

F-SERIES **Indicators Totalisers** Transmitters Flow Computers **Batch Controllers** PID Controllers Monitors **Displays FOR** Flow Level **Pressure Temperature**



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Introduction

The F-Series product range offers you an extensive selection of indicators, controllers and monitoring systems for liquid and gas flow applications as well as for level, pressure and temperature measurement. Exceptional functionality in a well designed sturdy industrial enclosure has ensured that the F-Series has become a very popular range of local indicators, controllers and signal transmitters.

Industrial applications

The F-Series has been developed for typical industrial environments. It is rugged and weather-proof through its coated aluminum IP67 / NEMA 4X field enclosure. More cost effective, but industrial, the GRP enclosure offers the same ingress protection rating and is ideal for salty atmospheres. The enclosures can be mounted directly onto sensors, walls or pipes but are also suitable for panel mount applications with one major advantage: it requires minimal depth clearance. The operational temperature specification of the product ranges from -40°C to +80°C (-40°F to +178°F).

Operational

Fluidwell is acutely aware of the excessive amount of equipment which today's technicians need to control. For this reason, a clear user-friendly menu structure was developed: all models are programmed in the same logical manner. The configuration of the unit is completely menu-driven with understandable texts avoiding confusing abbreviations. The Operators main information is displayed with large 17mm (0.7") or 26mm (1") digits and 8mm (0.3") alphanumeric characters. For those applications where readability during day and night is an issue, an adjustable bi-colour backlight is available.

Product configuration

The F-Series functionality is based on two main hardware platforms:

- Fo platform: The products offer one signal input and can have one pulse, alarm or control output. This is our basic product range.
- F1 platform: The products have one or more signal inputs, multiple pulse / control / alarm outputs, analog output and communication option. This is our advanced product range.

Both platforms share the same technology, enclosures and display but are dedicated to their typical functionality. In addition to the extensive selection of models, a wide range of options and are available for the F-Series.

Power management

During the development of the F-Series products, ultra-low power consumption was a key-requirement. Thanks to recent advancements in CMOS technology, Fluidwell has extended the battery life significantly and introduced several smart power-management functions. Result: a battery lifetime of seven years can be achieved. Additionally, several alternative means of powering the F-Series are available: loop-powered, 8 - 24V DC, 24V AC and 115-230V AC. The concern of loosing data in the event of sudden power loss or during battery replacement is ensured with the EEPROM memory: all settings and actual totals are safely stored.



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Input features

The following signals types can be processed with the F-Series:

- Flow-measurement: turbine sine wave (coil) pick-ups, reed-switches, hall-effect sensors and other active or passive NPN / PNP pulse signals, NAMUR sensors and 2 or 3 wire (o)4 - 20mA or o - 10V DC.
- Level measurement: 2 or 3 wire (o)4 2omA or o 1oV DC signals and o - 2oKOhm resistance arrays.
- Pressure measurement: 2 or 3 wire (o)4 20mA or o 10V DC signals.
- Temperature measurement: 2, 3 or 4 wire PT100 (PRTD) elements, thermocouple as well as 2 or 3 wire (o)4 20mA or o 10V DC signals.

Linearization of the input signal, data filter functions and square root calculation are all available to process the input signals.

Output features

Related to the functionality of the selected model, the following output features are available:

 Analog output proportional to the flow rate, level, differential, ratio, temperature, pressure or position. This turns the unit into a powerful transmitter with a local display. The active, passive or isolated (o)4 - 20mA or o - 10V DC analog output can also be used to control actuators with the PI(D) controllers.

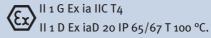
- Transistor or relay outputs for high and low alarms, scaled pulse output, flow-direction as well as the control of valves / relays in batch and level control applications.
- The RS232, RS485 or TTL interface makes it possible to communicate remotely, even with the battery-powered unit.
 All software parameters can be monitored and modified in addition to the usual transfer of data using the Modbus protocol.

Hazardous area installation

The F1-Series can be supplied certified Intrinsically Safe to ATEX and IECEx.

