APIS Mod

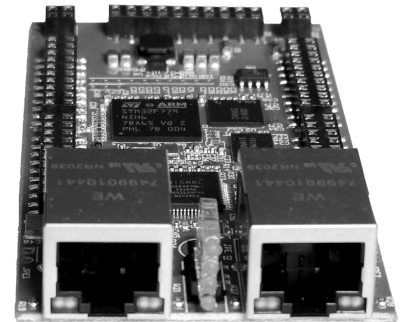## Communication module for manufacturers of Intelligent Electronic Devices

The APIS Mod is a module dedicated to producers of energy equipment. By using this hardware, manufacturers can quickly and effectively extend the functionality of the device with communication compliant with the IEC 61850, DNP3, or IEC 60870-5-104 standards.

KEY FEATURES

• Seamlessly integrates IEDs with any communication standard.
• Available with PRP support.
• Designed to easily add new protocols.
• Reduces time to market for IED products.

CONFIGURATION OF THE APIS MOD

The dedicated engineering application Drosera simplifies the configuration of the APIS Mod and protocols mapping. The tool is designed to be user-friendly and does not require any programming knowledge from the user.

It is also possible to implement an individual configuration method depending on the requirements of the device manufacturer.

PARALLEL REDUNDANCY PROTOCOL SUPPORT

The APIS Mod is suitable to be used in the power grid and industrial applications where high availability is expected. Consequently, it is also offered with Parallel Redundancy Protocol (PRP) support in accordance with the requirements of IEC 62439-3. The version supporting PRP sends duplicated frames through both Ethernet ports to two independent local networks. The PRP implementation is protocol-independent and can be used with IEC 61850, DNP3, and IEC 60870-5-104.

FIRMWARE

The APIS Mod facilitates one-to-one conversion between two protocols chosen by the customer. The firmware can be customized at the customer's request.
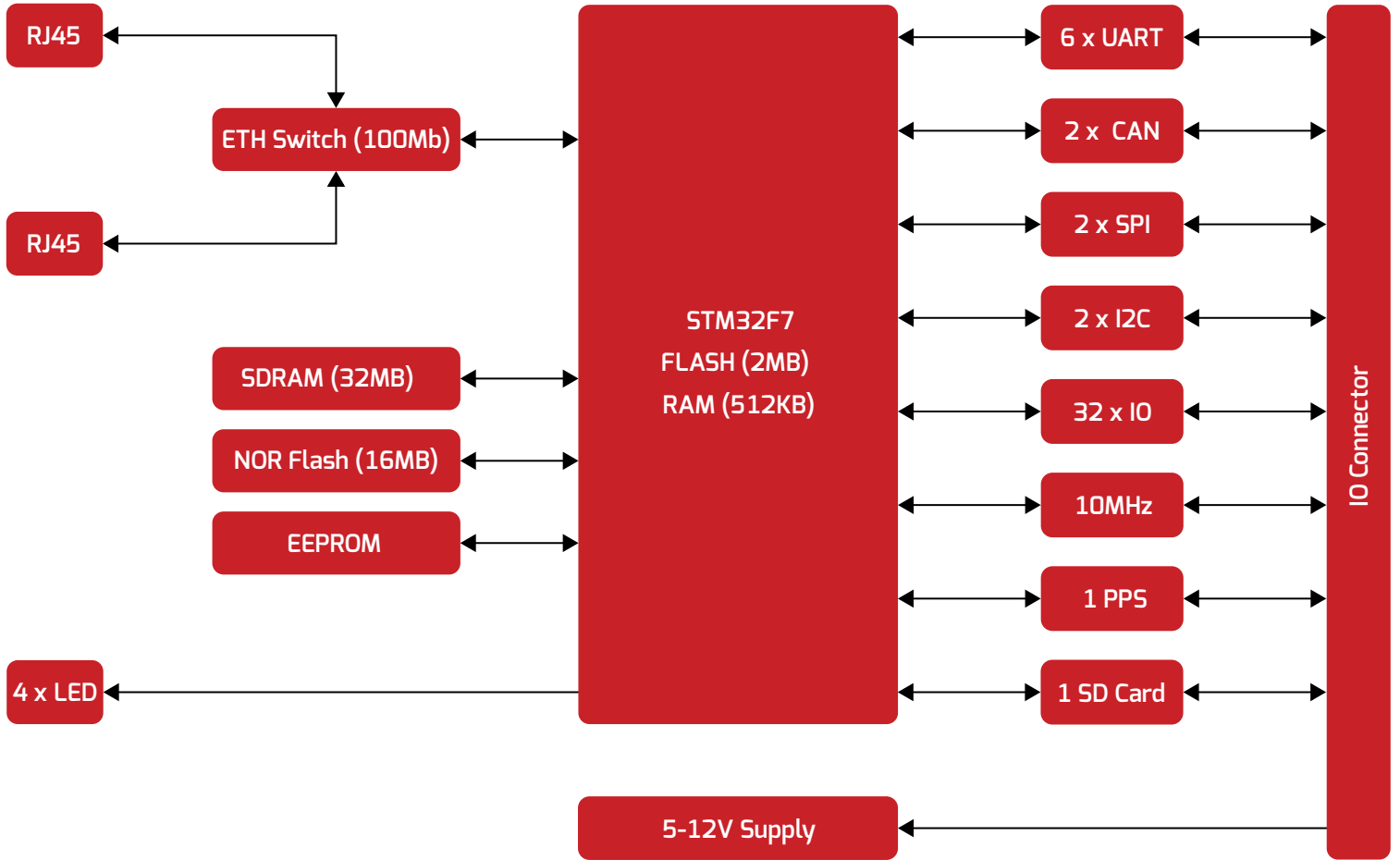
CYBERSECURITY

As cybersecurity becomes increasingly important, especially in the context of critical infrastructure, APIS Mod can be supplied with TLS encryption capabilities and authentication using digital certificates.

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SYSTEM ARCHITECTURE

RJ45

ETH Switch (100Mb)

RJ45

SDRAM (32MB)

NOR Flash (16MB)

EEPROM

4 x LED

STM32F7
FLASH (2MB)
RAM (512KB)

6 x UART

2 x CAN

2 x SPI

2 x I2C

32 x IO

10MHz

1 PPS

1 SD Card

IO Connector

5-12V Supply

PROTOCOLS

IEC 61850	Modbus TCP	IEC 60870-5-103
DNP3	Modbus RTU	IEC 60870-5-104
MQTT		proprietary protocols

TECHNICAL SPECIFICATION

System		Inputs and outputs	Mechanical	
CPU	STM32F7, 216MHz	2 x ETH (100Mb)	**Installation**	on client device
		6 x UART	**Dimentions**	49x18x96 mm
Memory	512 Internal RAM	2 x CAN		
	2MB Internal Flash	2 x SPI	**Power Supply**	
	32MB SDRAM	2 x I2C	5 - 12V	
	16MB NOR flash	1 x SD Card		
		32 x GPIO	**Environmental**	
OS	FreeRTOS	1 PPS signal	**Operating Temp.**	-20÷60℃
		10 MHz signal	**Storage Temp.**	-30÷85℃
LED	4 configurable LEDs			

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