



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 Discrete Outputs Module (DOM) serves as a high-density module providing for 32 independent, highly reliable, and galvanic isolated discrete outputs. The Logic Module uses the DOM to drive field devices, indicators, and other functions. The DOM also performs robust and continuous self-diagnostics to ensure the safety and integrity of each output and module function.



Discrete Outputs Module (DOM)

- High density 32 channel isolated Form-A, fuse and overvoltage protected, discrete outputs.
- Independent FPGA for discrete output processing and self-diagnostics.
- IEC 61508 SIL 2 certification in single channel configurations.
- Segregation of output processing, self-diagnostics and microcontroller for power control and fail-safe functional behavior.
- Galvanic isolation for signal outputs with 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 Outputs Module Technical Specifications

Output Channel Load Voltage / Current (maximum switching voltage / current)	up to 24 VDC, 0.1 amp, Form A contact
Output Channel Isolation	all output channels are galvanic-isolated up to 250V RMS AC or 250 VDC field- to-Chassis and channel-to-channel
Output Channel Isolation Method	optical relay
Output Overvoltage Protection	up to ± 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.