

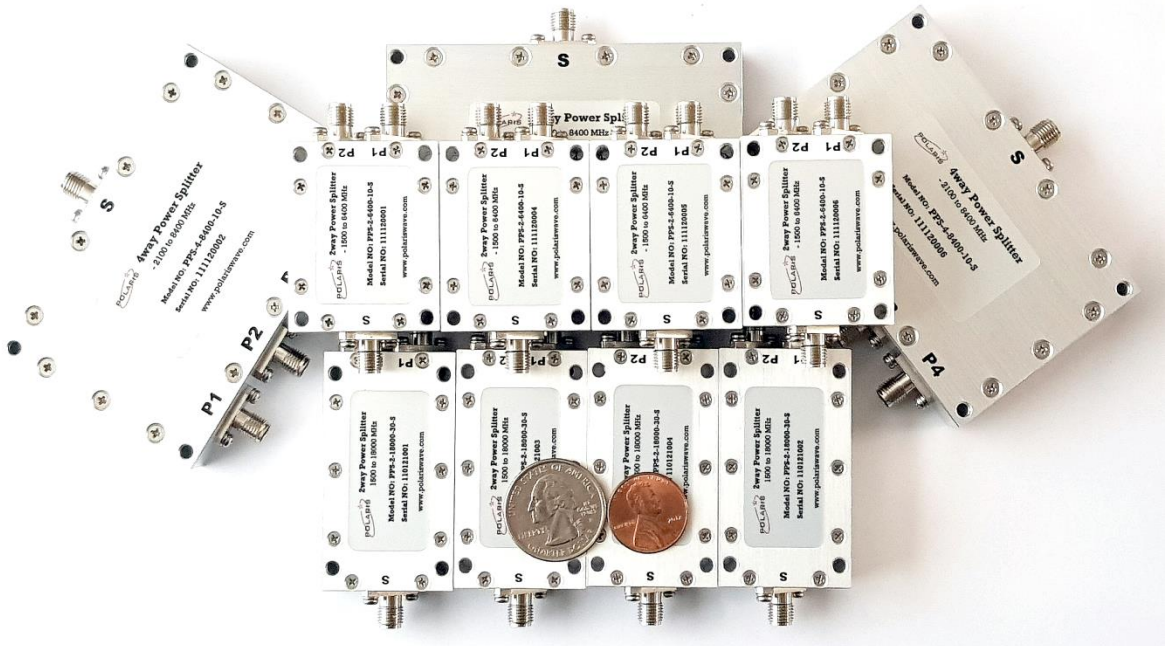
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# Microwave Power Splitter/Combiner



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- Email: [info@polariswave.com](mailto:info@polariswave.com)
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## Descriptions



Microwave power splitter/combiner will split an input signal into N identical signals. It can also be used as a power combiner, where the sum port is the output and the N equal power ports are used as the inputs.

Polaris microwave power splitter/combiners cover a range of frequencies and are available in 2 way and 4 way modules.

The 2 way splitter/combiners cover from 1.5 to 18 GHz and the 4 way splitter/combiners cover from 2.1 to 8.4 GHz.

### Features

- Ultra wide frequency range
- Excellent amplitude unbalance
- Excellent phase unbalance
- Low insertion loss
- High isolation
- Compact size

### Applications

- SATCOM
- Defense communications
- Mobile communication systems
- WiFi
- Bluetooth

# 2 Way Power Splitter/Combiner

PPS-2-6400-10-S



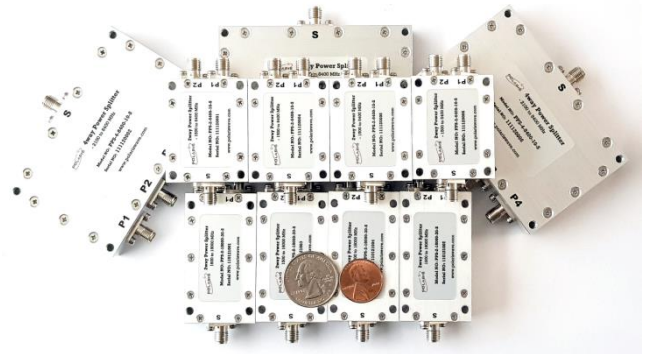
1500 to 6400 MHz, 0°, 50Ω

## Features

- ❖ Wide Frequency Range
- ❖ Low Insertion Loss
- ❖ Low Amplitude Unbalance
- ❖ Low Phase Unbalance
- ❖ Compact Size

