nettra

RTU-X

THE HARDWARE THAT ADAPTS TO YOUR EVERY NEED.

The RTU-X is a robust electronic device that features digital inputs and outputs, analog inputs, a variety of built-in communication interfaces and protocols, and local programming capabilities.

It is an ideal product for the implementation of monitoring, acquisition and control applications, which integrates with a myriad of sensors, actuators and IoT platforms.

CHARACTERISTICS

VERSATILE

Available in two formats. Depending on the application, the IP68 model can be used, which allows it to be installed directly in harsh environments, or the DIN model, designed to be easily mounted on electrical panels.

MODULAR

The functionalities of the basic model can be expanded by installing optional internal extension or communications modules, such as RS-485, SDI-12 or NB-IoT module, among others.

INFINITY OF SENSORS

One of the main functions of the RTU-X is to collect information from the world through different sensors. For this reason, we designed it to be compatible with the most used interfaces for sensor connection, with digital inputs, pulse counting, analog inputs, BLE and communication buses.

CONNECTED

By having WiFi and Bluetooth as a base, and the possibility of incorporating additional communication modules, such as NB-IoT modem, it is possible to choose between the most used technologies to configure it and connect it to the cloud.

AUTONOMOUS

Thanks to its internal battery and its very low consumption mode of operation, it can operate for months, or even years, without the need for external power.

EDGE COMPUTING AND CONTROL

It has the ability to run a user-defined script, in a language similar to C, from which you can control all aspects of the device's operation.

SECURE

Security is one of the main concerns when it comes to IoT, and the RTU-X is no stranger to it. Some of the security highlights are the use of MQTTS communication for connection to the cloud and signed FOTA updates.

Get to know more about ourselves and our solutions by visiting our website:

WWW.NETTRA.TECH / NETTRA@NETTRA.TECH

MODEL	 **RTU-X IP68**	 **RTU-X DIN**
POWER		
Voltage	VAC module: 90-264 VAC, 47-63 Hz, EMC compliant with EN61000-3-2 Class A VDC module: 8-30 VDC (suitable for direct connection of solar panel)	
Internal Battery	3.7V Li-Ion - 20,000mAh	3.7V Li-Ion – 3,750mAh
Consumption	Normal operation = 120mA Low consumption = 200uA	
INPUTS AND OUTPUTS (Expandable through optional modules)		
Digital inputs	2 dry contacts	8 dry contacts
Digital outputs	Maximum voltage 300V. Maximum current 100mA	
	1 opto-isolated	8 opto-isolated
Analog inputs	2 configurable 12-bit 0 – 10 V Input resistance > 1 MOhm Error <0.05% FS 0 – 20 mA Input resistance = 100 Ohm Error <0.1% FS	
Power output	Internally generated 12V power capable of delivering up to 1A	
PHYSICAL CHARACTERISTICS		
Cabinet	ABS plastic, IP68	ABS plastic, DIN rail mount
Dimensions	145 x 95 x 90 mm	103 x 87 x 58 mm
Weight	490g	
Operating temperature	-30ºC a 60ºC	

UP TO 2 EXPANSION MODULES	
Digital inputs expansion (DIN module)	3 dry contact digital inputs
Digital outputs expansion (DOUT module)	3 opto-isolated digital outputs. Maximum voltage 300V. Maximum current 100mA
Analog inputs expansion (AIN module)	3 configurable 12-bit analog inputs 0 - 10V Input resistance> 1 MOhm Error <0.05% FS 0 - 20mA Input resistance = 100 Ohm Error <0.1% FS
RS-485 (RS-485 Module)	Modbus RTU master or slave
Power and energy measurement module (EM module)	Single phase electrical parameters meter with ignition key (solid state relay) rated up to 3 amps. Measurement of voltage, current, active power, reactive power, frequency and power factor.
PROTOCOLS	
MQTT(S)	JSON and Ultra light 2.0 packages, TLS encryption.
Modbus	Modbus TCP over WiFi. Modbus RTU over RS-485 (with expansion module). Master of up to 16 devices or slave.
SOFTWARE	
Script	Local programming capability in C-like language that allows control of all aspects of the device.
Log	Internal flash memory to store up to 200,000 time-stamped variables.
FOTA	Secure remote updates.
COMMUNICATIONS	
WiFi	802.11 b/g/n
Bluetooth	BLE v4.2
Modem and GPS (NBIOT module)	Quectel BG96 Cat M1 / NB-IoT - B1/ B2/ B3/ B4/ B5/ B8/ B12/ B13/ B18/ B19/ B20/B28 EGPRS 850/900/1800/1900 MHz

ORDER INFORMATION

RTUX					
	Cabinet				
	IP68	IP68 cabinet			
	DIN	DIN rail cabinet			
		Power			
		VAC	Alternating Current: 90-264 VAC		
		VDC	Direct Current: 8-30 VDC		
			Extension modules (up to 2) (optional)		
			IN	Digital input expansion	
			OUT	Digital output expansion	
			AIN	Analog input expansion	
			RS485	Bus RS-485	
			EM	Power and energy measurement module	
				Communications module (optional)	
				NBIOT	2G / NB-IoT modem

Base module - Power module - Extension module1 - Extension module2 - Modem module

Examples:

RTUX-IP68-VAC-NA-NA-NA
RTUX-IP68-VDC-IN-NA-NBIOT
RTUX-DIN-VAC-OUT-OUT-NA
RTUX-DIN-VDC-RS485-EM-NBIOT