



STEAM FLOW COMPUTER

(Saturated steam service)

MODEL : EL4101

GENERAL SPECIFICATION

GS.No.GEJ320E-4

■ GENERAL

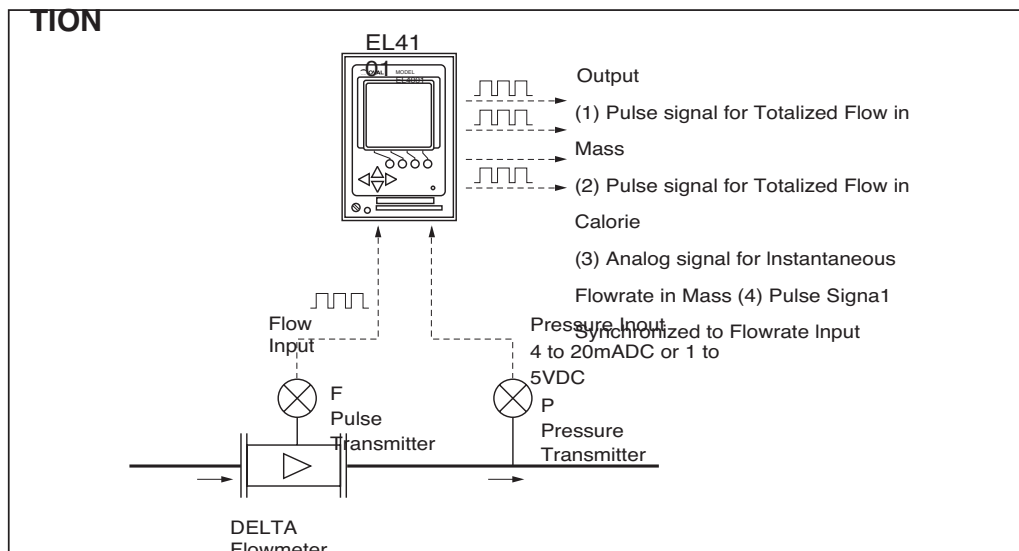
Using the most advanced electronic technologies, this digital instrument has been developed specifically to meet the most demanding steam flow measurement applications where accuracy is the prime requirement. In response to flowrate and temperature information arriving from the sensing terminal, such as a DELTA flowmeter, it calculates "dryness factor of 1" saturated steam flow, transforms it to mass and calorific quantities, and totalizes the flow. It also provides a totalizer pulse output and an instant flowrate analog output (mass equivalent).

■ FEATURE

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.



■ CONFIGURATION



Архангельск (8182)63-90-72
Астана +7(7172)727-132
Белгород (4722)40-23-64
Брянск (4832)59-03-52
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Казань (843)206-01-48

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Мурманск (8152)59-64-93
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Нижний Новгород (831)429-08-12
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сайт: www.oval.nt-rt.ru || почта: oxv@nt-rt.ru

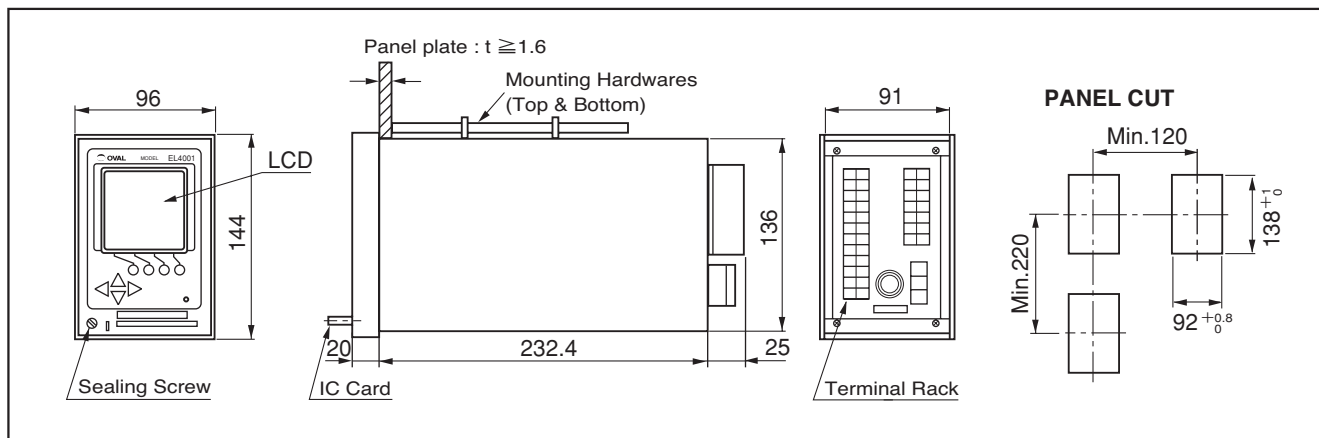
■ GENERAL SPECIFICATIONS (EL4101)

