Dec. 2021

Obsolete product

Digital indicator
with graphic display / touch panel
F395

Recommended substitute product

Digital indicator
with graphic display / touch panel
FS2000

■ Obsolete date: End of December 2021

■ Difference to recommended substitute product

Product appearance	Outside dimension	Mounting dimension	Product performance	Setting method
☆	☆	☆	☆	☆

◎ : Full compatible, ↑ : Performance improved, ○ : Almost no change, ☆ : Large change, ― : Not compatible

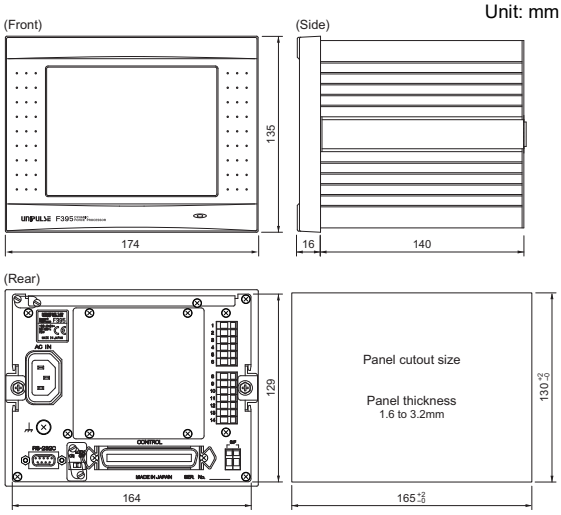
■ Product appearance

Obsolete product: F395	Recommended substitute product: FS2000
	

■ Outside dimension

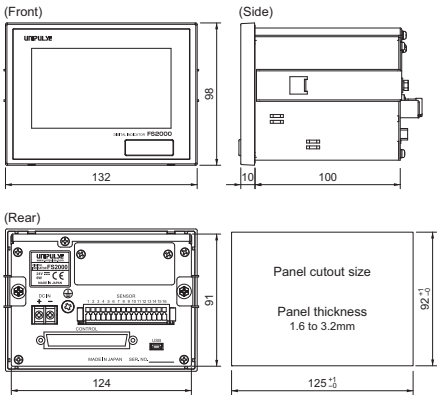
Obsolete product: F395

Unit: mm



Recommended substitute product: FS2000

Unit: mm



■ Specification < Differences >

		Obsolete product: F395	Recommended substitute product: FS2000
Sensor input section		Strain gauge input (4-wire)	Sensor input for load (Fixed as strain gauge input)(6-wire)
	Excitation voltage	DC 2.5V, 10V (depending on settings) Output current: 120 mA or less (for 2 inputs total)	DC 2.5V, 5V, 10V±10% (depending on settings) Output current: within 30mA
	Signal input range	-3.0 to +3.0mV/V	-2.0 to +2.0mV/V
	Equiv. input cal. range	+0.5 to +3.0mV/V, -3.0 to -0.5mV/V	-9999 to +9999mV/V (0 is excluded)
	Equiv. input cal. range error	Within 0.2%/FS	—
	Accuracy	Non-linearity: within 0.02%/FS ±1digit (at 3.0mV/V input) Zero drift: within 0.5μV/ ℃ RTI Gain drift: within 0.01%/ ℃	Non-linearity: within 0.02%/FS ±1digit (at 2.0mV/V input) Zero drift: within 0.1μV/ ℃ RTI Gain drift: within 15ppm/ ℃
	Analog filter	Bessel low-pass filter (-12dB/oct.) Selectable from 10, 50, 200, 600Hz	—
	Digital filter	—	Low-pass filter (-6dB/oct.) Selectable from 10Hz to 10kHz (at A/D converter speed 25000 times/sec) Selectable from 2Hz to 2kHz (at A/D converter speed 5000 times/sec)
	A/D converter	Speed: At 1 input - 4000 times/sec. (max) At 2 inputs - 2000 times/sec. (at max. speed, sensor 2-input measurements) Depending on input waveform, changeable to 100, 200, 500, 1000, 2000 times/sec. Resolution: 16bit (binary) Approx. 1/30000 at 3.0mV/V	Speed: Selectable from 25000, 5000 times/sec. Resolution: 24bit (binary) Approx. 1/20000 at 2.0mV/V
		Voltage input	Voltage input (when equipped with multisensor input option)
	Signal input range	-5 to +5V	-10 to 10V
	Input impedance	5kΩ or more	Approx. 1MΩ
	Equiv. input cal. range	+1 to +5V, -5 to -1V	-99.999 to +99.999V (0 is excluded)
	Equiv. input cal. range error	Within 0.2%/FS	—
	Accuracy	Non-linearity: within 0.02%/FS ±1digit (at 5V input) Zero drift: within 50μV/ ℃ RTI Gain drift: within 0.05%/ ℃	Non-linearity: within 0.02%/FS ±1digit (at 10V input) Zero drift: within 0.2mV/ ℃ RTI Gain drift: within 0.01%/ ℃
	Analog filter	Bessel low-pass filter (-12dB/oct.) Selectable from 10, 50, 200, 600Hz	—
	Digital filter	—	Low-pass filter (-6dB/oct.) Selectable from 10Hz to 10kHz (at A/D converter speed 25000 times/sec) Selectable from 2Hz to 2kHz (at A/D converter speed 5000 times/sec)
	A/D converter	Speed: At 1 input - 4000 times/sec. (max) At 2 inputs - 2000 times/sec. (at max. speed, sensor 2-input measurements) Depending on input waveform, changeable to 100, 200, 500, 1000, 2000 times/sec. Resolution: Approx. 1/27000 at 5V	Speed: Selectable from 25000, 5000 times/sec. Resolution: 24bit (binary) Approx. 1/20000 at 10V

