

## RF Switching System



The final product may vary from the above image depending on the options selected.

### Product:

**DEV 1400** RF Switching System Chassis; DC...18 GHz

### Modules:

**DEV 141n**  $n+1$  Redundancy Switch Module; DC...18 GHz;  
50 Ohm, SMA (f) ( $n = 2, 4, 6, \text{ or } 8$ )

**DEV 142n**  $n+2$  Redundancy Switch Module; DC...18 GHz;  
50 Ohm, SMA (f) ( $n = 2, 3, \text{ or } 4$ )

**DEV 143m/C**  $m \times 2$  Combining Matrix Module; 5.845...6.65 GHz;  
50 Ohm, SMA (f) ( $m = 2, 4, 6, \text{ or } 8$ )

**DEV 1440/C/ $m \times 2$**   $m \times 2$  Distributing Matrix Module; 3.4...4.2 GHz;  
50 Ohm, SMA (f) ( $m = 4, 6, 8, \text{ or } 12$ )

**DEV 144n/C**  $2 \times n$  Distributing Matrix Module; 3.4...4.2 GHz;  
50 Ohm, SMA (f) ( $n = 2, 4, 6, \text{ or } 8$ )

**DEV 1460/n**  $1:n$  De-/Multiplexer Module; DC...18 GHz;  
50 Ohm, SMA (f) ( $n = 6, 8, 12, 18, 24, \text{ or } 36$ )

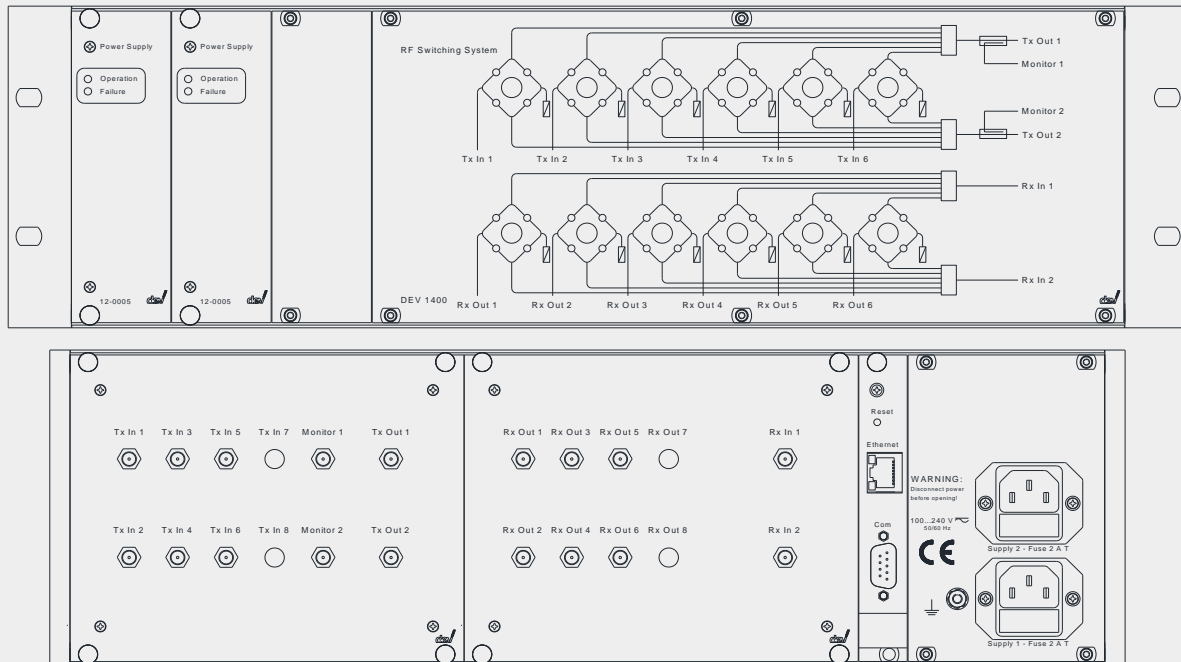
**The Matrix Modules are also available for the CX-, X- & Ku-Band**

### Features:

- Compact 3 RU Chassis to be equipped with one or two Modules
- SNMP Support
- Redundant Power Supplies

## Technical Data

### DEV 1400 RF Switching System Chassis; DC...18 GHz



#### Capacity

Number of Slots 2

#### Remote Communication

Interfaces (Connectors)

