

Product Data Sheet – April 2011 Iss 1 Rev 1

General Description

RPG offers full band waveguide active frequency down converters / receivers covering the frequency range 50 – 500 GHz. Standard versions are optimized for broadband operation; higher dynamics versions with reduced bandwidth can be customized.

All receiver modules are equipped with UG-387 waveguide flange and delivered with testport adapters and power supplies. Matched feed horn antennas are part of RPG's product portfolio.

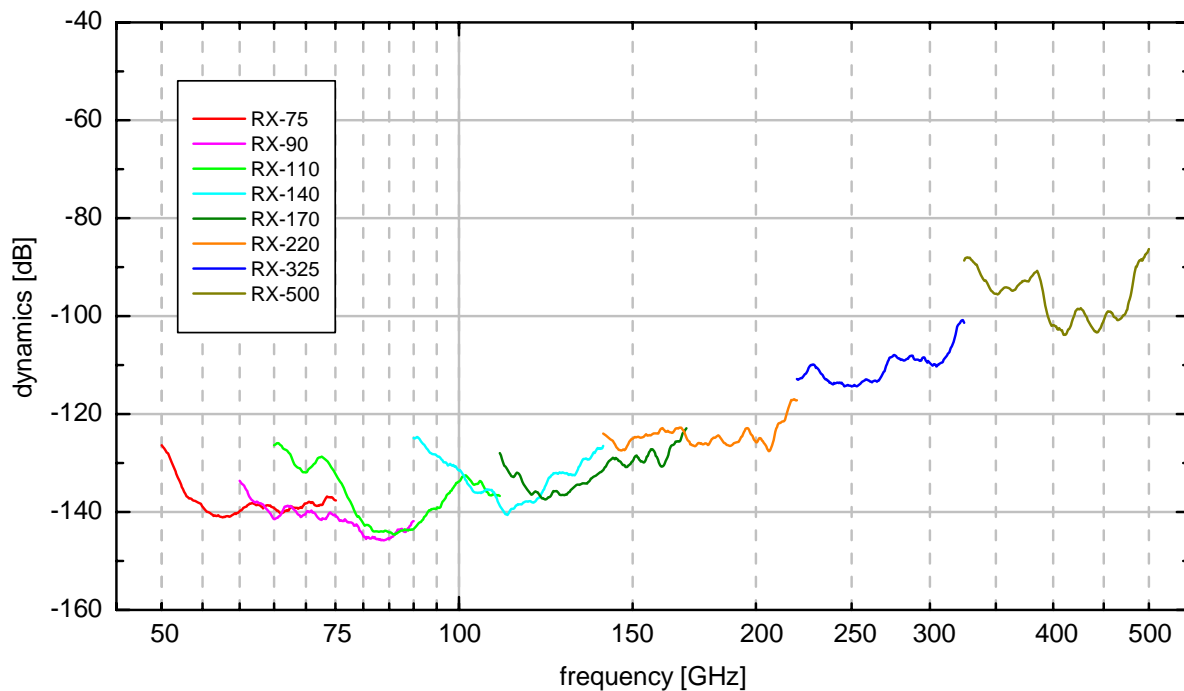


Key Features

- full band WR15 to WR2.2
- high dynamic range
- no mechanical tuners
- passive cooling

Order Code: RX-yy

option	description
yy	upper frequency of desired frequency band, e.g. yy=110 for WR10
-A	select option -A for additional tunable waveguide attenuator (WTA-series)



