

8003 Technical Specifications

Giga-tronics CW Power Sensor Selection Guide

	Frequency Range / Power Range ^e	Maximum Power	Power Linearity ¹ (Frequency > 8 GHz)	RF Connector	Length	Diameter	Weight	VSWR
200 mW CW Power Sensors								
80301A	10 MHz to 18 GHz -70 to +20 dBm	+23 dBm (200 mW)	-70 to -20 dBm: ±0.00 dB -20 to +20 dBm: ±0.05 dB/10 dB	Type N(m) 50 Ω	114.5 mm (4.5 in)	32 mm (1.25 in)	0.18 kg (0.4 lb)	1.12 : 0.01 - 2 GHz 1.22 : 2 - 12.4 GHz 1.29 : 12.4 - 18 GHz
80302A	10 MHz to 18 GHz -70 to +20 dBm	+23 dBm (200 mW)	-70 to -20 dBm: ±0.00 dB -20 to +20 dBm: ±0.05 dB/10 dB	APC-7 50 Ω	114.5 mm (4.5 in)	32 mm (1.25 in)	0.18 kg (0.4 lb)	1.12 : 0.01 - 2 GHz 1.22 : 2 - 12.4 GHz 1.29 : 12.4 - 18 GHz
80303A	10 MHz to 26.5 GHz -70 to +20 dBm	+23 dBm (200 mW)	-70 to -20 dBm: ±0.00 dB -20 to +20 dBm: ±0.1 dB/10 dB	Type K(m) ² 50 Ω	114.5 mm (4.5 in)	32 mm (1.25 in)	0.18 kg (0.4 lb)	1.12 : 0.01 - 2 GHz 1.22 : 2 - 12.4 GHz 1.38 : 12.4 - 18 GHz 1.43 : 18 - 26.5 GHz 1.92 : 26.5 - 40 GHz
80304A	10 MHz to 40 GHz -70 to 0 dBm	+23 dBm (200 mW)	-70 to -20 dBm: ±0.00 dB -20 to 0 dBm: ±0.2 dB/10 dB	Type K(m) ² 50 Ω	114.5 mm (4.5 in)	32 mm (1.25 in)	0.18 kg (0.4 lb)	1.12 : 0.01 - 2 GHz 1.22 : 2 - 12.4 GHz 1.38 : 12.4 - 18 GHz 1.43 : 18 - 26.5 GHz 1.92 : 26.5 - 40 GHz
Low VSWR CW Power Sensors								
80310A	10 MHz to 18 GHz -64 to +26 dBm	+29 dBm (800 mW)	-64 to -14 dBm: ±0.00 dB -14 to +26 dBm: ±0.05 dB/10 dB	Type K(m) ² 50 Ω	127 mm (5.0 in)	32 mm (1.25 in)	0.23 kg (0.5 lb)	1.13 : 0.01 - 2 GHz 1.16 : 2 - 12 GHz 1.23 : 12 - 18 GHz 1.29 : 18 - 26.5 GHz 1.50 : 26.5 - 40 GHz
80313A	10 MHz to 26.5 GHz -64 to +26 dBm	+29 dBm (800 mW)	-64 to -14 dBm: ±0.00 dB -14 to +26 dBm: ±0.1 dB/10 dB					1.13 : 0.01 - 2 GHz 1.16 : 2 - 12 GHz 1.23 : 12 - 18 GHz 1.29 : 18 - 26.5 GHz 1.50 : 26.5 - 40 GHz
80314A	10 MHz to 40 GHz -64 to +6 dBm	+29 dBm (800 mW)	-64 to -14 dBm: ±0.00 dB -14 to +6 dBm: ±0.2 dB/10 dB					1.13 : 0.01 - 2 GHz 1.16 : 2 - 12 GHz 1.23 : 12 - 18 GHz 1.29 : 18 - 26.5 GHz 1.50 : 26.5 - 40 GHz
1 W CW Power Sensors								
80320A	10 MHz to 18 GHz -60 to +30 dBm	+30 dBm (1 W)	-60 to -10 dBm: ±0.00 dB -10 to +30 dBm: ±0.05 dB/10 dB	Type K(m) ² 50 Ω	127 mm (5.0 in)	32 mm (1.25 in)	0.23 kg (0.5 lb)	1.11 : 0.01 - 2 GHz 1.12 : 2 - 12 GHz 1.18 : 12 - 18 GHz 1.22 : 18 - 26.5 GHz 1.36 : 26.5 - 40 GHz
80323A	10 MHz to 26.5 GHz -60 to +30 dBm	+30 dBm (1 W)	-60 to -10 dBm: ±0.00 dB -10 to +30 dBm: ±0.1 dB/10 dB					1.11 : 0.01 - 2 GHz 1.12 : 2 - 12 GHz 1.18 : 12 - 18 GHz 1.22 : 18 - 26.5 GHz 1.36 : 26.5 - 40 GHz
80324A	10 MHz to 40 GHz -60 to +10 dBm	+30 dBm (1 W)	-60 to -10 dBm: ±0.00 dB -10 to +10 dBm: ±0.2 dB/10 dB					1.11 : 0.01 - 2 GHz 1.12 : 2 - 12 GHz 1.18 : 12 - 18 GHz 1.22 : 18 - 26.5 GHz 1.36 : 26.5 - 40 GHz

Giga-tronics True RMS Power Sensors Selection Guide ($f_m > 1.5$ MHz)

	Frequency Range / Power Range	Maximum Power	Power Linearity ¹ (Frequency > 8 GHz)	RF Connector	Length	Diameter	Weight	VSWR
True RMS Sensors (-30 dBm to +20 dBm)								
80330A	10 MHz to 18 GHz	+33 dBm (2 W)	-30 to +20 dBm: ±0.00 dB	Type K(m) ²	152 mm	32 mm	0.27 kg	1.12 : 0.01 - 2 GHz
80333A	10 MHz to 26.5 GHz			50 Ω	(6.0 in)	(1.25 in)	(0.6 lb)	1.15 : 12 - 18 GHz
80334A	10 MHz to 40 GHz							1.18 : 18 - 26.5 GHz 1.29 : 26.5 - 40 GHz

¹ Includes System Linearity.

