



# IRRIGATION SYSTEMS

Pordenone, 8 novembre 2023



POLO  
TECNOLOGICO  
**PORDENONE**  
Andrea Galvani



**POR FESR**  
**2014 2020**  
*Friuli Venezia Giulia*

PROGETTO COFINANZIATO CON IL FONDO EUROPEO DI SVILUPPO REGIONALE DEL PROGRAMMA OPERATIVO REGIONALE DEL FRIULI VENEZIA GIULIA.

**POR FESR 2014-2020**

OPPORTUNITÀ PER UNA CRESCITA SOSTENIBILE

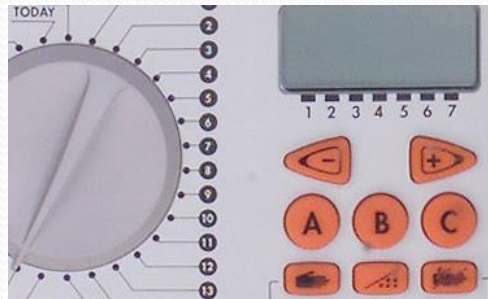


UNIONE EUROPEA  
Fondo europeo di sviluppo regionale



REGIONE AUTONOMA  
FRIULI VENEZIA GIULIA

Agabuna was born in 2018 as a spin-off of the professional division of a leading company with over 40 years of experience in the agricultural irrigation industry.



2018

UE Grant KATANA.

Project “Irrigation Systems IoT – LoRa”

Selected as one of the top 10 projects in  
Agriculture and Food Industry out of over 700  
candidate projects across Europe.

Award: non-repayable financing of over € 100,000



This project has received funding from the  
European Union's Horizon 2020 research and  
innovation programme under grant agreement  
Nº691478.



2018

Award D2T Adventure X – Project Manifattura  
Rovereto.

Project “Irrigation Control BT”

Award: 15.000 €





2019

UE Fundings POR FESR 2014 2020.

Project “Innovative Solutions for Precision Farming”.

Total Project: 182.000 €

Total non-repayable financing: 100.000 €



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REGIONE AUTONOMA  
FRIULI VENEZIA GIULIA

2021

Funding DIVA - INTERREG.

Project “Irrigation SuperVision”.

Total Project: 45.000 €

Total non-repayable financing: 45.000 €





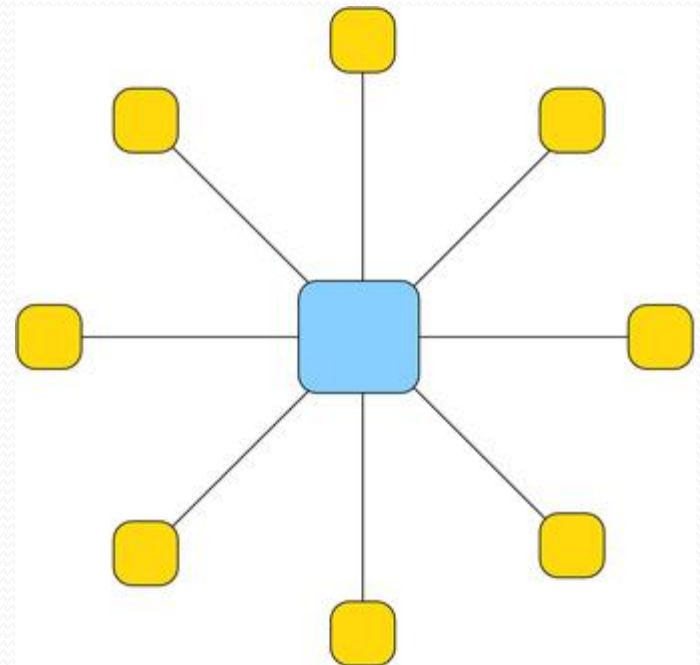
# CENTRALIZED IRRIGATION AND ENVIRONMENTAL CONTROL SYSTEMS

- Multicable Systems
- Monocable Decoder Systems
- Wireless Systems (LoRaWan)

