F372A

## GRAPHIC DISPLAY/ TOUCH PANEL TYPE DIGITAL INDICATOR

CE DIN 96 RoHS

- CE marking certification
- RoHS-compliant product
- 2000 times/sec high-speed processing
- Analog monitor output
  Voltage output is proportionate to the input signal making the recording on recorder convenient.
  Approx. 2V per 1mV/V strain gauge input
- A variety of interfaces
  RS-232C/BCD output/D/A output/DeviceNet/CC-Link
- I/O input: minus common
  I/O output: selectable between sink and 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
  · A/D input range
  · Overflow
  · Digital zero regulation value

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.
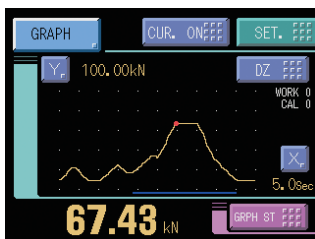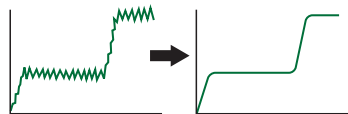
The Hold point is marked in red

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.

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.
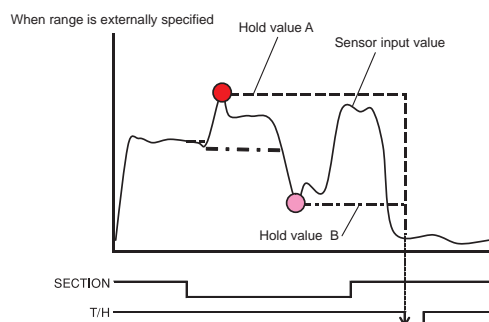
Extended functions

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.
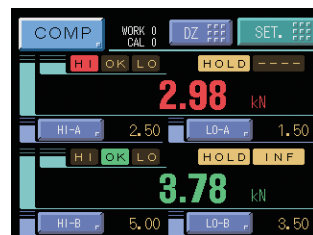
Displayed in the special measuring screen for double hold

(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.

When range is externally specified
Hold value A
Sensor input value
Hold value B
SECTION
T/H

ANALOG	Excitation voltage	DC10V, 2.5V ± 5% (depending on settings); Output current: within 120mA
	Signal input range	−3.0 to +3.0mV/V
	Zero/Gain adjustment range	Automatic adjustment by digital processing
	Equiv. input calibration range	−3.0 to −0.5mV/V, +0.5 to +3.0mV/V
	Equiv. input calibration error	Within ±0.1%/FS
	Accuracy	Non-linearity ················· Within 0.02%/FS ± 1 digit (at 3.0mV/V input)
		Zero drift ···················· Within 0.5μV/°C RTI
		Gain drift ···················· Within 0.01%/ °C
	Analog filter	Low pass filter (-6dB/oct); Selectable from 30, 100, 300, 1kHz
	A/D converter	Speed: 2000 times/sec; Resolution: 24 bit (binary) approx. 1/30000 at 3.0mV/V input
	Analog monitor output	Output level: Approx. 2V per 1mV/V input ; Load resistance: 2kΩ or more
DISPLAY	Display unit	TFT color LCD
	Display area	71(W)×53(H)mm
	Dot structure	320 x 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		Higher Hi (HH) limit setting, Lower Lo (LL) limit setting, High (HI) limit setting, Lower (LO) limit setting
CALIBRATION VALUE SELECTION		Stores up to 4 types of calibration values that can be interchanged
EXTERNAL SIGNAL	External output signal (8)	Hi/Lo comparison output (HH, HI, OK, LO,LL)/RUN output/ Hold end output/ Graph plotting end output Vce = 30 V (max), Ic = 30m A (max)
	External input signal (10)	Work selection input/ hold control input/ digital zero input (DZ)/ graph plotting control input/ calibration selection input Ic = 10 mA or less
INTERFACE		SIF:　2-wire type serial interface 232:　RS-232C communication interface BCO: BCD parallel data output interface (Option) DAV: D/A converter voltage output (Option) DAI: D/A converter current output (Option) ODN: DeviceNet interface (Option) CCL:　CC-Link interface (Option) (Only one option can be installed)
OPTION		ISC: I/O Source board
GENERAL SPECIFICATIONS	Power supply voltage	DC24V(±15%)
	Power consumption	5W typ
	Inrush current (Typ)	55 A, 1 msec (cold start at room temperature)
	Operation condition	Temperature: Operation temperature -10 to +40°C Storage temperature -20 to +60°C Humidity：85% RH or less (non-condensing)
	External dimension	96 (W) x 96 (H) x 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 driver (when D/A converter option is selected)........................ 1 DeviceNet connector (when DeviceNet option is selected)...............1 CC-Link connector (when CC-Link option is selected)....................1
OPTIONAL ACCESSORIES	CA372-I/O: Cable with FCN connector at one-end 3m CA600-BCDCNV: FCN connector32p-57・36p cabtire cable 0.3m CA81-232X: miniDIN-D-Sub9p cross cable 1.5m CN50: FCN series I/O connector (with cover) 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 CND01: DeviceNet connector DTC2: Special case GMP96x96: Rubber packing TSU03: DC Lightning surge unit
CE MARKING CERTIFICATION	EMC Directive EN61326-1

