



FLOW COMPUTER

(Compensates for liquid temperature)

MODEL : EL4131

GENERAL SPECIFICATION
GS.No.GEJ323E-5

■ GENERAL

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

In response to the liquid flowrate and temperature information arriving from the sensing terminal, such as a flowmeter, it totalizes the flow while implementing meter error and temperature corrections.

An analog output and instant flowrate (corrected for meter error and temperature) output are additional provisions.

■ 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 (2PROM) retains all parameters and variables. Variables are resettable following a power cycle or reset if so configured.



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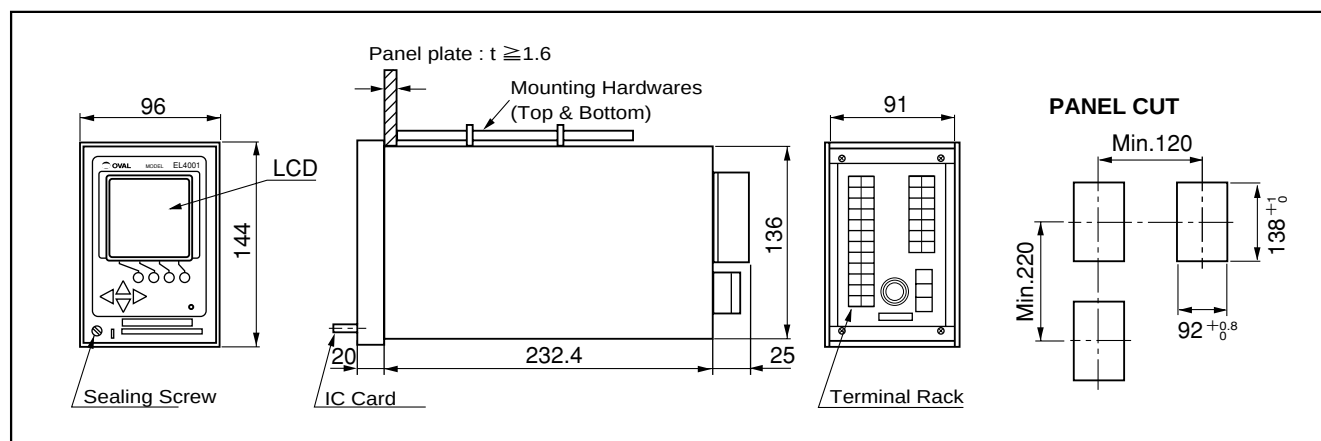
■ GENERAL SPECIFICATIONS (EL4131)

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)			2kHz	
		24V, 2wire Current Pulse (4/20mA)	PA14, 15, 25 NPG60A(E)	24.0VDC			
		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 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				
	Alarm output		Open MOS-FET Capacity : 230VAC/340VDC 0.2A				
	Analog output	Instant flowrate before correction	4 to 20mADC (max.Load : 500Ω) or 1 to 5VDC (Output Impedance : 250Ω) Conversion accuracy : ±0.1% of F.S.				
and Instant flowrate after correction							
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 flow after correction		Same as Output Pulse Unit (m³ (C) etc.)				
	Instant flowrate before correction		m³/h etc.				
	Instant flowrate after correction		m³/h (C) 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				
	Annunciation of abnormality		No. of Errors + Error Messages				
Computing range	Temperature		Pt100 Ω 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 flow after correction		±0.2% of R.D.				
	Temperature	Pt100 Ω 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.

DIMENSIONS (Unit in mm)



MODEL CODE NUMBER

Item	Code No.						Supplementary Code						Description			
	①	②	③	④	⑤	⑥	—	⑦	⑧	⑨	⑩	⑪			⑫	
Model	E	L	4	1	3	1	—							Temperature compensating computer for liquid service		
Power								6						20 to 30VDC	Power Consumption : 20W Max.	
								7								85 to 264VAC 50/60Hz
Temperature Input								0						None (fixed value)		
								1							Pt100Ω at 0°C	
								2							4 to 20mADC/1 to 5VDC	
								9							Specials	
								0						Always [0]		
Pulse · Analog Output								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	
								9							Specials	
Communication								0						No		
								1							Yes	
Finish								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	+	COMM1 (※1)
8	+		19	-	
9	-	PULSE OUT3	20	+	
10	+		21	-	COMM2 (※1)
11	-				

※1 : Model provided with communication interface

TB2					
1		ANALOG OUT	8	+	PULSE OUT2
2			9	-	
3			10		
4	+	PULSE OUT1	11		
5	-		12		
6	+		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 Pt100Ω
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	Analog Output	+		Before correction or instant flowrate after correction. 4 to 20mADC/1 to 5VDC
2		-		Totalized flow before correction
3				Open MOS-FET
4	Pulse Output 1	Non Polarity		Open MOS-FET
5				
6	Pulse Output 2	Non Polarity		Totalized flow after correction
7				Open MOS-FET
8				
9				
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)

1. Product mod	EL4131_____ No. of units_____
2. Flow input sp	Companion meter model _____ Generator model _____ Meter factor _____ I/P (at 20°C)
3. Temp. input spe	Resist. thermometer model _____ Temp. input ☐ 4 to 20mA ☐ ☐ Pt100Ω ☐ JPt100Ω (former JIS) ※Temp. range _____ to _____ °C
4. Fallback valu	Temp. _____ °C (high end) Temp. _____ °C (low end)
5. Flow output spe	Output pulse units Total flow before correction _____ m³/P Total flow after correction _____ m³/P
6. Analog spe	Instantaneous flow rate full scale _____ to _____ m³/h
7. Finish (instrument fram	☐ Standard ☐ Optional color _____
8. TAG No., instrument No., etc.	

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

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