

## DPDT Motorized Switch with TTL Driver, Q Band, E Plane

### Description:

**Model SWJ-22-15-TS** is a Q band motorized double pole, double throw (DPDT) transfer switch with a TTL driver that covers the frequency range of 33 to 50 GHz. The switch has four ports and the switching is E plane. The switch is a bi-directional device which allows each port to be switched on and off between the adjacent ports. The insertion loss of the switch is 0.2 dB typical and the isolation is 60 dB nominal. The switch has WR-22 waveguides with UG-383/U flanges. The bias and control signal connector is MS3112E-10-6P type.



### Features:

- Low Insertion Loss
- High Isolation
- TTL Control

### Applications:

- Test Set
- Communication Systems
- Radar Systems

### Electrical Specifications:

| Parameter                 | Minimum | Typical             | Maximum |
|---------------------------|---------|---------------------|---------|
| Frequency                 | 33 GHz  |                     | 50 GHz  |
| Insertion Loss            |         | 0.2 dB              | 0.3 dB  |
| Isolation                 | 50 dB   | 60 dB               |         |
| Bias Voltage              |         | +15 V <sub>DC</sub> |         |
| Bias Current              |         | 750 mA              |         |
| Return Loss               |         |                     | 23 dB   |
| Control Signal            |         | TTL                 |         |
| Switching Speed           |         | 125 mS              |         |
| Cycle Time                | 250,000 | 1,000,000           |         |
| Power Handling            |         | 100 W (CW)          |         |
| Specification Temperature |         | +25 °C              |         |
| Operating Temperature     | -40 °C  |                     | +85 °C  |

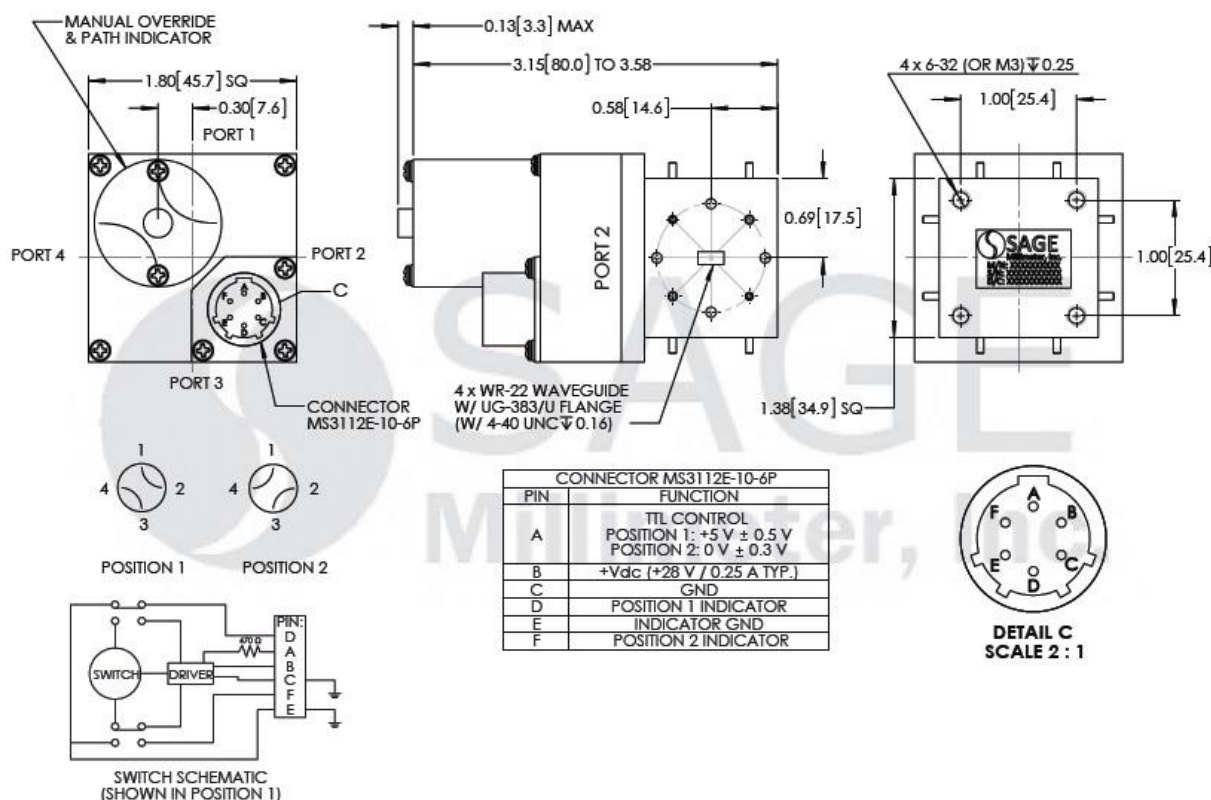
### Mechanical Specifications:

| Item                            | Specification                        |
|---------------------------------|--------------------------------------|
| RF Ports                        | WR-22 Waveguide with UG-383/U Flange |
| Bias Port and TTL Control Ports | MS3112E-10-6P                        |
| Waveguide Material              | Aluminum                             |
| Waveguide Finish                | Clear Chem Film                      |
| Switch Body Finish              | Black Paint                          |
| Weight                          | 8.0 Oz                               |
| Outline                         | WJ-TQ-S1                             |

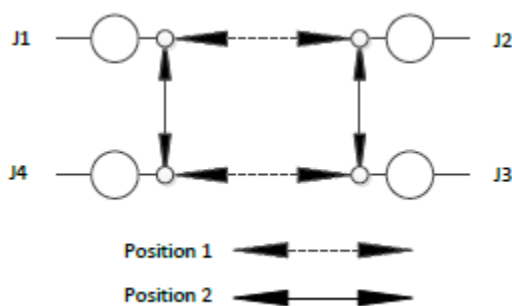


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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



## Electrical Schematic:



### Note:

- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

- The switch is a static sensitive device. Always follow ESD rules when working with the switch.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