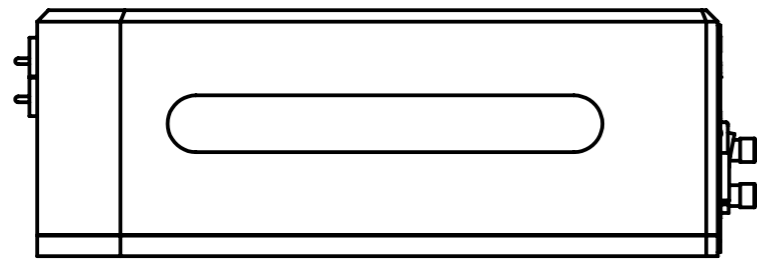
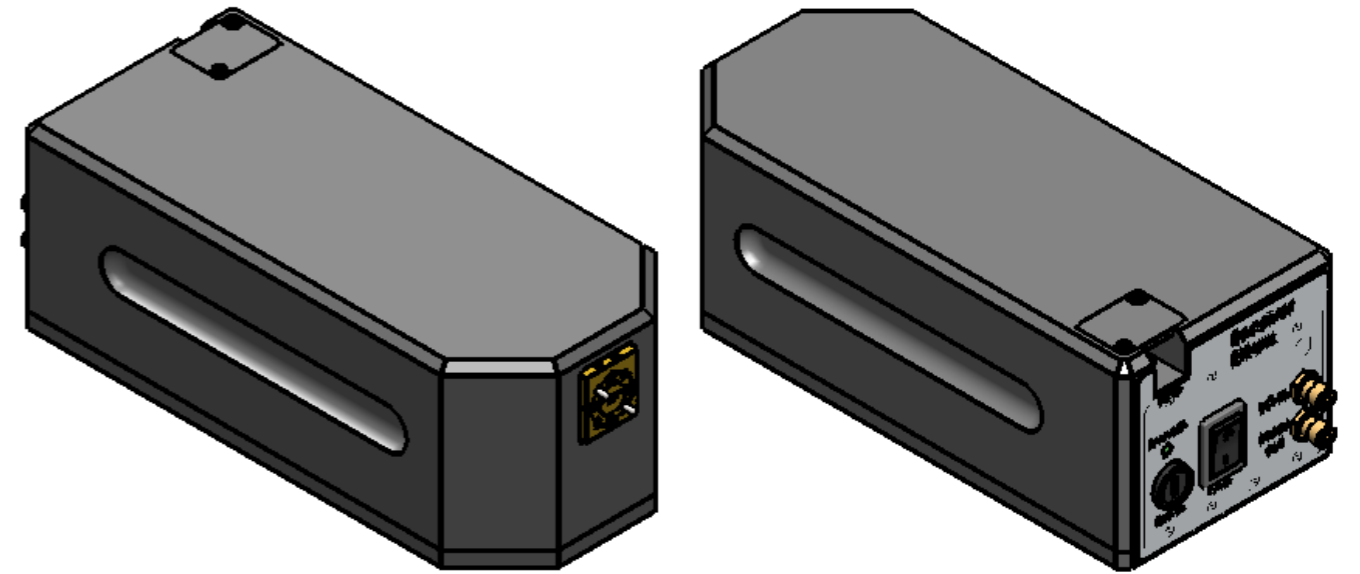
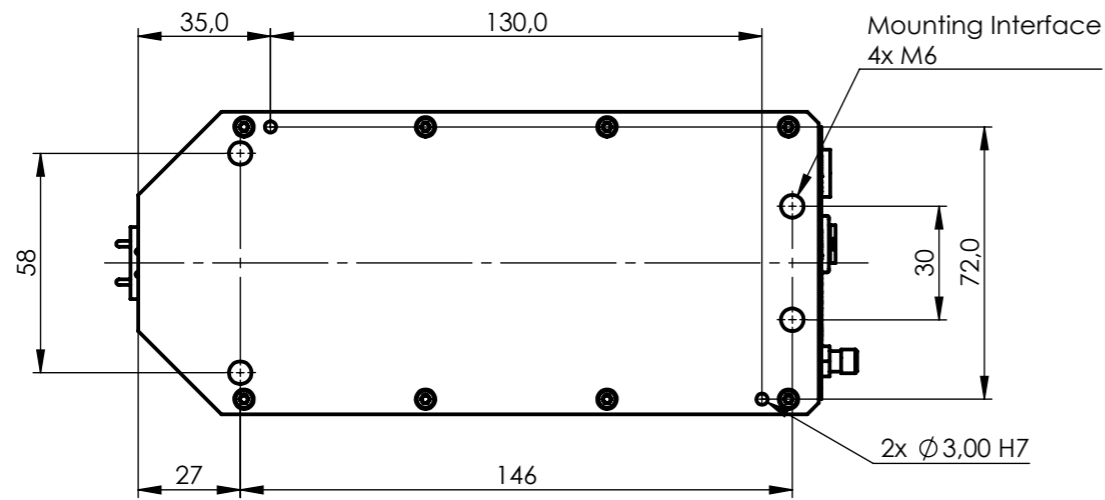
Technical specifications RX modules*									
specification	unit	RX-75	RX-90	RX-110	RX-140	RX-170	RX-220	RX-325	RX-500
frequency range	GHz	50 – 75	60 – 90	75 – 110	90 – 140	110 – 170	140 – 220	220 – 325	325 – 500
waveguide band		WR15	WR12	WR10	WR8	WR6.5	WR5.1	WR3.4	WR2.2
minimal dynamic range ⁺	dB	120	125	125	120	115	110	95	80
typical dynamic range ⁺	dB	140	140	140	130	130	125	115	100
1dB compression point	dBm	-5	-5	-5	-5	-5	-5	-5	-5
input match	dB	-15	-15	-15	-15	-15	-15	-15	-15
input connector		UG-387	UG-387	UG-387	UG-387	UG-387	UG-387	UG-387	UG-387
LO frequency range	GHz	8.3 - 12.5	10 - 15	12.5 - 18.4	11.2 - 17.5	6.8 - 10.7	11.6 - 18.4	13.7 – 20.4	13.5 - 20.9
LO multiplication factor		6	6	6	8	16	12	16	24
LO input power	dBm	+7	+7	+7	+7	+7	+7	+7	+7
LO input connector		SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)
IF frequency range	MHz	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*	5 – 1000*
IF frequency power level	dBm	-15 [†]	-15 [†]	-15 [†]	-15 [†]	-15 [†]	-15 [†]	-15 [†]	-15 [†]
IF output connector		SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)	SMA(f)
supply voltage	V _{DC}	+9	+9	+9	+9	+9	+9	+9	+9
supply current	mA	300	350	300	300	300	300	300	350
power supply voltage	V _{AC}	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240