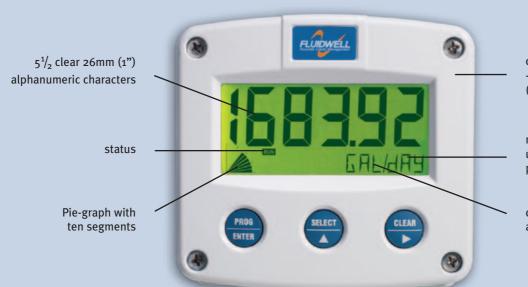
The basic Fo-Series have got the following certifications with an ambient temperature of -40° C to $+70^{\circ}$ C (-40° F to $+158^{\circ}$ F).

• The ATEX markings for gas and dust applications are:



- The IECEx markings for gas and dust applications are: Ga Ex ia IIC T4 and Ex iaD 20 IP 65/67 T 100 °C.
- The CSA c-us and FM markings are: Class I/II/III, Division 1, Groups A, B, C, D, E, F, G, Temperature class T4 and Class I, Zone o, AEx ia IIC T4.

An explosion-proof enclosure is for both series available which is certified in accordance to ATEX (x) II 2 EEx d IIB T5. For more information, visit our website: www.fluidwell.com or request the F-Series Product Catalog.



operational temperature -40°C to +80°C (-40°F to +178°F)

measurement and time units for flow rate, level, pressure or temperature

clear 8mm (0.3") alphanumeric characters



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Product overview

Floudet overview																					
	Flow	rate	/ Tota	lizers							Flow Computers / Controllers										
									linearization			hi/lo alarms						ratio		differentia / sum	
	F010	F011	F012	F014	F110	F111	F115	F120	F016	F112			F113	F117	F126EL	F126 EG	F128	F114	F124	F116	F127EL
	flow rate indicator with very large digits		alizer	alizer tput	S.	s and ts		roller	alizer tput	Ş	analog + pulse output with 2 flow rate alarms	itor	flow rate monitor with max. 4 alarm outputs	totalizer monitor with alarm + analog output	flow + temperature for liquid volume calc.	flow + temp. + press. for gas volume calc.	mption	on ig	-	/ sum	consumption calc. with temp. correction
	te indiery ry larg	.	te / tot	te / tot Ilse ou	nd output	il input outpu	ctional	te cont	te / tot ilse ou	nd output	+ puls flow ra	te mon	te mon alarm	er moni Fanalo	temper id volu	temp	consultion	ılculati nitorin	ntrolle	nption tion	mp. co
	flow rate indicator with very large dig	totalizer	flow rate / totalizer	flow rate / totalizer with pulse output	pulse and analog outputs	2 signal inputs and2 pulse outputs	bi-directional measurement	flow rate controller	flow rate / totalizer with pulse output	pulse and analog outputs	analog with 2	flow rate monitor with 1 alarm output	flow ra max. 4	totalize alarm +	flow + temperature for liquid volume ca	flow + temp. + press for gas volume calc.	energy consumption calculation	ratio calculation and monitoring	ratio controller	consumption / sum calculation	consumption calc. with temp. correcti
(0)4 - 20mA input	•	•	•	•	•	•		•	•	•	•	•	•		•	•	•	•	•	•	
Thermocouple input																					
Pulse input	•			•	•	•			•			•	•	•	•	•			•	•	•
PT100 input															•	•	•				•
0 - 10V DC input	•	•	•	•	•	•		•	•	•	•	•	•		•	•	•	•		•	
Actual flow rate	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Actual total (resettable)		•	•		•	•	•		•		•	•	•	•	•	•		•		•	•
Accumulated total		•	•	•	•	•	•		•	•	•	•	•	•	•	•	•			•	•
Preset and/or actual value								●/●						●/●					●/●		
Actual temperature															•	•	•				•
Actual pressure																					
Actual level and/or percentage																		-/•			
8 / 15 point linearization									•/-	-/•	•/-										
(0)4 - 20mA / 0 - 10V DC output:																					
- acc. to flow rate / temperature					•/-		•/-			•/-	•/-		•/-	•/-	•/-	•/-	•/-	•/-			
- acc. to pressure / level											,		,	,	,	,		,			
- acc. to differential / sum flowr.																				●/●	•/-
- acc. to ratio / totalizer														-/•				•/-		,	,
- acc. to process stage / energy														,			-/•	,			
- control output																	, -				
Pulse output acc. to total																					
High / low alarms																					
(1 stage) control output(s)																					
2 stage control output																					
Overrun correction / no flow alarm																					
Temp. / pressure compensation															1	●/●					•/-
Dual input unit / bi-directional						•/-	-/-							-/•	J /2	- / -					_ /-
Consumption / sum calculation						O /-	-/-							/			•/-			●/●	A /.
External reset total																	_ /-				J /-
External start / stop																					
Display with large digits 26mm(1")																					
RS232 / RS485 / TTL - Modbus																					
Intrinsically Safe/explosion proof																					
LED backlight			_					_	_		_	_	_	_	_	_	_	_	_	_	_



