



BLEND OIL with TEMPERATURE COMPENSATED FLOW COMPUTER

MODEL : EL4401

GENERAL SPECIFICATION

GS.No.GEJ342E-3

■ GENERAL

Using the most advanced electronic technologies, this digital instrument has been developed specifically for crude oil and heavy oil blend ratio measurement applications where accuracy is the prime requirement.

In response to the flowrate, temperature, and blend ratio information arriving from the OVAL flowmeter, it converts the flowrate to the equivalent volume flowrate under standard conditions and totalizes the flow.

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



■ FEATURES

1. (1) Changing the meter factor, ranges of temperature and blend proportions, liquid kind, density, or other parameters, of the companion flowmeter is simple by keystrokes on the front-panel keypad.
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 (EEPROM) retains all parameters and variables. Variables are resettable following a power cycle or reset if so configured.

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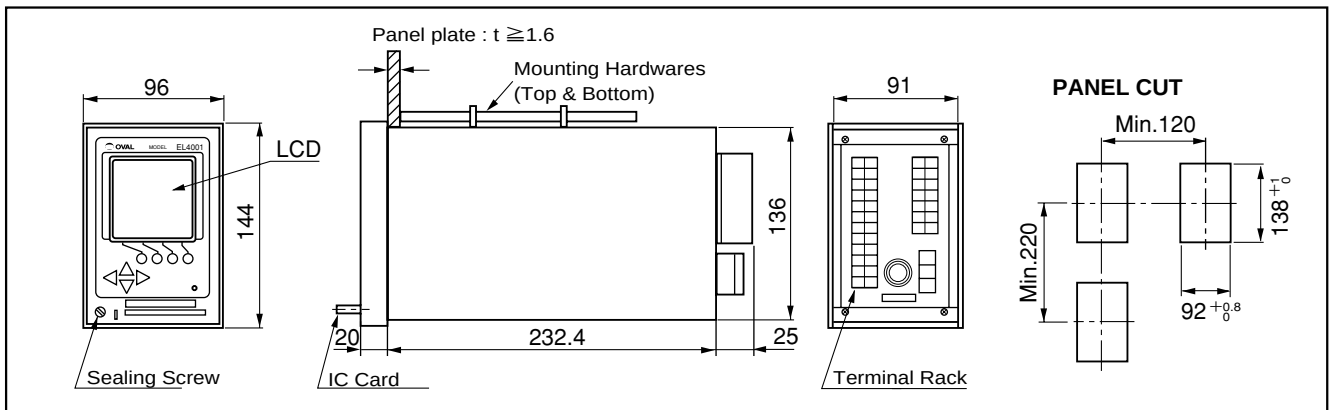
■ GENERAL SPECIFICATIONS (EL4401)

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)	13.5VDC		
			12VDC 2wires Current Pulse	PG30S			
			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				
	Blend 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					
		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	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 (l, etc.)		Display capacity : 8 digits		
	Totalized mass flow after correction		Same as Output Pulse Unit (l, etc.)				
	Instant flowrate after correction		l/h, etc.				
	Temperature		2 digits under a decimal point (when °C is selected.)				
	Blend ratio		2 digits under a decimal point (%)				
	Overall meter error		4 digits under a decimal point				
	Volume conversion factor		4 digits under a decimal point				
	Annunciation of abnormality		No. of Errors + Error Messages				
Computing range	Density range		Crude oil : 0.6105 to 1.0750 Fuel oil : 0.6530 to 1.0750 Lubricating oil : 0.8000 to 1.1640				
	Temperature range		0 to 100°C NOTE: Except the range not covered in JIS K 2249-1995.				
	Reference Temp. range		15°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.

■ 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	4	0	1	—							Blend oil with temperature compensator	
Power								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	
Blend Input								0						None (Fixation)	
								1						4 to 20mADC/1 to 5VDC	
								9						Other than above	
Output								1						Flow pulse of before /atter correction + Analog output after correction	
								9						Other than above	
Communication Capability								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		BLEND 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	4 to 20mADC/1 to 5VDC
8		+	
9		—	
10	Pulse Output 3	Non Polarity	Alarm Output Open MOS-FET
11			
12			
13			
14			

TB2			
No	Display	Description	
1	Blend Input	+	4 to 20mADC/1 to 5VDC
2		—	
3			
4	Analog Output	+	Instant flowrate after correction
5		—	4 to 20mADC/1 to 5VDC
6	Pulse Output 1	Non Polarity	Totalized flow after correction
7			Open MOS-FET
8	Pulse Output 2	Non Polarity	Totalized flow before correction
9			Open MOS-FET
10			

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 Mod	EL4401_____ Quantity_____
2. Flowrate 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 ☐ JPt100Ω (Old JIS) ※Temp. range _____ to _____ °C
4. Blend inp	Blend input ☐ 4 to 20mADC ☐ 1 to 5VDC
5. Fallback Valu	Upper temp. _____ Lower temp. _____
6. Flowrate Outp	Output pulse units Total flow, compensated _____
7. Anal	Instant flowrate after correction full scale _____ to _____
8. Finish (instrument frame)	☐ Standard
9. Tag No., et	

※ : Input range shall be accorded with computing range.

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