# F372A

## GRAPHIC DISPLAY / TOUCH PANEL TYPE DIGITAL INDICATOR




CC-Link
DeviceNet
DIN 96 RoHS2

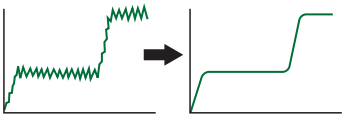
- 2000 times/sec. high-speed processing
- Work no. can set up up to 16 types
- Can start measurement even there is no external signal
- Analog monitor output
  Voltage output is proportionate to the input signal making the recording on recorder convenient.
  Approx. 2 V per 1 mV/V strain gauge input
- Variety of interfaces
  RS-232C/ CC-Link/ DeviceNet/
  D/A output/ BCD output (Sink type/ Source type)
- 3.5 inch color LCD module & touch panel
  Setting operation made easy via direct touch on the touch panel.
- Multi calibration function
  Stores calibration values for 4 ch portions and can be selected via touch panel or external signal
- Alarm function
  Monitors if the measured value is abnormal
  - Hi/Lo limit for in comparison setting
  - Overflow
  - A/D input range
  - Digital zero regulation value
- Can confirm forcs pattern before measurement start. (Pre Trigger)

### Waveform display

Input signal from the sensor is displayed as real-time waveform display.

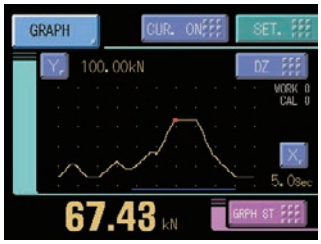
**Greatly shortens the adjustment time during the machine's start-up.**

Assuredly cancels vibration, noise and unwanted inputs. The filtering results can be confirmed from the waveform.



**Greatly improves the machine's reliability through its in-process operational check.**

The machine's operation can be consistently monitored through the waveform and hold points in-process check.
Can also be used when investigating causes of the machine's trouble.




The Hold point is marked in red

### Work selection (multi hold)

This function compares the required points in the waveform with the Hi/Lo limits. F372A stores up to 16 types of settings (settings such as types of holds or Hi/Lo limits) which can be selected via external signals.

**[Types of holds]**
Sample, Peak, Bottom, P-P, Average, Inflection Point,
Relative Maximum, Relative Minimum, Relative Difference

**[Setting of range]**
Externally specified range (Peak, Bottom, P-P, Average)
Externally + time specified range (Peak, Bottom, P-P, Average)
Level + time specified range (Peak, Bottom, P-P, Average)
Level (Peak, Bottom)

### Storing of measured data and setting values

Using the special communication software, the setting values can be edited and stored. The same special communication software can also create the CSV output of the measured data.

### Extended functions

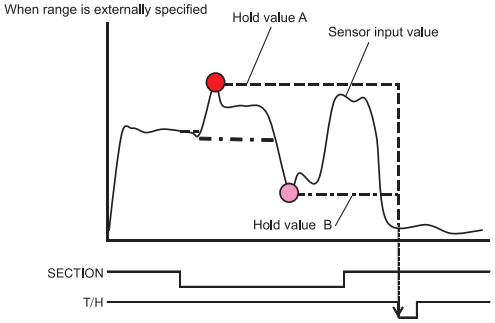
Extended functions through simple screen operation

- **Double hold**
  2 types of Hold functions can be simultaneously performed.
- **Previous value comparison**
  The difference generated after deducting the measured value held earlier can be compared with the Hi/Lo limit.
- **Relative value comparison (only during Double hold)**
  The difference (relative difference) between hold value A and hold value B can be compared with the Hi/Lo limit.




Displayed in the special measuring screen for double hold

**(Example) A: Peak hold B: Bottom hold**
Holds maximum value and minimum value in the specified range.
The values are held until the T/H signal is activated.