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Product overview																							
Product overview	Batch Controllers				Temperature				Pressure					1 1 49		\				Gen	eral		
					Indicators				Indicators				Level Indicators						Purpose Displays				
							hi, ala				hi/lo alarms				hi/lo alarms		lineari- zation						
	F030	F130	F131	F133	F136	F040	F141	F043	F143	F050	F151	F053	F153	F070	F074	F073	F170	F077	F173	Fo90			F197
	batch controller with 1 control output	with 2 control or pulse outputs	with 2 control/pulse and analog output	delivery controller	with 2 control / pulse and analog output	temperature indicator with very large digits	dual temp. indicator	temperature monitor with 1 alarm output	analog + maximum 4 alarm outputs	pressure indicator with very large digits	dual pressure indicator	pressure monitor with 1 alarm output	analog + maximum 4 alarm outputs	level indicator with very large digits	with one on/off pump/ valve control output	level monitor with 1 alarm output	analog + maximum 4 alarm outputs	level monitor with 1 alarm output	analog + maximum 4 alarm outputs	loop powered indicator with very large digits	modbus display with analog + control output	valve position indicator	setpoint generator with analog output
(0)4 - 20mA input	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•
Thermocouple input																							
Pulse input	•	•	•	•	•																	•	•
PT100 input							•	•															
0 - 10V DC input	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				•
Actual flow rate			•	•																•		•	•
Actual total (resettable)																							
Accumulated total	•	•	•	•	•																		
Preset and/or actual value	●/●	●/●	●/●		●/●																-/•		●/●
Actual temperature						•	•	•	•											•			•
Actual pressure																							
Actual level and/or percentage														●/●	●/●	●/●	•/•	●/●	●/●	●/●	●/-	-/•	●/-
8 / 15 point linearization																		•/-	-/•				
(0)4 - 20mA / 0 - 10V DC output:																							
- acc. to flow rate / temperature			•/-						-/•														
- acc. to pressure / level													●/-				-/•		-/•				
- acc. to differential / sum flowr.																							
- acc. to ratio / totalizer					- 1																		
- acc. to process stage / energy					•/-																	•/-	
- control output					_																	_	
Pulse output acc. to total																_							
High / low alarms				•				•									•		•		•		
(1 stage) control output(s)																							
2 stage control output		- 10	0/0																				
Overrun correction / no flow alarm	- /-	O/O	O/O		•/-																		
Temp. / pressure compensation																						10	
Dual input unit / bi-directional							•/-				• /-											-/•	
Consumption / sum calculation External reset total																							أس
External start / stop Display with large digits 26mm(1")																							أيس
RS232 / RS485 / TTL - Modbus																							
Intrinsically Safe/explosion proof																							
LED backlight																							
LED BUCKUSIII				_	_	_		_	_	_			_	_		_	_	_					



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Standard display - actual size





Distributor:







