

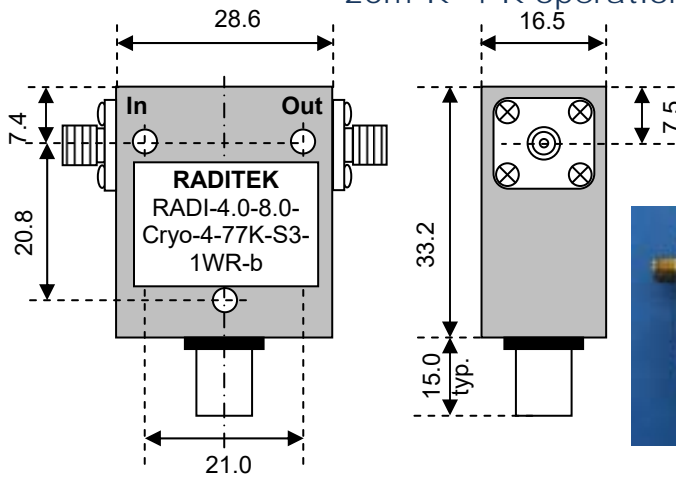
## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

**Magnetic Shielding can not be removed**

4-77°K operation (Isolator & Circulator)

20m°K -4°K operation (Isolator & Circulator)



**Tolerance Table Metric (inch)**

(unless otherwise stated):

- Hole diameter +/- 0.1mm, (+/- 0.004")
- Dimensions (w\*h) +/- 0.3 mm, (+/- 0.015")
- Dimensions (Coax Connector position) +/- 0.3mm, (+/- 0.012")
- Dimensions (hole position) +/- 0.1mm, (+/- 0.04")
- Machined surfaces**
- Flatness 0.025/mm, (0.001/ inch)
- Bend radius 0.8mm, (0.031" or 1/32")

**Units: mm  
Not to scale**

Direction of RF:	
R	Default ▶
L	◀

**Order Examples: RADI-4.0-8.0-Cryo-4-77°K-S3-1WR-b**  
20m°K-4°K  
100m°K-4°K

**I=ISOLATOR / C=CIRCULATOR**

SMA Connector options (X)				
Isolator			Circulator	
Port 1	Port 2		Port 3 Male	Port 3 Female
Female	Male	-1	-11	-21
Male	Female	-2	-12	-22
Female	Female	-3	-13	-23
Male	Male	-4	-14	-24

Specifications:	20mK-77K Circulator only		4.2°K Isolator	4.2°K Isolator	100mK-4K Circulator only MS- magnetic shielding	Units
Frequency	3-4 (300MHz BW max*)		3.1-3.4	3.4-3.7	3.5-3.7	GHz
Insertion loss	0.5		0.4	0.4	0.4	dB (max)
Isolation	17		19	19	18	dB (min)
VSWR	1.35:1		1.25:1	1.25:1	1.30:1	Max
Rated power (forward)	1		1	1	1	Watts (average)
Rated power (reverse)	1		1	1	1	Watts (average)
Operating temperature	20mK-77K		4.2	4.2	100mK-4K	°K
Non-operating						°C
Dimensions	26.0x30.5x25.0		26x30.5x25	26x30.5x25	approx.41x45.5x40	mm
Finish			Bright Nickel plated finish.			

**\*Please advise exact frequency needed at the time of the order.**

## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

### Magnetic Shielding can not be removed

Specifications:	0.02-4K Circulator only MS- magnetic shielding up to 500G or 1500G	0.03-4K Circulator only	0.03-4K Circulator only MS- magnetic shielding	4-77K Circulator only MS- magnetic shielding up to 500G	Units
Frequency	3.2-3.6	3.4-3.8	3.4-4.8	3.6-4.2	GHz
Insertion loss	0.4	0.5	0.5	0.5	dB (max)
Isolation	17	16.5	16.5	17	dB (min)
VSWR	1.35:1	1.40:1	1.40:1	1.35:1	Max
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	0.02-4K	0.03-4K	0.03-4K	4-77K	°K
Dimensions (approx.)	40x45.4x36.8	26.5x30.5x24.0	40x47x36.8	43x48x31 max	mm
Finish	Bright Nickel plated finish.				

