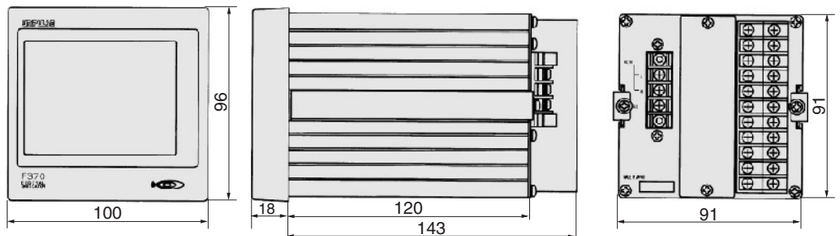
Specifications

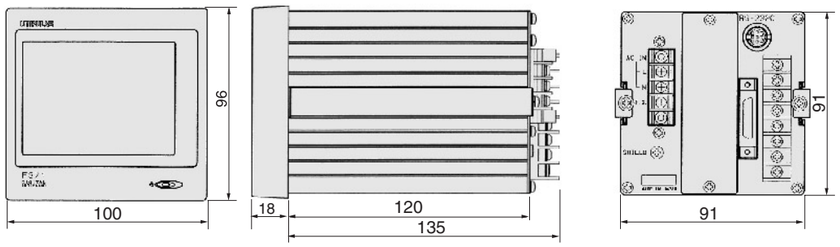
Model	F370	F371
Sensor applied voltage	DC10V/5V/2.5V Output current: within 120mA 4-wire system Applied voltage digital adjustment	
Sensor input range	-3.0 ~ + 3.0 mV/V	
Equivalent input calibration range	0.5 ~ 3.0 mV/V	
Accuracy	Non-linearity: within 0.02%FS ±1 digit (during 3.0 mV/V input); Zero drift: within 0.5μV/℃ RTI; Gain drift: 0.01%/℃)	
A/D converter	Speed: 2000 times/second 16 bit (binary)	
Analog filter	10/30/100/300 Hz digital adjustment	
Analog monitor output	—	Analog voltage proportional to sensor input Output level: App. 2V per 1mV/V input
Analog output	D/A converter (Option) Voltage: 0 ~ 10V; Current: 4 ~ 20mA	
Display	STN color LCD (320x240 dot) Indicator value: ±99999	
Display unit	Weight: kg, g, t; Force: N, kN; Pressure: N/m^2, Pa, kPa, MPa, bar * "No-unit" setting is also feasible	Weight: kg, Mg, g, mg, μg, t, lb; Force: N, kN, MN, mN, μN, Nm, kNm, MNm, mNm, μNm; Pressure: Pa, kPa, MPa, GPa, hPa, mPa, μPa, bar, mbar, μbar, mmHg, N/m^2; Density: kg/m^3, g/cm^3, t/m^3, g/ml, g/l, kg/m, mg/m; Momentum: kgm/s, kgm^2/s, kgm^2; Viscosity: PaS, mPaS; Length: km, m, cm, mm; Speed: m/s, km/h, m/s^2, rpm; Flow rate: kg/h, kg/min, kg/s, t/h, t/s, t/min, m^3/h, m^3/min, m^3/s, l/h, l/min, l/S
Wave profile holding	Tracking Sample Peak Bottom P-P Mean Max Peak Value Min Peak Value Point of inflection Range setting ・ All range ・ External specified range ・ Timer specified range ・ Trigger timer specified range	
External output signal	Upper/lower limit comparison open collector output (HH, HI/OK/LO/LL); Holding end output (H/E); Serial data output (SI/F); asynchoronous 600bps	
Control input signal	Graphic START/STOP input; multi-holding (comparison, holding) setting values selective input; Holding control input; Digital zero-input	Graphic START/STOP input; multi-holding (comparison, graph, holding) setting values selective input; Holding control input; Digital zero-input; Calibration value selective input
Interface (Only one of these options can be loaded in)	SI/F interface; RS-232C communication interface (Option); RS-485 interface (Option); DeviceNet interface (Option); CC-Link interface (Option); BCD parallel data output (Option); D/A converter (Option)	SI/F interface; RS-232C communication interface; RS-485 interface (Option); DeviceNet interface (Option); CC-Link interface (Option); BCD parallel data output (Option); D/A converter (Option)
Supply voltage	AC100~240V (±10%) 50/60 Hz; DC12~24V(±15%) (Specify for DC during ordering)	
Power consumption	AC Spec: max 12W; DC Spec: max 20W	AC Spec: max 15W; DC Spec: max 20W
Application requirements	Temperature: -10 ~ +40℃; Humidity: 80% RH or lower (no condensation)	
External dimension	100 (W) x 96 (H) x 138 (D) mm(not including protruding parts) Panel cut dimension 92 x 92 (+1-0)mm	
CE marking certification	EMC Directive EN61326-1 (Class A) Safety Standard EN61010-1	

External Dimension Unit:mm

F370



F371



Panel cut dimension
92^{+1}_{-0} x 92^{+1}_{-0}

Please note that specifications or designs shown in this catalog may vary due to our continuous product improvement activities.