- Ethernet (RJ-45)
- Serial Interface RS 232 (Sub-D-9 (f))
- via Web Interface (Ethernet)
- via SNMP (Ethernet)

Remote Monitoring & Control (Interface)

#### Redundant Power Supply

Supply Voltage 100...240 V AC supplied by two different Lines

Power Consumption <40 VA

#### General Specifications

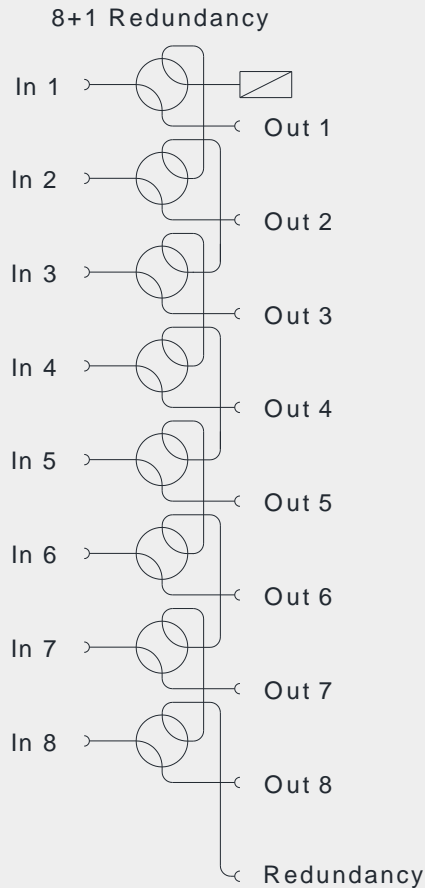
Size 19" (483 mm) Width, 3 RU (133 mm) Height, 420 mm Depth

Weight ~8 kg

Environmental Conditions ETS 300019 Part 1-3 Class 3.1E

## Technical Data (cont.)

<b>DEV 1412</b>	<b>2+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1414</b>	<b>4+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1416</b>	<b>6+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1418</b>	<b>8+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>



### RF Specifications

Frequency Range	DC...18 GHz
Impedance, Connectors	50 Ohm, SMA (f)
Input Level	<10 dBm
Return Loss	>14 dB
Insertion Loss	<0.5 dB @ 3 GHz <1.0 dB @ 12 GHz <1.5 dB @ 18 GHz
Isolation	>80 dB @ 3 GHz >60 dB @ 18 GHz
Continuous Power	<50 W
Switchable Power	<2 W

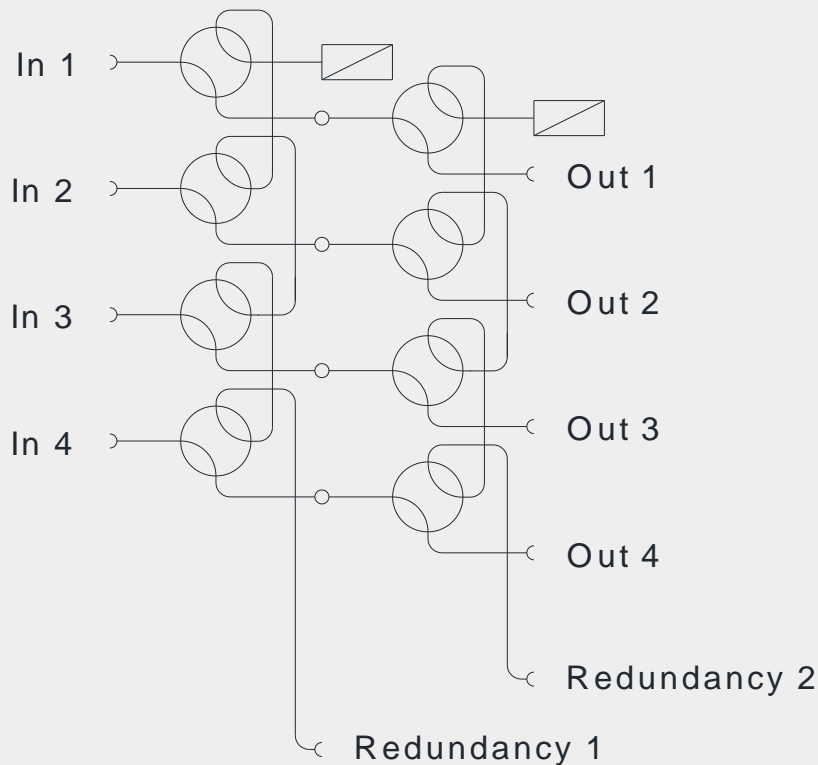
### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