## Applications

- ❖ WiFi
- ❖ Bluetooth
- ❖ Mobile Communication System
- ❖ SATCOM



Product Family



PPS-2-6400-10-S

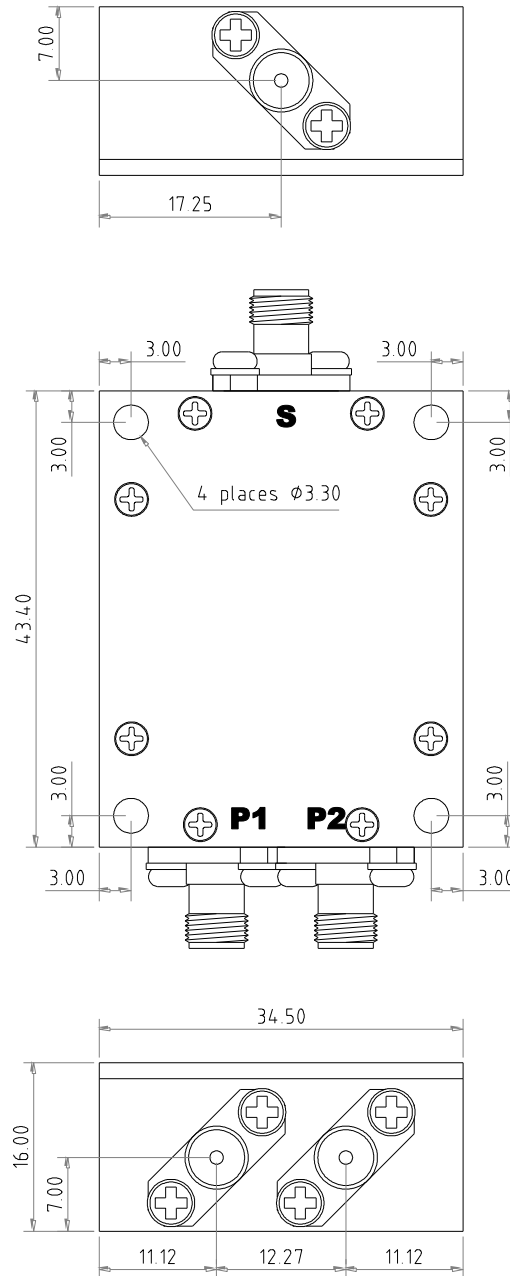
## Specifications

Parameter		Unit	Min.	Typ.	Max.	Frequency (MHz)
Frequency Range		MHz	1500		6400	
Insertion Loss above 3.0 dB		dB	-	0.3	0.7	1800 – 6000
			-	0.3	0.8	1500 – 6400
Amplitude Unbalance		dB	-	0.1	0.3	1800 – 6000
			-	0.1	0.5	1500 – 6400
Isolation		dB	19	24	-	1800 – 6000
			15	24	-	1500 – 6400
Phase Unbalance		Degree	-	1	4	1800 – 6000
			-	1	6	1500 – 6400
VSWR	Port S	:1	-	1.3	1.6	1800 – 6000
			-	1.3	1.7	1500 – 6400
	Port 1-2	:1		1.2	1.6	1800 – 6000
				1.2	1.7	1500 – 6400
Power Input (as a splitter)		W	-	-	10	
Operating Temperature		°C	-40		85	
Size (W x L x H)		mm	43.4 x 34.5 x 16			
Connectors	Sum Port	-	SMA-Jack			
	P1 – P2 Port	-	SMA-Jack			

### Outline Drawing

1500 to 6400 MHz, 0°, 50Ω

Dimensions are in millimeters.



