ISI-GTW

Industrial protocol conversion gateway for CAN and Ethernet buses

ISIT offers complete solutions for equipment communication according to standardized industrial protocols such as CAN, CANopen, J1939, EtherNet TCP / IP, EtherNet / IP, ModbusTCP, EtherCAT, etc.

A real electronic translator to make your equipment communicate

ISI-GTW is an intelligent communication gateway, intended for product designers and integrators. It meets the need to make heterogeneous equipment, equipped with a CAN or Ethernet interface, whose protocols are different and often incompatible, communicate with each other.
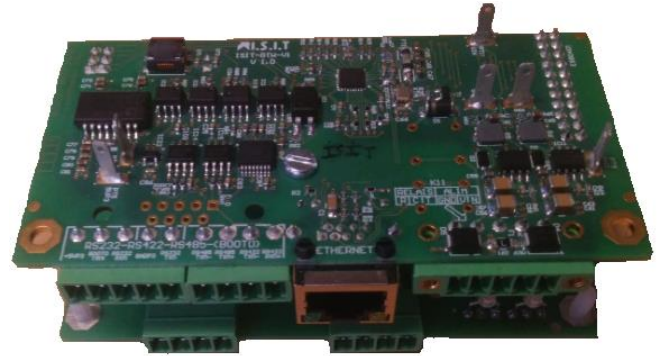
ISI-GTW allows communication on both sides according to standardized or proprietary protocols, and to read, interpret, process, manipulate and write data in order to ensure communication between two devices that do not speak the same language.

A complete solution, hardware and software

ISI-GTW consists of an electronic board structured around an STM32F207 processor (Cortex ARM M4) and on-board software (firmware).
The board has been designed to be resistant to severe environmental constraints. It has protected inputs / outputs and extensions such as USB, SD memory, or even DIP-switch type contacts.
The software environment is composed of a FreeRTOS real-time OS, low-level drivers for managing peripherals and inputs / outputs, and necessary communication stacks.
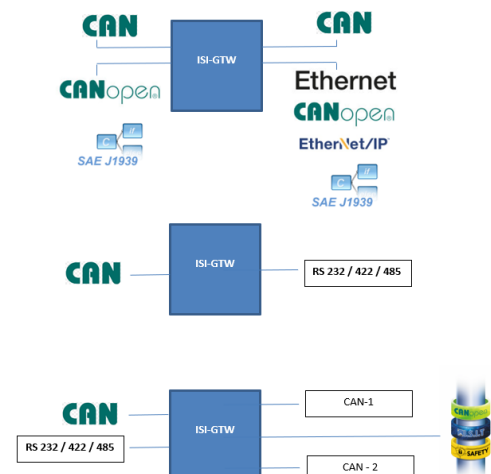
KEY POINTS

- **Supported protocols: CAN, CANopen, CANopen safety, SAE J1939, TCP/IP networks, EtherNet/IP, ModbusTCP, Modbus RTU**
- **2 formats: Board or box to be fixed on DIN rail**
- **Totally programmable**
- **Possibility of providing a "turnkey" solution according to specifications**

The application software can be supplied by ISIT pre-loaded on delivery. However, the board remains accessible for a modification of the firmware through its JTAG interface.

Examples of applications:

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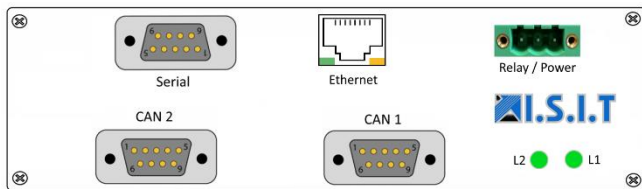## 2 integration possibilities: board or box

- **Board format:**

ISI-GTW can be inserted in a cabinet or rack. 4 holes are provided for fixing by struts. Connectors such as screw terminal are recommended in order to facilitate wiring in the box *(Ref: ISI-GTW-PCB).*

- **Box format:**

ISI-GTW is also available as an aluminum case. This configuration offers the mechanical and electrical protection necessary for the integration of ISI-GTW in an electrical cabinet (*Ref: ISI-GTW-CASE*). Fixing is done simply by clipping onto a DIN rail. "DB9" type connectors are used to simplify and secure the links between the various devices.

ISI-GTW-CASE box

ISIT CANopen safety stack

ISIT CANopen Safety Certifiable stack (ISIT_COSAFE) meets the needs of Safety applications and makes it possible to use the advantages of the CANopen protocol while benefiting from the elements necessary for the certification of your product with a regulatory body: documentary set, unit and integration test plans, test reports.

In order to meet the needs of applications requiring certification for operational safety, ISIT offers the only "ready to use" CANopen stack available on the market with Safety extension, in accordance with standard EN 50325-5, accompanied by its certification pack.

The ISIT CANopen safety stack is available for the ISI-GTW gateway.

MAIN FEATURES	
Input/Output	
CAN	2 ports galvanically isolated, DB9 or screw terminal
Ethernet	1 RJ45 or M12 port
Serial port	RS 232/422/485, DB9 or screw terminal
Digital Inputs*	4
Digital Output*	1
Environmental specifications	
Size	100 (L) x 70 (W) x 40 (H)
Ambient temperature in operation	-40°C to +80°C
System	
PC link	USB 2.0 / Série RS / Ethernet
SD card memory expansion	Datalogger fonction
Power Supply	9-60VDC 3 VA
*Not available on Case version	

A "turnkey" solution specific to your needs

ISI-GTW provides a smart way to enable communication between equipment with different protocols, whether on CAN bus, Ethernet or a serial link.

The communication standards are supported, as well as the software tools necessary for the proper operation of the board. All that remains to be done is to create **the software specific to the handling of your data and processes**, which is not feasible with the classic gateways available on the market, which do not have the possibility of programming in C/C++ in a multi-tasking environment.

ISIT's technical team is able to carry out this work for you, thus avoiding the need for specialized resources.

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