

SC-7217A

Made in Japan

SC-7215A

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Max. Frequency 3GHz 12 digits/sec display

- Simple to use. 1 key for 1 action.
- Improves line inspection work by comparison and statistical operation
- Easy to change unit conversion by scaling operational function
- Improves regular inspection work by panel setup.
- USB, LAN, Digital I/O are standard.
- High stability clock oscillator option is available.

Specifications

		SC-7217A	SC-7215A	
CH-A, CH-B	Input impedance	50Ω ±1.5% / 1MΩ ± 1.5% //16pF ±3pF		
	Input withstand voltage	50Ω / 1MΩ	7Vrms / 200Vpk	
	Frequency BW	DC / AC	DC ~ 450MHz / 10Hz ~ 450MHz	
	Input voltage range	ATT OFF / ON	±2.5V / ±50V	
	Trigger level accuracy	ATT OFF / ON	±2% ±25mV / ±2.5% ±500mV	
Slope switching/ Bandwidth limitation/ Noise rejection		+/- / 10kHz / OFF/ON		
EXT-B	Input signal range	Pulse width/ Frequency	500ns min / 1MHz max	
CH-C	Input impedance/ SWR/ Max. input electrical power	50Ω AC coupling / 2.0 以下 / +30dBm	—	
	Frequency BW	100MHz ~ 3GHz	—	
	AGC	ON/OFF	—	
	Burst detection	ON/OFF	—	
Detection sensitivity/ Burst detection delay time		~ 1.2GHz : -20dBm, ~ 3GHz : -10dBm / 10us	—	
Measurement functions	FREQ A, FREQ B		Max. 12-digit/sec (at 1second gate)	
	Measurement range	Single: 6mHz to 250MHz, time / EXT-B gate: 12mHz to 450MHz (Cycle of measured signal should be 1/2 of gate time or less.)		
	Gate selection	Single / EXT-B / Time (set at 10μs to 10s 10 ⁿ) (n: integer)		
	FREQ C		Max. 12-digit/sec (at 1second gate)	—
	Measurement range/ Gate selection	100MHz to 3GHz, 1/16 pre-scaler		—
	FREQ LINE		45Hz to 440Hz / 0.1s/1s/10s (More information is available on "Time gate".)	—
	Measurement range	Single : 4ns ~ 166s (Cycle of measured signal should be 1/2 of gate time or less.)		
	Gate selection	Time / EXT-B gate: 2.2ns to 83s		
	PERIOD A		Single / EXT-B / Time (set at 10μs to 10s 10 ⁿ) (n: integer) (More information is available on "Time gate".)	
	Input signal range	Pulse width·FREQ	6ns min / 80MHz max	
	Measurement range	Single/ Time	0.01u ~ 99,999,999,99% / 0.2u ~ 99,999,999,8%	
	Gate selection	Single / Time (More information is available on "Time gate".)		
	Input signal range	Pulse width·FREQ	6ns min / 80MHz max	
	Measurement range	Single/ Time	6ns to 171s / 6ns to approximately 1/2 gate time	
	Gate selection	Single / Time (More information is available on "Time gate".)		
	Input signal range	Pulse width·FREQ	6ns min / 80MHz max	
	Measurement range	Single/ Time	6ns ~ 10,995s / 6ns to approximately 1/2 gate time	
	Gate selection	Single / Time (More information is available on "Time gate".)		
	FREQ A/B		250MHz max	
	Measurement range/ Gate selection	1 E-9 to 1 E+9 / Time (set at 10μs to 10s 10 ⁿ) (n: integer)		