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# 2 Way Power Splitter/Combiner

PPS-2-8000-30-S



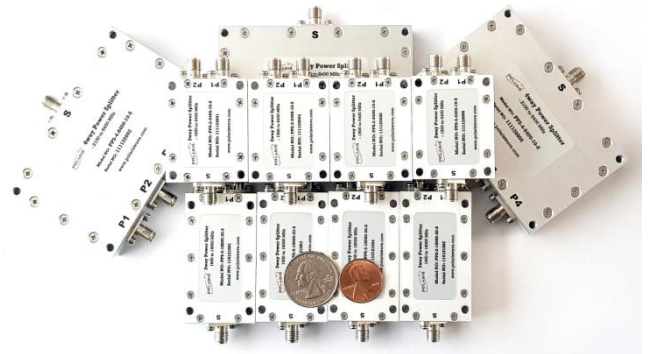
30W, 1500 to 8000 MHz, 0°, 50Ω

## Features

- ❖ Wide Frequency Range
- ❖ Up to 30W Power Input as Splitter
- ❖ Excellent Amplitude Unbalance
- ❖ Excellent Phase Unbalance
- ❖ Low Insertion Loss
- ❖ High Isolation
- ❖ Compact Size

## Applications

- ❖ WiFi
- ❖ Bluetooth
- ❖ Defense Communications
- ❖ SATCOM



## Product Family



PPS-2-8000-30-S

## Specifications

Parameter	Unit	Min.	Typ.	Max.	Remarks
Frequency Range	MHz	1500		8000	
Insertion Loss above 3.0 dB	dB	-	0.4	0.8	
Isolation	dB	18	22	-	
Phase Unbalance	Degree	-	1	4	
Amplitude Unbalance	dB	-	0.1	0.3	
VSWR	Port S	:1	-	1.3	1.6
	Port 1-2	:1	-	1.3	1.6
Power Handling	As Splitter	W	-	-	30
	As Combiner	W	-	-	1.0
Operating Temperature		°C	-40	60	<30W
			-40	85	<10W
Size (W x L x H)	mm	31.0 x 55.7 x 16.0			
Connectors	Sum Port	-	SMA-Jack		
	P1 – P2 Port	-	SMA-Jack		

# 2 Way Power Splitter/Combiner

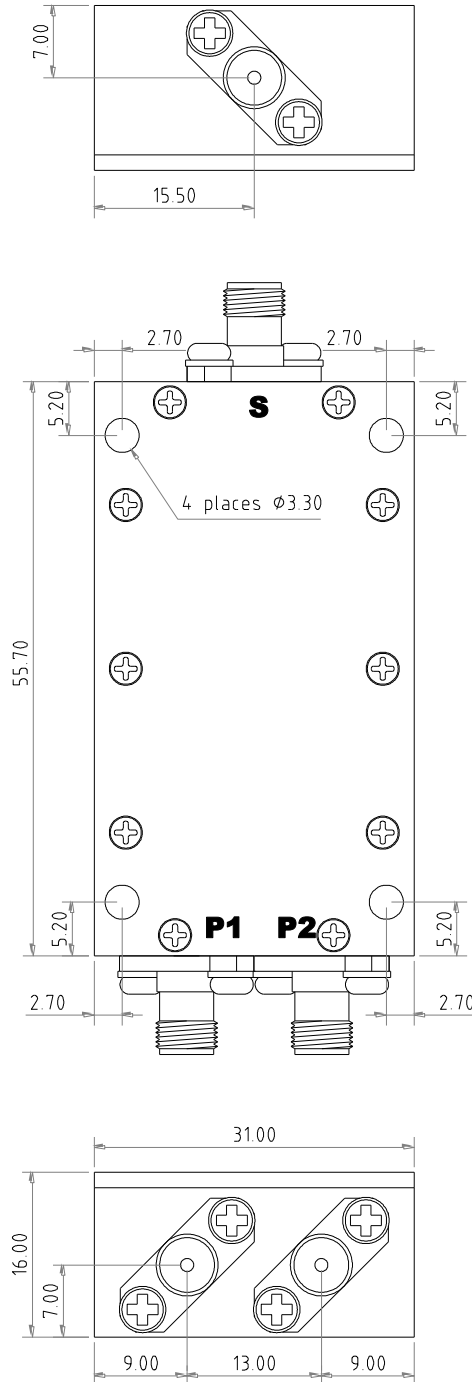
PPS-2-8000-30-S



## Outline Drawing

30W, 1500 to 8000 MHz, 0°, 50Ω

Dimensions are in millimeters.



