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



DIN RAIL MOUNT WEIGHING INDICATOR

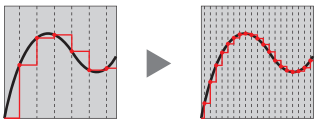
CC-Link EtherNet/IP EtherCAT PROFINET RoHS2

Applicable from fast response measurement to multi-weighing with high accuracy!

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, USB interface
FC400-ECT Equipped with EtherCAT, USB interface
FC400-232 Equipped with RS-232C, SI/F, USB interface
FC400-PRT Equipped with PROFINET IO, USB interface

High sampling rate & resolution

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



Measurement can be performed quickly and precisely due to the 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 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)

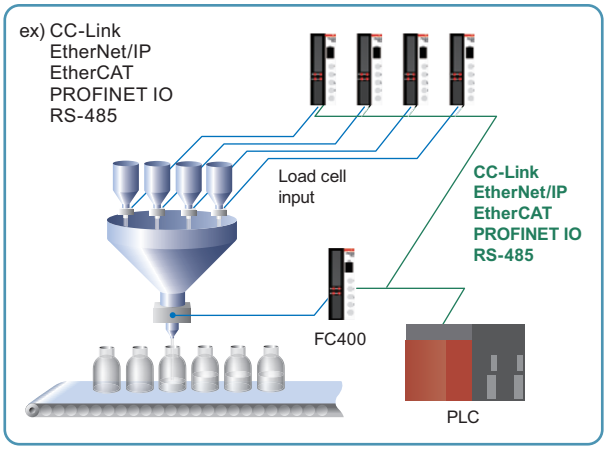


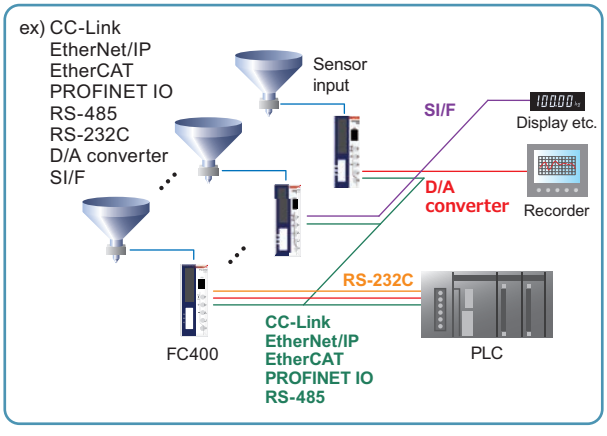
Compact size

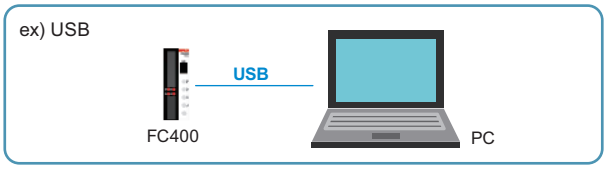
The main body can be fit into a limited space!
Lightweight & compact body for 35 mm DIN rail mount.



Various interfaces







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

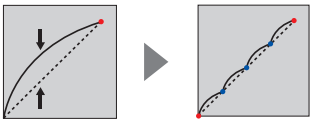
24 bit A/D converter enables 6-digit display

