

High Voltage Multiplexer

Overview

The SMP2007A is designed for scanning multiple high-voltage points to a common bus in either 1- or 2-wire configurations, either synchronously with an instrument (i.e., using triggers), or asynchronously with individual relay control. Up to 144 2-wire (or 288 1-wire) channels can be accommodated in a double-slot VXIbus card (SMP1200) for maximum density, or mixed and matched with other SMIP//™ cards for flexibility. Applications include Hipot or cable breakdown testing.

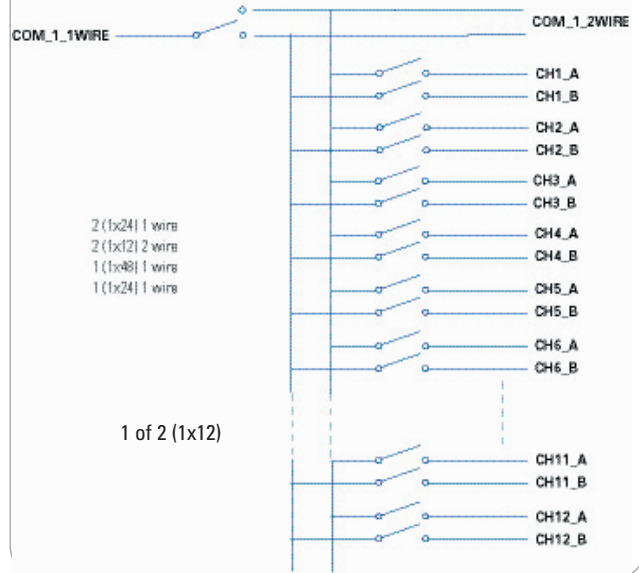
When switching high voltages, the need for signal shielding becomes critical. The SMP2007A has been designed to include large shield planes to reduce crosstalk and voltage spikes to adjacent channels.

For ATE applications, such as switching high-voltage source measure units or power supplies, a fail-safe interrupt line is provided on the front panel. This can open all relays automatically if a fault condition occurs. This approach instantly removes all high voltages to the UUT or interface.

The SMP2007A consists of 2 individual (1x12) 2-wire multiplexers, or 2 (1x24) 1-wire multiplexers that can be interconnected under program control (via the bussing relays) to configure larger multiplexers as required. This eliminates external wiring and helps reduce unterminated stubs. All relays are also driven from the VXIbus +5 V supply line, since VXIbus mainframes always have ample current capacity on this supply line, as opposed to the +24 V or +12 V supply lines.

Specifications

Maximum Switching Voltage:	1000 VDC/500 VAC
Maximum Switching Current:	1 A
Maximum Carry Current:	2 A
Maximum Switching Power:	25 W dc
Path Resistance:	< 1 Ω (Resistive Load)
Insulation Resistance:	>1x10 ⁷ Ω
Bandwidth (-3 dB):	>20 MHz bandwidth
Rated Switch Operations:	
Mechanical:	100 x 10 ⁶
Electrical:	1 x 10 ⁶ at full load
Switching Time:	<1 ms



Features

SMP2007A 48-channel 1000 V Multiplexer

High-density, High-voltage Multiplexer/Scanner (1x288 in a VXI Double-slot)

Built-in Configuration Relays Expand the 1x24 Multiplexer Building Blocks

Ideal for Hipot, Cable Breakdown, Source-Measure-Unit and Power Supply Switching

Extensive Signal Shielding Employed on PCBs for Excellent Signal Fidelity

Break-Before-Make (BBM) and Make-Before-Break (MBB) Accomplished in Hardware, Considerably Improving Scanning Time