

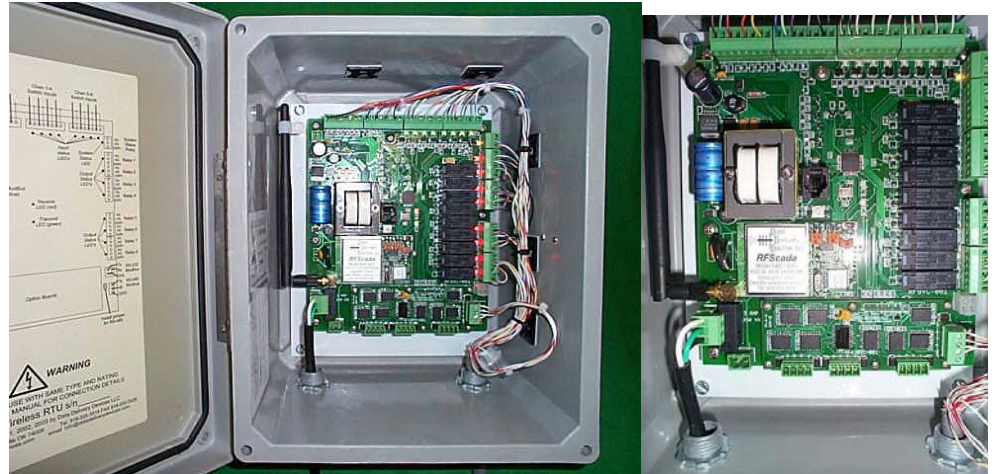


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**Model 8ADI-9DO features...**

- ◆ Up to 256 digital inputs, 256 relay outputs, 256 analog inputs and 256 analog outputs per system. May be configured to route any input to any output.
- ◆ Quickly and easily add wireless I/O to existing systems; compatible with virtually all SCADA systems. Easily expandable in the field to meet future requirements.
- ◆ Cost effective analog output option, just plug in 2, 4 or 8 4-20mA output channels on any unit that needs them.
- ◆ High reliability industrial grade, wide temperature range components.
- ◆ Fully bi-directional and continuous signal exchange ensures each unit is capable of controlling, monitoring and verifying signals at all other units – continuous, positive verification of correct operation.
- ◆ Out of the box 'Plug and Play' operation, pre-configured for your application. Duplicate remote relays, switches and analog signals without inter-connecting 'wires'.
- ◆ All units can revert to a known state upon failure or communication loss, either local or remote within seconds.
- ◆ Modbus configuration, monitoring and control built in. RS-232 and RS-485 interfaces standard.
- ◆ LED and additional relay output indicates the system state and verified communication status.
- ◆ Dual power supply standard (115 VAC or 10 to 28 Volts DC).
- ◆ Long range of up to 15 miles with an internal antenna; much further range with external antennas.
- ◆ Completely prepackaged solution in a corrosion resistant, NEMA 12 enclosure ready to be installed; requires just power and signal connection for operation. Most applications don't require an external antenna.
- ◆ Can use the 900MHz ISM band plus high power VHF or UHF radios
- ◆ Built in control routines for well control
- ◆ No license required for ownership or operation of ISM model in the USA. Fully FCC approved.
- ◆ Highest data integrity with encrypted, secure error rejecting data communication methods to prevent false signals.
- ◆ LED's indicate every input contact state, every output relay state, RF transmit, RF receive and system / Modbus activity.
- ◆ Can communicate with 8ADI-9DO, 4ADI-5DO and 2DI-4DO models.
- ◆ DAQFactory Drivers for easy PC connection, monitoring & control.

**\*\*\* Switch / Relay \*\*\* RFScada \*\*\* Analog 4-20mA \*\*\***  
**VHF / UHF / ISM Bi-Directional Wireless Telemetry**



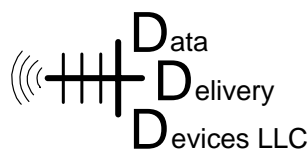
RFScada units provide a complete, high reliability, long range, bi-directional wireless transmission/reception system for remote monitoring and control of discrete signals. The states of eight contact or logic level inputs plus eight 4-20mA analog inputs are transmitted from every unit. Each unit also has 9 relay contact outputs, plus up to 8 analog outputs. A system comprises 1 to 32 units, and simple configuration at the factory or in the field allows each output on every unit to be driven from any input on any unit, for maximum flexibility. Modbus capability, at every unit, is also standard for additional control and monitoring options. The RFScada system has many applications in the SCADA, oil, gas, water, security and other industrial fields.

The RFScada units are designed for high reliability applications such as tanks, pumps, lift stations, wells, access control & monitoring. They provide a very cost effective, alternative solution to overhead cables or digging trenches when connecting to equipment in isolated or in-accessible remote locations.