Item			Description						
Input signal			Type of Signal		Pulse Generator		Power Supply		Response pulse
					Contact Pulse		————		13.5VDC
			2wire •12VDC 3wires Voltage Pulse		————		24.0VDC	2kHz	
			24VDC, 2wire Current Pulse (4/20mA)		PA15, 25				13.5VDC
			Open Collector Pulse		————				
			Pressure input		4 to 20mADC or 1 to 5VDC				
Output Signal	Pulse output		Totalized flow in mass		Open MOS-FET, Capacity : 230VAC/340VDC 0.2A Pulse width : 1ms/50ms				
			Totalized flow in calorie						
			Synchronous output to flowrate input		Open collector pulse				
	Alarm output		Open MOS-FET Capacity : 230VAC/340VDC 0.2A						
	Analog output		Instantaneous mass flowrate		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 in mass		Same as Output Pulse Unit (kg etc.)		Display capacity : 8 digits		
			Totalized flow in calorie		Same as Output Pulse Unit (J etc.)				
			Instantaneous mass flowrate		kg/h etc.				
			Pressure		4 digits under a decimal point (MPa etc.)				
			Correction factor 1		5 digits under a decimal point				
			Correction factor 2		4 digits under a decimal point				
			Meter error correction factor		5 digits under a decimal point				
			Meter correction factor		5 digits under a decimal point				
			Sp. Gravity		4 digits under a decimal point (when kg/m³ is selected.)				
			Specific enthalpy		2 digits under a decimal point (when kJ/kg is selected.)				
			Annunciation of abnormality		No. of Errors + Error Messages				
Computing range	Pressure		0 to 3MPa, St'd span:1MPa						
Computing accuracy	Mass flowrate		±0.5% of R.D.						
	Calorific flowrate		±0.6% of R.D.						
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.						
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.

■ DIMENSION (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	0	1							Flow computer for saturated steam
Power Supply							6						20 to 30VDC
							7						85 to 264 VAC 50/60Hz
							0						Always zero
Pressure Input							1						4 to 20mADC/1 to 5VDC
							9						Special
Output							1						Mass · Calorie Flowrate Pulse + Instantaneous Mass Flowrate Analog + Alarm Output
							9						Special
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			16		
6			17		
7			18	+	COMM1 (※1)
8			19	-	
9			20	+	COMM2 (※1)
10	+	PULSE OUT3	21	-	
11	-				

※1 : Model 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			
6			
7			
8			
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 Flowrate
5		-	4 to 20mADC/1 to 5VDC
6	Pulse Output 1	Non Polarity	Totalized Flow in Mass Open MOS-FET
7	Pulse Output 2	Non Polarity	Totalized Flow in Calorie Open MOS-FET
8			
9			
10			
11			
12			
13			

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

Terminal connection screws : M3.5

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

1. Product Mod	EL4101_____ No. of units_____
2. Spec. of Flowrate Inp	Model of Flowmeter to be connected
	Model of a Pulse Generator to be connected
	Meter Factor: _____ I/P (at 20°C)
3. Spec. of Temperature Inp	Model of a Thermo-resistance Bulb: _____
	Temperature Input: ☐ 4 to 20mADC
	☐ 1 to 5VDC
	☐ Pt 100Ω
	☐ JPt 100Ω (The former JIS)
	※Temperature Range: _____ to _____ °C
4. Spec. of Pressure Inp	Pressure Input: ☐ 4 to 20mADC
	☐ 1 to 5VDC
	※Pressure Range: _____ to _____ MPa
5. Value of Fall ba	Pressure: _____ MPa
6. Spec. of Flowrate Outp	Unit of Output Pulse: Mass _____ kg/P
	Calorie _____ MJ/P
7. Spec. of Analog Outp	Full Scale of Instant Mass Flowrate _____ to _____ t/h
8. Finish Color (Fram	☐ Standard ☐ Specified
9. Tag No., et	

※ : Input range shall be accorded with computing range.

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