RHINO • Radio Integrated Transmission Module

RADIO 868 MHz

Radio interface is based on Aurel RFTide. RHINO connects to an existing network simply and reliably simply pressing a button and releasing the connection procedure via web.

MESH TECHNOLOGY

RHINO exploits MESH technology, which is a cooperative, wireless mesh telecommunications network, made up of a large number of nodes that act as receivers, transmitters and repeaters.

WIRELESS MESH NETWORK

This type of infrastructure is decentralized, economical, adaptable and durable. In fact, each node must only transmit a signal up to the next node.

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RHINO is a radio module for data transmission of process machinery on RFTide Mesh 868MHz network.

The radio interface allows a simple but reliable connection to the network coordinator and to the associated node upon release of the connection procedure via WEB.

RHINO is equipped with high performance and low consumption embedded CPU and allows access to gateways (eg ERMAN) to the Ethernet network; through these latter it is possible to control physical resources even without a wired connection.

RHINO allows sending the data obtained from the devices to which it is connected and / or other RHINO-connected nodes of the same network.

RHINO is equipped with digital temperature and humidity sensors, 2 Analog-In, 2 Analog-Out, 2 Digital-Input and 2 NPN Outputs.

Communication is ensured by a Wireless Mesh Network architecture, that is a meshed network implemented through a wireless local area network (WLAN).
It is a cooperative wireless telecommunications network consisting of a large number of nodes that act as receivers, transmitters and repeaters.

This type of infrastructure is decentralized (there are no central servers), economic, very adaptable and durable. The nodes act as repeaters to transmit the signal sent in broadcast; in this way we have a network capable of covering large distances, especially on rough or otherwise "difficult" terrain.

The meshed networks are also extremely reliable, since each node is connected to many other nodes: if a node fails to the network, due to hardware problems or any other reason, neighboring nodes simply search for other paths to transmit the signal (addressing to other nodes)

The software is based on a compact proprietary multitasking operating system that exports connectivity services on serial networks at low speed, as well as having a task that deals with messaging for the proper functioning of the serial communication system with external devices.

All settings can be made at the factory by means of a suitable parameter map or, optionally, also by the user via the radio interface or by means of special commands sent to the machine on the RS485 channel..

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SENSORS

RHINO is equipped with humidity and temperature sensors.

RS485

Serial interface is represented by a serial RS485 physically and functionally divided on the 2 processor's UARTs.

POWER SUPPLY

The main power supply of the board is supplied through an integrated and isolated switching power supply with very low power and very low electromagnetic impact.

DIMENSIONS

- The small dimensions of the module (55mm x 44mm x 30mm) make it very versatile and adaptable in any installation

CPU

- RHINO is equipped with a High Performance and Low Power Freescale HCS08 8 bit to 16 MHz processor

I/O

- 2 Analog IN PTC,NCT, 0-10V, 4-20mA;
- 2 Analog OUT 0-10V;
- 2 Digital Input;
- 2 Output NPN;

INTERFACES

- MESH 868 MHz Radio;
- RS485;

SENSORS

- Digital temperature sensor
- Digital humidity sensor

POWER SUPPLY

- The main power supply to the board is provided by an integrated switching power supply of very low power and very low electromagnetic impact.

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HARDWARE	
	Freescale HCS08P - High Performance – Low Power
	64KB mcu integrated memory
INTERFACES	
	Wireless 868Mhz MESH
	RS485
	Digital + Analog I/O
	2 UART
POWER SUPPLY	
	12VAC 50-60Hz / 12-24VDC