



**TENMA®**

**72-8725 Technical Specification (4 Channels) :**

<b>Sample Range</b>		
Sample Method	Real Time	Equivalent
Sample Rate	2GS/s	50GS/s
Average	All the channel achieve to sample rate at N times , N times can select on 2、4、8、16、32、64、128 and 256	

<b>Input</b>	
Input Coupling	DC, AC or Grounding (AC、DC、GND)
Input Impedance	$1M\Omega \pm 2\%$ , and $16 \pm 3pF$
Probe attenuates coefficient setting	$1\times, 10\times, 100\times, 1000\times$
Maximum input voltage	400V ( DC + AC peak、 $1M\Omega$ input impedance )
Channel time delay( typical)	150ps

<b>Horizontal</b>
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Interpolation	$\sin(x)/x$
Records length	1024k
Storage Depth	24k(Max)
Equivalent Storage Depth( double time base )	60M pts
Scan range ( s/div)	<p>1ns/div ~ 50s/div ( 300MHz )</p> <p>2ns/div ~ 50s/div ( 200MHz、150 MHz )</p> <p>5ns/div ~ 50s/div ( 100MHz )</p> <p>Press 1-2-5 enter</p>
Sampling range and delay timing accuracy	$\pm 50\text{ppm}$ ( Any one $\geq 1\text{ms}$ time interval)
Time interval( $\Delta T$ )	Single time: $\pm(1 \text{ sampling time interval} + 50\text{ppm} \times \text{Reading} + 0.6\text{ns})$
Accuracy(Full bandwidth)	$>16$ mean value: $\pm(1 \text{ sampling time interval} + 100\text{ppm} \times \text{Reading} + 0.4\text{ns})$

<b>Vertical</b>				
Model Number				72-8725
A/D Converter ( A/D )	8 bits resolution			
Deflection factory (V/div)	2mV/div ~ 5V/div ( at the input BNC )			
Position Range	$\pm 5\text{div}$			

Analogue Bandwidth				100MHz
Single bandwidth				100MHz
Selectable bandwidth limit(typical )	20MHz			
Low frequency response (AC coupling , -3dB)	≤10Hz(at BNC above)			
Rising time				≤3.5ns
DC gain accuracy	At 2mV/div ± 4% (sampling or mean value sampling method); Vertical accuracy is 5mV/div ~ 5V/div:± 3%(sampling or mean value sampling method)			
DC measurement accuracy (mean value sampling method)	Vertical position is zero, also N ≥ 16: ± (5% × reading+0.1mV), select 2mV/div; ± (3% × Reading+1mV) and select 5mV/div ~ 5V/div. Vertical position is not zero, then N ≥ 16: ± [3% × (Reading + Vertical position reading)+(1%× vertical position reading)]+0.2div) Setting from 5mV/div to 200mV/div add 2mV;Setting >200mV/div to 5V/div and add 50mV.			
Voltage difference ( △ V ) accuracy ( mean value sampling method )	Under the same setting and environment , the obtained≥16 waveforms after getting mean value, the voltage difference (ΔV):±(3%× Reading+0.05div)			

<b>Trigger</b>		
Trigger Sensitivity	$\leq 1\text{div}$	
Trigger level range	Internal	Display center $\pm 8\text{div}$
	EXT	800mV
	EXT/5	4.0V
Trigger electric level accuracy(typical)accuracy is applicable to rising and falling $\geq 20\text{ns}$ signal	Internal	$\pm(0.3\text{div} \times V/\text{div})$ (within display center $\pm 4\text{div}$ range)
	EXT	$\pm(6\% \text{ setting value} + 40\text{mV})$
	EXT/5	$\pm(6\% \text{ setting value} + 200\text{mV})$
Pre-Trigger capability	Normal mode/ Scan mode、pre-trigger/delayed by time trigger; Pre-trigger depth is adjustable	
Release Range	96.0000ns ~ 1.5s	
Set electric level to 50%(typical)	Input frequency signal $\geq 50\text{Hz}$	
<b>Edge Triggering</b>		
Edge Type	Rising、Falling、Rising and Falling	
<b>Glitch Trigger</b>		
Trigger Mode	( Higher、Lower or equal ) forward pulse , ( higher、lower、equal ) backward pulse	
Pulse Range	20ns-10s	
<b>Video Triggering</b>		

