

CheckSum in-circuit switch modules (MPX) are used to route stimulus and measurement signals to the unit-under-test (UUT). The UUT can be a bare board, loaded board, or a single component. The MPX modules are installed in a test system chassis. The MPX module is one part of a typical system module set of modules. Depending on the number of test points in a system, multiple system chassis may be required. Each system chassis has 20 slots.

To test components in-circuit, in addition to the standard stimulus and measurement signals, remote sense and guard signals are required. Guard signals provide isolation to reduce the impedance effect of the interconnected components.

	MPX-2-50	MPX-3-200	MPX-5-200
Number of test points per module	50	200	200
Switching for 4-wire and 6-wire measurements	✓	✓	✓
Solid-state switching	✓	✓	✓
Solid-state switching plus relay isolation	✓		
Replaceable components	✓	✓	
Replaceable subassemblies			✓
±12V maximum input voltage		✓	✓
±250V maximum input voltage	✓		
Relay switch matrix (cross point) compatible	✓		
Fastest Continuity (CONT) tests			✓
Highest guard ratio			✓
Lowest on-resistance (R <sub>on</sub> )			✓
Built-in quick self-test			✓
Recommended for systems with 3000 or more test points			✓
Analyst <i>ems</i> software compatible		✓	✓
Analyst <i>ems+ft</i> software compatible	✓	✓	✓

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## Checksum MPX Modules

The MPX-5-200 Module features:

- Solid-state switching for 200 test points
- Switching for 4-wire and 6-wire measurements
- Low on-resistance ( $R_{on}$ ) with improved signal-to-noise ratio
- Faster measurement setting with lower test times and higher throughput
- Continuity test time 5 to 50 times faster depending on topology compared to other MPX modules
- Improved guard ratio
- Supports test system configurations with more than 20,000 test point nodes
- Quick Self-Test
- Replaceable sub-assemblies for quick fault diagnostics and repair
- 16-pin analog bus to test system module stimulus and measurement circuits
- Dynamic over-voltage protection to +/-12Vdc
- Includes 4 x 50-pin cables for fixture system connections
- Controlled by CheckSum test system software
- Industry standard PC bus interface
- Same functionality as the MPX-3-200 module with improved performance

### The MPX-3-200 Module features:

- Industry standard PC bus interface
- Solid-state switching for 200 test points
- Controlled by CheckSum test system software
- 16-pin analog bus to test system module stimulus and measurement circuits
- Switching for 4-wire and 6-wire measurements
- Measurement guard signal switching
- Dynamic over-voltage protection to +/-12Vdc
- Socketed parts for easy fault diagnostics and repair
- Includes 4 x 50-pin cables for fixture system connections

### The MPX-2-50 Module features:

- Industry standard PC bus interface
- Solid-state switching for 50 test points plus mechanical relays
- Designed to use the Cross Point module in a switch matrix configuration
- Controlled by CheckSum test system software
- 16-pin analog bus to test system module stimulus and measurement circuits
- Switching for 4-wire and 6-wire measurements
- Measurement guard signal switching
- Over-voltage protection to +/-250Vdc
- Socketed parts for easy fault diagnostics and repair
- Includes 1 x 50-pin cable for fixture system connection