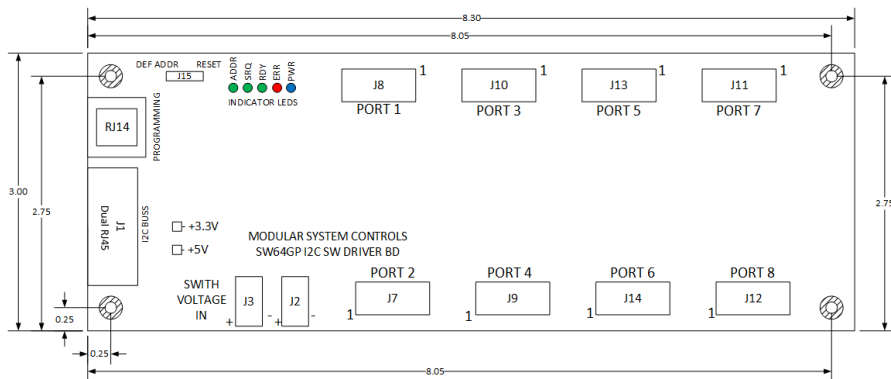*New Product Data Sheet*

SW64GP

64 Channel GP I²C I/O Board

1. INTRODUCTION

The SW64GP is a General Purpose I²C interface board compatible with the MSC02/MSC03 System Controller Boards. The board contains an I²C interface microcontroller and 8 8-bit I/O ports and resulting in 64 channels. The output levels are TTL levels and are designed to drive/interface with RF switches (with or without indictor contact readback) or other devices with TTL compatible inputs. The ports may also be configured as inputs on a channel-by-channel basis. The SW64GP is physically compatible with other SW64 series boards.

2. OPERATION

The SW64GP I/O Board is configured by the System Controller Board and is compatible with all functions supported by the MSCS system. The board is fully configurable in the field by the OEM for custom applications using SCPI commands. The 64 channels can be configured as any mix of inputs or outputs. The channels can be controlled as TTL switch or relay drivers, general purpose I/O ports or as individual bits. RF Switches can be one line per switch pole (with or without a reset line), latching or non-latching or binary encoded (with or without an All Off line). Switches can be controlled and monitored via the controller's optional touchscreen or by SCPI commands. All function can be controlled by the SCPI commands. Please see the MSC0x data sheet for additional information.

There is an external voltage input to supply power to the I/O port IO Power lines.

3. SPECIFICATIONS

1.1 I/O PORTS

I/O Ports : 8
Bits per port : 8
I/O Voltage Levels: 3.3V
Port Power Voltage: Switch Input Voltage (35V max

1.2 CONNECTORS

1.2.1 I2C Control

Connector type: 2-each RJ-45 shielded, compatible with MSC0x controller boards. Signals include SCL, SDA, SRQ, +5V power and ground.

1.2.2 IO Ports

Connector type: 8 each, standard 10 pin header, 2 rows, 0.1" pin spacing (standard IDC ribbon cable or crimp pin connector compatible)

Pin #	Function
1	I/O Bit 0
2	I/O Bit 1
3	I/O Bit 2
4	I/O Bit 3
5	I/O Bit 4
6	I/O Bit 5
7	I/O Bit 6
8	I/O Bit 7
9	Ground
10	IO Power

1.2.3 IO Power

Connector type: 2 each to allow daisy chaining, Molex 0015912025, 2-pin, 1-row, latching

Pin #	Function
1	Ground
2	IO Power

1.3 LED INDICATORS

IO Power – Blue
Logic Power – Blue
Ready – Green
Addressed – Green
SRQ – Green
Error – Red

1.4 PHYSICAL

Size – 8.3" x 3.0"

1.5 SUPPORTED I/O DEVICES

1.5.1 RF Switches

1.5.1.1 Mechanical Switches (TTL levels)

- 1 of N (one line per switch pole) or binary encoded
- Latching or Non-latching
- Selectable Indicator contact read-back
- Selectable Reset line

1.5.1.2 Solid State Switches (TTL levels)

- 1 of N (one line per switch pole) or binary encoded
- Binary encoded with or without All Off line

1.5.2 Relay control (TTL levels)

- Latching (2 coils) or non-latching

1.5.3 General Purpose I/O

- Configurable ports – 1 to 8 lines per port
- Each bit can be configured as input or output
- Individual I/O line control (set or reset)