² The K connector is electrically and mechanically compatible with the APC-3.5 and SMA connectors. Note: Use a Type N(m) to SMA(f) adapter (part no. 29835) for calibration of power sensors with Type K(m) connectors.

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Giga-tronics Triggerable Pulse Power Sensors Selection Guide

	Frequency Range / Power Range	Maximum Power	Power Linearity ¹ (Frequency > 8 GHz)	RF Connector	Length	Diameter	Weight	VSWR
200 mW Triggerable Pulse Power Sensors								
80340A	50 MHz to 18 GHz -20 to +20 dBm (Triggered) -30 to +20 dBm (Free Run)	+23 dBm (200 mW)	±0.13 dB, 0 dBm to -30 dBm ±0.13 dB, ±0.01 dB dB/dB from 0 dBm to +20 dBm	Type N(m)	14.6 cm (5.75 in)	3.7 cm (1.44 in)	0.3 kg (0.7 lb)	1.12 : 0.5 - 2 GHz 1.22 : 2 - 12.4 GHz 1.37 : 12.4 - 18 GHz 1.50 : 18 - 26.5 GHz 1.92 : 26.5 - 40 GHz
80343A	50 MHz to 26.5 GHz -20 to +20 dBm (Triggered) -30 to +20 dBm (Free Run)	+23 dBm (200 mW)	±0.13 dB, 0 dBm to -30 dBm ±0.13 dB, ±0.01 dB dB/dB from 0 dBm to +20 dBm	Type K(m)	14.6 cm (5.75 in)	3.7 cm (1.44 in)	0.3 kg (0.7 lb)	
80344A	50 MHz to 40 GHz -20 to +0.0 dBm (Triggered) -30 to +0.0 dBm (Free Run)	+23 dBm (200 mW)	±0.13 dB, 0 dBm to -30 dBm	Type K(m)	14.6 cm (5.75 in)	3.7 cm (1.44 in)	0.3 kg (0.7 lb)	

Giga-tronics Bridge Selection Guide

	Frequency Range / Power Range	Maximum Power	Power Linearity ¹ (Frequency > 8 GHz)	Input	Test Port	Directivity	Weight	VSWR
Precision CW Return Loss Bridges								
80501	10 MHz to 18 GHz -35 to +20 dBm	+27 dBm (0.5 W)	-35 to +10 dBm: ±0.1 dB +10 to +20 dBm: ±0.1 dB ±0.005 dB/dB	Type N(f) 50 Ω	Type N(f) 50 Ω	38 dB	0.340 kg	<1.17:0.01 - 8 GHz <1.27:8 - 18 GHz
80502	10 MHz to 18 GHz -35 to +20 dBm	+27 dBm (0.5 W)	-35 to +10 dBm: ±0.1 dB +10 to +20 dBm: ±0.1 dB ±0.005 dB/dB	Type N(f) 50 Ω	APC-7(f) 50 Ω	40 dB	0.340 kg	<1.13:0.01 - 8 GHz <1.22:8 - 18 GHz
80503	10 MHz to 26.5 GHz -35 to +20 dBm	+27 dBm (0.5 W)	-35 to +10 dBm: ±0.1 dB +10 to +20 dBm: ±0.1 dB ±0.005 dB/dB	SMA(f) 50 Ω	SMA(f) 50 Ω	35 dB	0.340 kg	<1.22:0.01 - 8 GHz <1.27:18 - 26.5 GHz
80504	10 MHz to 40 GHz -35 to +20 dBm	+27 dBm (0.5 W)	-35 to +10 dBm: ±0.1 dB +10 to +20 dBm: ±0.1 dB ±0.005 dB/dB	Type K(f) 50 Ω	Type K(f) 50 Ω	30 dB	0.198 kg	<1.35:0.01 - 26.5 GHz <1.44:26.5 - 40 GHz

Sensor Calibration Factor Uncertainties

Frequency (GHz)		Root Sum of Squares (RSS) Uncertainties (%) ³				
		80303A				
		80301A	80304A	80310A	80320A	80330A
		80302A	80343A	80313A	80323A	80333A
Lower	Upper	80340A	80344A	80314A	80324A	80334A
0.1	1	1.04	1.64	1.58	1.58	1.58
1	2	1.20	1.73	1.73	1.73	1.73
2	4	1.33	1.93	1.91	1.91	1.90
4	6	1.41	2.03	2.02	2.01	2.01
6	8	1.52	2.08	2.07	2.06	2.06
8	12.4	1.92	2.55	2.54	2.53	2.53
12.4	18	2.11	2.83	2.80	2.79	2.78
18	26.5	-	3.63	3.68	3.62	3.59
26.5	40	-	6.05	5.54	5.39	5.30

³ Square root of sum of the individual uncertainties squared (RSS)