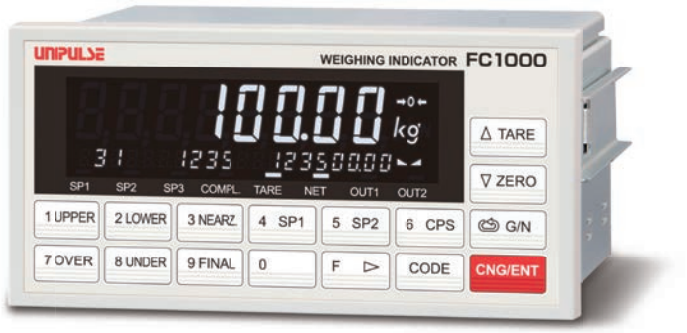
FC1000

STANDARD TYPE WEIGHING INDICATOR

CC-Link DIN 144×72 RoHS2 WATER&DUST PROOF



New Standard for Weighing Indicator!!
Significantly improved basic-performance. SD memory card is supported.

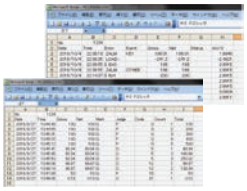
SD card slot

You can write and read setting parameters from SD cards, while recording weighing results & data when abnormalities occur.



- Calibration value & Error logs are automatically recorded
  You can identify the indications of faulty load cells and replacement timing. Date & time of errors occurred can be displayed, as well as the record of how the errors are made (through key control, communication, I/O, etc).

- Data recording of weighing results
  Monitor management of raw material, equipment operation rate and so on. Long-term trend can be observed as well.



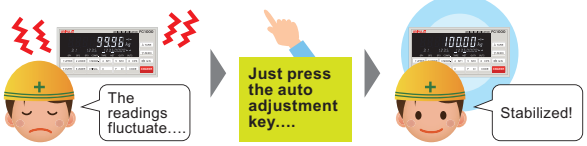
- Restore setting parameters with just one touch
  - You can copy setting parameters to another replaced FC1000.
  - Multiple FC1000s can use the exact same settings.
  - You can restore the initial setting when you first install FC1000. (It will be saved as initial value separately from the setting parameters)

Depth of 99 mm

Miniaturization of control panel & panel space saving.

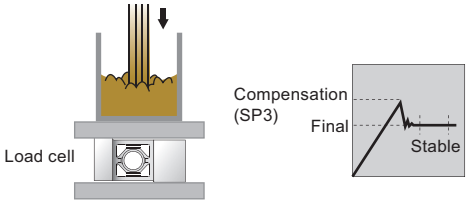
High performance filter & Auto filter adjustment

With combination of the low pass filter (0.1 to 300 Hz) which corresponds to various vibration and the moving average filter (OFF, 2 to 512) that is effective for periodic vibration, the automatic searching for optimal value with accuracy and stability can be achieved. (You can manually adjust the settings too)



Minus compensation

High-pressure liquid filling & powder feeding can be done.



Equivalent to IP65 protection

By placing the rubber seal when mounting on the panel, the front panel can be protected from moisture and dust damage.

High sampling rate & resolution

High-speed A/D conversion and powerful digital processing capability of 1200 times/sec. (Convertible to 300 times/sec.) High resolution of 1/100000 (max). Measurement can be performed quickly and precisely due to high speed A/D conversion.

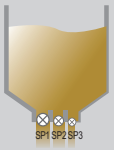
Load cell signal level display (-2.5 to 5.1 mV/V)

The output signal level of load cell can be displayed in mV/V for monitor purpose.Malfunction indicator or faulty sensor can be differentiated easily.

Total weight control functiont

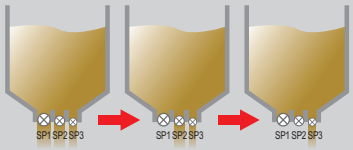
The batch weighing with a low capacity scale enables the fast and accurate measurement of larger total weight.

【Coarse feeding】



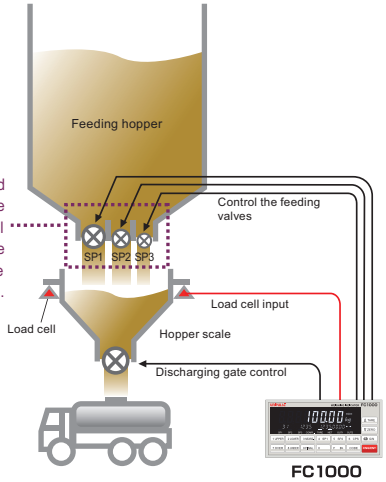
All three feeding valves are opened fully for faster weighing.