Structure of product code

F372A ①　②　③

①Standard unit

②I/O output

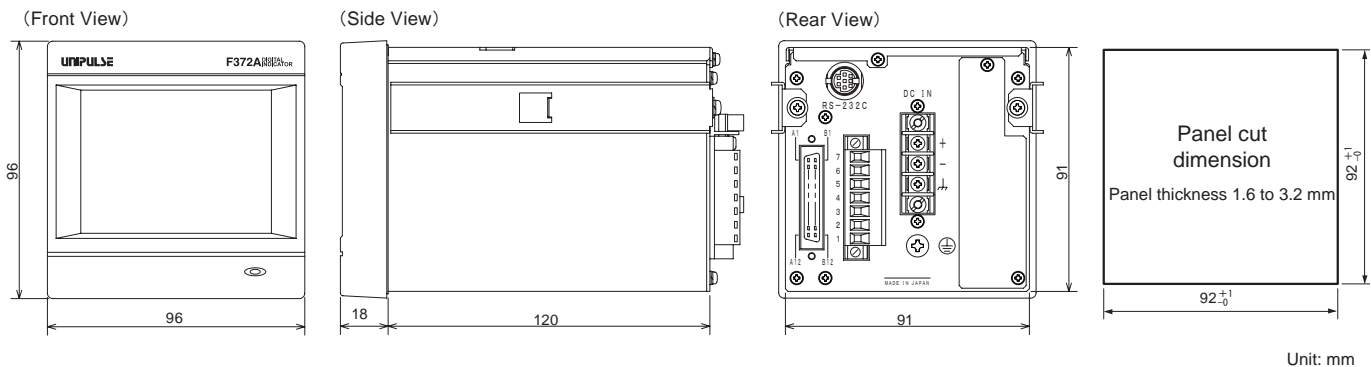| Sign	Output type
Standard	Sink type(NPN output)
ISC	Source type(PNP output)

③Interface

Sign	Interface
Standard	SI/F, RS-232C

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

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

DTC2：Special case   Unit: mm

At stand use

168 190 120 143 2m 15° 207

External dimension

（Front View）

UNIPULSE F372A DIGITAL INDICATOR

96 96

（Side View）

18 120

（Rear View）

RS-232C DC IN MADE IN JAPAN 91 91

Panel cut dimension

Panel thickness 1.6 to 3.2 mm

92 +1 −0 92 +1 −0

Unit: mm
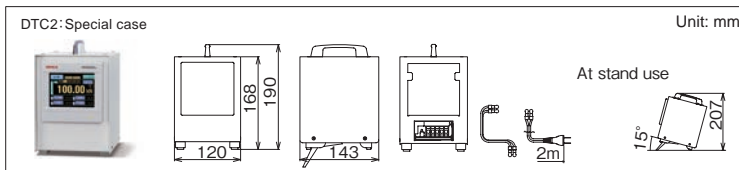
For F370 and F371 users

F372A is the replacement model for F370 and F371.
The setting method and functions of F372A have been made compatible with that of F370 and F371 ,
even if the extended functions of F372A were not utilized.