Unlike competing models the RFScada devices maintain continuous, encrypted **bi-directional** communications, for positive verification of correct operation in all units; plus **immediate indication** of control & monitoring status at every unit. No more guesswork or unknowns caused by 'report on exception' and 'one way transmit' type units, which often give no indication in the case of a failure.

Please consult with the factory for customization or additional options.

**Download the complete documentation & manuals from the web!!**



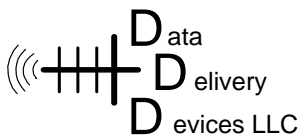
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## Specifications.....Model 8ADI-9D0

Note: specifications subject to change due to continual product improvements. These refer to the SS version; VHF and UHF radio specifications differ.

AC Operating voltage (note 1)	115 VAC +/- 10% 48 – 62Hz
DC Operating voltage (note 1)	10 to 28 Volts DC
AC Power consumption	<0.5 Amp
DC Power consumption	<0.1 Amp no active relays or 4-20mA; 0.7 Amp with all relays & 4-20mA active
On board AC input fuse rating	2 Amp 115 VAC
AC Input transient protection	Yes, 10,000A 120 Joule 150V MOV on board
DC Input transient protection	Yes, electronic fuse and 1500W MOV on board
Enclosure rating	UL 508, CSA and NEMA 1,2,3,4,4X,12, 13 IEC 529, IP66
Enclosure type	Fiberglass with stainless steel hardware
Enclosure door closure types	Lockable snap latch or screw close available
Dimensions	11.75 H x 11.75 W x 6.75 D inches
Weight	8 Pounds
Storage temperature rating	-40°C to +85 °C
Operating temperature rating	-30°C to +75 °C
Humidity	15-95% non-condensing
Minimum telemetry update rate	5 times per second (bi-directional)
Transmission method	Bi-directional, mode and modulation type depend on model
Operating frequency ranges	146-174MHz VHF band, 450-490 MHz UHF band, 902-928 MHz ISM band
RF data encryption method	Proprietary 16 bit cyclic redundancy checking with 25 channel hopping
Signal data encryption method	Proprietary rolling code plus 16 bit cyclic redundancy check
Internal antenna supplied	Yes, 2.1 dB Gain omni-directional half wave dipole (ISM)
Range with internal antenna	Up to 5-7 miles line of sight.
Range with external antenna	Up to 25 miles line of sight.
License required	None (USA)
FCC approved	Yes
Network status transmitted	Yes
Units in a network	1 to 32
Maximum number of inputs in a network	512, 256 digital and 256 analog
Maximum number of outputs in a network	512, 256 digital and 256 analog
Output signal source	Any output may be driven by any input, user programmable
Digital Input signal channels transmitted (per unit)	8 plus communication state
Digital Input channel signal type	Low voltage (5V) contacts or logic level
Digital Input signal voltage required	None
Digital Input signal transient protection	Yes, 600W TVS surge and RF filters
Digital Input signal status indication	Yes, on board LED's, one per channel.
Digital Input signal cable length	Maximum 250 feet recommended
Digital Input signal de-bounce time	Approximately 0.25 second
Analog Input channels transmitted (per unit)	8
Analog Input signal type	4-20 mA grounded or 0-10 VDC (factory configured)
Analog Input transducer on board power supply	On board ~18 VDC with 115VAC or ~1 Volt below DC supply Voltage.
Transducer on board power supply protection	Yes, current limited with electronic fuse
Analog Input transducer power source	May be external or use on board supply
Analog Input transient protection	Yes
Analog Input signal cable length	Max. 250 feet recommended
Analog Input signal accuracy	0.5% (10 bit analog to digital conversion)
Digital output (received) signal channels	8
Digital output (received) status channels	1 for system status
Digital output (received) relay contact ratings	SPDT 10 Amp at 115 VAC, 5 Amp at 30 VDC
Digital output (received) signal indication	Yes, 8 on board LED's, one per channel, show relay states
Digital output (received) system status indication	Yes, on board LED shows system status
Analog 4-20 mA outputs, standard unit	0
Analog 4-20 mA outputs, with option AO2	2
Analog 4-20 mA outputs, with option AO4	4
Analog 4-20 mA outputs, with option AO8	8
Analog out type	4-20 mA non isolated
Analog output power source	On board.
Modbus capability	Built in, every unit is a Modbus RTU slave
Modbus interface built in	Yes, both RS-232 and 2 wire RS-485 on board, jumper selectable
Time to default outputs after system fail	User adjustable, default is 10 seconds
Additional status LED's	3, one each for data transmission, reception and Modbus activity
Inputs that may be monitored by Modbus	Every analog input, digital input and unit DC voltage on the network
Outputs that may be controlled by Modbus	Every analog output and digital output



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