FC400-CCL
FC400-DAC
FC400-EIP
FC400-ECT
FC400-232

UNIPULSE NEW!

DIN-RAIL MOUNT WEIGHING INDICATOR

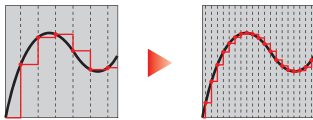**CC-Link**
EtherCAT
EtherNet/IP
CE RoHS2

It is suitable for many weighing applications such as hopper scale, packing scale, weight level meter, etc….

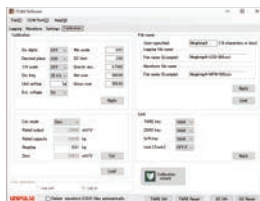|	
FC400-CCL	A weighing system can be configured easily using CC-Link network.
FC400-DAC	Either voltage or current output, corresponding to the indicated value, is available.
FC400-EIP	A weighing system can be configured easily using EtherNet/IP network.
FC400-ECT	A weighing system can be configured easily using EtherCAT network.
FC400-232	Measured data and results can be collected using RS-232C network.

High sampling rate & resolution

High-Speed A/D conversion and powerful digital processing capability of 1200 times/sec.
High display resolution of 1/100000 (max).

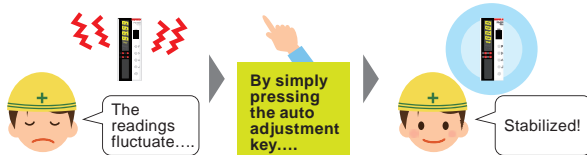Measurement can be performed quickly and precisely due to high speed A/D conversion.

Application software for USB interface

With communication through USB interface, logging, graph display, setting parameters, and calibration can be done.

High performance filter & auto filter adjustment

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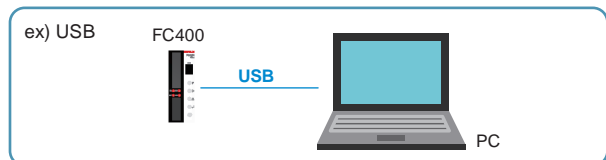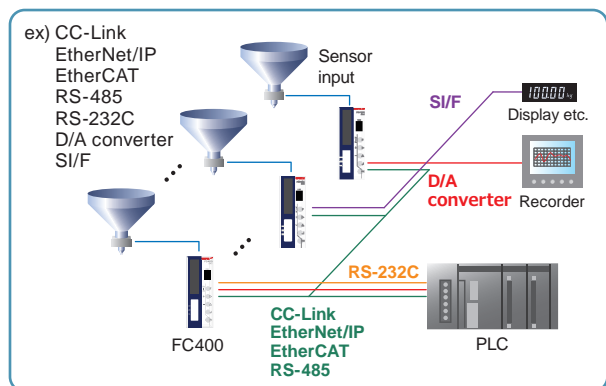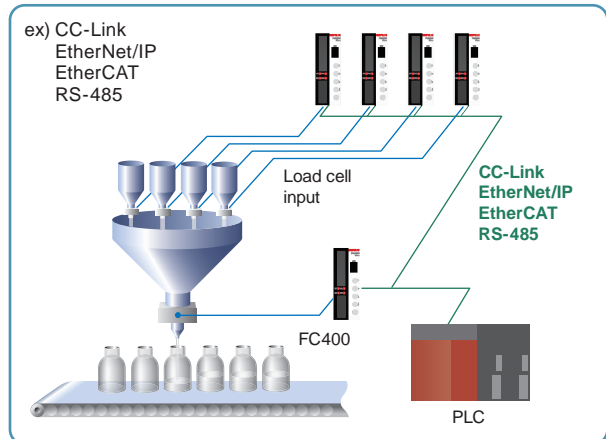
The readings fluctuate….

By simply pressing the auto adjustment key….

Stabilized!

Compact size

It can be fit into a limited space!
Light weight & compact body for 35 mm DIN rail mount.

Various interfaces

FC400-CCL	Equipped with CC-Link, SI/F, USB interface
FC400-DAC	Equipped with D/A converter, RS-485, USB interface
FC400-EIP	Equipped with EtherNet/IP and USB interface
FC400-ECT	Equipped with EtherCAT and USB interface
FC400-232	Equipped with RS-232C, SI/F, USB interface

ex) CC-Link
EtherNet/IP
EtherCAT
RS-485

Load cell input

**CC-Link
EtherNet/IP
EtherCAT
RS-485**

FC400

PLC

ex) CC-Link
EtherNet/IP
EtherCAT
RS-485
RS-232C
D/A converter
SI/F

Sensor input

SI/F
Display etc.

D/A converter
Recorder

RS-232C

FC400

**CC-Link
EtherNet/IP
EtherCAT
RS-485**

PLC

ex) USB

FC400

USB

PC

Basic weighing process control function

Equipped with weighing sequence function to control feeding/discharge gate.

Input conversion value display

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.
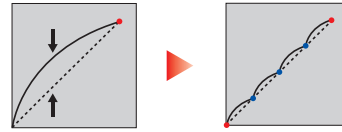
6-digit display

24 bit A/D converter enables 6-digit display

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. Eventhough the scale has poor linearity, it can be corrected to be a highly accurate scale.