Input signal range	Pulse width·FREQ	6ns min / 80MHz max		
Measurement range	Single/ Time	0.1u ~ 359,999,999,9° / 1u ~ 359,999,999° (Cycle of measured signal should be 1/2 of gate time or less.)		
Gate selection, Pulse width·FREQ	Single / Time (Please see "Time gate" for more info for this.			
TOT A		2ns min / 250MHz max		
Gate selection/ Measurement range	MANUAL/EXT-B/ Time (More information is available on "Time gate".) / 0 ~ 4,294,967,295 counts			
Frequency / Speed	150Hz ~ 150MHz / 2 seconds or less			
Voltage	ATT OFF / ATT ON	±2.5V / ±50V		
Time gate		10μs ~ 10s		
Resolution	10μs ~ 990μs : 10μs.0.1ms ~ 9.9ms : 0.1ms.1ms ~ 99ms : 1ms.10ms ~ 990ms : 10ms.0.1s ~ 10s : 0.1s			
Measurement operations		Repeat/ Single/HOLD / Smoothing (moving average), scaling, compare, statistics (MAX, MIN, σ, average)		
Panel setup/ Saving		Internal memory (10) or USB memory/ Max. 500,000 kinds (volatile memory)		
Internal standard clock	Temperature characteristic	+/- 1ppm (range of 0 to +40°C with +25°C as the standard)		
Interface	Temporal change/ Short-time stability	±0.1ppm/month, ±1ppm/year / ±1ppb/s		
10MHz STD IN	USB/ LAN/ DIO	USB2.0 HS / 100base-TX / Output: HI/LO/GO/BUSY		
Marker /STD Output	Input impedance/ Input frequency/ Input sensitivity	850Ω(10MHz) AC coupling / 10MHz±50Hz / 100mVrms		
Output impedance/ Marker output/ STD output	STD / Marker selected and output with the setting			
Options (factory option)	OCXO (High stable clock)		50Ωs +/- 10% / +1Vo-p (0V output during measurement) / 10 MHz sine wave 1Vp-p or more (with 50Ωs at the terminal)	
	SC-715	Temperature characteristics	+/- 20ppb (range of 0 to +40°C with +25°C as the standard)	
		Aging rate	+/- 10ppb/day (Frequency change of a day on the basis of the frequency 48 hours later. At +25°C) ±100ppb/year (Frequency change of one year on the basis of frequency 10 days after the power supply injection. At +25°C.)	
	SC-716	Temperature characteristics	±5ppb (range of 0 to +40°C with +25°C as the standard)	
		Aging rate	±0.5ppb/day (Frequency change of one year on the basis of frequency 30 days after the power supply injection. At +25°C.) ±50ppb/year (Frequency change of one year on the basis of frequency 30 days after the power supply injection. At +25°C.)	
Interface		GPIB (conforming to IEEE488-1 with full remote functions.) RS-232C, host for connecting the USB memory (for storage only)		
Power supply	Voltage/ Frequency	100V ~ 240V ±10% / 50 ~ 60Hz ±5% (100V ~ 240V) / 400Hz ±10% (100V ~ 120V)		
External dimensions	Power consumption	70VA(35W) max		
Accessory	210W×99H×353D mm/ 3kg			
Environment	Product users'guide x 1, instructions (CD) x 1, power cable x 1. 0°C to +40°C with 80%RH or less and no condensation			