Specifications:	4-77K Circulator only MS- magnetic shielding up to 500G	4-77K Circulator	0.02-4K Circulator only MS- magnetic shielding up to 1500G	77K Circulator only	Units
Frequency	3.2-3.6	3.4-3.8	3.6-4.2	3.8-5.2	GHz
Insertion loss	0.4	0.5	0.5	0.5	dB (max)
Isolation	17	16.5	17	18	dB (min)
VSWR	1.35:1	1.40:1	1.35:1	1.30:1	Max
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	4-77K	4-77K	0.02-4K	77K	°K
Dimensions (approx.)	40x45.4x36.8	26.5x30.5x24.0	43x48x31 max	28.6x33.2x16	mm
Finish	Bright Nickel plated finish.				

Specifications:	0.02-4K Circulator MS- magnetic shielding up to 1000G	20mK-77K Circulator or Isolator DMS- double magnetic shielding (1.5K gauss)	0.02-77°K Isolator	0.02-4K Circulator MS- magnetic shielding up to 1500G	Units
Frequency	3.8-4.5	4.0-4.8	4-8	4-8	GHz
Insertion loss	0.5	0.5	0.5	0.5	dB (max)
Isolation	18	17	17	17	dB (min)
VSWR	1.30:1	1.35:1	1.35:1	1.35:1	Max
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	0.02-4	20mK-77K	20mK-77K	0.02-4	°K
Dimensions (approx.)	43x48x30.4	43x48x31	28.6x33.2x16.5	43x48x30.5	Mm (max)
Finish	Bright Nickel plated finish				

## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

### Magnetic Shielding can not be removed

Specifications:	4.2°K Isolator	100mK-4K Circulator only MS- magnetic shielding	0.02-4°K Circulator or Isolator MS or DMS- magnetic or double magnetic shielding (external magnetic field up to 120 kA/m)	30mK-4K Circulator only MS- magnetic Shielding up to 150mT (1500Gauss)	Units
Frequency	3.7-4.0	3.7-3.9	4.0-8.0	4.0-8.0	GHz
Insertion loss	0.4	0.4	0.5	0.5	dB (max)
Isolation	19	18	17	17	dB (min)
VSWR	1.25:1	1.30:1	1.35:1	1.35:1	Max
Rated power (forward)	1	1	1 or 10	1, 10	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	4.2	100mK-4K	20mK-4K	30mK-4K	°K
Non-operating			-42 to 85	-42 to 85	°C
Dimensions	standard	approx. 41x45.5x40	approx. 43x48x31 max	approx. 43x48x31 max approx. wt.369 gram	mm

Finish Bright Nickel plated finish.

Standard Specifications:	0.02-4°K Circ or Isol	10-25°K or 10-25°mK		20mK-77K Circulator only MS- magnetic shielding	0.02-77K Circulator only MS- magnetic Shielding (1500Gauss)	Units
Frequency	4-8	4-8		4-8	4-8	GHz
Insertion loss	0.5	0.6	0.5	0.5	0.5	dB (maximum)
Isolation	17	15	17	17	17	dB (minimum)
VSWR	1.35:1	1.55:1	1.35:1	1.35 :1	1.35 :1	Maximum
Rated power (forward)	10	1		1	1	Watts (average)
Rated power (reverse)	1	1		1	1	Watts (average)
Operating temperature	20mK-4K	room	10-25	20mK-77K	0.02-77K	°K or °mK
Non-operating	-42 to 85					
Dimensions	standard	standard		Approx. 45 x 50 x 32	Approx. 43x48x30.5	mm

Finish Bright Nickel plated finish.

