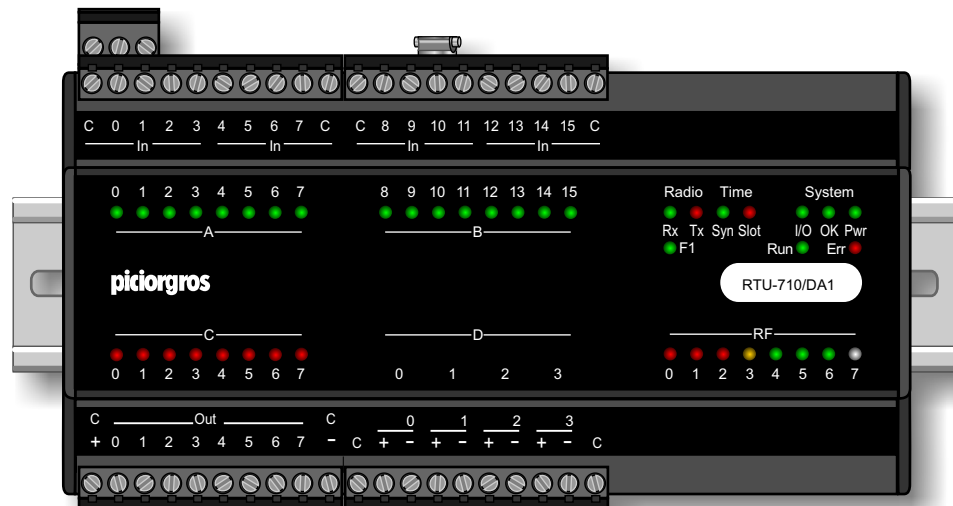# RTU-710H/DA1 Radio Remote I/O Module

The RTU-710H/DA1 is remote I/O module with on-off, analog inputs and on-off outputs. Event counting and time totalizing functions can be enabled for on-off inputs. An optional PicoLogo Micro-PLC feature allows the RTU-710H/DA1 to act as an autonomous micro-PLC. All I/Os are electrically isolated from the module's electronic circuits.

On-off inputs: The 16 opto-isolated on-off inputs can be connected to input switching circuits with arbitrary polarity in groups of 4. Each on-off input can be enabled with a 16-bit event or time totalizing counter. On-off inputs can switch at rates up to 10 Hz.

On-off outputs: The on-off output switching PNP transistors are also opto-isolated and can switch loads of up to 500 mA at 12-24 VDC.

Analog inputs: The analog inputs accept 0-20 mA or 4-20mA current loop signal, or 0-10 VDC voltage signal, converting these to digital values with 12-bit resolution.

Extension modules: The RTU-710 has a local I/O expansion port via which PEM I/O Extension Modules can be bus-connected to increase the number of I/O's of an RTU-710 station. When an RTU-710 is powered on, it first checks this I/O expansion port and automatically determines the number and types of its local I/Os.

RF field strength indication: An 8-segment bar graph LED display on the front face of the RTU-710 indicates received radio signal strength. This simplifies commissioning and identification of radio communication problems. A central control system connected to the master station of the radio network can read field strength values of RTU-710 slave stations by interrogating the appropriate register.

Routing: The RTU-710 has built-in routing capabilities by means of which specific slave stations can be accessed through radio repeater links each with up to 31 intermediate stations. Radio data message frames are automatically routed from the master station to the destination slave station and in the reverse direction.

Pico-Logo soft-PLC: The RTU-710 is optionally available with the PicoLogo soft-PLC feature that gives it autonomous logic control and other micro-PLC capabilities.

Plug-in screw-terminal connections: All I/0 connections are made through high quality screw-terminal plug-in block connectors. Panel wiring can therefore be done if necessary before RTU modules are delivered.

RTU-710H/DA1 Radio Remote I/O Module

Specifications

Function:	Radio remote I/O slave station with on-off and analog inputs, and on-off outputs.
Max. RF transmit power:	P_{out} up to 6W ERP
Frequency range:	410-470 MHz
On-off inputs:	16 on-off inputs, potential-free, of which: • 8 inputs are user-configurable each with a 16-bit time-totalizing counter • 8 inputs are user-configurable each with a 16-bit event counter • Optional: 2 pulse/frequency inputs
On-off outputs:	• Standard: 8 solid-state PNP outputs, potential-free • Optional: 16 solid-state PNP outputs, potential-free
Analog inputs:	• 4 analog inputs: 4-20 mA, 0-20 mA, or 0-10 VDC.
Auxiliary functions:	• Maximum value (peak) detection • Minimum value (valley) detection • Averaging
I/O expansion interface:	Supports up to 16 daisy-chained Type PEM I/O Extension Modules
RF field strength indication:	LED 8-segment bar-graph display of received RF signal strength.
Radio repeater operation:	Transparent over max. 31 repeater stations
Power supply voltage:	12 - 24 VDC nominal (9.6 - 28.8 VDC operating)
Enclosure:	Aluminum pressure die-cast housing, DIN rail mounting. Protection class: IP-65
Operating temperature:	-20ºC to +70ºC