



**Product ID:** IPex12

**Category:** IP Controller and Accessories

Data registration and high performance controller device for remote control and monitorization. Low energy usage and can be operated with a battery and solar panel.

## TECHNICAL SPECIFICATIONS

|                                  |   |
|----------------------------------|---|
| <b>CPU</b>                       | MIPS microcontroller 32bits @ 3.6864MHz with 512Kb. Flash, 128Kb RAM                      |
| <b>Memory</b>                    | Dataflash of 4Mb for data storage<br>EEPROM memory of 64 Kb for configuration data        |
| <b>Additional memory</b>         | Micro-SD slot for additional memory (up to 32 Mb)   |
| <b>Real time clock</b>           | External with a backup battery  |
| <b>ADC</b>                       | ADC 16 bits multiplexed to the 4 analogue inputs  |
| <b>Watchdog timer (WDT)</b>      | Internal Watchdog available   |
| <b>Device configuration</b>      | Basic configuration with AT commands through the USB port or with the desktop application |
| <b>Firmware updates</b>          | Remote firmware updates   |
| <b>LED indicators</b>            | 3 status LEDs   |
| <b>Communication protocols</b>   | MQTT  |
| <b>Time between measurements</b> | 120 ~ 86400 seg.  |

## I/O AND COMMUNICATIONS PORTS

|                       |  |
|-----------------------|--|
| <b>I/O</b>            | 6 digital outputs for the control of latch type valves of 6-20V<br>6 free potential digital inputs with contacts for counters (10Hz)<br>4 analog inputs (by current or supply) with an adjustable gain 0-250mV, 0-500mV, 0-1V, 0-1.25V, 0-2.5V, 0-5V, 0-10V, and 4-20mA<br>The supply of the analog inputs is adjustable 0-12V |
| <b>Additional I/O</b> | Possibility of expansion of the number of I/O with the slave controller IPex08<br>Up to 10 devices   |

|  |   |
|--|---|
| <b>Communications ports</b>            | 1 x SDI-12 for up to 16 probes<br>1 USB 2.0 Port for basic device configuration<br>1 x Port for long-distance wired communications (up to 2 km)                                   |
| <b>Additional communications ports</b> | GPRS/3G, NB-IoT/LTE-CATM Networks   |
| <b>Calibration of analog inputs</b>    | All of the analog inputs can be calibrated by AT commands through the USB port  |
| <b>Protection for the I/O</b>          | All of the I/O are protected against incorrect wiring with the configuration and the following restrictions:<br>Max. supply in I/O 30VDC<br>Max. current for the latch outputs 2A |

## SUPPLY CIRCUIT

|                       |   |
|-----------------------|---|
| <b>Supply voltage</b> | 12,8V with LiFePo4 battery of 3,6 Ah (charger included)   |
| <b>PV Cargador</b>    | Solar MPPT charger included for 12V solar pannels (36 cells in serie)   |
| <b>Consumption</b>    | In Sleep mode 270uA. In active mode 1.7mA (without communication)<br>When active with communications 12.73mA (when transmitting 50mA)   |
| <b>Autonomy</b>       | More than 7 days with the 12.8V battery totally charged and sending and reading data with a periodicity of 5 minutes. (With a periodicity of 5 minutes only sending the autonomy is over 20 days)*<br><small>*Depends on the operating conditions of the device, coverage level, temperature, battery charge level, number of connected sensors, etc.</small> |

## ENVIRONMENTAL CONDITIONS

|                            |   |
|----------------------------|---|
| <b>Working temperature</b> | -25° ~ 85°C*<br><small>*If LiFePO4 battery is used, the operating range is from 0° to 60°C.</small> |
| <b>Humidity</b>            | 5% ~ 95% (without condensation)   |

## INFORMATION ABOUT ORDERS

|                        |            |
|------------------------|------------|
| <b>Minimum order</b>   | 1          |
| <b>Order reference</b> | IPex12     |
| <b>Accessories</b>     | Wireless3G |

## CONSTRUCTION FEATURES

|                             |  |
|-----------------------------|--|
| <b>Dimensions</b>           | 162x252x120mm (W/H/D)  |
| <b>Box material</b>         | Polycarbonate  |
| <b>Installation type</b>    | Superficial  |
| <b>Degree of protection</b> | IP67   |
| <b>Weight</b>               | 1014g without battery<br>3544g with lead battery<br>1384g with lithium battery |

## CERTIFICATES AND DECLARATIONS

|              |  |
|--------------|--|
| <b>Rules</b> | EN 61000-6-2:2019<br>EN 61000-6-3:2007 + A1:2011 |
|--------------|--|



This product is compatible with the RoHS (2011/65/UE)