Standard Specifications:	4-77°K Isolator or Circulator	4-77°K Circulator MS- magnetic shielding (1500Gauss)	0.01-4°K Circulator only	0.03-4°K Circulator only	10mK-4°K Circulator only MS- magnetic shielding	Units
Frequency	4.0-8.0	4.0-8.0	4-8	4.0-8.0	4-8	GHz
Insertion loss	0.5	0.5	0.4	0.5	0.5	dB (maximum)
Isolation	17	17	18	17	17	dB (minimum)
VSWR	1.35:1	1.35:1	1.30:1	1.35:1	1.35:1	Maximum
Rated power (forward)	1	1	1	10	1	Watts (average)
Rated power (reverse)	1	1	1	1	1	Watts (average)
Operating temperature	4-77K	4-77K	0.01-4K	30mK-4K	10mK-4K	°K
Dimensions	Standard Approx. Wt. 105g	43x48x30.5 43x48x31	28.6x32x16	standard	43x48x30.5	mm

RADCorl-3-10-Cryo-0.03-77K-SX-1WR-Family-b

Specifications may be subject to change

11/20/20

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**Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz,  
Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt**

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

**Magnetic Shielding can not be removed**

Standard Specifications:	4-77°K Isolator or Circulator	4-77°K Circulator MS- magnetic shielding (1500Gauss)	0.01-4°K Circulator only	0.03-4°K Circulator only	10mK-4°K Circulator only MS- magnetic shielding	Units
Finish	Bright Nickel plated finish					

Standard Specifications:	20mK-77°K Circulator only	15mK-3K Circulator only	15mK-3K Circulator only MS- magnetic shielding	10mK-15K Circulator only (Max Magnetic field <0.1 tesla)	Units
Frequency	4-8	4-8	4-8	4-8	GHz
Insertion loss	0.5	0.5	0.5	0.5	dB (maximum)
Isolation	17	17	17	17	dB (minimum)
VSWR	1.35:1	1.35:1	1.35:1	1.35:1	Maximum
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	20mK-77K	15mK-3K	15mK-3K	10mK-15K	°K
Dimensions	28.6x33.2x16.5 max Weight approx. 105g	(28.6x33.2x16.5)	43x48x31	43x48x31	mm
Finish	Bright Nickel plated finish				

Standard Specifications:	0.02-4K Isolator MS- magnetic shielding up to 1500G				Units
Frequency	4-8				GHz
Insertion loss	0.5				dB (max)
Isolation	18				dB (min)
VSWR	1.35:1				Max
Rated power (forward)	1				Watts (avg.)
Rated power (reverse)	1				Watts (avg.)
Operating temperature	0.02-4				°K
Dimensions	43x48x30.5				mm
Finish	Bright Nickel plated finish				

Standard Specifications:	4.2K-77°K Circulator	0.01-77K Circulator only MS- magnetic shielding (150mT) (1500 Gauss)	0.01-4K Circulator only MS- magnetic shielding (150mT) (1500 Gauss)	Circulator only 0.02-4°K	Units
Frequency	4-8	4-8	4-8	4.4-5.2	GHz
Insertion loss	0.27	0.5	0.5	0.3	dB (max)
Isolation	19	17	17	20	dB (min)
VSWR	1.25:1	1.35 :1	1.35 :1	1.25:1	Max
Rated power (forward)	1	1	1	1	Watts (avg.)

RADCorl-3-10-Cryo-0.03-77K-SX-1WR-Family-b

Specifications may be subject to change

11/20/20

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## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

### Magnetic Shielding can not be removed

Standard Specifications:	4.2K-77°K Circulator	0.01-77K Circulator only MS- magnetic shielding (150mT) (1500 Gauss)	0.01-4K Circulator only MS- magnetic shielding (150mT) (1500 Gauss)	Circulator only 0.02-4°K	Units
Rated power (reverse)	1	1	1	1	Watts (avg.)
Operating temperature	4.2K-77K	0.01-77K	0.01-4K	0.02-4K	°K
Dimensions	standard 28.6x33.2x16.0	43x48x30.5	43x48x30.5	standard (28.6x33.2x16.5)	mm
Finish	Bright Nickel plated finish				

Standard Specifications:	Circulator only 0.02-4°K	Circulator or Isolator 4-77°K	Isolator 1-4°K	Circulator only 0.01-4°K	Circulator only 0.02-4°K	Units
Frequency	4-6	4-6	4-6	4-6	4.4-4.7	GHz
Insertion loss	0.5	0.4	0.4	0.4	<0.6	dB max
Isolation	18	18	18	18	18	dB min
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	<1.35:1	Max
Rated power (forward)	1	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	1	Watts (average)
Operating temperature	20mK-4K	4-77	1-4	1-4	20mK-4K	°K
Dimensions	standard (28.6x33.2x16.5)	standard (28.6x33.2x16.5)	(28.6x33.2x16)	(28.6x33.2x16)	standard (28.6x33.2x16.5)	mm
Finish	Bright Nickel plated finish					

