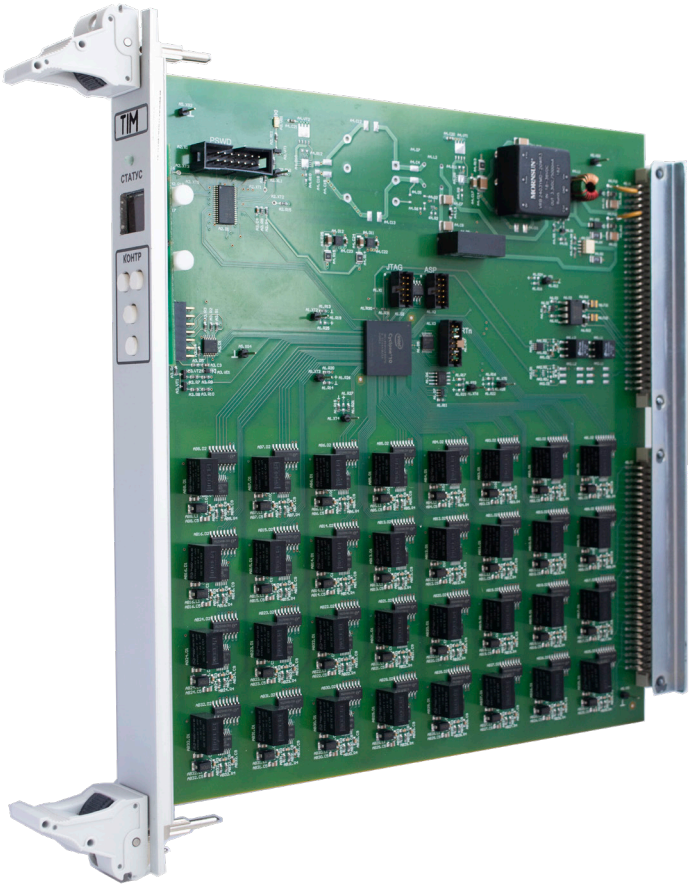
Radiy delivers a digital I&C platform that is robust, flexible, and scalable. It provides state-of-the-art functions, services, and safeguards for applications in industry.
The RadICom product line consists of a Logic Module, basic input/ output modules, and specialty modules all housed in a chassis.

The Thermocouple Input Module (TIM) serves as a high-density thermocouple sensor acquisition module.
It provides for 32 independent, highly reliable, and galvanically isolated inputs with built-in filtering and calibration to be used by the Logic Module.
The TIM also performs robust and continuous self-diagnostics to ensure the safety and integrity of each input and module function.



Thermocouple Input Module (TIM)

- High density 32 channel thermocouple inputs with built-in hardware redundancy and self-diagnostics for highly reliable operation, filtering, calibration, and random hardware failure detection.
- FPGA for analog input processing, self- diagnostics and microcontroller for power control and fail-safe functional behavior as a watchdog.
- IEC 61508 SIL 2 certification in single and multiple channel configurations.
- Robust self-diagnostics ensure higher reliability and early fault detection with safety-focused fault management.
- Segregation of input processing, self-diagnostics, and watchdog functions assure safety-critical functionality.
- Galvanic isolation for signal inputs with robust and-dedicated communication links to Logic Module for secure data transfer.
- Inherent on-board diversity features eliminate commoncause failure vulnerabilities.
- FPGA technology ensures resilience to obsolescence.

20 Years of Proven Innovation for the Global Nuclear Industry

Thermocouple Input Module
Technical Specifications

Supported Sensor Types	Type B, E, J, K, N, R, S, T with internal conversion mV→t °C. Also supports raw millivolts (mV) acquisition (to support any other sensor type with external conversion into temperature performed in Logic Module)
Overall Accuracy	Type B: 0.15% of full scale (@ 25 °C) Type R, S, T: 0.1% of full scale (@ 25 °C) others - 0.04% of full scale (@ 25 °C)
Input Channel Isolation	all input channels are galvanic-isolated up to 250 V RMS AC or 250 VDC field-to-Chassis and channel-to-channel
Overvoltage Protection	±24 VAC/VDC continuous
Information Package Exchange Cycle	5 milliseconds
Diagnostic Package Exchange Cycle	5 milliseconds
LVDS Line Speed	100 megabit/second
LVDS Line Protocol	proprietary protocol with integrity checking (CRC), galvanic-isolated Tx / Rx
Self-Diagnostic Functions	diverse watchdog unit, checksum analysis, active diagnostics with internal fault detection, hardware error detection, functionally diverse continuous self-diagnostic tests, power supply fault detection
Power Supply / Consumption	2 independent inputs – 24 (18 – 36) VDC / 0.85 amp
Indications	bicolour status LED indicator (STATUS) OLED indicator for providing current operational mode, service information, and error codes
Operating Temperature	4.4 to 60 °C (32 to 140 °F)
Operating Humidity	10 to 90% relative humidity, non-condensing

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For more than 20 years Radiy has provided advanced instrumentation and control (I&C) solutions for nuclear power plant modernization and new build projects in the global market. Radiy's main I&C product, the RadICS I&C Platform, was developed specifically for use in nuclear power plants. It is the only FPGA-based I&C platform with a SIL 3 certification in a single channel configuration. Radics, a wholly owned LLC, provides delivery services for the RadICS I&C Platform for international markets to meet local regulatory requirements. Radiy also offers industrial control systems, electrical equipment, and reverse engineering services.

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