Specifications

Analog	Excitation voltage	DC 5V±5% Output current: Within 90 mA DC 2.5V±5% Output current: Within 45 mA (depending on settings) Ratiometric method (Up to 6 350　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 −0.5 to +2.0 mV/V
	Span adjustment range	Automatic adjustment by digital processing 0.01 to 3.0 mV/V
	Linearization function	Up to three point multi-point calibration is possible using linearization function
	Min. input sensitivity	0.15 μV/count
	Accuracy	Non-linearity: Within 0.01% FS Zero drift: 0.0002% FS/℃ typ. * When calibrated by 3 mV/V with 5 V of the excitation voltage Gain drift: 1 ppm/℃ typ.
	Filter	Digital low-pass filter 0.1 to 300 Hz Moving average filter OFF, 2 to 512 times
	A/D converter	Speed: 1200 times/sec. Resolution: 24 bit (binary)
Display	Display unit	Character height 8 mm Numerical display by 7-segment green LED
	Display value	Up to 6 digits.
	Display frequency	Selectable from 1, 3, 6, 13, 25 times/sec.
	Status display	RUN, SD, RD, ERR (FC400-CCL) MS, NS (FC400-EIP) RUN, ERR (FC400-ECT)
External signal	Output signal (5)	Transistor's open collector output Vceo = 30 V, Ic = 50 mA
	Input signal (3)	Selectable/configurable Input is ON when shorted to COM terminal by contact (relay switch, etc.) or non contact (transistor, open collector, etc.). * DC24 V external power supply is required.
Interface		CC-Link interface (FC400-CCL) D/A converter (Voltage and current output) (FC400-DAC) EtherNet/IP interface (FC400-EIP) EtherCAT interface (FC400-ECT) RS-232C interface (Selectable from Modbus-RTU or UNI-Format) (FC400-232) RS-485 interface (Selectable from Modbus-RTU or UNI-Format) (FC400-DAC) SI/F 2-wire type serial interface (FC400-CCL, FC400-232) USB interface

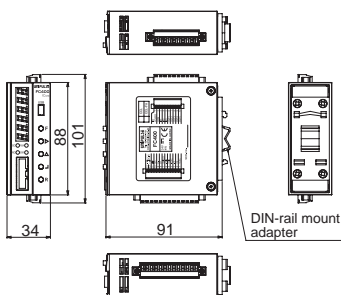| General specification	Power supply voltage	DC 24 V (±15%)
	Power consumption	3 W typ. (FC400-DAC, FC400-232) 4 W typ. (FC400-CCL, FC400-EIP, FC400-ECT)
	Operating conditions	Operating temperature range: -10 to +50℃ Storage temperature range: -20 to +85℃ Humidity: 85% RH or less (non-condensing)
	Dimensions	34(W) × 88(H) × 91(D) mm (Projections excluded)
	Weight	Approx. 210 g (FC400-CCL, FC400-DAC) Approx. 230 g (FC400-EIP, FC400-ECT) Approx. 220 g (FC400-232)
Attachment		Quick manual…2, Jumper wire…2, Mini driver…1, CC-Link connector…1 (FC400-CCL) Various I/O connector (FC400-CCL, FC400-EIP, FC400-ECT)…2, (FC400-DAC, FC400-232)…3
Accessories		CA81-USB: miniUSB-computer USB cable 1.8 m CN74: CC-Link connector (Same accessory as the attached one) CN75: CC-Link connector (Y type branch connector) CN76: CC-Link connector (Terminator connector) CN85: 13 p connector for power source/sensor/RS-485 (Same accessory as the attached one) CN86: 3 p connector D/A converter (Common with RS-232C connector) (Same accessory as the attached one) CN87: 10 p connector for external I/O (Same accessory as the attached one)
CE marking certification		EMC directive EN61326-1

* FC400-ECT is Free Run mode.
* 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.
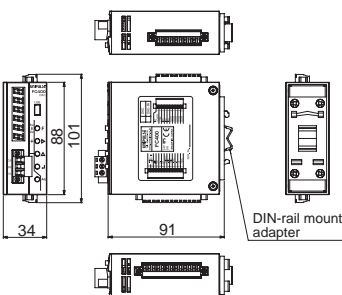
Structure of product code

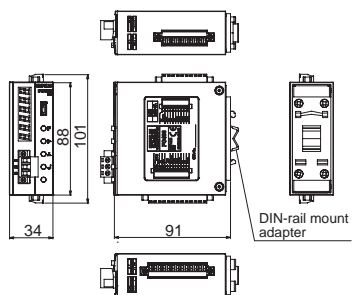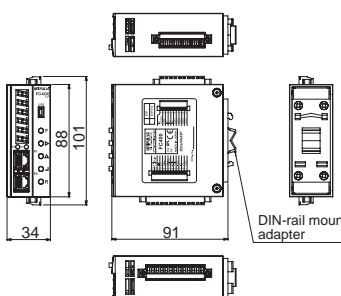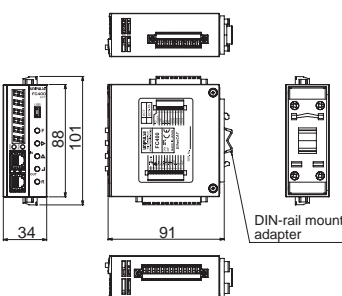| Model	Interface
FC400-CCL	CC-Link, SI/F, USB
FC400-DAC	D/A converter (Voltage and current output), RS-485, USB
FC400-EIP	EtherNet/IP, USB
FC400-ECT	EtherCAT, USB
FC400-232	RS-232C, SI/F, USB

External dimension

■ FC400-CCL

■ FC400-DAC

■ FC400-232

■ FC400-EIP

■ FC400-ECT

Unit: mm

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