■ Specification < Differences >

		Obsolete product: F395	Recommended substitute product: FS2000
Sensor input section		Current input	—
	Signal input range	-20 to +20mA	—
	Input impedance	Approx. 100Ω	
	Zero/gain adjustment	Via digital processing	
	Equiv. input cal. range	+8 to +20mA, -20 to -8mA	
	Equiv. input cal. range error	Within 0.2%/FS	
	Accuracy	Non-linearity: within 0.02%/FS±1digit (at 20mA input) Zero drift: within 2μA/℃ RTI Gain drift: within 0.05%/℃	
	Analog filter	Bessel low-pass filter (-12dB/oct.) Selectable from 10, 50, 200, 600Hz	
	A/D converter	Speed: At 1 input - 4000 times/sec. (max) At 2 inputs - 2000 times/sec. (at max. speed, sensor 2-input measurements) Depending on input waveform, changeable to 100, 200, 500, 1000, 2000 times/sec. Resolution: Approx. 1/26000 at 20mA	
		Pulse input (Option) (If opted, analog input (loadcell/current/voltage) will exclusively be of Y-axis measurement.)	Sensor input for displacement Pulse input
	Max. input frequency	50kHz	1MHz
	Max. counting range	0 to 65535 1/4, 1/16, 1/64 divider function can be added via setting before the counter.	Approx. 1000000
	External supply power	DC5V (150mA MAX)	DC5V (200mA MAX)
	Applicable sensor	Output stage circuit specification: 1) Open collector (NPN type, Vceo=10V or more, Ice=30mA or more) 2) Line driver (Based on RS-422)	Output stage circuit specification: 1) Standard line driver (Based on RS-422) 2) Multisensor input option Open collector (NPN type, Vceo=5V or more, Ice=10mA or more)
Display section	Display	5.7 inch TFT color LCD module	4.3 inch TFT color LCD module
	Display area	116.8(W)×88.0(H) mm	95.0(W)×53.9(H) mm
	Dot configuration	320×240 dot	480×272 dot
	Measured value display	Y-axis: 4 digits (-9999 to +9999) X-axis: 5 digits (-9999 to +19999) Sign: Display minus sign only on most significant digit of measured indicated value	Load, displacement: -30000 to +30000
	Display frequency	0.1 to 9.9 sec./ display update, selectable	Fixed at 3 times/sec.
Preventive maintenance support	Trend display	—	Showing the trend of measurement data to help finding irregularities at early stage
	Statistics		Using the latest 10000 measured data Displaying number of measurement, OK, NOK
	Screen capture		Saves screen capture data as bmp data
	Work name edit		Work name can be edited and displayed for each Work No.
	Setting list display		Changed setting items comparing to master set values are highlighted
	User management		Login ID and Password