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# 2 Way Power Splitter/Combiner

PPS-2-13000-10-S



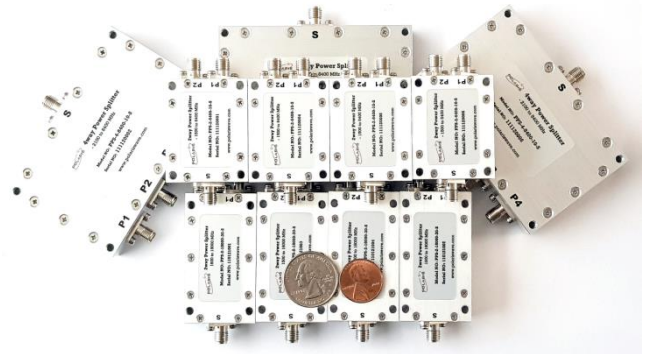
1500 to 13000 MHz, 0°, 50Ω

## Features

- ❖ Ultra Wide Frequency Range
- ❖ Excellent Amplitude Unbalance
- ❖ Excellent Phase Unbalance
- ❖ Low Insertion Loss
- ❖ High Isolation
- ❖ Compact Size

## Applications

- ❖ WiFi
- ❖ SATCOM & Defense Communications
- ❖ Mobile Communication Systems
- ❖ Instruments