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UNIPULSE

F370&371

Graphic Display Digital Indicator

REAL SIZE

CE DIN 96

A digital indicator that controls measurement by amplifying and performing high-speed digital processing of subtle signals received from strain gauge sensor that measures pressure, load or torque. With the utilization of liquid crystal touch panel display, visibility and operability of wave profile display and others are greatly improved. Through its ample 20-types wave profile holding function, it is the best digital indicator for graders and testers used in results judgment of assembling work and auto machining.

Provides assured support for force control and assists quality control through its 2000 times/second high-speed processing and powerful 20-types wave profiles holding function.

Liquid Crystal Touch Panel Display in Pursuit of Visibility and Operability

Liquid crystal touch panel display that had attained visibility and operability of indicator display and wave profile display.

As a Super Signal Conditioner

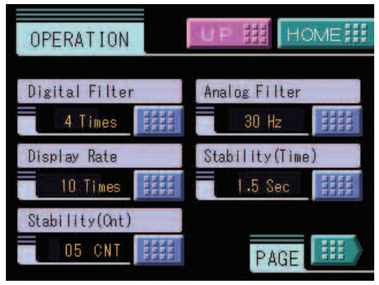
May also be used as a super signal conditioner that outputs scaled analog signal after digitalizing, filtering and arithmetic processing of signals received from sensor via its 2000 times/second high-response D/A converter.

Wave Profile Display Function

Wave profile display function that displays real time input signal to wave profile display and marks the holding points.

2000 times/second High-speed Processing

High speed digital circuit and proprietary programming technology that is able to perform high-speed processing at 0.5ms (2000 times/second) from the sensor signal input moment until the control signal output.



▲ Function Setting Screen

A Combination of 20-types Holding Function

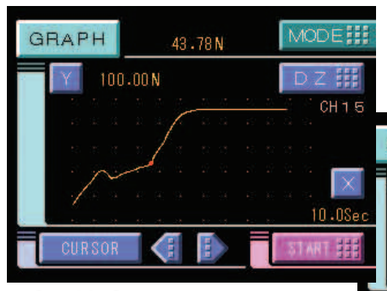
Sample holding*, peak holding, bottom holding, P-P (Peak to Peak), holding, mean holding, external specified range holding, (peak, bottom, P-P, mean), timer specified range holding (peak, bottom, P-P, mean), trigger timer specified range holding (Peak, bottom, P-P, mean), minimum value holding, maximum value holding and point of inflection holding* that can quickly detect required points for analog wave profile.
*with Pre-trigger function

Multi-holding Function

Multi-holding function that records up to 16-types holdings and comparison settings and that is able to perform wave profile control and changeover at any time to any type through its external pulsing signal. Only F371 can records graphic settings.

Alarm Mode

Able to monitor at real time if the indicated value during the holding is abnormal or otherwise.



▲ Graphic Screen

Displays holding value at the top side and marks the holding point with red dot.

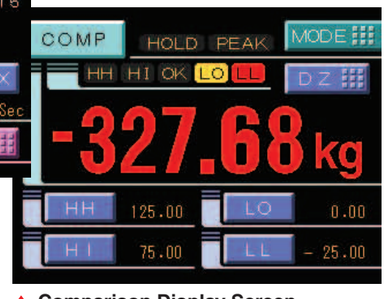
▲ Comparison Setting Screen

Various Interfaces (Option) for Direct PLC Connection

RS-232 Interface
(Standard accessory in F371)
RS-485 Interface
DeviceNet Interface
CC-Link Interface
BCD Parallel Data Output
D/A Converter

Additional Helpful Functions for F371

- **Analog Monitor Output**
  Proportional voltage output accordance to input signal. Output level for every 1 mV/V output is app. 2V. With this, regardless to the non-use of holding function, input wave profile can be record by the recorder.
- **Multi-Calibration Function**
  Multi-calibration that can record up to 4-types of calibration values and able to changeover at any time to any type through its external pulsing signal.

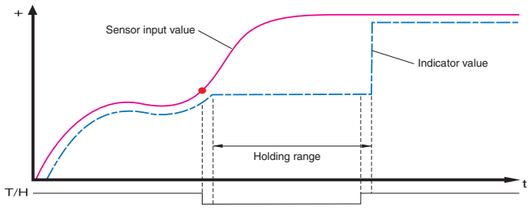


▲ Comparison Display Screen

Weight display color changes according to the comparison results.
OK: Green HI/LO: Yellow HH/LL: Red

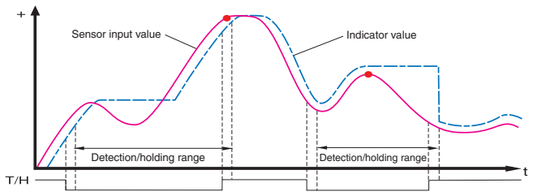
Sample holding

Holds arbitrary point as of when the holding signal is received.