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. 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 DC 2.5 V±5% Output current: Within 45 mA (depending on settings) Ratiometric method (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 -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. Gain drift: 1 ppm/℃ typ. * When calibrated by 3 mV/V with 5 V of the excitation voltage
	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. Resolution: 24 bit (binary)
Display	Display unit	Character height: 8 mm Numerical display by 7-segment green LED
	Display value	Up to 6-digit.
	Display frequency	Selectable from 1, 3, 6, 13, and 25 times/sec.
	Status display	RUN, SD, RD, ERR (FC400-CCL) MS, NS (FC400-EIP, FC400-PRT) RUN, ERR (FC400-ECT)
External signal	Output signal (5 points)	Selectable/configurable Transistor's open collector output Vceo = 30 V, Ic = 50 mA
	Input signal (3 points)	Selectable/configurable Input is ON when shorted to COM terminal by contact (relay switch, etc.) or non contact (transistor, photocoupler, etc.). * DC 24 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) PROFINET IO interface (FC400-PRT) 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, FC400-PRT) 4 W typ. (FC400-CCL, FC400-EIP, FC400-ECT)
	Operating conditions	Operation temperature: -10 to +50℃ Storage temperature: -20 to +85℃ Humidity: 85% RH or less (non-condensing)
	Dimension	34(W) × 88(H) × 91(D) mm (Not including projections)
	Weight	Approx. 210 g (FC400-CCL, FC400-DAC) Approx. 220 g (FC400-232) Approx. 230 g (FC400-EIP, FC400-ECT, FC400-PRT)
Attachments	Quick manual ..... 2 Mini screwdriver .....1 Jumper wire ..... 2 CC-Link connector (FC400-CCL) .....1 Various I/O connector (FC400-CCL, FC400-EIP, FC400-ECT, FC400-PRT)... 2 (FC400-DAC, FC400-232)..... 3	
Optional accessories	CA81-USB: USB cable (TypeA-Bmini) 1.8 m CN74: CC-Link connector (Same as the attachment) CN75: CC-Link connector (Y type branch connector) CN76: CC-Link connector (Terminator connector) CN85: 13 p connector for power source/sensor/RS-485(or SI/F) (Same as the attachment) CN86: 3 p connector D/A converter (Common with RS-232C connector) (Same as the attachment) CN87: 10 p connector for external I/O (Same as the attachment)	

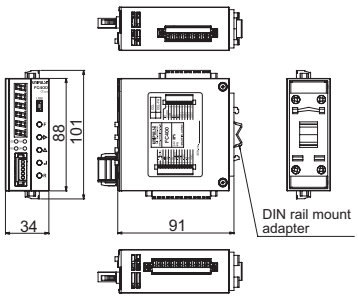
* FC400-ECT is Free Run mode.
* Please note that there are possibilities of individual differences in a color tone on display devices such as LEDs, fluorescent display tubes and LCDs due to manufacturing process or production lots.

Structure of product code

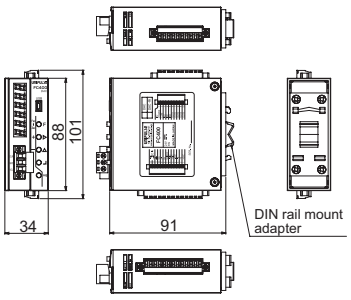
Model	Interface
FC400-CCL	CC-Link, SI/F, USB
FC400-DAC	D/A converter (Voltage and current output), RS-485, USB
FC400-EIP	EtherNet/IP, USB
FC400-ECT	EtherCAT, USB
FC400-232	RS-232C, SI/F, USB
FC400-PRT	PROFINET IO, USB

External dimension

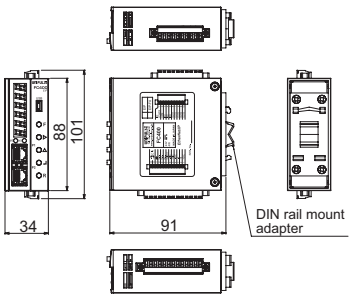
■ FC400-CCL



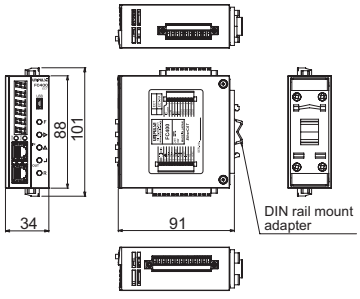
■ FC400-DAC



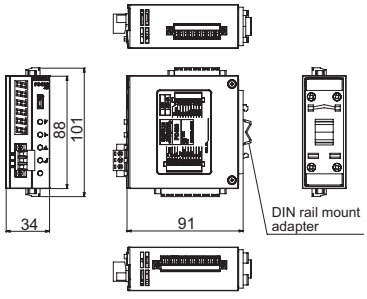
■ FC400-EIP



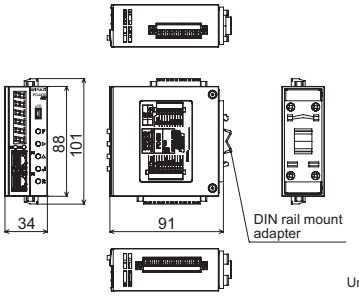
■ FC400-ECT



■ FC400-232



■ FC400-PRT



Unit: mm