



MODBUS RTU TO ANALOG OUTPUT CONVERTER

DDRIO SERIES



DATA BRIDGE
D Y N A M I C

SYNOPSIS

- THE MODBUS RTU TO ANALOG OUTPUT CONVERTER IS AN INDUSTRIAL DEVICE DESIGNED TO INTERFACE MODBUS RTU COMMUNICATION WITH STANDARD ANALOG CURRENT LOOPS. IT READS PROCESS VALUES FROM MODBUS RTU REGISTERS AND CONVERTS THEM INTO PROPORTIONAL ANALOG SIGNALS IN THE 4–20 MA RANGE, WHICH ARE WIDELY USED FOR INDUSTRIAL AUTOMATION, PLC/DCS INTEGRATION, AND INSTRUMENTATION SYSTEMS.
- THE CONVERTER ACTS AS A MODBUS RTU SLAVE/MASTER, RECEIVING COMMANDS FROM A MODBUS MASTER/SLAVE (PLC, SCADA, HMI, OR CONTROLLER) OVER RS-485. BASED ON THE CONFIGURED REGISTER MAPPING AND SCALING, IT GENERATES ONE OR MORE ISOLATED 4–20 MA OUTPUTS. THESE OUTPUTS CAN DIRECTLY DRIVE ANALOG INPUT MODULES, INDICATORS, OR ACTUATORS.
- THIS SOLUTION ENSURES SEAMLESS INTEROPERABILITY BETWEEN DIGITAL MODBUS NETWORKS AND LEGACY ANALOG CONTROL SYSTEMS. IT IS PARTICULARLY USEFUL IN APPLICATIONS WHERE ANALOG SIGNALS ARE STILL REQUIRED FOR CONTROL LOOPS, MONITORING, OR INTERFACING WITH THIRD-PARTY EQUIPMENT.

FEATURES

- 8 Channel 4-20mA/0-10V (Factory Configurable), 14-bit
- DAC Provision to set Parameter Range for each channel
- Compact Din rail Mounting
- Modbus RTU RS485
- Compact Din Mount
- Multi-Function Display
- Provision to set
- Plug and play Device
- Industry Compliant
- Modular Architecture
- Rugged Durability

APPLICATIONS

- Process Automation
- Retrofit old machines with new devices
- Sub-station Automation
- Input to Output Expansion / Integration
- Building Automation
- Automotive Industry
- Process Optimization

PIN SETTINGS

- | | |
|---------------------|----------------------|
| 1. ANALOG OUTPUT 01 | 9. ANALOG OUTPUT 07 |
| 2. ANALOG OUTPUT 02 | 10. ANALOG OUTPUT 08 |
| 3. ANALOG OUTPUT 03 | 11. NC |
| 4. GND | 12. NC |
| 5. ANALOG OUTPUT 04 | 13. DC24V + |
| 6. ANALOG OUTPUT 05 | 14. DC24V - |
| 7. ANALOG OUTPUT 06 | 15. RS485 A |
| 8. GND | 16. RS485 B |

TECHNICAL SPECIFICATIONS

HARDWARE

CPU	8 bits CPU
RAM	64KB Internal SRAM
ROM	256K bytes Flash ROM
Watchdog	Built in H/W Watchdog timer
Modbus RTU Slave	

ANALOG OUTPUT

Outputs	08 Channel 4 - 20mA
DAC resolution	14-bit
DAC accuracy	0.1 % FS
Isolation Type	Isolated(2KV) Digital to Analog

SERIAL INTERFACE

Port number	1
Port Type	RS-485 * 1 Port
Connector	Terminal Block
Speed	9600 bps to 115.2 Kbps
Parity	None, Odd, even
Data Bit	7, 8
Stop Bit	1
RS-485	Data+, Data-
Protection	485 Surge & Over Current and built in 15KV ESD protection

POWER

Operating Voltage	24 VDC
Power Consumption	Maximum 5 Watt
LED	PWR, Rx, Tx

DISPLAY FEATURES

Display	2 Digits Multi-Function Display
Modbus	MODBUS Setting (ID, Baud rate & Parity Setting)
Configuration	Push Buttons

ENVIRONMENTAL

Operating Temperature	0°C to + 70°C
Storage Temperature	-40°C to + 85°C
Operating Humidity	10% to 95% non-condensing
Storage Temperature	5% to 95% non-condensing

MECHANICAL

Dimension	23 * 100 * 150 mm (L * W * H)
Weight	150gram
Mounting	Polyamide (PA66)

ORDERING CODE

DDRIO 8AO M

DDRIO	Databridge Dynamic Compact Remote IO's
8AO	8 *Analog Outputs
M	Modbus RTU