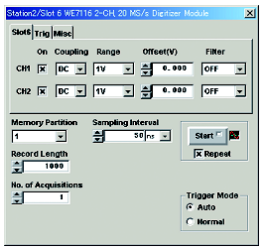
WE7116
2-CH, 20 MS/s Digitizer Module

Overview

The WE7116 2-channel 20 MS/s digitizer module can convert the analog signals of 2 channels to digital signals at a maximum speed of 20 MHz. Equipped with two A/D converters, the module can sample data through two channles simultaneously at 20 MHz.

Two or more modules can be mounted side by side to enable synchronous operation.



WE7116

Features

- 20 MS/s sampling and 12-bit A/D conversion of both channels simultaneously
- Acquisition by using the external timebase and external trigger is possible
- Operates in sync with an adjacent WE7116 module
- Built-in 4MWords acquisition memory for each channel

Performance Specifications

Number of input channels: 2
Input format: Non-isolated, unbalanced
Connector type: BNC
Input coupling: DC/AC/GND
Measurement range: ±100mV to ±50V (1-2-5 steps)
A/D resolution: Equivalent to 12 bits (includes the sign)
Input impedance: Approx. 1MΩ (approx. 28pF)
Maximum source resistance: 100Ω or less
Frequency characteristics (-3dB attenuation point, during filter off)
  DC coupling: DC to 8 MHz (typical value (see Note 1))
  AC coupling: 5 Hz to 8 MHz (typical value (see Note 1))
DC accuracy (see Note 2): ±0.75% of full scale
Offset voltage setting range: 200% of lower limit of range to 200% of upper limit of range
Offset voltage setting resolution: 0.05% of full scale
Offset voltage accuracy (see Note 3): ±0.5% of setting
Input filter:
  Low-pass filter
  Cut-off frequency: OFF/500kHz/1MHz
  Filter characteritics: 5th order elliptic filter
  Attenuation characteristics:
    -24 dB at frequency of 1.4 times the cut-off frequrency
    -40 dB at frequency of 2.0 times the cut-off frequrency
    (typical value (see Note 1))
Acquisition method: Trigger only (Normal/Auto) (see Note 4)
Memory length of acquisition memory: 4MWord for each channel
Memory partition: Select from 1/2/4/8/16/32/64/128/256/512/1024
Timebase source: Module's internal clock, external clock, or the time base signal (CMNCLK) of the measuring station (WE bus)
Sampling interval: 50 ns to 1 ms, 50 ns steps
External clock input:
  Input format: Non-isolated unbalanced
  Input level: TTL level
  Input resistance: 10 kΩ (typical value (see Note 1))
  Connector type: BNC
  Input frequency range: 10 kHz to 20 MHz (continuous clock only)
  Minimum pulse width: 20 ns or more for both H and L
Trigger source: Input signal, bus trigger(BUSTRG1/BUSTRG2) signal of the measuring station, commercial power signal
Bus trigger signal (BUSTRG1/BUSTRG2) output source: Able to output the trigger detected from the input signal
Trigger level:
  Setting range: 5% to 95% of full scale
  Resolution: 0.5% of full scale
  Hysteresis width: 3% or 10% of full scale (typical value(see Note 1))
Trigger type: Edge trigger, window trigger
Amount of pretrigger: 0 to (the record length - 2)
External trigger input:
  Input format: Non-isolated, unbalanced
  Input level: TTL level
  Input resistance: 10 kΩ (typical value (see Note 1))
  Connector type: BNC
  Maximum input frequency range: 8 MHz
  Minimum pulse width: 20 ns or more for both H and L
Sampling skew between channels:
  Channels in one module: Approx. 1 ns (typical value (see Note 1))
  Channels in adjacent modules: 4 ns (typical value (see Note 1))

General Specifications

Safety standards: Complies with CSA C22.2 No. 1010.1 and EN61010-1, conforms to JIS C1010-1
Warm-up time: At least 30 minutes
Maximum allowable input voltage:
Channel input: ±250 V (DC + AC peak) or 177 Vrms
External clock input: -3 V to 8 V
External trigger input: -3 V to 8V
(Overvoltage category: CAT I and II)
Operating conditions: Same as those of the measuring station
Storage conditions:
Temperature: -20°C to 60°C
Humidity: 20% to 80% RH (no condensation)
Power consumption: 10 VA (typical value (see Note 1) at 100 V/50 Hz)
Weight: Approx. 0.7{1.54} kg{lb}
External dimensions: Approx. 33{1.3}(W) × 243{9.54}(H) × 232{9.13}(D) mm{inch} (projections excluded)
Number of used slots: 1
Standard accessories: User's Manual (1)

Note 1: Typical value represents a typical or average value. It is not strictly guaranteed.
Note 2: Value measured with offset voltage set to 0 V and time base set to internal clock under ambient temperature:23±5°C, ambient humidity: 50±10% RH, after warm-up time has passed and after offset calibration.
Note 3: Value measured with time base set to internal clock under ambient temperature:23±5°C,ambient humidity: 50±10% RH, after warm-up time has passed and after offset calibration.
Note 4: Freerun mode and gate mode are not supported.

AVAILABLE MODELS

Model	Description
707116	2-CH, 20 MS/s Digitizer Module

Special Accessories(sold separately)

Accessory	Model	Description	Order quantity
400 MHz passive probe	700988	10:1 or 1:1 selectable, 1.5 m	1
Miniclip converter	B9852CR	Probe accessory (one/unit)	1
BNC adapter	B9852CS	Probe accessory (one/unit)	1
Ground lead	B9852CT	Probe accessory (one/unit)	1
50 Ω terminal equipment	700976	Through-type	1

Dimensions