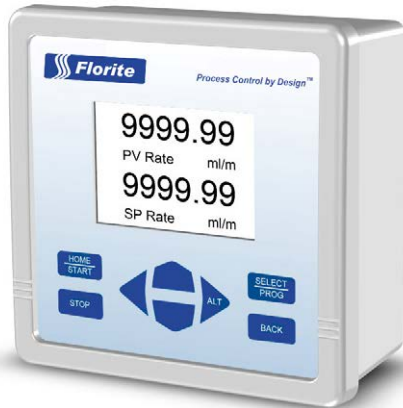


Model 991R



MFC Controller

Power Supply, Readout & Set Point Controller

The Model 991R-MFC is an innovative, technically superior, high quality and reliable microcomputer-based Power Supply, Readout and Set Point controller suitable for any commercial or industrial MFC application.

The secure DA15 connector for the instrument allows quick attachment to any Mass Flow Controller or Meter.

Features

System Basics	<ul style="list-style-type: none">• Menu Driven Graphic Controls• Single Channel Mass Flow Controller• Measurement Accuracy to 0.075%• Instrument Keypad & LWAN Remote Operation• Input Measurements - mA, Volts• Output Controls - mA, Volts
Display & Indicators	<ul style="list-style-type: none">• Large Graphic High-Contrast Backlit Display• Process Measurement and Alarm Status• Audio and Visual Alarm Indicators• See SP and PV values on one screen
Process Control Capability	<ul style="list-style-type: none">• Batch Quantity deliveries• Set Point control• Resettable Dual Totalizer• Valve Override (VOR) control
Communications	<ul style="list-style-type: none">• Built-in RS-232 Serial Communication Port• Multiple Unit Networked Operation• Serial Data Packet Error Controlled• Multiple Network Access Addresses• Remote Serial Computer Control
Alarm Services	<ul style="list-style-type: none">• Input Quantity Alarm• Rate High, Low, Inclusive, Exclusive and Detection
Special Functions	<ul style="list-style-type: none">• Preprogrammed list of units of measure• User Programmable units of measure• Selectable Quantity-Rate Time Base• Universal Input-Output Scaling
Diagnostic Tests	<ul style="list-style-type: none">• Total Self Auto-Diagnostics on Every Power-Up
Mounting Accessories	<ul style="list-style-type: none">• Panel Hardware• Table Top Hardware• Rack Hardware• DIN Rail Hardware
Compliances	CE Class B, RoHS, REACH, FCC 15 Class B, FCC Part 68, UL61010-1, EN 13849-1 Safety and Performance Levels Machinery Directive, EN 61010-1 Low Voltage Directive

Installation and Operation

The instrument set-up and operation is performed via the keypad or using a standard RS-232 serial communication port provided with every 991R-MFC.

Communications

Every 991R-MFC unit comes with an RS-232 port, giving users serial communication capability. Remote readout, set point control, and data acquisition information are all provided via the RS-232 serial communication port.

Operator Controls

The Model 991R-MFC features a large high-contrast backlit graphic display enabling a user to view the real-time Process Variable and the programmed Set Point for each connected device on one screen. Users can rapidly identify and make in-process adjustments in seconds. The easy-to-read display and audio indicators provide immediate status for rates and diagnostic operating status.

Diagnostics

Built-in diagnostic tests support easy installation and assist in ensuring a long, trouble-free operating life. Tests include overall system operating status, memory conditions, communication adapter status, display functionality, and keypad operation on every power-up.

Model 991R



Mounting Options

Our models at a glance



Wall Mount



Panel Mount



DIN Rail Mount



Table Top Mount



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Technical Specifications		
Control Functions	Rate, Batch	
Process Rate	0.00±999,999 unit/timebase	
Measure Type	Rate-Total, Scalar	
Totalize Range	0 to 999,999 units	
Process Input	mA, Volt	
Process Output	mA, Volt	
Programmable Values	Ranges	Off, 0-20mA, 4-20mA, 0-10V, 2-10V, 0-5V, 1-5V
	Rate Time Base	scalar (none), sec, min, hrs, day
	Rate Set-Point	0 to 999,999 units
	Input Signal Interpolate	Lo-Hi Value=0-10.000/20.000 Lo-Hi units=0 to 999,999
	Output Interpolate	Lo-Hi Value=0-10.000/20.000 Lo-Hi units=0 to 999,999
	Pulse Signal Interpolate	0.00 ± 999,999 pulse/qty ratio
	Rate Hi-Lo Alarm	0.00±999,999 units
	Quantity 1 Alarm	0.00-0 to 999,999 units
	Service Time Alarm	0-65,535 hrs
	Programmable Measure Units	5 Chars, a-z, 0-9, A-Z, others
	Pre-programmed Measure Units	mL, mls, mln, l, ls, ln, cm ³ , cm ³ s, cm ³ n, m ³ , m ³ s, m ³ n, g, lb, kg, ft ³ , ft ³ s, scc, sl, bar, mbar, psi, kPa, Torr, atm, Volt, mA, oC, oK, oR, oF, g/cc, sg, %, lb/in ³ , lb/ft ³ , lb/gal, kg/m ³ , g/ml, Kg/l, g/l
Global Functions	LWAN Addresses	Dual 16 characters
	Network Address	0-65,535
	Serial Port Functions	Sio-Wan-Lan
Indicators	Display	Graphic backlit LCD
	Keypad	8 metal dome tactile - [Select-Prog] [Back] [Home-Start] [Stop] [Up] [Down] [Left] [Right-Alt]
	Audio	2.0 KHz, 85 db @ 10 cm
Input Interface	Interface	DA15 plug signal and excitation
	Excitation	4.096V±0.1% reference or +5v at -20mA max
	Analog Voltage	0-10.000V ±0.02% Zi=10K
	Analog Current	0-20.000 mA ±0.02% Zi=100Ω
Output Interface	Interface	DA15 plug signal and excitation
	Analog Voltage	0-10.000V or 0-5.000V FS ±0.02% 22mA limit Zo=0.25Ω range limit <10%FS
	Analog Current	0-20.000mA FS±0.02% Zo=2M source range limit <10%FS
	Aux Signal	-4.0V to +8V @ -/+ 4.0mA
	Power Control	1.0 Amp
Serial Ports	Sio	EIA-TIA232D fdx D9S 9600bps 8N1
Value Memory		Nvram 8Kx8 non-volatile parallel
		Eerom 512x8 non-volatile 100 yr retention, Eerom 256Kx8 non-volatile serial log option
		Static ram 1Kx8 parallel, Static ram 32x8 serial battery backed
Power Required	Volts-Power	-15 to +24 VDC 2.0w
	Jack Unipolar	2.1<or>2.5mm 2A<or>5A center pos UL/CSA
	Plug Bipolar	DE9P 5A rated UL/CSA
Operating Invironment	Operation	32 to 104 °F (0-40°C), 0-95% non-condensing
	Ship-Storage	(-40° to 185°F (-) 40 - 85°C, 0-95% RH non-condensing
	Warm Up	3 sec typical to rated accuracy
Self Diagnostiscs		Memory valid, installation, communication local-remote
Enclosure		Plastic ABS FR1
	Mounting	Frame, panel, table-top, rack mount
	Panel Size	Rectangular 7.67x4.28, R 0.125 4x (195x109, R 3.0 4x)
Compliances		CE Class B, RoHS, REACH, FCC 15 Class B, FCC Part 68, UL61010-1, EN 13849-1 Safety and Performance Levels Machinery Directive, EN 61010-1 Low Voltage Directive

Rev.1_032023_Model 991R_engl • Subject to change without notice



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