### Technical Data (cont.)

<b>DEV 1422</b>	<b>2+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1423</b>	<b>3+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1424</b>	<b>4+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)</b>

#### 4+2 Redundancy



#### RF Specifications

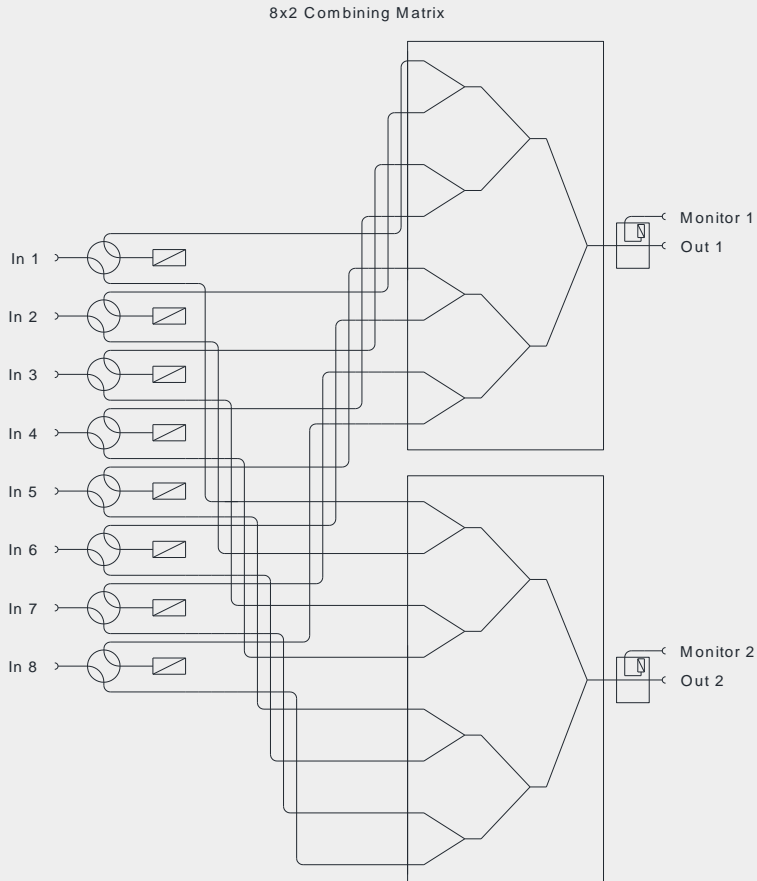
Frequency Range	DC...18 GHz
Impedance, Connectors	50 Ohm, SMA (f)
Input Level	<10 dBm
Return Loss	>14 dB
Insertion Loss	<1.0 dB @ 3 GHz <2.0 dB @ 12 GHz <3.0 dB @ 18 GHz
Isolation	>80 dB @ 3 GHz >60 dB @ 18 GHz
Continuous Power	<50 W
Switchable Power	<2 W

#### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

## Technical Data (cont.)

- DEV 1432/C** 2x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)  
**DEV 1434/C** 4x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)  
**DEV 1436/C** 6x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)  
**DEV 1438/C** 8x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)



In addition, the DEV 143m/C Matrix Modules are available for the following frequency ranges:

- 5.845...6.65 GHz, 7.9...8.4 GHz (DEV 143m/CX),
- 7.9...8.4 GHz (DEV 143m/X), and
- 13.75...14.5 GHz (DEV 143m/KU).

### RF Specifications

Frequency Range	5.845...6.65 GHz		
Impedance, Connectors	50 Ohm, SMA (f)		
Input Level	<10 dBm		
Return Loss	>18 dB		
Insertion Loss Signal Path	<13.5 dB (for /C, /CX)	(<15 dB for /X, /KU)	
Flatness	in any 40 MHz Interval:	0.5 dBss	(0.6 dBss for /CX, /X, /KU)
	in any 500 MHz Interval:	1.0 dBss	(1.2 dBss for /CX, /X; 1.4 dBss for /KU)
Isolation	>60 dB (on/off)		
	>20 dB (on/on)		
Continuous Power	<33 dBm		