Product Family



PPS-2-1300-10-S

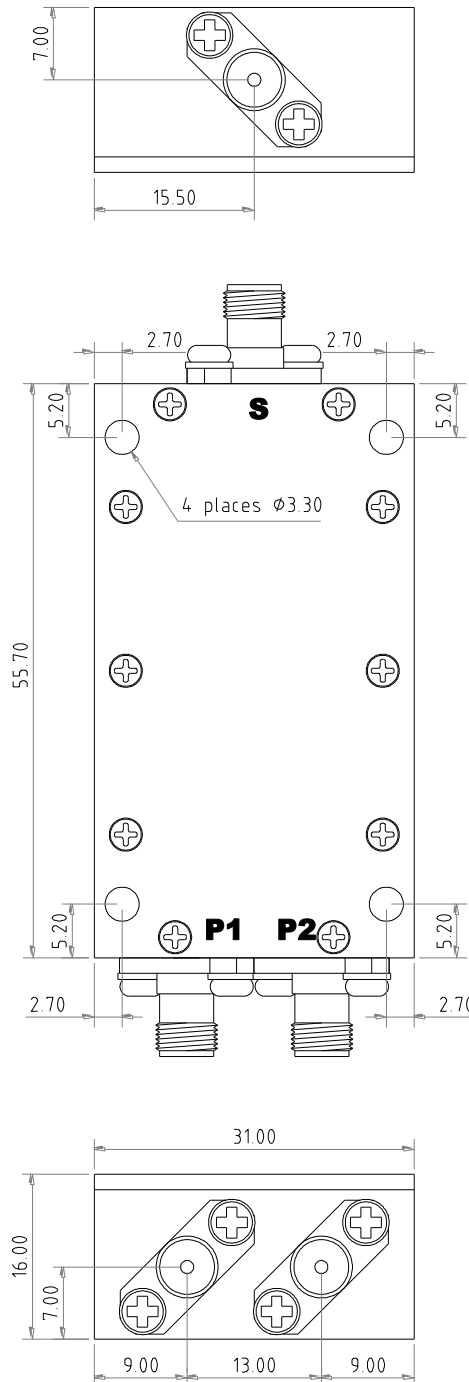
## Specifications

Parameter		Unit	Min.	Typ.	Max.	Frequency (MHz)
Frequency Range		MHz	1500		13000	
Insertion Loss above 3.0 dB		dB	-	0.4 0.8	0.8 1.2	1500 – 8000 8000 – 13000
Isolation		dB	18 16	22 20	- -	1500 – 8000 8000 – 13000
Phase Unbalance		Degree	- -	1 2	4 5	1500 – 8000 8000 – 13000
Amplitude Unbalance		dB	- -	0.1 0.2	0.3 0.4	1500 – 8000 8000 – 13000
VSWR	Port S	:1	- -	1.3 1.5	1.6 1.8	1500 – 8000 8000 – 13000
	Port 1-2	:1	- -	1.3 1.5	1.6 1.8	1500 – 8000 8000 – 13000
Power Handling	As Splitter	W	-	-	10	
	As Combiner	W	-	-	1.0	
Operating Temperature		°C	-40		85	
Size (W x L x H)		mm	31.0 x 55.7 x 16.0			
Connectors	Sum Port	-	SMA-Jack			
	P1 – P2 Port	-	SMA-Jack			

## Outline Drawing

1500 to 13000 MHz, 0°, 50Ω

Dimensions are in millimeters.



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# 2 Way Power Splitter/Combiner

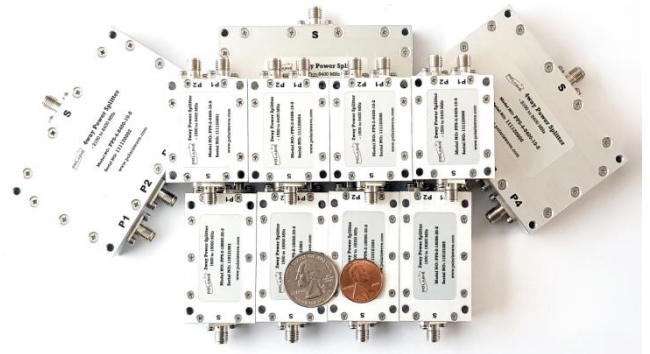
PPS-2-18000-30-S



1500 to 18000 MHz, 0°, 50Ω

## Features

- ❖ Ultra Wide Frequency Range
- ❖ Excellent Amplitude Unbalance
- ❖ Excellent Phase Unbalance
- ❖ Low Insertion Loss
- ❖ High Isolation
- ❖ Compact Size



Product Family



## Applications

- ❖ WiFi
- ❖ SATCOM & Defense Communications
- ❖ Mobile Communication Systems
- ❖ Instruments

## Specifications

PPS-2-1800-30-S

Parameter	Unit	Min.	Typ.	Max.	Frequency (MHz)
Frequency Range	MHz	1500		18000	
Insertion Loss above 3.0 dB	dB	-	0.4	0.8	1500 – 8000
		-	0.8	1.2	8000 – 13000
		-	1.0	1.5	13000 – 17000
		-	1.7	2.5	17000 – 18000
Isolation	dB	18	22	-	1500 – 8000
		15	20	-	8000 – 13000
		15	20	-	13000 – 17000
		-	13	-	17000 – 18000
Phase Unbalance	Degree	-	1	4	1500 – 8000
		-	2	5	8000 – 13000
		-	4	9	13000 – 17000
		-	4	9	17000 – 18000
Amplitude Unbalance	dB	-	0.1	0.3	1500 – 8000
		-	0.2	0.4	8000 – 13000
		-	0.2	0.6	13000 – 17000
		-	0.4	0.9	17000 – 18000
VSWR	Port S	-	1.3	1.6	1500 – 8000
		-	1.5	1.8	8000 – 13000
		-	1.6	-	13000 – 17000
		-	2.0	-	17000 – 18000
	Port 1-2	-	1.3	1.6	1500 – 8000
		-	1.5	1.8	8000 – 13000
		-	1.6	-	13000 – 17000
		-	1.7	-	17000 – 18000

# 2 Way Power Splitter/Combiner

PPS-2-18000-30-S



1500 to 18000 MHz, 0°, 50Ω

## Specifications

Parameter		Unit	Min.	Typ.	Max.	Frequency (MHz)
Power Handing	As Splitter	W	-	-	30	1500 – 8000
			-	-	16	8000 – 13000
			-	-	12	13000 – 17000
			-	-	10	17000 – 18000
	As Combiner	W	-	-	1.0	1500 – 18000
Operating Temperature		°C	-40 -40		60 85	<30 W <10 W
Size (W x L x H)		mm	31.0 x 55.7 x 16.0			
Connectors	Sum Port	-	SMA-Jack			
	P1 – P2 Port	-	SMA-Jack			

