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PG 506 CALIBRATION GENERATOR

(SN B040000 AND UP)

INSTRUCTION MANUAL

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070-3383-00
Product Group 75

Serial Number _____

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PG 506 Calibration Generator

SPECIFICATION

Performance Conditions

The electrical characteristics are valid only if the PG 506 has been calibrated at an ambient temperature between +20° C and +30° C and is operating at an ambient temperature between 0° C and +50° C. Forced air circulation is required for ambient temperatures above +40° C.

Items listed in the Performance Requirements column of the Electrical Characteristics are verified by completing the Performance Check in the Service Section of this manual. Items listed in the Supplemental Information column are not verified in this manual. They are either explanatory notes or performance characteristics for which no limits are specified.

SPECIFICATION

Table 1-1

ELECTRICAL CHARACTERISTICS

Characteristics	Performance Requirements	Supplemental Information
	STANDARD AMPLITUDE OUTPUT	
Range (Peak-to-Peak)		
1 MΩ Load	200 μV to 100 V	
Accuracy	Within 0.25% ±1 μV	
50 Ω Load	100 μV to 5 V	
Accuracy	Within 0.25% ±1 μV	
Period		Approximately 1 ms (1 kHz square wave, chopped DC)
Deflection Error Readout		
Range	+ and − 7.5%	
Resolution	Within 0.1%	
	HIGH AMPLITUDE OUTPUT	
Amplitude (Peak-to-Peak)		
Unterminated	≤6 V to ≥60 V	
50 Ω Load	≤0.5 V to ≥5 V	
Polarity		Positive, measured from a negative potential to ground.

Table 1-1 (cont)

Characteristics	Performance Requirements	Supplemental Information
600 Ω Output Resistance	Within 5%	
Output Period		
1 μs to 10 ms	Within 5%	
Variable		Extends output period to at least 100 ms. X1 to greater than X10 range for each decade step.
Duty Cycle		Approximately 50%.
Rise Time		
Unterminated	≤100 ns	
50 Ω Load	≤10 ns	
Leading Edge Aberrations during first 50 ns	Within 2% of signal peak-to-peak amplitude, or 50 mV, whichever is greater.	
FAST RISE OUTPUTS		
Amplitude (Peak-to-Peak)		
50 Ω Load	≤100 mV to >1 V	
Polarity		Simultaneous positive and negative. Positive is measured from a negative potential to ground. Negative is measured from a positive potential to ground.
Output Resistance, 50 Ω	Within 3%	At either Fast Rise connector.
Risetime, 50 Ω Load	≤1 ns	
Leading Edge Aberrations, first 10 ns	Within 2% of signal peak-to-peak amplitude, or 10 mV, whichever is greater.	
Flatness	Within 0.5% after first 10 ns	
Output Period	1 μs to 10 ms	In decade steps.
Accuracy	Within 5%	
Variable		Extends output period to >100 ms. X1 to greater than X10 range for each decade step.
Duty Cycle		Approximately 50%.
TRIGGER OUTPUT		
+Trigger Out	≥1 V peak-to-peak into a 50 Ω load. Fixed amplitude.	Trigger out function available for HIGH AMPL and FAST RISE modes. Output signal leads HIGH AMPL pulse by about 18 ns and leads FAST RISE pulse by about 8 ns.

Table 1-2

ENVIRONMENTAL CHARACTERISTICS

Characteristics	Information
Temperature	Test to procedures of MIL-STD-810C Methods 502.1 and 501.1 using Procedure I as specified in MIL-T-28800B paragraph 4.5.5.1.3 and 4.5.5.1.4.
Operating	0°C to +50°C.
Non-operating	−55°C to +75°C.
Humidity	
Operating	+50°C to 95% relative humidity.
Non-operating	+60°C to 95% relative humidity. Test to MIL-STD-810C Method 507.1 Procedure IV, modified as specified in MIL-T-28800B paragraph 4.5.5.1.1.2.
Altitude	Test to MIL-STD-810C Method 500.1 Procedure I as specified in MIL-T-28800B paragraph 4.5.5.2.
Operating	To 15,000 feet.
Non-operating	To 50,000 feet.
Vibration	
Operating and Non-operating	With the instrument operating, the vibration frequency is swept from 10 to 55 to 10 Hz. Vibrate 15 minutes in each of the three major axes at 0.015" total displacement. Hold 10 minutes at any major resonance, or if none, at 55 Hz. Total time, 75 minutes.
Shock	
Non-operating	30 g's 1/2 sine, 11 ms duration, 3 shocks in each direction along 3 major axes, for a total of 18 shocks.
Transportation	Qualified under National Safe Transmit Committee Test Procedure 1 A, Category II.

Table 1-3

PHYSICAL CHARACTERISTICS

Characteristics	Information
Maximum Overall Dimensions	
Height	4.969 inches (12.621 cm).
Width	2.638 inches (6.701 cm).
Length	12.088 inches (30.704 cm).
Front Panel	
Finish	Anodized aluminum.
Net Weight	≈2 lbs. 4 oz. (1.02 kg).