* Contact RPG for RX modules with modified specifications

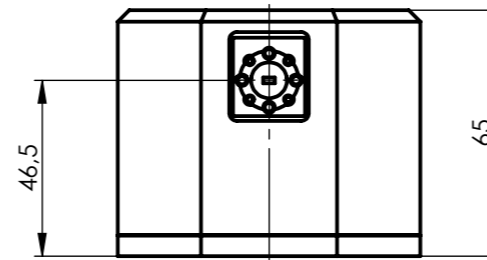
[†] input signal power level -15 dBm

⁺ resolution bandwidth 10Hz

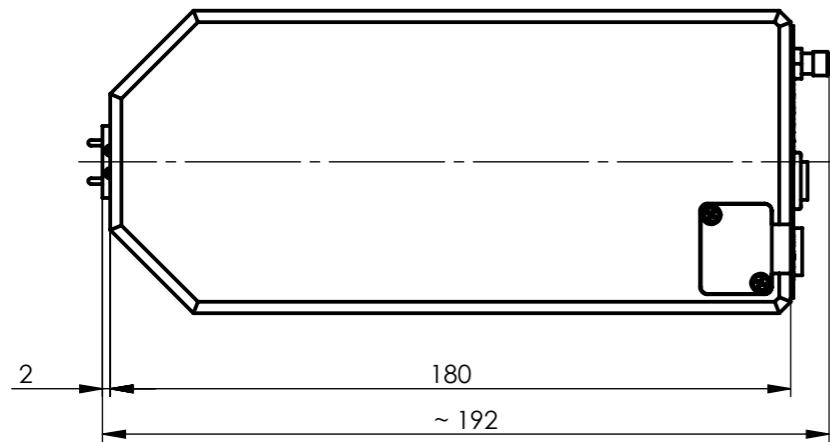
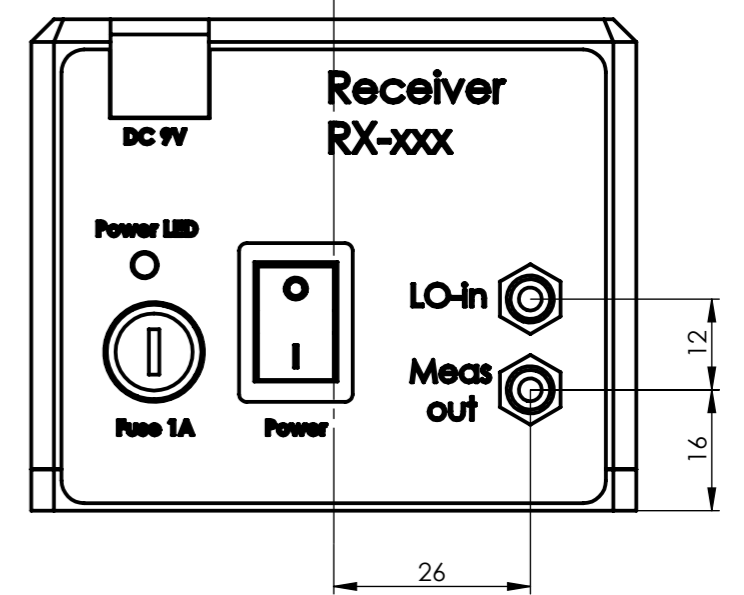
Absolute maximum ratings		
LO input power	dBm	+10
supply voltage	V _{DC}	+12
case temperature	°C	+85



RF Interface
UG387 anti cocking precision flange



Label / Interface



Toleranzen / TOLERANCES: X = ±0,2 mm X.X = ±0,05 mm X.XX = ±0,02 mm X.XXX = ±0,005 mm		Radiometer Physics GmbH Birkenmaarstraße 10 53340 Meckenheim Germany		Scharfe Kanten fasen und brechen DEBUR AND BREAK SHARP EDGES	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS Änderungen siehe / CHANGES SEE ---	Version / Überarbeitung VERSION / REVISION Ersatz für / REPLACEMENT FOR	1B
Gezeichnet / DRAWN	Abeling	Unterschrift / SIGN.	DATE	30.3.2011	Benennung TITLE		Receiver RX-xxx Outline Drawing
Geprüft / CHKD					Zeichnungsnr. DRAWING NO.		
Freigegeben / APPVD					OUT-0000-950-100-00-1B		
Gefertigt / MFG					A3		
Qualitätskontrolle / Q.A				Oberfläche vergolden / SURFACE GILDING:		Maßstab / SCALE: ---	
Zeichnung nicht skalieren DO NOT SCALE DRAWING				Bestellcode / Order Code: ---		SHEET 1 OF 3	