Line up

Product name	Model
Universal counter	SC-7217A
	SC-7215A
CH-A/CH-B Rear input for SC-7215A	SC-709
CH-A/CH-B/CH-C Rear input for SC-7217A	SC-710
GPIB interface	SC-711
USB host interface	SC-713

Product name	Model
RS-232 interface	SC-714
High stable clock option	SC-715
	SC-716



GPIB Interface

(factory option)

SC-701



High stable clock option

(factory option) [Build to order]

SC-703A

Digital I/O Interface

(factory option)

SC-702



Specifications

Input	CH-A, CH-B	Impedance		1MΩ // 20p or less
		Input withstand voltage		200V (DC+ACpeak)
		Frequency		DC~230MHz
		Input voltage range	ATT OFF / ON	±2.5V Peak / ±50V Peak
		Trigger level accuracy	ATT OFF / ON	10%±30mV (+2V~-2V: ±3%) / 10%±300mV (+40V~-40V: ±3%)
		Slope/ Bandwidth limitation		+, - / Low pass filter 10kHz
	EXT-B	Dual operation is performed with the CH-B input terminal, and the electrical specification is the same as the CH-B input specification.		
Functions	FREQ A, FREQ B	Measurement range	Input coupling DC / AC	0.6mHz ~ 230MHz / 10Hz ~ 450MHz
		Gate selection		Single / EXT-B / Time (1ms~10s)
		Over 7 digits (1s gate, Reciprocal method)		
	FREQ LINE	Measurement range		45Hz ~ 440Hz
		Gate time		0.1s/1s/10s
	PERIOD A	Measurement range	Input coupling DC / AC	5ns ~ 1,717s / 5ns ~ 0.1s
		Gate selection		Single / EXT-B / Time (1ms~10s)
	DUTY A	Input signal range	Input coupling DC / AC	0.6mHz~230MHz / 10Hz~230MHz
		Measurement range	Single / Time	0.01μ~99.999,999,99 [%] / 2μ~99.999,998 [%]
		Gate selection		Single / Time (1ms~10s)
	PULSE WIDTH A	Minimum pulse width / MAX repetition frequency		6ns / 80MHz
		Measurement range	Single	100ns~1,717s
			Time	100ns~1/2 gate time (In order to make an average measurement, the period of the measured signal needs to be less than 1/2 of 1m to 10s gate)
	Gate selection		Single / Time (1ms~10s)	
	TIME INTERVAL A→B	Minimum time interval / MAX repetition frequency		6ns / 80MHz
		Measurement range	Single	100ns~109,951s
			Time	100ns~1/2 gate time (In order to make an average measurement, the period of the measured signal needs to be less than 1/2 of 1m to 10s gate)
	Gate selection		Single / Time (1ms~10s)	
	FREQ A/B	Input signal frequency range	Input coupling DC / AC	0.6mHz~230MHz / 10Hz~230MHz
		Measurement range	Internal gate (1ms~10s)	1E-9~1E+9
Gate selection		Time (1ms~10s)		
PHAS A→B	Minimum interval time		6ns (If the phase difference is 0 or less than 6 ns, it can not be measured.)	
	MAX repetition frequency		80MHz	
	Measurement range	Single / Time	0.1μ~359.999,999,9 [°] / 10μ~359.999,99 [°]	
	Gate selection		Single / Time (1ms~10s)	
TOT A	Minimum pulse width		2.5ns	
	Input signal frequency range	Input coupling DC / AC	DC~230MHz / 10Hz~230MHz	
	Measurement range	0 to 4, 294, 967, 295 counts at scaling operation off.		
	Measurement gate	Time (1ms~10s), EXT-B		
Peak voltage measurement		○		
Measurement function / Calculation		Repeat[RES] / Single[SGL] / HOLD[HOLD] / Scaling, Static and comparison calculation		
Pannel setup		Internal memory (10)		
Internal standard clock	Oscillation frequency / Temperature charactalistic / Temporal change		10MHz / ±2.5 ppm / 0°C ~ +40°C / ±1.0 ppm / year	
External reference clock input	Input frequency / Amplitude / Input resistance / Coupling		10MHz±50Hz (±5ppm) / 1V rms~5V rms Threshold=0V / 6.4kΩ / AC	
Reference oscillator output	Output		CMOS level	
	Reference frequency output		The 10 MHz stability is the same as the reference oscillator mounted on the main unit.	
	Maker output		The band is 5 MHz. Output L during the actual measurement period	
Interface		RS-232C (Standard attachment)		
Options	Interface		GPIB SC-701 (factory option), Digital I/O SC-702 (factory option)	
	High stable clock		SC-703A (factory option) [Oscillation frequency: 10MHz, Temperature charactalistic ±0.05ppm (0 to +40 °C range based on +25 °C)]	
Power supply	Voltage / Frequency		Rated AC100V / 110-120V (Factory option) / 220-240V (Factory option) / Rated 50 / 60 / 400Hz	
	Power consumption		MAX. 31VA (AC100V, When SC-701, 702, 703A mounted.)	
Dimensions / Weight		W210W × H99H × 353D mm / 4.0kg or less (When SC-701, 702, 703A mounted.)		
Standard accessories		Power code, Manual(CD), User's guide		
Environment	Operation temperature / Warm up time		0°C to +40°C with 80%RH or less and no condensation / Over 60 minutes	