



REV080114



Gateway

DigiGate-Profibus

Introduction



DigiGate Profibus is the ideal equipment for interconnecting a Profibus DP network with a Modbus RTU network. It works as a gateway, operating as a master station in the Modbus network and as a slave station in the Profibus network. Thus, according to its previous configuration, **DigiGate** will read the data of the other devices (slaves) of the Modbus network and send the read values to the Profibus master. In the same way, it will write at the output of the Modbus slaves according to the Profibus master requests, providing a complete control of the Modbus network devices through the Profibus network.

The device is totally configurable through the application **DigiConfig** for Windows®, which comes with the product, making access and change of its parameters really easy.

Features



Profibus

- Protocol: Profibus DP
- Operates at the entire range of communication rates, from 9600 bps to 12 Mbps
- Addressing range: 0 to 125
- Automatic detection of supported baud rate
- “GSD” file included
- Termination and polarization resistors included (activated by jumper)
- Profibus connection: DB9 connector

Modbus

- Operates from 1200 bps to 115200 bps
- Termination and polarization resistors included (activated by jumper)
- Protection at the bus: ± 60 Vdc, 15 kV ES

- Commands available for data reading: “01 Read Coil Status”, “02 Read Input - Status”, “03 Read Holding Register” and “04 Read Input Register”
- Commands available for data writing: “05 Force Single Coil”, “06 Preset Single Register”, “15 Force Multiple Coils” and “16 Preset Multiple Registers”

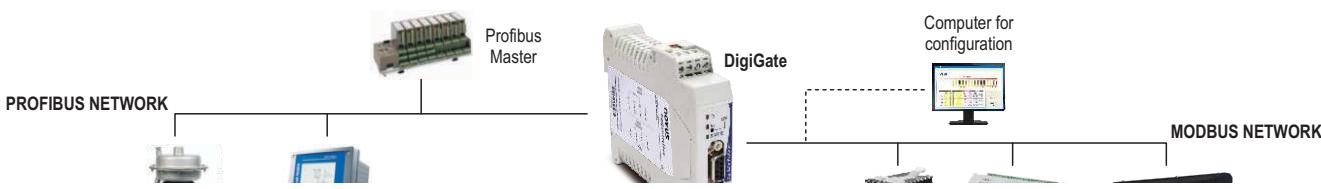
General

- Operating environment: 0 to 50 °C, 30 to 80% of relative humidity, without condensation
- Mounting: DIN 35 mm rail
- Electrical insulation between the Profibus interface and the rest of the device: 1000 Vac
- Power supply: 10 a 35 Vdc. Internal protection against inverse polarity
- Frontal lit indicators for communication and status

Principles of Operation



The data interchange in the **DigiGate** is performed through an internal memory table of the device, which is shared between the Profibus side and the Modbus side. This data interchange mode is very simple, since the Profibus control system will only need reading the data from this table, which is continuously fed and updated through the reading operation performed by the Modbus. In the same way, the Profibus will write the data in this table so that the Modbus can forward the new values to the correct registers of the corresponding slaves.



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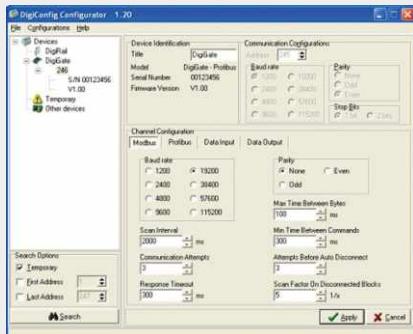
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Modbus Slaves

Configuration

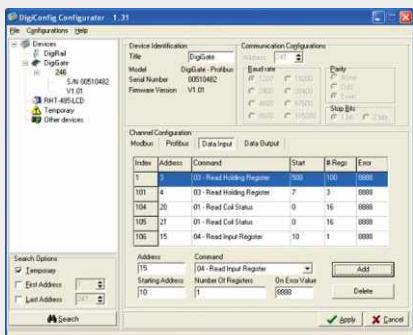
The configuration of the **DigiGate Profibus** is entirely performed by the **DigiConfig** for Windows® software.



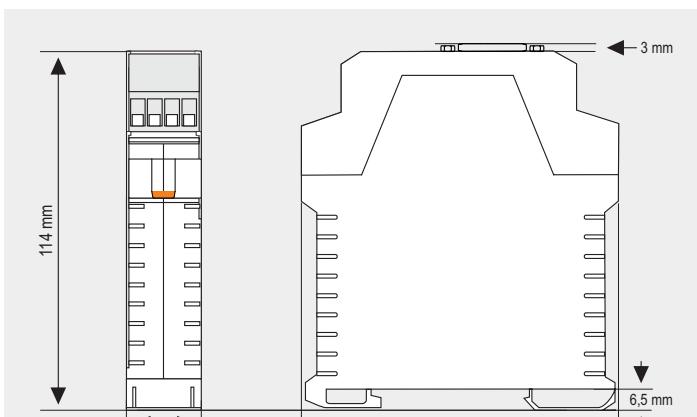
During the configuration process, the Modbus interface of the **DigiGate** will stop working as a master and start operating as a slave. On this condition, a computer equipped with a USB-RS485 is connected to the Modbus interface, and **DigiConfig** software will work as a Modbus network master in order to perform the **DigiGate** configuration.

For setting the **DigiGate** into configuration mode, press the **CFG** key and start the automatic search in the **DigiConfig** software. The **DigiConfig** configuration screen will be exhibited, allowing visualization and change of the parameters. After finishing the configuration process, **DigiGate** will return to the normal operation mode, working as master in the Modbus network (the computer with the **DigiConfig** software must have been disconnected).

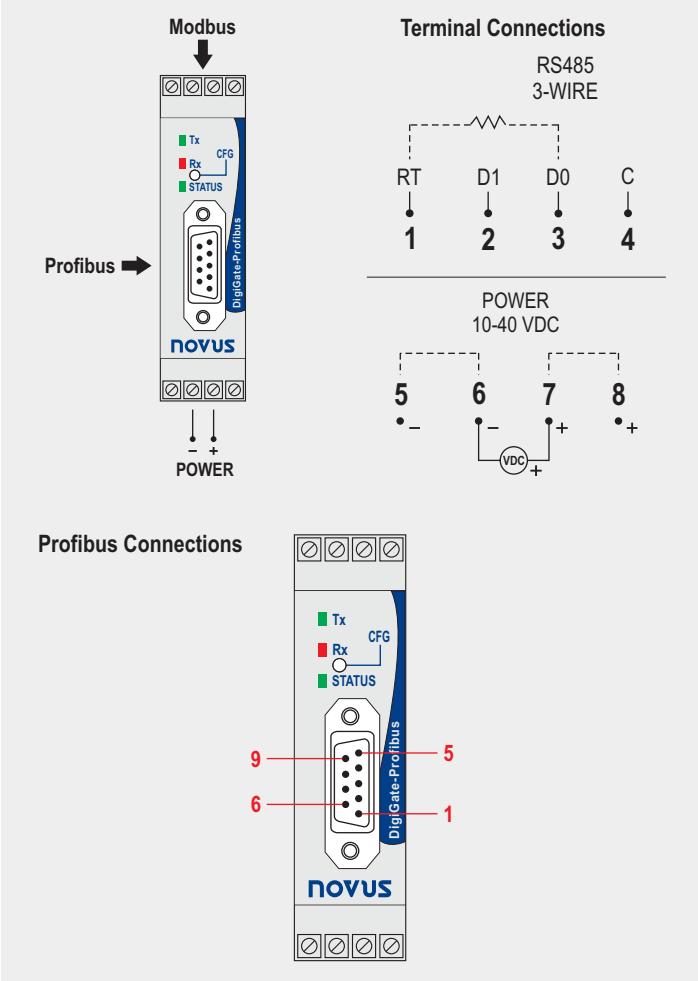
The software interface allows the parameter configuration to be intuitive. Besides, the **DigiConfig** provides a complete Help system.



Dimensions



Electrical Connections



PIN	SIGNAL	DESCRIPTION
1	-	-
2	-	-
3	B / D1 / D+ / D	Tx/Rx Data - positive (RS485)
4	RTS	Request To Send
5	GND	Profibus bus grounding (insulated)
6	+5V	+5 Vcc of the Profibus bus (insulated)
7	-	-
8	A / D0 / D- / D	Tx/Rx Data - negative (RS485)
9	-	-