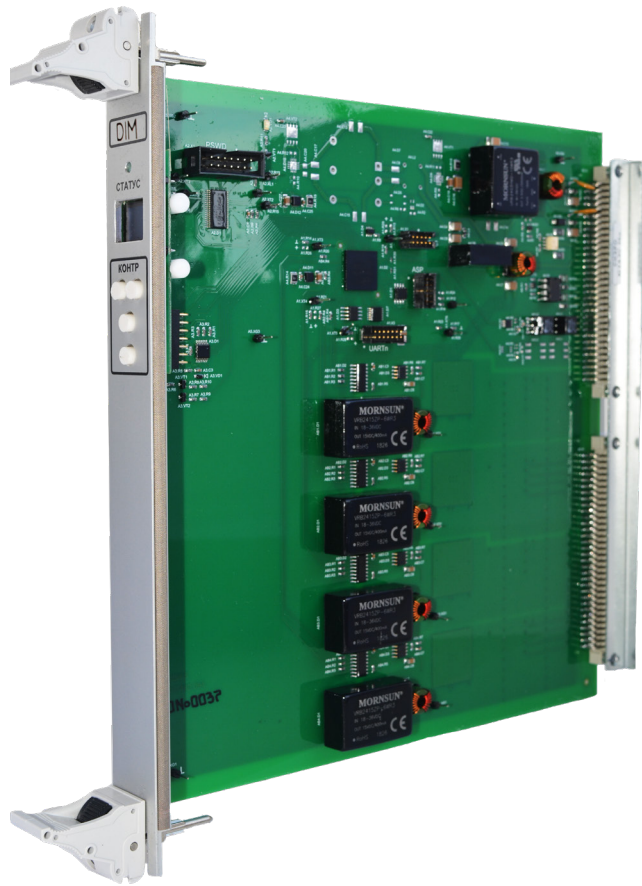




Radiy delivers a digital I&C platform that is robust, flexible, and scalable. It provides state-of-the-art functions, services, and safeguards for applications in industry.

The RadICS B product line consists of a Logic Module, basic input/output modules, and specialty modules all housed in a chassis.

The Discrete Inputs Module (DIM) serves as a high-density discrete dry contact module providing for 64 independent inputs for use by the Logic Module. The DIM also performs robust and continuous self-diagnostics to ensure the safety and integrity of each input and module function.



## Discrete Inputs Module (DIM)

- High density 64 discrete dry-contact inputs with line integrity check.
- Built-in hardware redundancy for hardware failure detection.
- Independent FPGA for analog input processing, self-diagnostics and microcontroller for power control and fail-safe functional behavior.
- IEC 61508 SIL 2 certification in single and multiple channel configurations.
- Robust self-diagnostics ensure higher reliability and early fault detection.
- Segregation of input processing, self-diagnostics, and watchdog functions assures safety-critical functionality.
- Robust and dedicated communication links to Logic Module for secure data transfer.
- Inherent on-board diversity features eliminate common cause failure vulnerabilities.
- FPGA technology ensures resilience to obsolescence.



## Discrete Inputs Module Technical Specifications

Wetting Current For Each Independent Discrete Input	2 milliamps (Form A “dry” contacts)
Input Channel Isolation	all input channels are galvanic-isolated up to 250V DC field- to-Chassis
Input Channel Isolation Method	electric transformers
Overvoltage Protection	up to $\pm 30$ VDC/VAC 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 / 0.4 amp
Indications	Bicolour status LED indicator (STATUS); 64x48 graphical 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

Research & Production  
Corporation Radiy  
29 Akademika Tamma Street,  
Kropyvnytskyi 25009, Ukraine  
inter.project@radiy.com  
www.radiy.com

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.