# 2 Way Power Splitter/Combiner

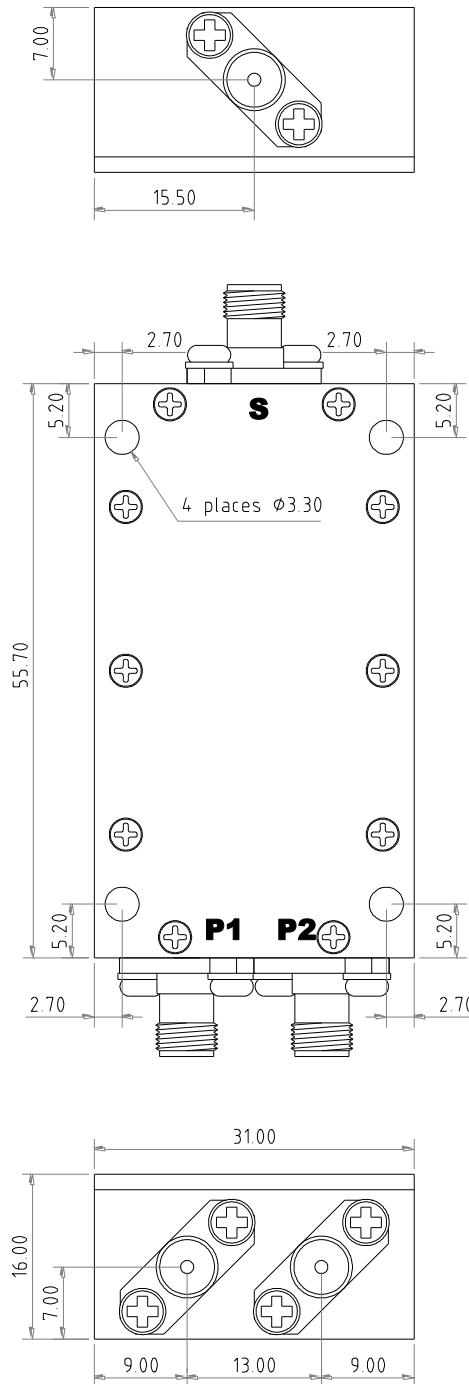
PPS-2-18000-30-S



## Outline Drawing

1500 to 18000 MHz, 0°, 50Ω

Dimensions are in millimeters.



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# 4 Way Power Splitter/Combiner

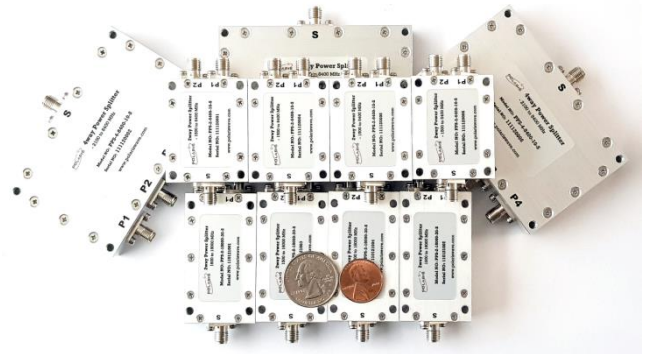
PPS-4-8400-10-S



2100 to 8400 MHz, 0°, 50Ω

## Features

- ❖ Wide Frequency Range
- ❖ Low Insertion Loss
- ❖ Low Amplitude Unbalance
- ❖ Low Phase Unbalance
- ❖ Compact Size



