TRACE AND FOLLOW

Energy monitoring & machine control platform

- Machine **data integration**
- Different **connectivity**

- **Qualitative** energy data collection
- **Energy consumption** and **production** monitoring

Description

Trace&Follow is a platform completely designed and developed by the **RedSmart**, BU of **IDT,** to monitor energetic consumption, raw material consumption and production efficiency for every machine of an industrial plant.

The solution's peculiarity is that it allows to **trace production efficiency** and associate collected data to a specific batch or single product.
This association/production monitoring can be done by receiving external data from an external system (e.g. ERP), through APIs interface.

Furthermore, our platform is able **to control machines remotely** (remote machine turn-off system for energy saving), **to monitor the alarms** (maintenance alarms, current thresold alarms...) **of the machines and to store their data, to geolocalise the machine in the plant** through an external infrastructure integration.
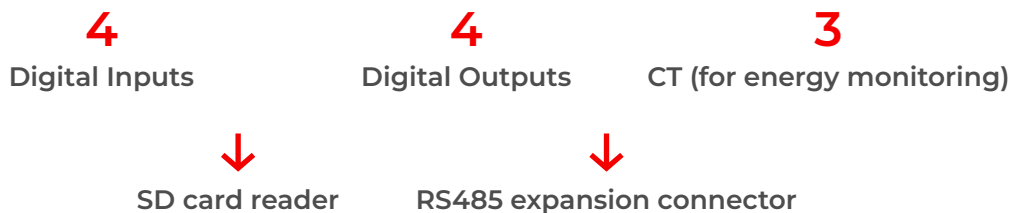
alarms...) **of the machines and to store their data, to geolocalise the machine in the plant** through an external infrastructure integration.

The Trace&Follow board is able to send acquired data to a Cloud platform/server using **different connectivity options**: WiFi, Ethernet, LTE, LoRaWAN (for long range with a single gateway).
Via the **double MQTT connection** that the board offers, it can also send data **via MQTT to external servers/ERPs**.

It includes **four digital inputs, four digital outputs**, and a **Modbus TCP server**, enabling the sending of commands and direct acquisition of data to and from a machine PLC. The design follows a modular approach, allowing the installation of only necessary modules and expansion of functionalities.

Technical specifications

4
Digital Inputs

4
Digital Outputs

3
CT (for energy monitoring)

↓
SD card reader

↓
RS485 expansion connector

PLATFORM	
Power supply	12-24V
Consumption	< 2 Watt
Dimensions (w/out case)	115x72
Electrical interfaces	RS485, digital I/O
Connectivity	BLE, WiFi, Ethernet (LoRa and 4G optional)

Example of application

The installation of more than 20 Trace&Follow boards has been completed for **energy monitoring purposes** on manual and robotic welding machines, as well as machine tools, in several plants.
This initiative also encompasses the **development of iOS and Android apps**, along with a web application, enabling direct interfacing with end-users.

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