Trigger sensitivity ( video trigger, typical )	Internal	2div
	EXT	400mV
	EXT/5	2V
Signal mode	Support NTSC and PAL ,line range 1-525( NTSC ) and 1-625 ( PAL )	

<b>Triggering Frequency</b>		
Reading	6 digits	
Determination		
Accuracy	±51ppm	
Frequency Range	AC coupling , from 10Hz to full	
Trigger type	Edge / Pulse	
<b>Measurement</b>		
Cursors	Manual mode	Cursor voltage difference ( $\Delta V$ ) , cursor time difference ( $\Delta T$ ) ,
		$\Delta T$ reverse reading (Hz)( $1/\Delta T$ )
	Chase Mode	The voltage value and time value of waveform point
Automatic measurement		Peak to peak, max, min, top, bottom, mean, RNS, overshoot, pre-shoot, frequency, period, rising falling, positive pulse, negative pulse, positive duty cycle, delay

		time and etc..
Mathematics		Add、Subtract, Multiply, Divide,
Storage Waveform		10 waveforms、10 settings
FFT	Window	Hanning,Hamming,Biackman-Harris,Rectangular
	Sampling Point	1024 points
X-Y Phase difference	Phase difference	±3degrees
<b>Multimeter Function</b>		
DC Voltage	Range : 400.0mV、4.000V、40.00V、400.0V Accuracy : ± ( 1 % + 5 digits )	
AC Voltage ( 40Hz ~ 400Hz )	Range: 400.0mV、4.000V、40.00V、400.0V Accuracy : ± ( 1.2% + 5 digits )	
Resistance	Range : 400Ω、4kΩ、40kΩ、400kΩ、4MΩ、40MΩ Accuracy : ± ( 1.5% + 5 digits )	
Continuity Buzzer	<70.0Ω	
Diode	Positive decline 0.5V ~ 0.8V	
DC Current	Range : 4mA、40.mA、400.0mA	

	Accuracy : $\pm ( 1\% + 5 \text{ Digits} )$ Range : 4A Accuracy : $\pm ( 1.5\% + 5 \text{ digits} )$
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### Display

Display type	5.7 inch LCD display
Display Resolution	320 ×RGB×240 (TFT)
LCD	Color
Backlight	300nit
Language Support	Chinese , English

Voltage Output ( Typical )	About 3V, Peak Value $\geq 1 \text{ M}\Omega$
Frequency (Typical )	1kHz

### Ports

Standard	1xUSB DEVICE 1xUSB HOST Multimeter Host
Optional	GPIB & LAN

### Power

Power Voltage	100-240VAC <sub>RMS</sub> , 45-440Hz , CAT II
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Power Consumption	Less than 50VA
Fuse	F1.6AL 250V。 Locate and nearly in power socket.

<b>Environment</b>	
Temperature	Operating Environment : 0°C ~ +40°C Non-Operating Environment : -20°C ~ +60°C
Cool Down Method	Auto cool down
Temperature	+ 10°C ~ + 30°C:≤95%±5%RH , + 30°C ~ + 40°C:≤75%±5%RH
High Temperature	+ 10°C ~ + 30°C:≤95%±5%RH , + 30°C ~ + 40°C:≤75%±5%RH
High Temperature	Operating 3 , 000 米 Non-Operating 15 , 000 米

<b>Specification</b>		
Size (For Reference Only)	Widen	336mm
	Height	177mm
	Depth	174mm
Weight (Gross Weight)	Weight without gift box	3.8kg
	With Gift Box	6.5kg

IP protection	IP2X
Calibration Period	One year (Recommendation)