



**LIQUID SERVICE FLOW COMPUTER
with TEMPERATURE
COMPENSATOR (Converts in terms of mass)
MODEL : EL4211**

**GENERAL SPECIFICATION
GS.No.GEJ325E-4**

■ GENERAL

Using the most advanced electronic technologies, this digital instrument has been developed specifically to meet the most demanding fluid flow measurement applications where accuracy is the prime requirement.

In response to the flowrate and temperature information of fluid arriving from the sensing terminal, such as a flowmeter, it calculates fluid flow, reduced to the equivalent volume flow under standard conditions, and totalizes the flow.

In addition to meter error curve correction capabilities, a volumetric conversion factor as a quadratic function of temperature is introduced to implement density related weight conversion, giving you increased freedom to optimize compensated calculation.

An analog output and instant flowrate (corrected for meter error, temperature, and converted to mass) output are additional provisions. With a model dedicated only to flow and pressure inputs, the instrument can also carry out calculations as a pressure compensator with temperature value fixed.

■ FEATURES

1. Changing the meter factor, ranges of temperature, pressure, or other parameters, of the companion flowmeter is simple by keystrokes on the front-panel keypad, or by inserting an IC card into the slot.
2. Built around a microprocessor, the instrument carries out calculations entirely in digital signal processing circuits to achieve a high degree of accuracy and reliability.
3. Variables, such as temperature and pressure, can be reviewed on command with the front panel keypad, whether or not calculation is in progress.
4. A nonvolatile memory (E²PROM) retains all parameters and variables. Variables are resettable following a power cycle or reset if so configured.



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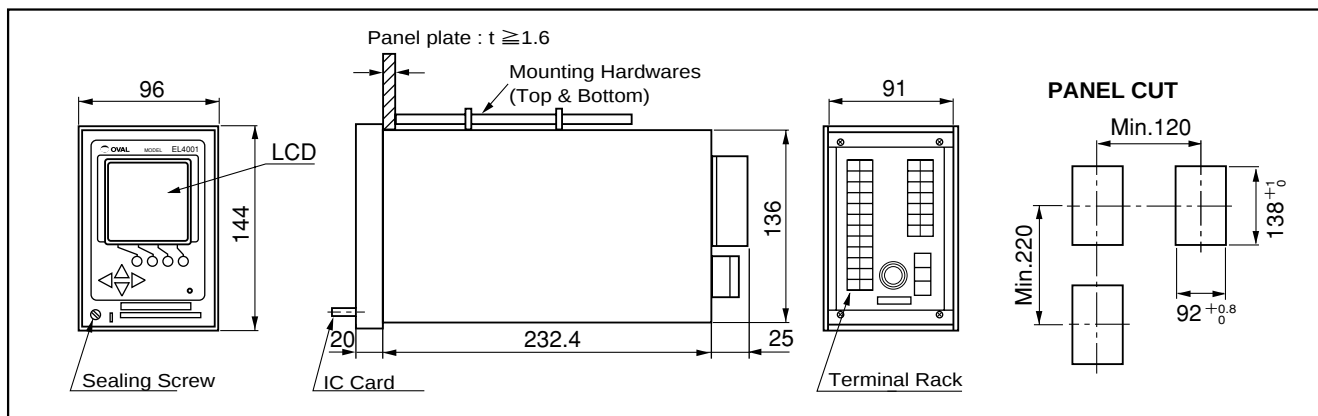
■ GENERAL SPECIFICATIONS (EL4211)

Item			Description				
Input signal	Flowrate input		Type of Signal	Pulse Generator	Power Supply		Response pulse
			8VDC 2wires Current Pulse	OPTO 01,02	8.5VDC	Current Capacity: 40mA */short Protection Circuit Provided	2kHz
			Contact Pulse	PG20	13.5VDC		50Hz
			2wire •12VDC 3wires Voltage Pulse	PG30 NPG60A(F)			24.0VDC
			24VDC, 2wire Current Pulse (4/20mA)	PA14, 15, 25 NPG60A(E)			
			12VDC 2wires Current Pulse	PG30S	13.5VDC		
			Open Collector Pulse	FLOWPET-EG NPG60A(E3)			
	Temp. Input	Thermal resistance bulb	Pt 100 at 0°C, 3wires system, Rated Cated Current: 2mA				
		Analog	4 to 20mADC or 1 to 5VDC				
Output signal	Pulse output	Totalized flow before correction	Open MOS-FET, Capacity : 230VAC/340VDC 0.2A Pulse width : 1ms/50ms				
		Totalized flow after correction					
		Synchronous output to flowmeter input	Open collector pulse Capacity : 30VAC, 20mA				
	Alarm output		Open MOS-FET Capacity : 230VAC/340VDC 0.2A				
	Analog output	Instant flowrate before correction and Instant flowrate after correction	4 to 20mADC (max.Load : 500Ω) or 1 to 5VDC (Output Impedance : 250Ω) Conversion accuracy : ±0.1% of F.S.				
Display mode			ST Displayer (128 x 128dot) w/Back Light Items:Data, Unit, Error message are displayed at a time (※1) (※2)				
Display items	Totalized flow before correction		Same as Output Pulse Unit (m³ etc.)		Display capacity : 8 digits		
	Totalized mass flow after correction		Same as Output Pulse Unit (kg etc.)				
	Instant flowrate before correction		m³/h etc.				
	Instant mass flowrate after correction		kg/h etc.				
	Temperature		2 digits under a decimal point (when °C is selected.)				
	Meter error correction factor		5 digits under a decimal point				
	Temp. correction factor		5 digits under a decimal point				
	Density		5 digits under a decimal point (g/ml etc.)				
	Annunciation of abnormality		No. of Errors + Error Messages				
Computing range	Temperature	Pt100Ω at 0°C	Range : -50 to +350°C		Normal span : 70°C		
		4 to 20mADC or 1 to 5VDC			Normal span : 200°C		
Computing accuracy	Totalized low after correction		±0.2% of R.D.				
	Temperature	Pt100Ω at 0°C	±0.3% of SPAN				
		4 to 20mADC or 1 to 5VDC	±0.1% of SPAN				
Battery for clock IC			Lithium Battery, Life:Approx. 10 years				
Communication (when com. interface is provided.)			Interface: RS485 Multipoint (Up to 16 units can be connected.) Dedicated protocol Baud rate: 4800 bps standard 9600 bps max.				
Transmission cable			Use 3-conductor shielded cable to the resistance thermometer bulb. Loop resist. 5Ω max. Example: 300 meters max. with 3-conductor 1.25mm² cable; 500 meters with 2.0mm² cable				
Power supply			85 to 264VAC, 50/60Hz, or 20 to 30VDC				
Power consumption			20W Max.				
Ambient Temperature			-10 to +50°C				
Installation			Panel mount type				
Finish			Munsell; NI.5				
Weight			Approx. 2.5kg				

