CIC1F Current to Frequency Converter

Low and High Range | NEMA 4 Enclosure

Specifications

Housing:	Stainless Steel, NEMA 4
Input Signal:	10^{-13} Amps to 10^{-6} Amps
Operating Voltage:	± 5 VDC for logic, ±15 VDC for HV Power supply
High Voltage Supply:	0 to -2000 VDC, -0.5 mA max
Connector, HV:	HN (SHV option available)
Connector, Signal:	HN (TNC option available)
Connector, Ratemeter:	MS3112E14-12P (or MS3110E14-12P) or equivalent
Current Sensitivity:	CIC1FL: 0.5 cps/pA CIC1FH: 1.56 cps/nA
Activity Range:	CIC1FL[A]: 10^{-4} to 10 Rad/hr CIC1FH[B]: 1 to 10^{+7} Rad/hr
Operating Temperature:	-10 to +50 °C
Operating Humidity:	<95% R.H., non-condensing

[A]when used with an Apantec CIC1L Ion Chamber detector

[B]when used with an Apantec CIC1H Ion Chamber detector

The APANTEC, LLC. Model CIC1F is a current to frequency converter designed to convert output current from an ionization chamber detector into pulses suitable for counting by an Apantec RM1 Series radiological display and control unit.

The CIC1F is designed for true charge integration and is suitable for both fast burst (<2 µs) and continuous gamma fields. It provides linearity and accurate measurement of gamma dose rate over a minimum of six decades. The CIC1F is housed in a NEMA 4 qualified wall mount enclosure and can be mounted up to 100 meters away from the detector.

CIC1F with TNC, SHV, and MS connectors.

The CIC1F is provided in two arrangements. For low range applications, the CIC1FL is designed to cover five decades (10^{-4} to 10 Rad/hr) when used with an Apantec CIC1L Ion Chamber detector. For high range applications, the CIC1FH is designed to cover seven decades (1 to 10^{+7} Rad/hr) when used with an Apantec CIC1H Ion Chamber detector.

The CIC1F converter provides biasing voltage to the detector and the circuit for converting the detector output current into TTL level pulses. The pulse frequency is proportional to the measured current from the CIC1H/L. The CIC1F converter is powered by low voltage 15 VDC power provided by the associated RAM series display and control unit.

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