the front panel connectors.

The 10-610A/620A multiplexer may be operated as a conventional multiplexer with break-before-make action enforced when a new channel is selected. In addition multiple channels may be simultaneously selected (i.e. no break-before-make).

Available in 2, 3, 4, & 5-pole switching formats, the modules are fitted with instrument grade sputtered Ruthenium Reed Relays which have high reliability and are excellent for switching very low level signals. Mercury wetted reed switches may be available to special order.



16-Channel 2-Pole Multiplexer (10-620A-xx2)



8-Channel 5-Pole Multiplexer (10-610A-xx5)

## Programming

The Multiplexer module is simple to program:-

**ARESET a** Open all channels on device **a**  
**DELAY t** Force a minimum delay of **t** milliseconds between two instructions  
**RESET** Open all switches on all modules  
**VIEW? a** View status of device **a**  
**CHAN a, c** Select channel **c** on multiplexer **a**  
Automatically clears previous channel (if set) before selecting new channel.  
**CHAN a, c, s** Multi-channel selection argument **s** allows opening/closing of any combination of channels.

## Common

The common signal(s) are brought out from the module onto the Front panel connectors. This has the additional features of keeping the signal(s) isolated, improving crosstalk, DC leakage and low thermal emf performance.

## Creating Larger Multiplexers

When more than one module is used to make up a multiplexer, ie. where five modules are used to make up a 80 channel multiplexer – then all multiplexer units must have the same internal address, the location of each module within the multiplexer is given by its own bank address. Bank addresses must start at 0 and should be contiguous.

If there is a problem with any of the modules used to make up a large multiplexer then an error will be detected (use the REPORT? query to discover the cause).

## Additional Notes

Mercury wetted reed relay modules must always be mounted to within 30° of vertical.

## Width and Dimensions

All models conform to the 3U height (128mm) Eurocard standard and are housed in a 160mm deep screened plug-in module. Panel width for all versions is 2.4 Inches.

## Connectors

Connections are for all modules are made via two front panel mounted 37-way D-type plugs

## Operating/Storage Conditions

### Operating Conditions

Operating Temperature: 0°C to 55°C  
Humidity: Up to 95% non-condensing  
Altitude: 5000m

### Storage and Transport Conditions

Storage Temperature: -20°C to +75°C  
Humidity: Up to 95% non-condensing  
Altitude: 15000m

## Switching Specification

Switch Type:	Ruthenium	Mercury wet†
Max Standoff Voltage:	100V	100V
Max Power:	20W	50W
Max Switch Current:	0.5A	2.0A
Max Carry Current:	1.0A	4.0A
Contact Resistance		
On:	200mΩ	200mΩ
Off:	>10 <sup>9</sup> Ω	>10 <sup>9</sup> Ω
Differential Thermal Offset:	<5μV	<10μV
Capacitance:		
Open Switch:	<6pF	<6pF
Switch-Switch:	<20pF	<20pF
Bandwidth (50Ω):	>15MHz	>15MHz
Max Operate Time:	7ms	9ms
Max Release Time:	6ms	8ms
Expected Life		
Low power load:	>1x10 <sup>8</sup>	>1x10 <sup>9</sup>
Full power load:	>1x10 <sup>6</sup>	>1x10 <sup>8</sup>

† Mercury wet versions may be available to special order.

## Product Order Codes

Common Brought onto Front Panel Connector:

4-Pole, 8-Channel MUX, Ruthenium Reed **10-610A-124**

5-Pole, 8-Channel MUX, Ruthenium Reed **10-610A-125**

Common Brought onto Front Panel Connector:

2-Pole, 16-Channel MUX, Ruthenium Reed **10-620A-122**

3-Pole, 16-Channel MUX, Ruthenium Reed **10-620A-123**

4-Pole, 16-Channel MUX, Ruthenium Reed **10-620A-124**

## Mating Connectors & Cabling

37-way D-type Socket with crimp pins **10-960-037**

## Latest Details

Please refer to our Web Site for Latest Product Details.  
[www.pickeringtest.com](http://www.pickeringtest.com)