※1 : ST display stands for Super Twisted Nematic display.

※2 : Backlight life (luminance declined to one half its original luminance): 2500h approx.

■ OUTLINE DIMENSIONS (Units in mm)



■ PRODUCT CODE EXPLANATION

Item	Code No.						Supplementary Code						Description
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	
Model	E	L	4	2	1	1	—						Liquid-service flow computer with temperature/pressure compensator (converted in terms of mass)
Power Source							6						20 to 30VDC
							7						85 to 264VAC 50/60Hz
Temperature Input							0						None
							1						Pt100Ω at 0°C
							2						4 to 20mADC/1 to 5VDC
							9						Other than above
Output							0						None
							1						Flow rate pulse before and after correction + Analog output after correction + Alarm Output
							2						Flow rate pulse before and after correction + Analog output before correction + Alarm Output
Communication							9						Specials
							0						No
Finish							1						Yes
							1						Munsell N1.5

■ TERMINAL CONNECTIONS

TB1				
1	SUP.	FLOW IN	12	
2	SIG.		13	
3	0V		14	
4	OUT1/1		15	
5	b	TEMP IN	16	
6	B		17	
7	A		18	+
8	+		19	—
9	—	PULSE OUT3	20	+
10	+		21	—
11	—			

※1 : Provided with communication interface

TB2				
1		PULSE OUT2	8	+
2			9	—
3			10	
4	+	ANALOG OUT	11	
5	—		12	
6	+	PULSE OUT1	13	
7	—			

TB3		
	H (+)	POWER
	N (—)	
	GND	

■ TERMINAL IDENTIFICATION

TB1				
No	Display		Description	
1	Flowrate Input	SUP.	—	3 wires Generator
2		SIG.	(+)	2 wires Generator
3		0V	(—)	Synchronous Output to Flowrate Input (O.C)
4		OUT1/1	(+)	
5	Temp. input	b	—	3 wires Pt100 Ω
6		B	—	
7		A	—	4 to 20mADC/1 to 5VDC
8		+	—	
9	Pulse Output 3	—	—	Alarm Output Open MOS-FET
10		Non Polarity	—	
11				

TB2				
No	Display		Description	
1				
2				
3				
4	Analog Output	+	—	Instant mass flowrate after correction
5		—	—	4 to 20mADC/1 to 5VDC
6	Pulse Output 1	Non Polarity	—	Totalized low in mass before correction
7	Pulse Output 2	Non Polarity	—	Open MOS-FET
8				Totalized low in mass after calorie
9				Open MOS-FET
10				
11				
12				
13				

TB3				
No	Display		Description	
1	Power Supply	H (+)	—	85 to 264VAC or 20 to 30VDC
2		N (—)	—	
3	Earth			

Terminal connection screws : M3.5

■ When you make inquiries please state the following:
(fill in blanks or check ☐ with ✓ mark)

Item	Description
1. Product model	EL4211 _____ Quantity _____
2. Flow input	Companion flowmeter model _____ Generator model _____ Meter factor _____ I/P (at 20°C)
3. Temperature input	Resistance thermometer model _____ Temp. input ☐ 4 to 20mADC ☐ 1 to 5VDC ☐ Pt100Ω ※Temp range _____ to _____ °C
4. Fallback Values	Temp. (upper) _____ °C Temp. (lower) _____ °C
5. Flow Output	Output pulse units Total flow, uncompensated _____ I/P Total flow, compensated _____ kg/P
6. Analog	Instant. flowrate full scale _____ to _____ kg/h
7. Finish (instrument frame)	☐ Standard ☐ Customer specified _____
8. Tag No., etc.	

※ : Input range must be the same as computing range.

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