

# 1.5GHz Universal Counter

## 8023



### ◆ FEATURE

- Frequency measuring range; 0.1 Hz to 100 MHz in A, B input  
80 MHz to 1.5 GHz in C input
- Period and Total measurement for input A
- Time interval and Ratio measurement for input A and B
- Trigger level adjustment for input A
- Separate and Common mode selectable for input A and B
- Slope mode selectable for input A and B
- 9 Digit display with 0.01 mHz resolution in 1 Sec.
- RS-232C serial interface function for communicating with computer
- High sensitivity External reference input function ( $\geq 1.5$  Vrms)
- Reciprocal technique for high resolution at low counting frequencies
- Self check function executed to perform an automatic self diagnosis of various counter function
- Push-scanning for selecting Function and Gate time
- Low-pass filter (100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
- AC/DC coupling function (Selectable AC/DC Coupling)
- 10:1 Input Attenuation (Selectable x1/x10 Attenuator)
- Data hold function

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## ◆ Technical Specification of 8023 Universal Counter

Function		Specification				
Display		9 digit large green LED display , Overflow , Gate time, mHz, Hz kHz, MHz, nS, uS, mS, S, HOLD				
Frequency Measurement	Range	0.1Hz to 1.5GHz (A: 0.1Hz – 100MHz, C: 80MHz – 1.5GHz)				
	Gate Time	0.01Sec, 0.1 Sec, 1 Sec, 10 Sec				
	Resolution	1 nHz to 10 Hz				
	Accuracy	+/- Resolution +/- Timebase Error +/- 1 Count				
Input Characteristics	Terminal	A, B, C				
	Sensitivity	A, B Input: 30mVrms C Input: 35mVrms(80MHz-1.1GHz), 70mVrms(1.1GHz-1.5GHz)				
	Impedance	A, B Input: 1 Mohm, Less than 40pF, C Input: 50 ohm				
	Max. Input Voltage	A, B Input: 250Vrms, C Input: 3Vrms				
	Attenuator	A, B Input: x1, x10				
	Slope A, B	+, - Selectable				
	Trigger A	Preset or Variable				
	Low Pass Filter	A, B Input: 100 kHz, -3dB				
Multi Function for Input A	Period	Range: 10nSec to 10Sec Resolution: 1pSec to 1nSec depending on gate time and Input signal Accuracy: +/- Resolution +/- Trigger error +/- 1 count				
	Totalize	Range: DC to 30 MHz Count capacity: 0 to 999999999(Max.)				
Comparison Function for Input A, B	Time Interval(A→ B)	- Range : 10mSec to 10Sec - L.S.D Display : 100mSec - Resolution : +/- L.S.D. +/- Trigger Error - Accuracy : +/- Resolution +/- 1count				
	Ratio(A/B)	- Range : 0.1Hz to 10MHz (A,B) - L.S.D. Display : A x N/B, N = 1 to 1000 - Accuracy : +/- 1 Count of A +/- B Trigger Error +/- A				
Timebase Characteristics	Internal Timebase	Frequency: 10MHz TCO(TCXO; option) Aging Rate: Less than 5 x 10 <sup>-6</sup> /month Temp. Stability: Less than 5 x 10 <sup>-6</sup> (0 °C to +50 °C) Line Voltage: Less than 1 x 10 <sup>-6</sup> for 10% variation				
	Frequency Standard Output	Frequency: 10 MHz Amplitude: 1.5 Vp-p Impedance: Approx. 600 ohm				
	External Standard Input	Frequency: 10 MHz Amplitude: 1.5 Vrms to 5 Vrms Impedance: Approx. 600 ohm				
General	Power Requirement	115 or 230 VAC +/- 10%, 48 to 66Hz				
	Operating Temperature	0 to 50 °C (Accuracy specified at 25 +/- 5 °C)				
	Dimension	240(W) x 270(D) x 90(H) mm				
	Weight	Approx. 2.5 kg				
	Standard Accessories	Power Cord, BNC to BNC cable, Fuse, Instruction Manual				
	Optional Accessories	RS-232C Software, RS-232C Cable				
Packing Details		Q'ty	Size(mm)	N.W.(kg)	G.W.(kg)	Remark
	Inner Packing	1	305(W)x330(D)x165(H)		2.5	
	Carton Packing	4	355(W)x645(D)x360(H)	10.0	11.0	

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