

SensorPulse

THE NEXT

REVOLUTION



Single Channel SIGNAL CONDITIONERS

The SensorPulse MSC family of products have begun a revolution in signal conditioning technology. Analog input signals are digitally scaled, amplified, linearized (temperature), and isolated, all within a 12mm wide DIN rail terminal block. MSC signal Conditioners protect valuable measurements, equipment and profits in noisy industrial environments.

THE RIGHT SIGNAL PROCESSING MODULE FOR THE JOB

SensorPulse offers six signal types within the MSC family: Current, Voltage, Thermocouple, RTD, Frequency, and Potentiometer. Each module can be ordered in a Current or Voltage output configuration. All models are engineered to meet high quality and performance standards with advanced features including: 16-bit resolution; two- or three-way optical and transformer isolation (to eliminate the concern of ground loops, common mode signals and noise); short circuit and reverse power protection; and a broad operating temperature range of -40°C to 75°C .

COST-EFFECTIVE, COMPACT DIGITAL DESIGN

The entire MSC family of DIN rail-mounted Signal Conditioners are built on a unique digital design that minimizes size and cost, and maximizes accuracy and reliability. The use of surface-mount digital components also reduces start-up and operating costs, as well as increases reliability by reducing power consumption and heat build-up.

FLEXIBLE, USER-FRIENDLY CONFIGURATION

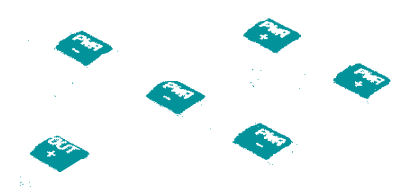
Signal Conditioners are shipped as an application specific factory-configured module, with a standard default signal type and range for true Plug 'n' Play installation. In the event conditions require changes from the default settings, SensorPulse's optional SignalFlex™ software utility gives users the control and security to re-configure the MSC Signal Conditioner across a broad range of parameters — all through any standard Windows®-based PC (or even the new hand held palmtops running Windows® CE). SignalFlex™ minimizes the use of tedious dip switches or other less precise, vibration-prone electromechanical methods, and does not require expensive proprietary hardware devices. Further, configuration change can be made without having to disconnect the unit from the power or control system.

FEATURES

- Plug 'n' Play or re-configure with software.
- Isolated to eliminate ground loops.
- No potentiometers to vibrate and drift.
 - Digital conditioning, CJC, and calibration for higher reliability.
- Small DIN rail terminal block package (only 12mm wide).
- -40°C to $+75^{\circ}\text{C}$ ambient operating range.
- Requires less than 45mA power. No heat sink required.
- 16-bit resolution with 0.05% F.S. accuracy.
- Wide range of inputs: Current, Voltage, Thermocouple, RTD, Potentiometer, Frequency.

