# 530 Series Manual Waveguide Switches
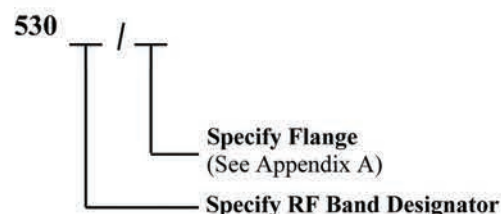
**MI-WAVE**
Millimeter Wave Products Inc.

### Features

- Positive Indexing
- Optimum Isolation
- Non-Contacting Choke Coupling
- Versatile Switching Combinations

### Ordering Information

530 / 

**Specify Flange**
(See Appendix A)

**Specify RF Band Designator**

### Description

Mi-Wave's 530 series manual switches are designed for use in standard millimeter wave frequency bands from 8.4 to 220 GHz. Each unit will operate over the full waveguide bandwidth with minimum insertion loss, minimum VSWR, and maximum isolation between coupled and uncoupled waveguide sections.

### Applications

The 530 series manual waveguide switches are used for transmission switching applications in millimeter wave systems. These versatile devices provide a variety of switching combinations using three waveguide channels and three positions. In a typical radar application, a three-position switch can be used manually to switch one of two transmitters to a common antenna, while simultaneously connecting the other transmitter to a suitable termination. A manual switch will also provide a convenient means for alternately connecting a test antenna and standard horn to gain-measuring test equipment.

Other frequency bands and custom configurations avaiable. WR-42 and lower will be E-Plane Types
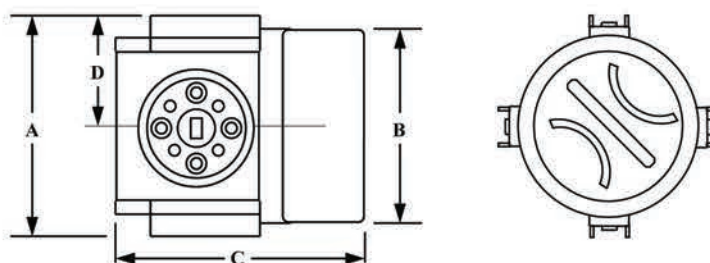
### Dimensional Specifications

| Model No | A in | A mm | B in | B mm | C in | C mm | D in | D mm |
|----------|------|------|------|------|------|------|------|------|
| 530A/599 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 | .985 | 25.0 |
| 530B/383 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 | .985 | 25.0 |
| 530U/383 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 . | 985 | 25.0 |
| 530V/385 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 | .985 | 25.0 |
| 530E/387 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 | .985 | 25.0 |
| 530W/387 | 1.97 | 50.0 | 1.85 | 47.0 | 2.10 | 53.3 | .985 | 25.0 |
| 530D/387 | 1.76 | 44.7 | 1.85 | 47.0 | 2.10 | 53.3 | .880 | 22.4 |
| 530G/387 | 1.76 | 44.7 | 1.85 | 47.0 | 2.10 | 53.3 | .880 | 22.4 |

### Technical Specifications (typical)

| Model Number | 530A | 530B | 530U | 530V | 530E | 530W | 530F | 530D | 530G |
|--------------|------|------|------|------|------|------|------|------|------|
| Frequency Band (GHz) | 26.5-40.0 | 33.0-50.0 | 40.0-60.0 | 50.0-75.0 | 60.0-90.0 | 75.0-110.0 | 90.0-140.0 | 110.0-170.0 | 140.0-220.0 |
| Isolation (dB) Min. | 50 | 50 | 50 | 50 | 45 | 40 | 40 | 35 | 30 |
| Insertion Loss (dB) Max. | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.7 | 0.9 | 1.0 |
| VSWR Max. | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.20 | 1.25 |