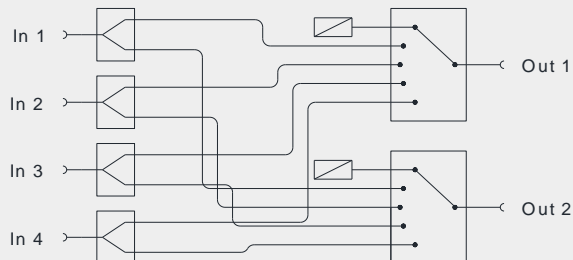
### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E

## Technical Data (cont.)

<b>DEV 1440/C/4x2</b>	<b>4x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA</b>
<b>DEV 1440/C/6x2</b>	<b>6x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA</b>
<b>DEV 1440/C/8x2</b>	<b>8x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA</b>
<b>DEV 1440/C/12x2</b>	<b>12x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA</b>

4x2 Distributing Matrix



In addition, the DEV 1440/C/*m*x2 Matrix Modules are available for the following frequency ranges:

- 3.4...4.2 GHz, 7.25...7.75 GHz (DEV 1440/**CX**/*m*x2),
- 7.25...7.75 GHz (DEV 1440/**X**/*m*x2), and
- 10.95...12.75 GHz (DEV 1440/**KU**/*m*x2).

### RF Specifications

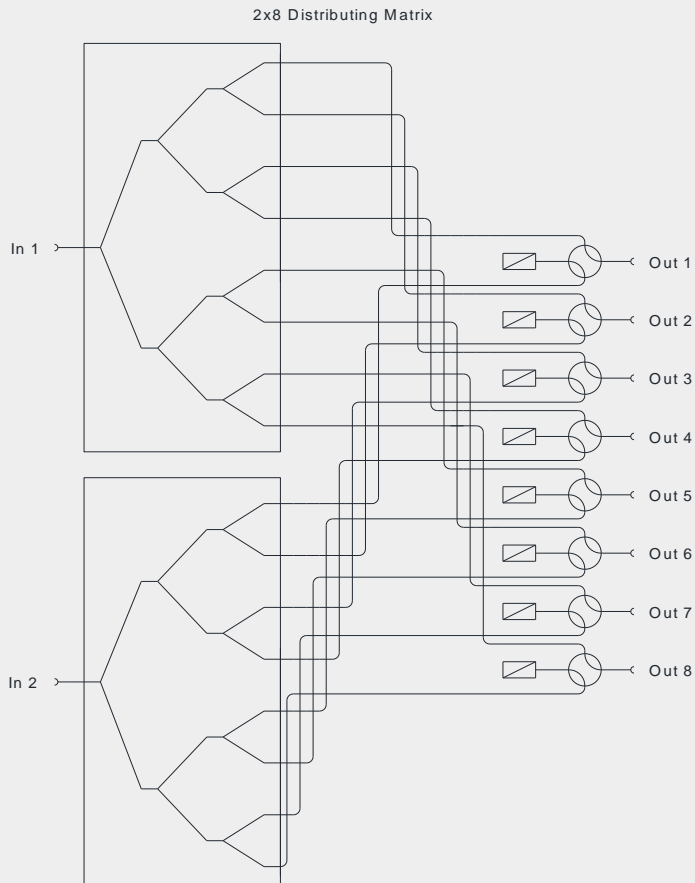
Frequency Range	3.4...4.2 GHz	
Impedance, Connectors	50 Ohm, SMA (f)	
Input Level	<10 dBm	
Return Loss	>18 dB	
Insertion Loss Signal Path	<13.5 dB (for /C, /CX) ( <i>&lt;15 dB for /X, /KU</i> )	
Flatness	in any 40 MHz Interval:	0.5 dBss (0.6 dBss for /CX, /X, /KU)
	in any 500 MHz Interval:	1.0 dBss (1.2 dBss for /CX, /X; 1.4 dBss for /KU)
Isolation	>60 dB (on/off)	
	>20 dB (on/on)	
Continuous Power	<33 dBm	

### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1E

## Technical Data (cont.)

- DEV 1442/C** 2x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)  
**DEV 1444/C** 2x4 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)  
**DEV 1446/C** 2x6 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)  
**DEV 1448/C** 2x8 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)



In addition, the DEV 144n/C Matrix Modules are available for the following frequency ranges:

- 3.4...4.2 GHz, 7.25...7.75 GHz (DEV 144n/CX),
- 7.25...7.75 GHz (DEV 144n/X), and
- 10.95...12.75 GHz (DEV 144n/KU).