MSC family

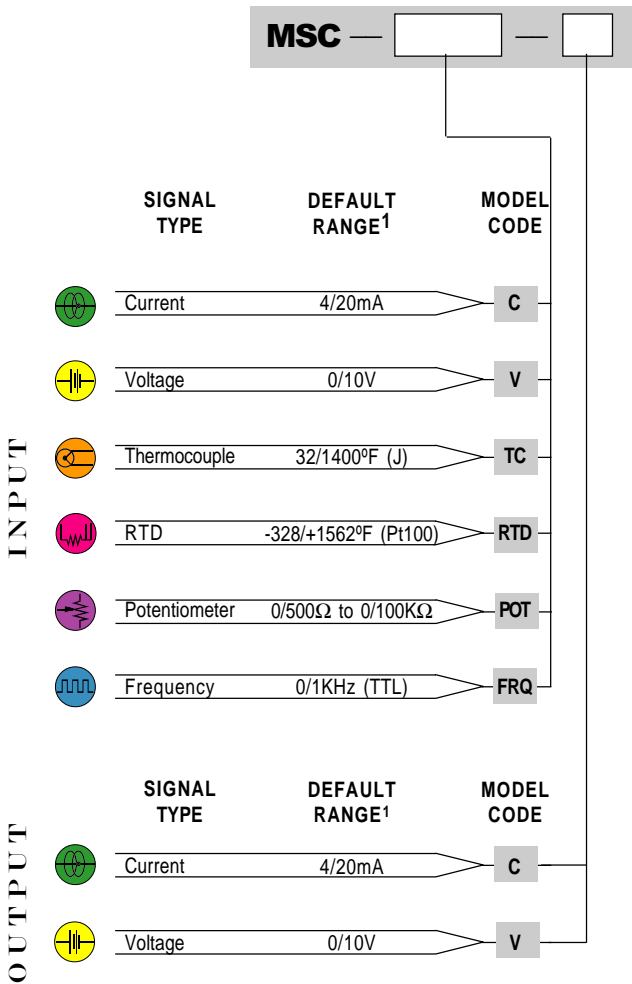
SPECIFICATIONS



nominal specifications (default configurations)

MODEL ORDERING INFORMATION

Build model code here using the chart below:



¹NOTE:
The Plug 'n Play MSC modules are set for a range that is optimized for most applications. The range, as well as other parameters, may be reconfigured and recalibrated by the user through SensorPulse's easy-to-use Windows-based SignalFlex™ software utility.

Take part in a revolution!

PERFORMANCE:

Accuracy, Output repeatability, calibration error) 0.05% Full Scale (includes linearity, repeatability, calibration error)
 Accuracy, Cold Junction Compensation ±0.2°C (-15 to +55°C range)
 Thermal Drift (Stability) 0.01% Full Scale per °C
 Resolution 16-bit (input); 13-bit (output)
 Response Time, 10 to 90% Of Span 150ms@60Hz (input filter), typical (50ms@200Hz, 100ms@120Hz)
 Isolation 1500 Vac.
 3-way (input to output to power)— C, V, TC, FRQ
 2-way (input to output, input to power)— RTD, POT
 Common Mode Rejection 160dB
 Normal Mode Rejection >80dB
 Input Impedance 1GΩ (TC); >55KΩ (V); 82Ω (C)
 Excitation Current (RTD) 150μA
 Excitation Voltage (POT) 1.25V
 Output Impedance >10MΩ (C); -0Ω (V)
 Output Load <600Ω (C); >4KΩ (±10V); >2KΩ (±5V)
 Required Supply 15-32Vdc @ 25-45mA
 Supply Sensitivity 0.001% Full Scale per Volt

FUNCTIONAL:

Input Signal Types Thermocouple (J, K, E, N, T), RTD (Pt100, Ni, Cu), Current, Voltage, Potentiometer, Frequency
 Input Signal Ranges See model code for default settings
 Request entire list of ranges, configurable though SignalFlex™ utility
 Output Signal Types Current, Voltage
 Output Signal Ranges See model code for default settings
 Request entire list of ranges, configurable though SignalFlex™ utility
 Operating Temperature -40°C to +75°C
 Storage Temperature -45°C to +85°C
 Configuration Backup Nonvolatile EEPROM
 Warranty From Defects One year from shipment

PHYSICAL / ENVIRONMENTAL:

Agency Certifications UL, cUL, CSA, CE
 ESD Resistance IEC 1000-4-2 (4KV)
 Transient Protection IEC 1000-4-4 (2KV)
 RFI Immunity IEC 1000-4-3 (10V/m)
 Enclosure Size 88mm/3.5in(H) x 68mm/2.7in(D) x 12.2mm/0.48in(W)
 Enclosure Material Polyamide, flame protection
 Mounting DIN rail (32mm-G and 35mm-H)
 Weight 40g/1.4oz
 Humidity 95%, non-condensing
 Wire Terminal Socketed screw terminals for 12-22 AWG



FOR MORE DETAILS AND THE NAME OF A DISTRIBUTOR, CALL TCP: 800-345-5730

FOR PRIVATE LABEL INQUIRIES, CALL SENSORPULSE'S OEM SALES GROUP: 800-447-5900

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