Standard Specifications:	100mK-4K Circulator only MS- magnetic shielding	0.02-4°K Circulator only	4-77°K	0.02-4°K Circulator only	Units
Frequency	3.9-6.0	4.6-4.8	4.5-4.9	4.5-4.9	GHz
Insertion loss	0.5	<0.6	0.4	0.4	dB (maximum)
Isolation	17	18	20	19	dB (minimum)
VSWR	1.35:1	<1.35:1	1.25:1	1.30:1	Maximum
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	100mK-4K	20mK-4K	4-77	20mK-4K	°K
Dimensions	Approx. 43x48x30.5	standard (28.6x33.2x16.5)	standard 28.6x33.2x16.5	28.6x33.2x16.5	mm
Finish	Bright Nickel plated finish				

## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

### Magnetic Shielding can not be removed

Standard Specifications:	0.02-4°K Circulator only MS- magnetic shielding (up to 10 Gauss)	0.02-4°K Circulator only DMS- Double magnetic shielding (up to 1500 Gauss)	0.02-4°K Circulator only MS- magnetic shielding (external magnetic field up to 120 kA/m)	Units
Frequency	4-10	4-10	4-10	GHz
Insertion loss	0.6	0.6	0.8	dB (maximum)
Isolation	15	15	14	dB (minimum)
VSWR	1.5:1	1.5:1	1.6:1	Maximum
Rated power (forward)	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	Watts (average)
Operating temperature	0.02-4	0.02-4	0.02-4	°K
Dimensions	28.6x35x18.5	43x48x31max	43x48x31	mm
Finish	Bright Nickel plated finish.			

Standard Specifications:	4-77°K		0.02-4°K Circulator only MS- magnetic shielding	0.02-4K Circulator only	1-4°K Isolator	Units
Frequency	5.35-6.35		5.35-6.35	5.5-8.0	6-10	GHz
Insertion loss	0.4	0.4	0.5	0.4	0.5	dB (maximum)
Isolation	18	20	18	18	17	dB (minimum)
VSWR	1.30:1	1.25:1	1.30:1	1.30:1	1.35:1	Maximum
Rated power (forward)	10		1	1	1	Watts (average)
Rated power (reverse)	1		1	1	1	Watts (average)
Operating temperature	+25	4-77	20mK-4K	20mK-4K	1-4	°K
Dimensions	standard		43x48x30.4	28.6x33.2x16.0	standard 28.6x33.2x16.5	mm
Finish	Bright Nickel plated finish.					

Standard Specifications:	0.01-4°K Circulator only	100mK-4K Circulator only	0.02-4K Circulator only	*100mK-4K Circulator only	Units
Frequency	6-10	6-8	6-8	7.0-7.3	GHz
Insertion loss	0.5	0.4	0.4	0.2	dB (maximum)
Isolation	17	18	18	20	dB (minimum)
VSWR	1.35:1	1.30:1	1.30:1	1.21:1	Maximum
Rated power (forward)	1	1	1	1	Watts (average)
Rated power (reverse)	1	1	1	1	Watts (average)
Operating temperature	0.01-4	100mK-4K	0.02-4K	100mK-4K	°K
Dimensions	standard 28.6x33.2x16.5	standard (28.6x33.2x16.5)	28.6x33.2x16.5	36x40x30	mm
Finish	Bright Nickel plated finish.				

## Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz, Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt

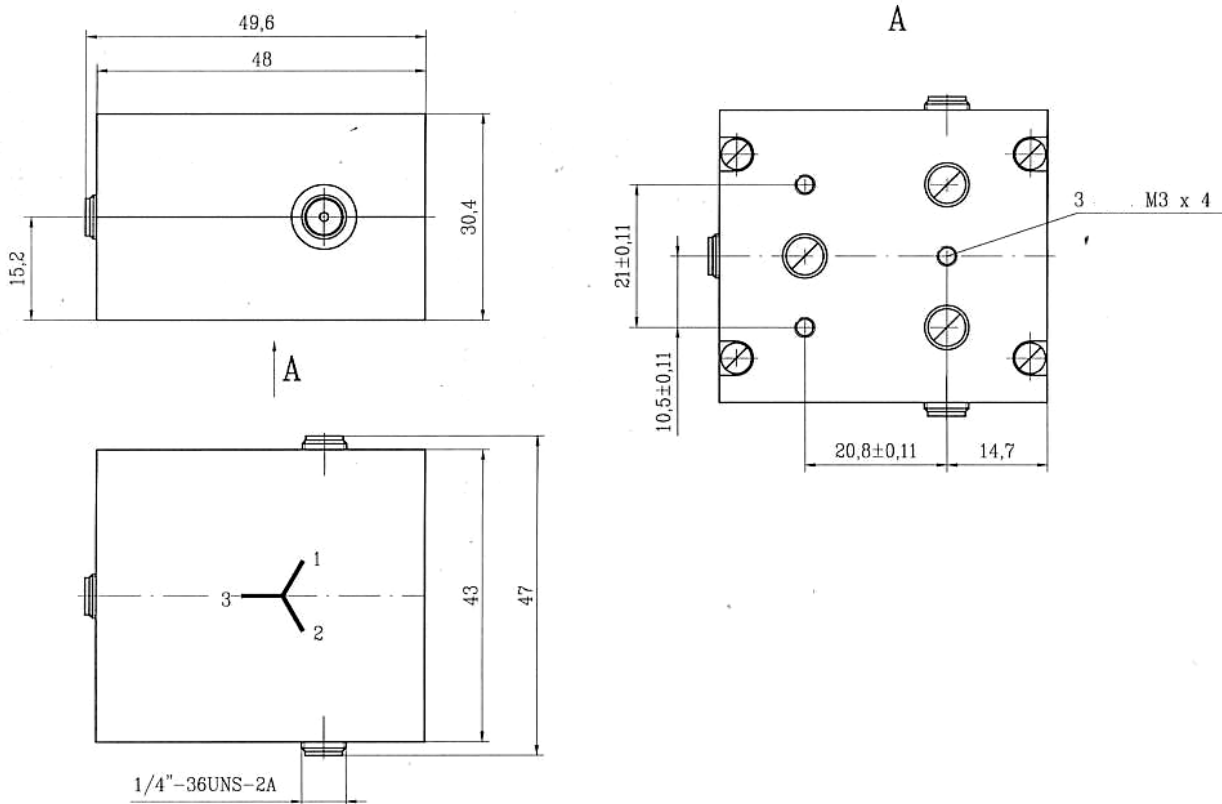
opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

**Magnetic Shielding can not be removed**

Standard Specifications:	*100mK-4K Circulator only MS- magnetic shielding	20mK-4K Circulator only			Units
Frequency	7.0-7.35	7-8			GHz
Insertion loss	0.2	0.4			dB (maximum)
Isolation	20	18			dB (minimum)
VSWR	1.21:1	1.30:1			Maximum
Rated power (forward)	1	1			Watts (average)
Rated power (reverse)	1	1			Watts (average)
Operating temperature	100mK-4K	20mK-4K			°K
Dimensions	36x40x30	28.6x33.2x16.0			mm
Finish	Bright Nickel plated finish.				

\*Circulator enclosed in magnetic shield

**Part# RADC-4-8-Cryo-0.02-4K-S23-1WR-MS-b**



**Coaxial Isolator or Circulator, 180°, 3.0-10.0 GHz,  
Full or Split Bands, Cryogenic 30m°K-4°K or 4-77°K, SMA Connectors, 1Watt**

opt	Shielding	can operate in external permanent magnetic field	Distance from device to any other steel element
Std default	None	<2 Oe	more than 30mm.
MS	Total Magnetic shielding	<1500 Oe	Not importance
SS	Side by Side shielding	<1500 Oe	To work close to each other (stacked)

**Magnetic Shielding can not be removed**

**RADC-4-8-Cryo-0.02-4K-S23-1WR-b**

