

WE7275

2-CH, 1 MS/s Isolated Digitizer Module

Overview

The WE7275 2-channel 1 MS/s isolated digitizer module can convert the analog signals of 2 channels to digital signals at a maximum speed of 1 MHz. Equipped with two A/D converters, the module can sample data through two channels simultaneously at 1 MHz. The input channels are isolated from each other, as well as from the ground.

The module contains in its flash memory the graphic data for screens used to set such data items as the range and sampling rate necessary for module operation. When connected to a personal computer, the module is actuated once it transfers the graphic data to the computer. In addition, two or more modules can be mounted side by side to enable synchronous operation. The module supports the trigger function that permits you to acquire data before and after the rise of a specific event.

FEATURES

- 1 MS/s sampling and 14-bit analog-to-digital conversion of both channels simultaneously
- Isolation between input channels and between input channels and ground
- Built-in 4-megaword acquisition memory
- Operates in sync with an adjacent WE7275 module
- Trigger function that allows data immediately before and after the rise of an event, to be acquired correctly

Performance Specifications

Number of input channels: 2

Input format: Floating unbalanced input, isolation between channels and between the input and ground

Connector type: Isolated BNC

Input coupling: DC/AC

A/D resolution:

±100 mV to ±200 V range: Equivalent to 14 bits (includes the sign)

±350 V range: Equivalent to 13 bits (includes the sign)

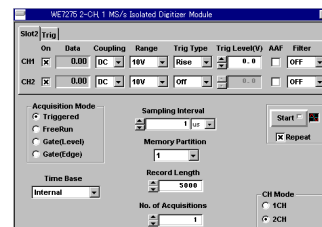
Input impedance: Approx. 1 MΩ

Maximum source resistance: 100 V or less

Frequency characteristics (−3 dB attenuation point, when filter is turned OFF):

For DC coupling: DC to 500 kHz (Typical value (see Note))

For AC coupling: 1 Hz to 500 kHz (Typical value (see Note))



WE7275

Measurement range/Accuracy (Ambient temperature: 23 ±5°C,

Ambient humidity: 50 ±10% RH, after the warm-up time has passed)

Range	Accuracy	Temperature coefficient (at 5-18°C or 28-40°C)
±100 mV	±(0.15% of rdg + 0.4 mV)	±(100 ppm of rdg + 30 μV)/°C
±200 mV	±(0.15% of rdg + 0.6 mV)	±(100 ppm of rdg + 40 μV)/°C
±500 mV	±(0.15% of rdg + 1 mV)	±(100 ppm of rdg + 60 μV)/°C
±1 V	±(0.15% of rdg + 1.7 mV)	±(100 ppm of rdg + 0.1 mV)/°C
±2 V	±(0.15% of rdg + 3.2 mV)	±(100 ppm of rdg + 0.2 mV)/°C
±5 V	±(0.15% of rdg + 8 mV)	±(100 ppm of rdg + 0.5 mV)/°C
±10 V	±(0.15% of rdg + 40 mV)	±(100 ppm of rdg + 3 mV)/°C
±20 V	±(0.15% of rdg + 60 mV)	±(100 ppm of rdg + 4 mV)/°C
±50 V	±(0.15% of rdg + 100 mV)	±(100 ppm of rdg + 6 mV)/°C
±100 V	±(0.15% of rdg + 170 mV)	±(100 ppm of rdg + 10 mV)/°C
±200 V	±(0.15% of rdg + 320 mV)	±(100 ppm of rdg + 20 mV)/°C
±350 V	±(0.15% of rdg + 800 mV)	±(100 ppm of rdg + 50 mV)/°C

Input filter:

Low-pass filter

Cut-off frequency: OFF, 100 kHz, 40 kHz, 4 kHz, 400 Hz (Typical value (see Note))

Filter characteristics: 4th order Bessel characteristics (−24 dB/oct.)

Anti-aliasing filter

Cut-off frequency: OFF, 20 Hz to 40 kHz (in steps of 1, 2, 4 and their ten-fold multiples)

Pass-band characteristics: ±1 dB at 5 to 100% of the cut-off frequency (Typical value (see Note))

Attenuation characteristics: −80 dB at frequencies greater than or equal to 2.1 times the cut-off frequency (Typical value (see Note))

Acquisition method: Trigger, free run, gate (level), gate (edge)

Memory length of acquisition memory:

2 Mword/CH (when using 2CH) or 4 Mword/CH (when using 1CH)

Memory partition (partition possible only when trigger mode is selected): Select from 1/2/4/8/16/32/64/128/256 partitions

Maximum sampling rate: 1.024 MS/s

Time base source: Module's internal clock, external clock, or the time base signal (CMNCLK) of the measuring station (WE bus)

Internal time base: 1 μ s to 1 s

Trigger source: Input signal (includes input signals of other isolated digitizer modules that are linked), or the bus trigger (BUSTRG1/BUSTRG1) signal of the measuring station

Bus trigger signal (BUSTRG1/BUSTRG2) output source: Able to output the trigger detected from the input signal

Trigger level:

Resolution: 1 mV at $\pm 100/200/500$ mV range, 10 mV at $\pm 1/2/5$ V range, 0.1 V at $\pm 10/20/50$ V range, 1 V at $\pm 100/200/350$ V range

Hysteresis width: 5% of (upper limit of range – lower limit of range) (Typical value (see Note))

Setting Accuracy: 3% of \pm (upper limit of range – lower limit of range)

Trigger type: Edge trigger, state trigger, combination trigger (AND/OR of the input signals)

Amount of pre-trigger (selectable only when trigger mode is selected): Set in the range from 0 to (the record length – 2)

External clock input:

Input format: Non-isolated unbalanced (TTL)

H level input: 2.2 V min.

L level input: 0.5 V max.

Input resistance: 10 k Ω (Typical value (see Note))

Connector type: BNC

Note: Typical value represents a typical or average value. It is not strictly guaranteed.

General Specifications

Safety standard: 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:

Analog input signal: ± 400 V (DC + ACpeak)

External clock input: -1 V to $+6$ V (Overvoltage Category: CAT I and II)

Maximum common mode voltage (between the analog signal input L terminal and ground): ± 250 VDC or 250 VACrms (when using the isolated BNC plug included in the package)

Maximum voltage across channels (between any two analog signal L terminals of different channels): ± 250 VDC or 250 VACrms

Insulation withstand voltage:

Between analog signal input L terminal and ground
1500 VAC (60 Hz) for one minute

Between analog signal input channel L terminals
2300 VAC (60 Hz) for one minute

Insulation resistance (Between analog signal input L terminal and ground and between analog input channels):
500 VDC, 10 M Ω or more

Operating conditions: Same as those of the measuring station

Storage conditions:

Temperature: -20 to 60°C

Humidity: 20 to 80% RH (no condensation)

Power consumption: 14 VA (typical value (see Note) at 100 V/50 Hz)

Weight: Approx. 0.8 kg

External dimensions: Approx. 33 (W) \times 243 (H) \times 232 (D) mm (projections excluded)

Number of used slots: 1

Standard accessories: Isolated BNC plugs (2), User's Manual (1)

Note: Typical value represents a typical or average value. It is not strictly guaranteed.

AVAILABLE MODELS

Model	Description
707275/HE	2-CH, 1 MS/s isolated digitizer module

Accessories (sold separately)

Accessory	Model	Description	Order quantity
Isolated BNC plug	A1226JA		1

DIMENSIONS

Unit: mm (inch)

