



**FLOW COMPUTER with
TEMPERATURE AND PRESSURE
COMPENSATOR (Converts in terms of mass)
MODEL : EL4201**

**GENERAL SPECIFICATION
GS.No.GEJ324E-4**

■ GENERAL

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

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

In addition to meter error curve correction capabilities, a correction factor "X" as a quadratic function of temperature and pressure is introduced, 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 (2PROM) retains all parameters and variables. Variables are resettable following a power cycle or reset if so configured.



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■ GENERAL SPECIFICATIONS (EL4201)

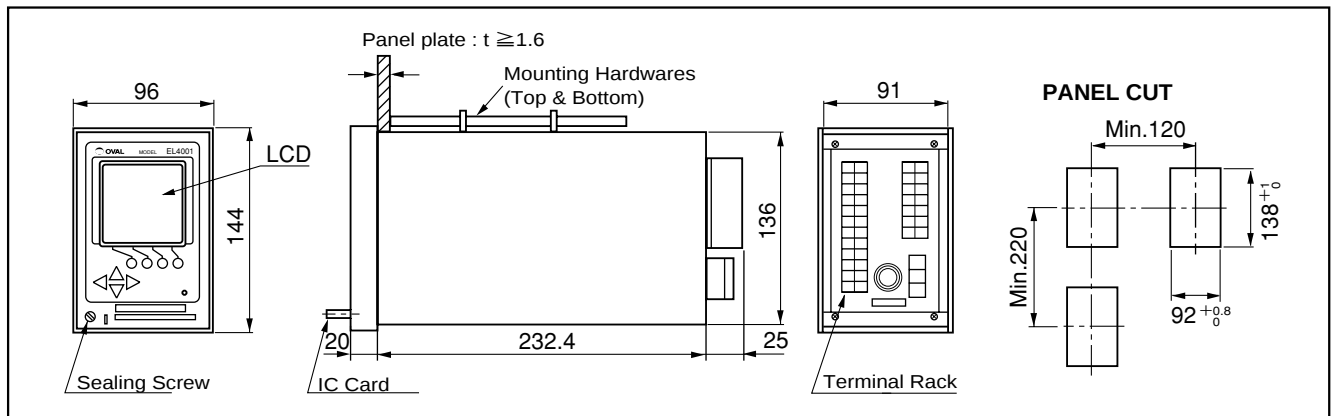
Item			Description				
Input signal	Flowrate input		Type of Signal	Pulse Generator	Power Supply		Response pulse
			Contact Pulse	————	13.5VDC	Current Capacity: 40mA */short Protection Circuit Provided	50Hz
			2wire •12VDC 3wires	————			2kHz
			24VDC, 2wire	PA15, 25	24.0VDC		
			Current Pulse (4/20mA)				
			Open Collector Pulse	————	13.5VDC		
			32VDC, 3wire	PA11			
	Open Collector Pulse						
	Temp. input	Thermal resistance bulb	Pt 100 at 0℃, 3wires system, Rated Cated Current: 2mA				
	Analog	4 to 20mADC or 1 to 5VDC					
Pressure Input		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	Open collector pulse				
		Synchronous output to flowmeter input	Open MOS-FET Capacity : 230VAC/340VDC 0.2A				
	Alarm output		4 to 20mADC (max.Load : 500Ω) or 1 to 5VDC (Output Impedance : 250Ω)				
	Analog output	Instant flowrate after correction	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 ℃ is selected.)				
	Pressure		4 digits under a decimal point (when MPa is selected.)				
	3α correction factor		4 digits under a decimal point				
	Meter error correction factor		5 digits under a decimal point				
	Temp. / Press. correction factor		4 digits under a decimal point				
	Quadratic corr. fctr.		4 digits under a decimal point				
	Density		4 digits under a decimal point (when kg/m³ is selected.)				
	Annunciation of abnormality		No. of Errors + Error Messages				
Computing range	Temperature		Pt100 Ω at 0℃	Range : -50 to +350℃	Normal span : 70℃		
			4 to 20mADC or 1 to 5VDC		Normal span : 200℃		
	Pressure		0 to 3 MPa Normal span : 1/2Pmax. to Pmax. 1/5Pmax. to Pmax. (※3)				
Computing accuracy	Totalized low after correction		1/2Pmax. to Pmax.	±0.2% of R.D.			
			1/5Pmax. to Pmax.	±0.5% of R.D.			
	Temperature		Pt100 Ω at 0℃	±0.3% of SPAN			
			4 to 20mADC or 1 to 5VDC	±0.1% of SPAN			
	Pressure		±0.1%				
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℃				
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.

※3 : Pmax. to be a value corresponding to 20mA (or 5V) in pressure input.

■ 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	0	1	—							Flow computer with temperature/pressure compensator (converted in terms of mass)	
Power Source								6						20 to 30VDC	Power Consumption : 20W Max.
								7							
Temperature Input								0						None	
								1						Pt100Ω at 0°C	
								2						4 to 20mADC/1 to 5VDC	
								9						Other than above	
Pressure Input								0						None (temperature compensation only)	
								1						4 to 20mADC/1 to 5VDC	
								9						Other than above	
Output								1						Pulse of before/atter correction + Analog output after correction + Alarm Output	
								2						Pulse of before/atter 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	+	COMM2 (※1)
10	+		21	—	
11	—				

※1 : Provided with communication interface

TB2					
1	SUP.	PRESS IN	8	+	PULSE OUT2
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	
8		+	4 to 20mADC/1 to 5VDC
9		—	
10	Pulse Output 3	Non Polarity	Alarm Output Open MOS-FET
11			

TB2			
No	Display	Description	
1	Pressure Input	SUP.	+24VDC
2		+	4 to 20mADC/1 to 5VDC
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			Open MOS-FET
8	Pulse Output 2	Non Polarity	Totalized low in mass after calorie
9			Open MOS-FET
10			
11			
12			
13			

TB3		
No	Display	Description
1	Power Supply	H (+)
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 Mod	EL4201 _____ Quantity _____
2. Flow Inp	Companion flowmeter model _____ Generator model _____ Meter factor _____ I/P (at 20°C)
3. Temperature Inp	Resistance thermometer model _____ Temp. input ☐ 4 to 20mADC ☐ 1 to 5VDC ☐ Pt100Ω ☐ Fixed at _____ °C ※Temp range _____ to _____ °C
4. Pressure Inp	Press. Input ☐ 4 to 20mADC ☐ 1 to 5VDC ☐ Fixed at _____ MPa ※Pressure range _____ to _____ MPa
5. Fallback Valu	Temp. (upper) _____ °C Temp. (lower) _____ °C Press. (upper) _____ MPa Press. (lower) _____ MPa
6. Flow Outp	Output pulse units Total flow, uncompensated _____ I/P Total flow, compensated _____ kg/P
7. Anal	Instant. flowrate full scale _____ to _____ kg/h
8. Finish (instrument fram	☐ Standard ☐ Customer specified _____
9. Tag No., et	

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

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