

D230 series of UHF downconverters

INPUT SPECIFICATION		Options
1. Frequency range:	Check model table	
2. Connector:	N-type	SMA
3. Impedance:	50Ω	
4. Return loss:	≥15dB typical	≥20dB ⁽¹⁾
OUTPUT SPECIFICATION		
5. Frequency range:	70 ± 20MHz	
6. Connector:	BNC	
7. Impedance:	50Ω	75Ω
8. Return loss:	≥15dB typical	≥20dB ⁽²⁾
9. 1dB compression point:	+10dBm	
10. Third order intercept::	+20dBm	
TRANSFER CHARACTERISTICS		
11. Gain:	20 to 40dB, adjustable in 0.1dB steps	
12. Gain ripple: over ±20MHz:	≤1dB p.t.p.	
over input band:	≤3dB p.t.p.	
13. Group delay distortion: over ±5MHz	<2ns	
over ±20MHz	<5ns	
14. Gain stability, 0°C to 50°C:	±1dB	
15. Frequency stability, 0°C to 50°C:	0°C to +50°C:	< 1 x 10 ⁻⁷
	At constant temperature over 24 hr:	< 1 x 10 ⁻⁸
16. External reference:	10MHz, 0dBm	5MHz, 0dBm
17. Synthesiser step size:	1kHz	
18. Noise figure (full gain):	<17dB	
Spurii		
19. Image rejection:	>50dB	(>75dB typ.) ⁽³⁾
20. In-band spurii (at 0dBm output):	<-60dBc	(<-60dBc typ.) ⁽³⁾
PHASE NOISE		
21. 10Hz:	<-50dBc/Hz	
22. 100Hz:	<-70dBc/Hz	
23. 1kHz:	<-80dBc/Hz	
24. 10kHz:	<-85dBc/Hz	
25. 100kHz:	<-95dBc/Hz	
26. 1MHz:	<-110dBc/Hz	
27. Mains related:	<-50dBc	
MISCELLANEOUS		
28. Power supply:	115V/230V ±10% 50/60Hz ±10%, 30VA	
29. Mechanical:	1U 19" frame, 400mm deep	
30. Temperature:	Operating:	0° to 50°C
	Storage:	-40° to 85°C
31. Relative humidity:	Operating:	0 to 90%
	Storage:	0 to 95%
32. Summary alarm:	NO and NC dry relay contacts via rear mounted connector	
33. Summary alarm indication:	Front panel LED	
34. Remote control:	• RS232 or RS422/RS485, connector D-type 9P F • SNMP and HTTP over TCP/IP Ethernet, connector RJ45	

⁽¹⁾ Gain decreases by 3dB, noise figure increases by 3dB.

⁽²⁾ Gain and output compression point decrease by 3dB.

⁽³⁾ Spurious levels only guaranteed at all frequencies at maximum gain.

MODEL TABLE

Model	Input	Output
D225	220 to 340MHz	70 ± 20MHz
D230	380 to 740MHz	70 ± 20MHz
D230-S	380 to 740MHz	70 ± 20MHz (a) (b)
D231	240 to 320MHz	70 ± 20MHz

- (a) Two identical IF outputs, BNC, through 2-way power divider. All RF, IF and 10MHz reference connectors are square flange with 4 screw fitting



N-type square flange



BNC

- (b) Gain and compression point at each output will be reduced by 4dB when compared with a standard unit. Also, output return loss will be significant reduced and cannot be guaranteed to be better than 12dB at all frequencies.