## Product Family



PPS-4-8400-10-S

## Applications

- ❖ WiFi
- ❖ Bluetooth
- ❖ Defense Communications
- ❖ SATCOM

## Specifications

Parameter		Unit	Min.	Typ.	Max.	Frequency (MHz)
Frequency Range		MHz	2100		8400	
Insertion Loss above 6.0 dB		dB	-	0.6 0.7	1.3 1.5	2400 – 6800 2100 - 8400
Amplitude Unbalance		dB	-	0.3 0.5	0.8 1.0	2400 – 6800 2100 - 8400
Isolation		dB	16 12	24 22	- -	2400 – 6800 2100 - 8400
Phase Unbalance		Degree	-	4 5	8 9	2400 – 6800 2100 - 8400
VSWR	Port S	:1	-	1.6 1.6	- -	2400 – 6800 2100 - 8400
	Port 1-4	:1	-	1.4 1.4	- -	2400 – 6800 2100 - 8400
Power Input (as a splitter)		W	-	-	10	
Operating Temperature		°C	-40		85	
Size (W x L x H)		mm	53 x 85 x 14			
Connectors	Sum Port	-		SMA-Jack		
	P1 – P4 Port	-		SMA-Jack		

# 4 Way Power Splitter/Combiner

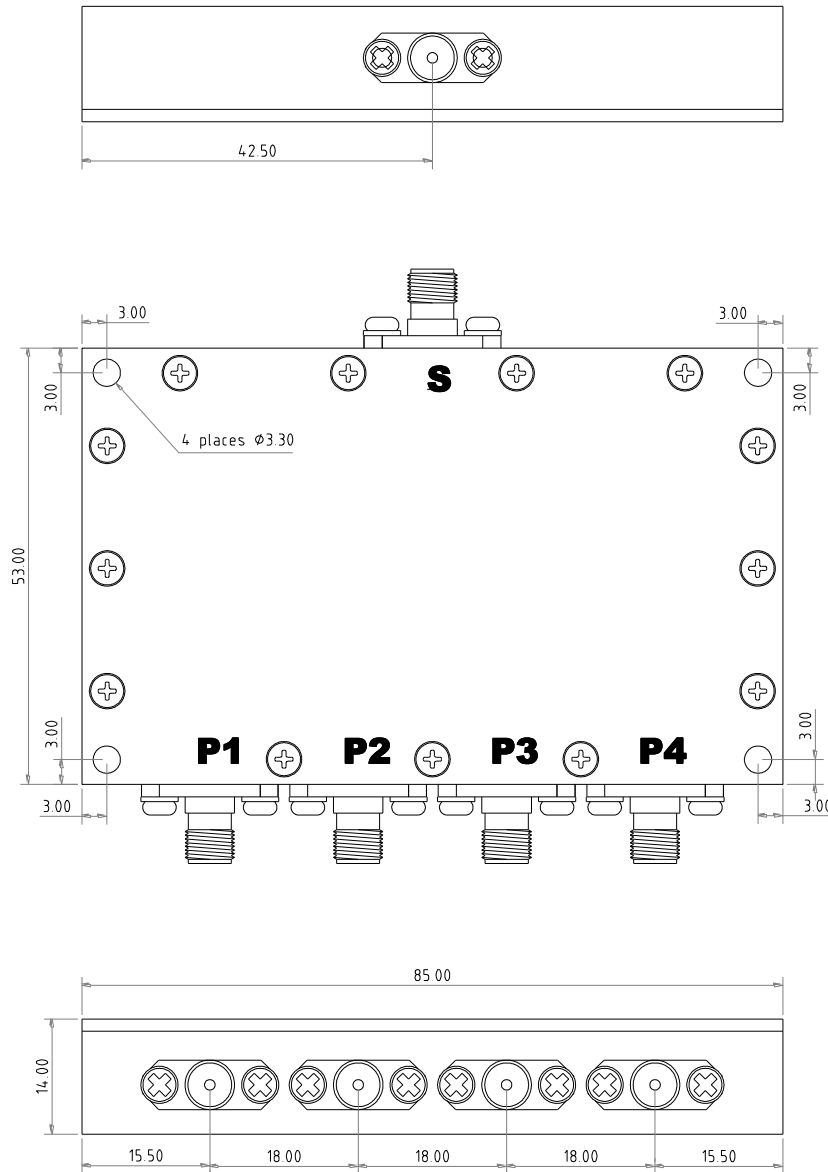
PPS-4-8400-10-S



2100 to 8400 MHz, 0°, 50Ω

## Outline Drawing

Dimensions are in millimeters.



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