### RF Specifications

Frequency Range	3.4...4.2 GHz	
Impedance, Connectors	50 Ohm, SMA (f)	
Input Level	<10 dBm	
Return Loss	>18 dB	
Insertion Loss Signal Path	<13.5 dB (for /C, /CX)	(<15 dB for /X, /KU)
Flatness	in any 40 MHz Interval:	0.5 dBss (0.6 dBss for /CX, /X, /KU)
	in any 500 MHz Interval:	1.0 dBss (1.2 dBss for /CX, /X; 1.4 dBss for /KU)
Isolation	>60 dB (on/off)	
	>20 dB (on/on)	
Continuous Power	<33 dBm	

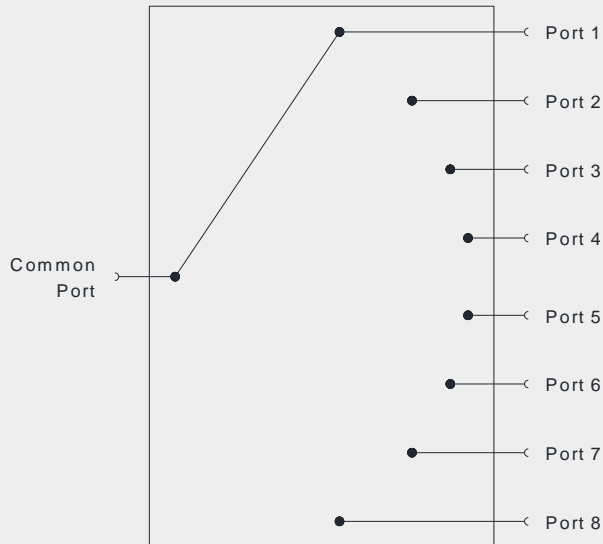
### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1E

## Technical Data (cont.)

<b>DEV 1460/6</b>	<b>1:6 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1460/8</b>	<b>1:8 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1460/12</b>	<b>1:12 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1460/18</b>	<b>1:18 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1460/24</b>	<b>1:24 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>
<b>DEV 1460/36</b>	<b>1:36 De/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)</b>

1:8 De-/Multiplexer



### RF Specifications

Frequency Range	DC...18 GHz
Impedance, Connectors	50 Ohm, SMA (f)
Input Level	<10 dBm
Return Loss	>14 dB
Insertion Loss	<0.5 dB @ 3 GHz <1.0 dB @ 12 GHz <1.0 dB @ 18 GHz
Isolation	>80 dB @ 3 GHz >60 dB @ 18 GHz
Continuous Power	<40 W
Switchable Power	<1 W

### General Specifications

Size	32 HP (162 mm) Width, 3 RU (133 mm) Height, 160 mm Depth
Weight	~2.5 kg
Environmental Conditions	ETS 300019 Part 1-3 Class 3.1E



## Order Information

### Product

DEV 1400 RF Switching System Chassis; DC...18 GHz

### Modules

DEV 1412	2+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1414	4+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1416	6+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1418	8+1 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1422	2+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1423	3+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1424	4+2 Redundancy Switch Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1432/C	2x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1434/C	4x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1436/C	6x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1438/C	8x2 Combining Matrix Module; 5.845...6.65 GHz; 50 Ohm, SMA (f)
DEV 1440/C/4x2	4x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/C/6x2	6x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/C/8x2	8x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1440/C/12x2	12x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1442/C	2x2 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1444/C	2x4 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1446/C	2x6 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1448/C	2x8 Distributing Matrix Module; 3.4...4.2 GHz; 50 Ohm, SMA (f)
DEV 1460/6	1:6 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/8	1:8 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/12	1:12 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/18	1:18 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/24	1:24 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)
DEV 1460/36	1:36 De-/Multiplexer Module; DC...18 GHz; 50 Ohm, SMA (f)

In addition, all Matrix Modules are available for other Frequency Ranges (CX-Band, X-Band, or Ku-Band). Please contact DEV Systemtechnik to discuss YOUR special Requirements!

### Contact

DEV Systemtechnik GmbH  
 Grüner Weg 4A  
 61169 Friedberg  
 GERMANY  
 Phone: +49 6031 6975 100  
 Fax: +49 6031 6975 114  
 info@dev-systemtechnik.com  
 www.dev-systemtechnik.com

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*Technical specifications are subject to change*