【Fine feeding】



The batch weight is adjusted automatically based on the target total weight, and the feeding is controlled in three steps (SP1/SP2/SP3) for more accurate weight measurement.

At first,【coarse feeding】is performed with lower accuracy. But, when the total weight reaches to the total weight set point, the weighing mode automatically switches to【fine feeding】with the higher accuracy. higher accuracy.



Bright white LCD display with the useful 20 digits sub display

The sub display can be used to show the cumulative weight, code/preset number, etc….



6 digits display

24 bit A/D convertor enables 6 digits display.

Memory for 32 weight settings

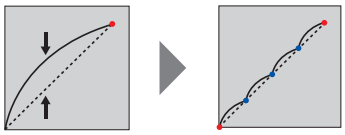
32 different weight settings can be saved in the memory and selected through I/O or interface. Batch weighing can be performed easily.

Equivalent input calibration

Theoretical calibration can be performed easily by registering the capacity and rated output of load cells.

Multipoint calibration (Linearization)

Three additional points can be defined in the middle between zero and span for better linearity.
Even though the scale has poor linearity, it can be corrected to be a highly accurate scale.



Specifications

Analog	Excitation voltage	DC 5 V±5% Output current: Within 90 mA Remote sense type (Up to six 350 Ω load cells can be connected in parallel)
	Signal input range	−2.5 to +5.1 mV/V
	Zero adjustment range	Automatic adjustment by digital processing −2.5 to +2.0 mV/V
	Span adjustment range	Automatic adjustment by digital processing 0.02 to +3.0 mV/V
	Linearization function	Can calibrate up to 3 points other than zero/span
	Min. input sensitivity	0.15 μV/count
	Accuracy	Non-linearity: Within 0.01% FS Zero drift: 0.0002% FS/℃ typ. Gain drift: 1 ppm/℃ typ.
	Filter	Variable low-pass filter 0.1 to 300 Hz Moving average filter OFF, 2 to 512 times
	A/D converter	Speed: 1200 times/sec., 300 times/sec. (dependeing on setting) Resolution: 24 bit (binary)
Display	Display unit	7-segment LCD display Main display: 8 digits (14.4 mm character height), sub-display: 20 digits (4.3 mm character height)
	Display value	5 digits sign: negative display at the highest digit (Up to 6 digits)
	Unit	None/ kg/ g/ t/ lb/ N
	Decimal point	0, 0.0, 0.00, 0.000
	Weight errors	"LOAD": sensor signal level is above the signal input range, "-LOAD": the sensor signal level is below the signal input range, "OFL1": the Net weight is over the limit, "OFL3": the GROSS weight is over the limit
	Display frequency	1, 3, 6, 13 or 25 times/sec.
	Status display	SP1/ SP2/ SP3/ COMPLETE/ TARE ON/NET/ OUT1/ OUT2
Setting	Setting method	By operating the membrane keys or through interface
	Memory of set value	Default settings: stored in NOV.RAM (non-volatile RAM) Time: backed up by lithium battery Other setting values: stored in F-RAM (non-volatile RAM)
	Protection of set value	Settings can be protected with the software LOCK
	Setting item	- Upper limit / Lower limit / Near zero / Set point 1 / Set point 2 / Compensation / Over / Under / Final - Comparison inhibit time 1 / Judging time / Complete output time / Compensation feeding time / Number of times for AZ / Number of times for judging / Auto free fall compensation regulation values / Comparison inhibit time 2 / Preset tare value - Weighing function 1 / Weighing function 2 / Weighing function 3 / Sequence mode / Key invalid-LOCK / Discharging time / Motion detection (Period - Range) / Zero tracking (Period) / Zero tracking (Range) - Balance weight value / Minimum scale division / NET weight over / GROSS weight over/ DZ limitation value / Display selection / Gravitational acceleration / Sub-display mode / Sub-display selection - D/A output mode / D/A zero scale adjustment / D/A full scale adjustment / RS-232C/RS-485 setting / RS-232C/RS-485 ID / Transmission delay time / CC-Link I/F setting / CC-Link station number setting / Setting LOCK - Input signal selection 1 / Input signal selection 2 / Input signal selection 3 / Output signal selection 1 / Output signal selection 2 / Output signal selection 3 / Output signal selection 4 / Status display selection / Sampling speed - Total count / SP0 / Total comparison mode / Target total weight (high 4) / Target total weight (under 5) / Total SP1 (high 4) / Total SP1 (under 5) - SD card command 1 / SD card command 2 / Time and Date / Auto adjustment filter / Digital low pass filter / Moving average filter / Extended function selection 1 / Extended function selection 2 / Total weight control function - Average weight value / Maximum weight value / Minimum weight value / General standard deviation / Sample standard deviation / Number of data / Latest data / Maximum-Minimum / Option display - Span calibration / Equivalent span calibration / Equivalent zero calibration / Linearize calibration 1 / Linearization calibration 2 / Linearization calibration 3 / Linearization Calibration / Calibration Point Confirmation / Password / Zero Calibration

