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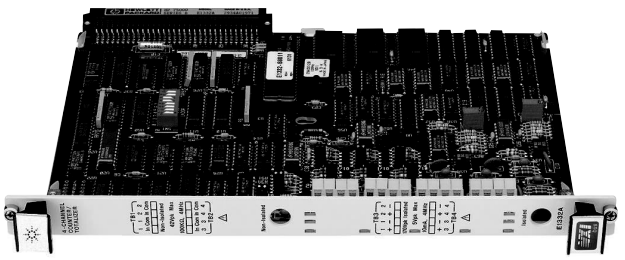
Find the *Keysight / Agilent E1332A* at our website: *Click HERE*

STEP4 Dionysos Job: 210%XXXX7941-0001 Agilent_E1332A Comp: 10-24-01 Time: 15:41 OP: NN

Agilent E1332A
4-Channel Counter/Totalizer

Data Sheet

- **1-Slot, B-size, register based**
- **Frequency range 4 MHz**
- **Seven counter functions**
- **Programmable direct or isolated inputs**
- **Programmable digital input filter and trigger levels**
- **Two input voltage ranges**



Agilent E1332A

Description

The Agilent Technologies E1332A 4-Channel Counter/ Totalizer is a **B-size, 1-slot, register-based VXI device.** It provides seven counter functions: frequency (up to 4 MHz), period average, pulse width, time interval, totalize, gated totalize, and up/down count.

With this module, you select either isolated or direct inputs through software commands. You can connect a total of eight channels to one counter card (only four can totalize simultaneously) by multiplexing between four isolated channels and four non-isolated channels. The digital input low-pass filter is also software selectable with Pass Frequency in 16 binary steps from 4 Hz to 131 kHz. It filters out the high-frequency noise of input signals, such as the bounce of mechanical switches.

Refer to the Agilent Technologies Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

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Frequency Measurement

Channels 1 and 3 measure frequency up to 4 MHz (2 and 4 not available). You can select the resolution directly in Hz or the gate time from 2 ms to 65.5 s in 16 binary steps.

- Minimum pulse width: 125 ns
- Resolution: 1/gate time

Period Average Measurement

Channels 1 and 3 (2 and 4 not available) average 2^N periods of an input signal. Select the resolution directly in seconds or the number of periods to be averaged.

- Minimum pulse width: 125 ns
- Range of N: 1 to 16
- Resolution: $1 / (5 \times 10^6 \times 2^N)$ s

Pulse Width Measurement

Channels 2 and 4 (1 and 3 not available) measure pulse width (positive or negative) of an input signal.

- Minimum pulse width: 500 ns
- Maximum pulse width: 858 s
- Resolution: 200 ns

Time Interval Measurement

You can measure the time interval between transitions from channel 1 to channel 2 or from channel 3 to channel 4. You select the rising or falling edge via software commands.

- Minimum interval: 500 ns
- Maximum interval: 858 s
- Resolution: 200 ns

Totalizing

You can count the number of transitions (rising or falling edge) on channels 1, 2, 3 and 4.

- Minimum pulse width: 125 ns
- Range: 1 to $(2^{32}-1)$ Counts

Gated Totalizing

You count the number of transitions (rising or falling edges) on channels 1 and 3. Channel 2 is used as a gate for channel 1. Channel 4 is used for channel 3. The polarity of the gate is programmable.

- Minimum pulse width: 125 ns
- Range: 1 to $(2^{16}-1)$ Counts

Up/Down Counting

Channels 1-2 and channels 3-4 form the up/down pairs. The count on channel 2 (4) is subtracted from that on channel 1 (3), and the result is given.

- Minimum pulse width: 125 ns
- Range: ± $(2^{31}-1)$

Input Signal Conditioning commands control all channels simultaneously.

Trigger level/sensitivity commands are available for each channel.

C-size adapter

This product is easily adapted for use in a C-size mainframe. See the Accessories section for a selection of adapters.

Product Specifications

Functions	
Period:	Yes
Time interval:	Yes
Totalizer:	Yes
Gated totalizer:	Yes
Ratio:	No
Pulse width:	Yes
Rise/fall time:	No
Phase:	No
Vdc:	No
Vac:	No
Up/down counter:	Yes
Number of channels:	4
Frequency:	4 MHz to 0.002 Hz (input filter is OFF)

Pass Frequency of Input Digital Filter	
4 Hz to 131 kHz in 16 binary steps	

Time Base	
Frequency:	10 MHz
Initial accuracy:	2 ppm
Aging:	2 ppm/year
Temperature drift:	5 ppm (0 to 50° C)

Nonisolated Input	
Input Impedance:	(typical) 100 kΩ shunted by 80 pF

Input Ranges	
(jumper selectable)	
Low range:	± 5 V
High range:	± 42 V

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Trigger Level

Low input range:	–2.56 to 2.54 V in 20 mV step
High input range:	–25.6 to 25.4 V in 0.2 V step

Sensitivity

Low input range:	
dc to 2 MHz:	25 mV
2 MHz to 4 MHz:	50 mV
High input range:	
dc to 100 kHz:	250 mV
100 kHz to 1 MHz:	500 mV
1 MHz to 2.5 MHz:	1 V
2.5 MHz to 3.5 MHz:	2 V

Frequency Dynamic Range

Low input range:	
dc to 2 MHz:	43 dB
2 MHz to 4 MHz:	37 dB
High input range:	
dc to 100 kHz:	35 dB
100 kHz to 1 MHz:	29 dB
1 MHz to 2.5 MHz:	23 dB
2.5 MHz to 3.5 MHz:	17 dB

Isolated Input

V_{in} (High):	>4.2 V
V_{in} (Low):	<1 V
I_{in} (High):	>6.3 mA
I_{in} (Low):	<250 µA
Isolation:	170 Vp *(Channel-to-channel, channel-to-chassis)*

Maximum Screw Terminal Wire Size

16 AWG (1.5 mm)

General Specifications

VXI Characteristics

VXI device type:	Register based
Size:	B
Slots:	1
Connectors:	P1
Shared memory:	n/a
VXI buses:	n/a
C-size compatibility:	Yes (with E1403C Adapter)

Instrument Drivers - See the Agilent Technologies Website (http://www.agilent.com/find/inst_drivers) for driver availability and downloading.

Command module firmware:	ROM
Command module firmware rev:	A.01
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
Panel Drivers:	Yes
VXI*plug&play* Win Framework:	No
VXI*plug&play* Win 95/NT Framework:	No
VXI*plug&play* HP-UX Framework:	No

Module Current

	I_{PM}	I_{DM}
+5 V:	0.5	0.01
+12 V:	0.03	0.01
–12 V:	0.02	0.01
+24 V:	0	0
–24 V:	0	0
–5.2 V	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	3.00
∆P mm H_2O:	0.05
Air Flow liter/s:	0.25

Ordering Information

Description	Product No.
4-Channel Counter/Totalizer	E1332A
Service Manual	E1332A 0B3
Mil Std 45662A Calibration w/Test Data	E1332A 1BP
Japan - Japanese Localization	E1332A ABJ
3 Yr. Retn. to Agilent to 1 Yr. OnSite warr.	E1332A W01

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STEP4 Dionysos Job: 210%XXXX7944-0004 Agilent_E1332A Comp: 10-24-01 Time: 15:42 OP: NN

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