■ Specification < Differences >

		Obsolete product: F395	Recommended substitute product: FS2000
External signal	Compatible connector	Manufactured by DDK 57-30500 or equivalent	Manufactured by OMRON Connector: XM3A-3721 Cover: XM2S-3711 or equivalent
	External output signal	16 points LO1/ OK1/ HI1/ HH1·LL1/ LO2/ OK2/ HI2/ LO displacement1/ OK displacement1/ HI displacement1/ LO displacement2/ OK displacement2/ HI displacement2/ COMPLETE/ WARNING/ Hysteresis return Transistor's open collector output (Emitter=COM terminal); Output is ON when transistor is ON. Rated voltage: 30V, Rated current: 120mA	16 points Hold judgment (load, displacement)/ Load overload/ Measurement complete/ Waveform comparison judgment/ Load & displacement OK/ CPU OK/ SD card OK/ Timing output 1,2 Output type: Sink type/source type selectable. (Source type is option: [ISC]) Output transistor ON at signal ON. To connect an input unit like a PLC, connect plus common for sink type, and minus common for source type. Rated voltage: 30V, Rated current: 30mA
	External input signal	24 points Display after measurement/ Capture start by external signal/ Operation by waveform termination level/ Prohibit touch panel/ Displacement hold cancel/ Backlight ON/ Select HH/LL/ Reset auto code up/ D/Z/ T/H/ H/M/ START/ STOP/ HOLD1 to 3/ CODE1 to 16/ STROBE/ Select output ON when a short circuit occurs at COM terminal by contact (relay, switch) or non-contact (transistor, open collector). Rated current: 10mA or less	16 points Load digital zero/ Displacement adjustment/ Measurement start/ Measurement end/ HOLD1 to 5/ Reset/ Forcibly light up the backlight/ Touch panel lock/ Work change Input type: Plus common/Minus common selectable. (Minus common is option: [ISC]) To connect a transistor, connect NPN output type (sink type) for plus common and PNP output type (source type) for minus common.
Interface		<Standard equipment> SIF: 2-wire serial interface 232: RS-232C interface <Options> Number of installable: 1 ODN: DeviceNet interface CCL: CC-Link interface	<Standard equipment> USB: USB interface <Options> Number of installable: 1 ODN: DeviceNet interface CCL: CC-Link interface EIP: EtherNet/IP interface ETN: Ethernet interface
Option		VI1: ch1 voltage input CI1: ch1 current input LI2: ch2 loadcell input CI2: ch2 current input PUI: Pulse input	ISC: I/O SOURCE board MLT: Multisensor input MLT2: Multisensor input2 FS2000_HYS: Hysteresis
General performance	Power supply voltage	AC100 to 240V (+10% -15%) 50/60Hz	DC24V (±15%)
	Power consumption	25W (50VA) max (at constant 240V AC)	6W typ
	Inrush current	20A, 5msec: 100V AC max. load condition (ordinary temperature, at cold-start) 40A, 5msec: 200V AC max. load condition (ordinary temperature, at cold-start)	2A, 10msec (ordinary temperature, at cold-start)
	Dimensions	174(W)×135(H)×156(D) mm (Projections excluded)	132(W)×98(H)×110(D) mm (Projections excluded)
	Weight	Approx. 2.3kg	Approx. 1.0kg
Attachments (Not including options)		AC input cord (Nominal rating 125V) 2m ... 1 3P-2P AC input cord conversion plug ..... 1 Mini-driver ..... 1 57 series 50P connector for external I/O cord .... 1 Ferrite core ..... 4 Operation manual 1	I/O connector (with cover) ..... 1 Analog connector ..... 1 Operating tool ..... 1 SD card (1GByte) ..... 1 Operation manual 1