External signal	Output signal (12 points)	Selectable/configurable Open collector output Vceo = 30 V, Ic = 120 mA
	Input signal (8 points)	Selectable/configurable Non-voltage contact input (internal circuit power supply voltage 12 V)
Interface	SIF: 2-wire type serial interface SDC: SD card slot 232 or 485: Select either RS-232C or RS-485 interface(Please specify when ordering) CCL: CC-Link interface (option) BCO: BCD parallel data output interface (Option) DAC: D/A converter current output (Option)	
General specification	Power supply voltage	AC 100 to 240 V (+10%-15%) (Free power source 50/60 Hz)
	Power consumption	5 W typ.
	Operating conditions	Operation temperature: -10 to +50℃ Storage temperature: -20 to +60℃ Humidity: 85% RH or less (non-condensing)
	Dimension	144(W) × 72(H)× 109(D) mm (Not including projections)
	Weight	Approx. 850 g
Attachments	AC input cord (Nominal rating 125 V) 3 m ..... 1 FCN series I/O connector (with cover) ..... 1 Load cell input connector ..... 1 Operating tool ..... 1 Jumper wire ..... 2 SD card 1 GByte ..... 1 Rubber seal for dust & drop-proof protection ..... 1 Quick manual ..... 1 CC-Link connector (when CC-Link option is selected) ..... 1 D/A converter connector (when DAC option is selected) ..... 1 BCD output connector (when BCO option is selected) 1	
Optional accessories	CAAC2P-B3: AC input cord 3 m (Same as the attachment) CAAC3P-B3: AC input cord 3 m CA325AC3P-B3: AC input cord 3 m CAAC3P-CEE7/7-B2: AC input cord (voltage resistance: 250 V) 2 m CA325AC3P-CEE7/7-B2: AC input cord (voltage resistance: 250 V) 2 m CN21: BCD output connector CN34: D-sub9p connector for RS-232C CN50: FCN series I/O connector (with cover) (Same as the attachment) CN55: FCN series I/O connector (with diagonal cover) CN71: CC-Link connector CN72: Double row connector for CC-Link CN78: Load cell input connector (Same as the attachment) CN86: 3p connector D/A converter PNL-CONV: Panel cutout size conversion plate (144×72 → 192×96) SD1G: SD card 1 GByte (Same as the attachment) SD16G: SD card 16 GByte SD32G: SD card 32 GByte	

* 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

FC1000 □ □
① ② ③

① Standard unit

② Interface selection

Sign	Interface
232	RS-232C
485	RS-485

③ Option interface

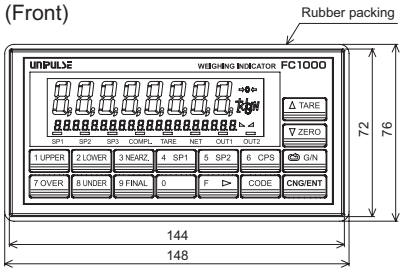
Sign	Interface
Standard	SI/F, SD slot

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

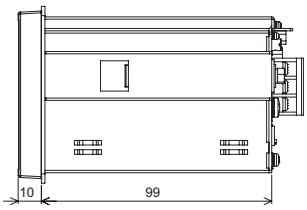
CCL	CC-Link
BCO	BCD output (Sink type)
DAC	D/A converter (Current output)

External dimension

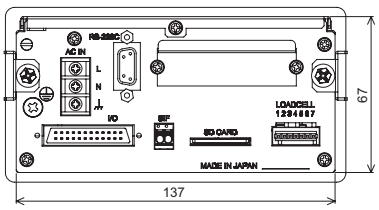
(Front)

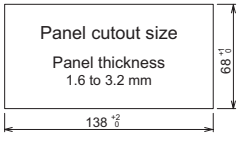


(Side)



(Rear)





Unit: mm