## Specifications

| | | |
|---|---|---|
| Analog | Excitation voltage | DC 10 V, 2.5 V±5% (depending on settings) Output current: Within 120 mA |
| | Signal input range | −3.0 to +3.0 mV/V |
| | Accuracy | Non-linearity: Within 0.02% FS±1 digit (at 3.0 mV/V input)<br>Zero drift: Within 0.5 μV/°C RTI<br>Gain drift: Within 0.01%/ °C |
| | Analog filter | Low pass filter (-6 dB/oct.) Selectable from 30 Hz, 100 Hz, 300 Hz, 1 kHz |
| | A/D converter | Speed: 2000 times/sec.<br>Resolution: 24 bit (binary) Approx. 1/30000 at 3.0 mV/V input |
| | Analog monitor output | Output level: Approx. 2 V per 1 mV/V input ; Load resistance: 2 kΩ or more |
| Display | Display unit | TFT color LCD |
| | Display area | 71(W) × 53(H) mm |
| | Dot structure | 320 × 240 dot |
| | Measured value | 5 digits: −99999 to +99999 Sign: Minus sign on most significant digit |
| Hold | 1) Sample; 2) Peak; 3) Bottom; 4) P-P; 5) Average; 6) Inflection Point; 7) Relative Maximum; 8) Relative Minimum; 9) Relative Difference; 10) Sample & Peak; 11) Sample & Bottom; 12) Sample & P-P; 13) Sample & Average; 14) Sample & Inflection Point; 15) Sample & Relative Maximum; 16) Sample & Relative Minimum; 17) Sample & Relative Difference; 18) Peak & Bottom; 19) Peak & P-P; 20) Bottom & P-P; 21) Average & Peak; 22) Average & Bottom; 23) Average & P-P; 24) Relative Maximum & Relative Minimum; 25) Relative Maximum & Relative Difference; 26) Relative Minimum & Relative Difference | |
| Comparison function | Can set 4 different settings from Hi limit, Lo limit, etc | |
| Calibration value selection | Stores up to 4 types of calibration values that can be interchanged | |
| External signal | Output signal (8 points) | HI/LO comparison output (HH, HI, OK, LO,LL)/ RUN output/ Hold end output/ Graph plotting end output<br>Vceo = 30 V (max), Ic = 30 mA (max) |
| | Input signal (10 points) | Work selection input/ Hold control input/ Digital zero input (DZ)/ Graph plotting control input/ Calibration selection input<br>Ic = 10 mA or less |
| Interface | SIF: 2-wire type serial interface<br>232: RS-232C communication interface<br>CCL: CC-Link interface (Option)<br>ODN: DeviceNet interface (Option)<br>BCO: BCD parallel data output interface (Sink type) (Option)<br>BSC: BCD parallel data output interface (Source type) (Option)<br>DAV: D/A converter voltage output (Option)<br>DAI: D/A converter current output (Option) *Only one option can be installed | |
| Option | ISC: I/O source board | |
| General specifications | Power supply voltage | DC 24 V (±15%) |
| | Power consumption | 5 W typ. |
| | Inrush current typ. | 55 A, 1 msec (cold start at room temperature) |
| | Operating conditions | Operation temperature: -10 to +40°C<br>Storage temperature: -20 to +60°C<br>Humidity: 85% RH or less (non-condensing) |
| | External dimension | 96(W) × 96(H) × 138(D) mm (Not including projections) |
| | Weight | Approx. 1.0 kg |

| | | |
|---|---|---|
| Attachments | FCN series I/O connector (with cover) | 1 |
| | Operation manual | 1 |
| | BCD output connector (when BCD output option is selected) | 1 |
| | Mini screwdriver (when D/A converter option is selected) | 1 |
| | CC-Link connector (when CC-Link option is selected) | 1 |
| | DeviceNet connector (when DeviceNet option is selected) | 1 |
| | Analog I/O connector terminal block (Already mounted on the main unit) | 1 |
| Optional accessories | CA372-I/O: | Cable with FCN connector at one-end 3 m |
| | CA600-BCDCNV: | FCN connector 32p-57･36p cabtire cable 0.3 m |
| | CA81-232X: | miniDIN-D-Sub9p cross cable 1.5 m |
| | CN50: | FCN series I/O connector (with cover)(Same as the attachment) |
| | CN55: | FCN series I/O connector (with diagonal cover) |
| | CN60: | Round DIN 8p connector for RS-232C |
| | CN51: | BCD output connector |
| | CN71: | CC-Link connector |
| | CN72: | Double row connector for CC-Link |
| | CN80: | Analog I/O connector terminal block (Same as the attachment) |
| | CND01: | DeviceNet connector |
| | DTC2: | Case for F372A (with AC power supply) |
| | GMP96x96: | Rubber packing |

* Please note that there are possibilities of individual differences in a color tone on display devices such as LEDs, fluorescent display tubes and LCDs due to manufacturing process or production lots.

## Structure of product code

F372A □ □
① ② ③

### ① Standard unit

### ② I/O output

| Sign | Output type |
|---|---|
| Standard | Sink type (NPN output) |
| ISC | Source type (PNP output) |

### ③ Interface

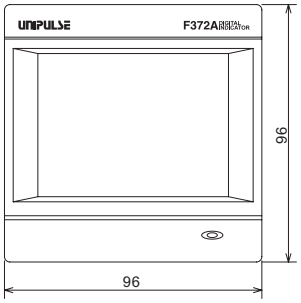
| Sign | Interface |
|---|---|
| Standard | SI/F, RS-232C |

↓ One optional interface can be added in addition to the standard interface.

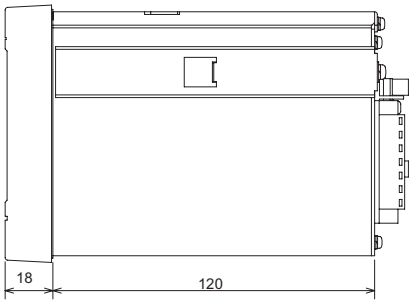
| | |
|---|---|
| CCL | CC-Link |
| ODN | DeviceNet |
| BCO | BCD output (Sink type) |
| BSC | BCD output (Source type) |
| DAV | D/A converter (Voltage output) |
| DAI | D/A converter (Current output) |

## External dimension

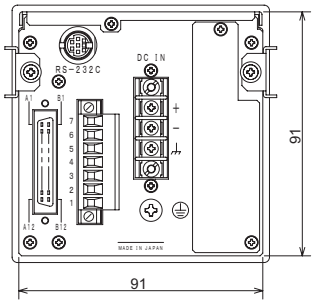
(Front)

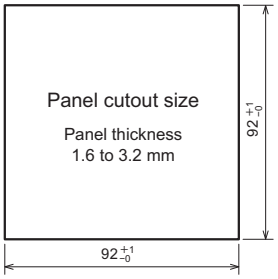



(Side)




(Rear)




Unit: mm

DTC2: Case for F372A (with AC power supply)