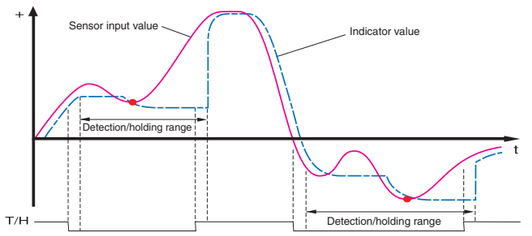
Peak holding at all ranges

Holds maximum (peak value) at plus direction.



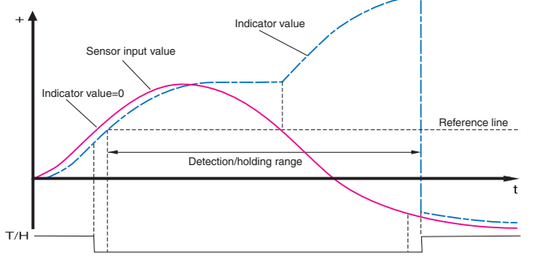
Bottom holding at all ranges

Holds maximum (bottom value) at minus direction.



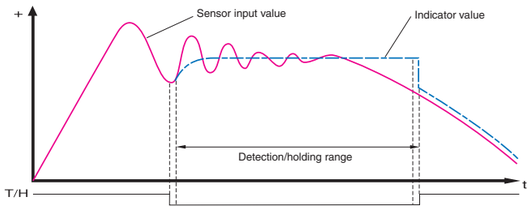
P-P (Peak to Peak) holding at all ranges

Holds maximum difference between peak and bottom values.



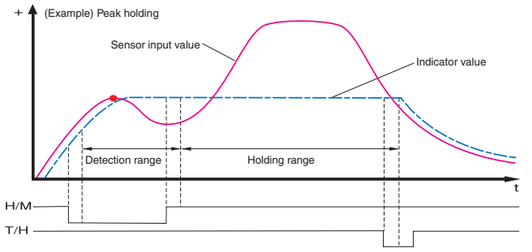
Mean holding at all ranges

Calculate and update mean and holds it.



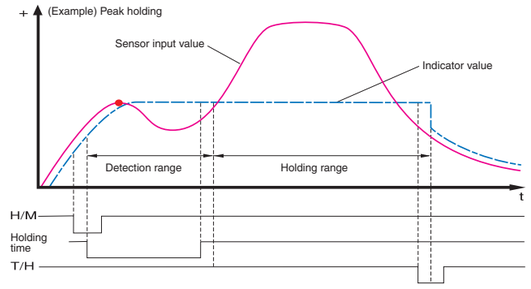
External specified range holding (Peak, bottom, P-P, mean)

Calculate and update mean and holds it.



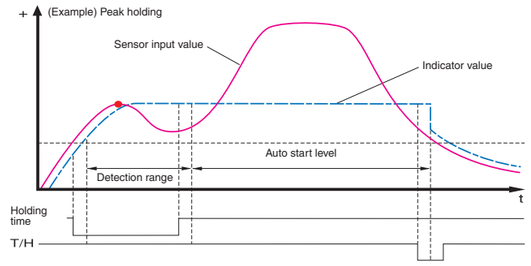
Timer specified range holding (Peak, bottom, P-P, mean)

A method that shifts the holding within the set timer (hold time) for detect range upon activation of trigger.



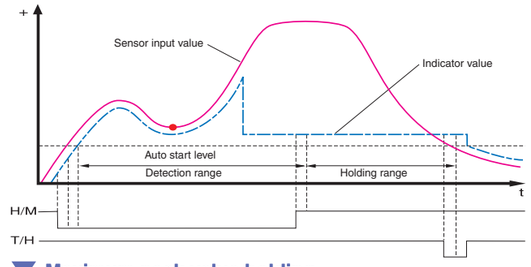
Trigger timer specified range holding (Peak, bottom, P-P, mean)

A method that shifts the holding within the set timer (hold time) for detect range when the indicator value exceeds the auto-start level.



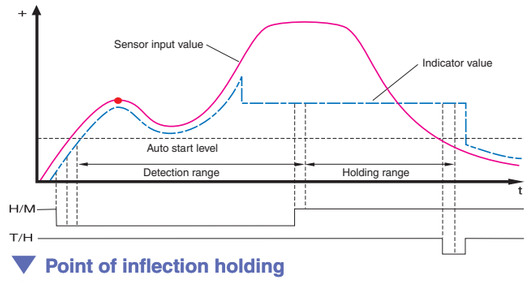
Minimum peak value holding

Detects minimum and holds it when the indicator value exceeds the auto-start level.



Maximum peak value holding

Detects maximum peak value and holds it when the indicator value exceeds the auto-start level.



Point of inflection holding

Detects point of inflection and holds it when the indicator value exceeds the auto-start level.