

Technical Data



SISTEMI ELETTRONICI
PROGRES S.A.

Management Computers > Accessories

> Agrobee

Automation



DESCRIPTION:

Application

- Radio system for communication among central unit (Agronic 2500 or Agronic 5500) and users on field
- Can be used on open field for protected crops

Specifics

- Communication by standard ZIGBEE: range)
- 868 Mhz/2,4Gz - communication maximum distance 800/1600 mt (free range)
- Communication by standard LoRa: range)
- 868 Mhz - communication maximum distance 2500 mt (free range)
- Maximum units number to be managed: 16 ZIGBEE/20 LoRa
- Power supply: battery (1,5V x 2 AA)
- 1,6 W solar panel with supercapacitor

Hardware Features

- *Depending on the used model:*
- inputs: 2/6 digital - 1/2 analog
- outputs: 2/6/8 12 V DC Latch commands

Materials

- Free installation box: PC/ABS
- Box support: stainless steel
- Front panel: aluminium

FIELDS MODULES

Code	Version	Description
OPG3004	ZIGBEE	2SD-2ED With solar panel(2 solenoids 2 wires, latch, 2 digital inputs)
OPG3007	ZIGBEE	2SD-2ED-1EA With solar panel (2 solenoids 2 wires, latch, 2 digital inputs,1 analog input)
OPG3012	ZIGBEE	6SD-6ED-2EA With solar panel (6 solenoids 2 wires, latch, 6 digital inputs, 2 analog inputs)
OPG3016	ZIGBEE	8SD-2ED With solar panel (8 solenoids 2 wires, latch, 2 digital inputs)
OPG3018	ZIGBEE	9SD-2ED-2EA With solar panel (9 solenoids 2 wires, latch, 2 digital inputs, 2 analog inputs)
OPG3017	ZIGBEE	RPT solar power supply repeater
OPG3030	LoRa	2SD-2ED With solar panel (2 solenoids 2 wires, latch, 2 digital inputs)
OPG3031	LoRa	2SD-2ED-1EA With solar panel (2 solenoids 2 wires, latch, 2 digital inputs,1 analog input)
OPG3033	LoRa	6SD-6ED-2EA With solar panel (6 solenoids 2 wires, latch, 6 digital inputs, 2 analog inputs)
OPG3032	LoRa	8SD-2ED With solar panel (8 solenoids 2 wires, latch, 2 digital inputs)
OPG3034	LoRa	9SD-2ED-2EA With solar panel (9 solenoids 2 wires, latch, 2 digital inputs, 2 analog inputs)

FIELDS UNITS - SENSOR EXCLUDED

Code	Version	Description
OPG3021	ZIGBEE	H2O solar powered (3 analog inputs, 1 water soil sensor)
OPG3022	ZIGBEE	3MA (3 analog sensors, 1 digital sensor)
OPG3023	ZIGBEE	SDI-12 (for different sensors with bus-SDI12)
OPG3028	ZIGBEE	Watermark solar agrobee probe
OPG3036	LoRa	H2O solar powered (3 analog inputs, 1 water soil sensor)
OPG3038	LoRa	SDI-12 (for different sensors with bus-SDI12)
OPG3037	LoRa	Watermark solar agrobee probe



See probes in the Automation section

ACCESSORIES AGROBEE SUPPORT AND FIXING



Code	Description
FVR002	Radio support quick coupling for aluminium stake
FVR003	Radio support aluminium stake 3/4" 3 mt
FVR004	Extension for radio support aluminium stake 3/4" 3 mt
FVR101	Radio support aluminium stake (complete) 3/4" 6 mt

FIELD UNITS COMPLETE WITH PROBES AND/OR ZIGBEE SENSORS

Code	Description
OPG3024	Agrobee dynamometer with 1 sensor
OPG3025	Agrobee dynamometer with 2 sensors
OPG3026	3lv solar Agrobee + 1 ultrasonic sensor
OPG3027	3lv solar Agrobee + 3 ultrasonic sensors
OPG3029	Agrobee ultrasonic level sensor Parshall (solar)

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- The AgroBee radio modules allow the activation of valves and other irrigation elements, as well as the reading of sensors and meters, obtaining radio coverage up to 800 meters or up to 1600 meters with repeater (depending on the orography), with an energy consumption very low and in accordance with the Zigbee universal communication protocol, which operates at an open frequency of 868/915 MHz

Features

- It is the best cable replacement for overcoming obstacles, extending sectors, reading sensors, saving on cables, temporary installations, etc. in the Agronic 2500 and Agronic 5500 management systems
- The AgroBee system consists of a coordinator (located on the Agronic 2500 or Agronic 5500) and field elements that function as repeaters and terminal devices
- The coordinator manages the network and the paths that the modules follow to connect to each other, with all devices forming a mesh network
- Its low energy consumption allows it to work with alkaline batteries or a solar panel integrated into the module itself
- The two "AA" batteries are capable of powering a terminal device that has a direct connection to the coordinator, for more than two years - the solar panel stores energy in its super-capacitors or batteries, offering a long operating life and a large operating range at different temperatures
- The maximum number of modules that an Agronic 2500 or Agronic 5500 can manage is 16 units

Models

The AgroBee system has several models, depending on its functions:

- 2SD-2ED: 2 2-wire solenoids and 2 digital meters or sensors
- 2SD-2ED-1EA: 2 bistable solenoids with 2, 2 counters or digital sensors and 1 4-20 mA or 0-20 V analog sensor
- 8SD-2ED: 8 bistable solenoids with 2 and 2 counters or digital sensors
- 9SD-2ED-2EA: 9 bistable solenoids with 2, 2 counters or digital sensors and 2 4-20 mA or 0-20 V analog sensor
- 6SD-6ED-2EA: 6 bistable solenoids with 2, 6 digital counters or sensors and 2 4-20 mA or 0-20 V analog sensor
- RPT-External: module that works only as a repeater, without the possibility of activating outputs and without reading sensors, with external solar panel to be always active
- H2O: 3 sensors of the soil water content "Decagon 10HS", "Watermark" 200SS-V"; plus 1 digital sensor (meter or rain gauge)
- 3MA: 3 analog 4-20 mA sensors (or 2 4-20 mA sensors and 1 0-20 V sensor), plus 1 digital sensor (contact, gauge or rain gauge)
- SDI-12: 1 digital input for up to 4 tri-sensors (soil water content, temperature and EC) type "Decagon 5TE", "Decagon GS3", "Campbell CS650", "Stevens Hydraprobe-II" or "AquaCheck", Through the SDI-12 communication bus
- 3LV: 1 to 3 level sensors for a range of 0-9 meters, which can be applied in tubs, pools or wells. Distance, level or volume measurements
- Dendrometer - one or two sensors to measure the change in the diameter of plant stems
- Watermark: three analog inputs for soil water for potential sensors "Watermark 200SS"
- Parshall: an ultrasonic sensor that allows you to measure the flow of water in channels from 1 "to 600" Parshall Flume