# TECHNICAL DATA SHEET

## ELECTRICAL CONTROL PANEL IOT 4ECO SMART COMP

Technological innovation and energy sustainability for high-performance systems

Iperjet IoT 4ECO SMART COMP electrical panels represent the highest level of technological innovation for the control and management of air extraction and filtration systems.
They are designed for low-consumption, sustainable technological investments, ideal for companies purchasing new Industry 4.0 and 5.0 capital goods, intelligent plants, and integrated systems that support technological innovation and the reduction of environmental impact.

Safe area and ATEX versions available, with UL certifications for international markets

## TECHNICAL FEATURES

### TAX INCENTIVES AND INDUSTRY 4.0 / 5.0

IIoT 4ECO SMART COMP panels qualify as eligible assets under current regulations for:

- Industry 4.0 capital goods tax credit
- Super depreciation (hyper-amortization) for interconnected machinery, software, and systems
- Investments focused on energy sustainability

A solution that turns the electrical control panel into a strategic asset—not only technical, but also financial.

### APPLICATION FIELD

- Motor power: from 1.1 kW to 200 kW
- Industrial air extraction and filtration systems
- Variable-speed fans
- Standard and ATEX applications
- High energy-efficiency systems
- Systems requiring advanced monitoring and full I/O integration

### HIGH-EFFICIENCY INVERTER START-UP

The control panel integrates industrial inverters with RS485 communication, fully parameterized and tested, to ensure:

- continuous control of fan speed
- reduced electrical consumption
- smooth start-up and shutdown
- complete motor protection
- automatic adaptation to the actual operating conditions of the system

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iperJet
Filter Cleaning Solutions

## ADVANCED ELECTRONICS IOT 4ECO SMART

IThe heart of the system is IPERJET electronics, designed to:

- control all field I/O
- integrate customer I/O
- manage and correlate energy, air, emissions, and airflow

A true intelligent process control platform.

## ADVANCED ENERGY CONSUMPTION MONITORING

Electrical consumption

- Siemens SENTRON MID energy meter
- Measurement of:
  - active energy
  - reactive energy
  - apparent energy
- Modbus communication
- Certified data for energy analysis and reporting

Compressed air consumption
- High-precision digital flow meters
- Instantaneous and cumulative measurement
- Optimization of compressed air for filter cleaning
- Reduction of waste and operating costs

## AIRFLOW CONTROL OF THE SYSTEM

- Airflow meter with Pitot tube
- Visualization and logging of actual airflow rate

- Correlation with:
  - fan speed
  - energy consumption
  - filter condition
- System performance optimization

## ATMOSPHERIC EMISSIONS MONITORING

Dust monitoring

- Triboelectric probes 4–20 mA
- Continuous emissions monitoring
- Configurable alarms based on regulatory thresholds
- Detection of:
  - broken bags or cartridges
  - filtration anomalies
- ATEX versions available

A fundamental system for environmental protection and regulatory compliance.

## ADVANCED HMI AND FULL CONNECTIVITY

- Analog outputs (e.g. 4–20 mA / 0–10 V)
- Real-time process data transmission
- Full integration with SCADA systems
- EXOR 5” multitouch HMI touchscreen
- Integrated PLC
- Three Ethernet ports (WAN / LAN)
- Integrated VPN
- Connection to Industrial IoT Cloud

Remote access for:
- monitoring
- technical support
- predictive maintenance

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|---|---|
| COMPLETE PROCESS MANAGEMENT | The IoT 4ECO SMART COMP control panel enables:<br>• manual / automatic operation<br>• intelligent inverter management<br>• filter cleaning control<br>• control of:<br>  ◦ rotary valves<br>  ◦ screw conveyors<br>  ◦ dampers<br>• advanced alarm management<br>• historical process reporting |
| ADVANCED SAFETY AND ATEX COMPLIANCE | • Emergency stop functions<br>• Certified safety relays<br>• Safety guard door management<br>• ATEX explosion protection systems:<br>  ◦ rupture panels<br>  ◦ ATEX inductive sensors<br>  ◦ ATEX non-return valves<br>Automatic system shutdown in the event of a critical condition |
| TOTAL I/O INTEGRATION | • Digital and analog inputs<br>• Dry contact outputs NO / NC<br>• Analog signals 4–20 mA<br>• Customer signal integration<br>• PLC / SCADA interfacing<br><br>The control panel becomes the central hub of the system. |

## REAL ENERGY SUSTAINABILITY

- Reduced electrical consumption
- Optimized compressed air usage
- Emissions control
- Continuous performance monitoring
- Improved overall efficiency

An investment that reduces costs, energy consumption, and environmental impact.

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