# CENTRALIZED IRRIGATION AND ENVIRONMENTAL CONTROL SYSTEMS

## MULTICABLE SYSTEMS

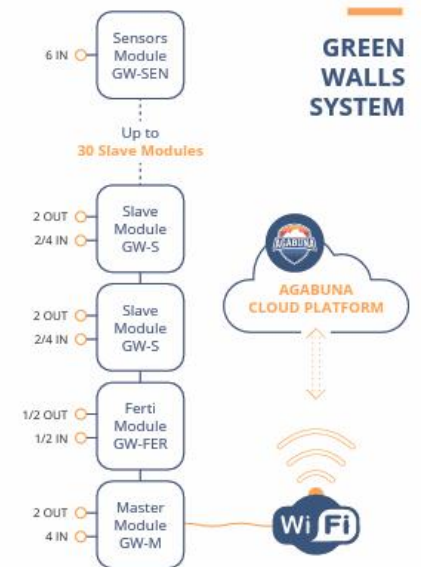
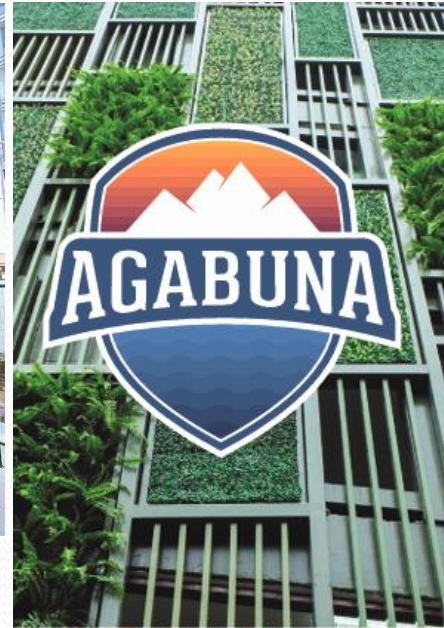
- Star configuration
- Suitable for small/medium applications







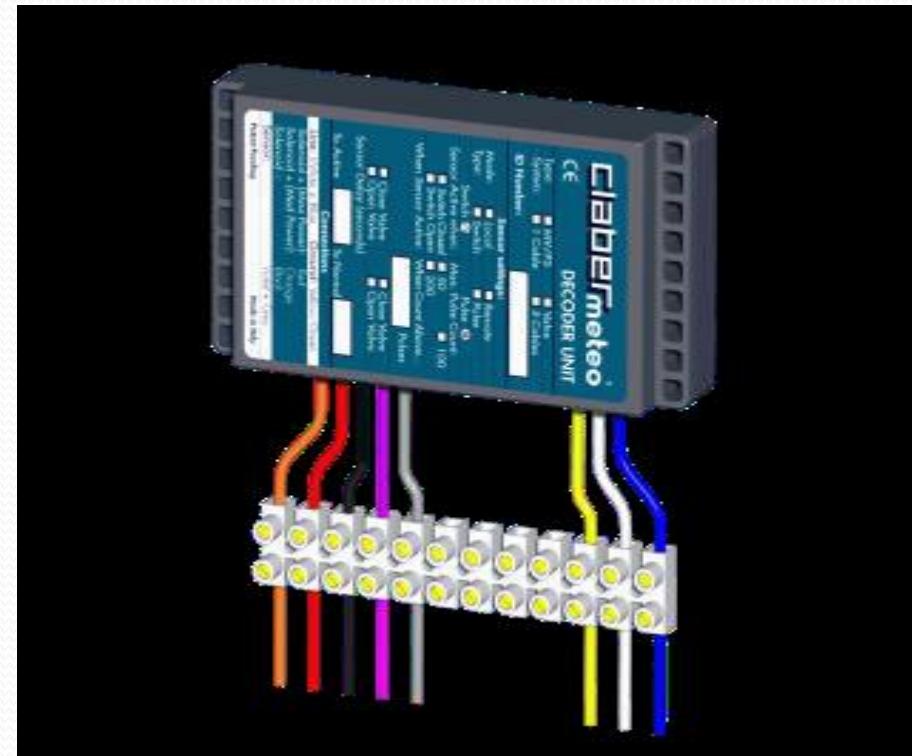
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# CENTRALIZED IRRIGATION AND ENVIRONMENTAL CONTROL SYSTEMS

## MONOCABLE DECODER SYSTEMS

- One single Cable
- Suitable for large commercial and agricultural applications







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# CENTRALIZED IRRIGATION AND ENVIRONMENTAL CONTROL SYSTEMS

## WIRELESS RADIO SYSTEMS

- No trenches required
  - Based on Licence free Radio communication (LoRaWan)
- Long Range coverage  
(up to 10 km)
- Suitable for large applications



# MAIN ADVANTAGES OF OUR SYSTEMS

- Remote Programming
- Alarms on your phone
- Monitoring the plant functioning and consumptions
- Monitoring environmental sensors and weather stations
- Possibility to interconnect with external data (i.e. Weather forecasts)
- Graphs and reports of activities, consumptions, historical data.





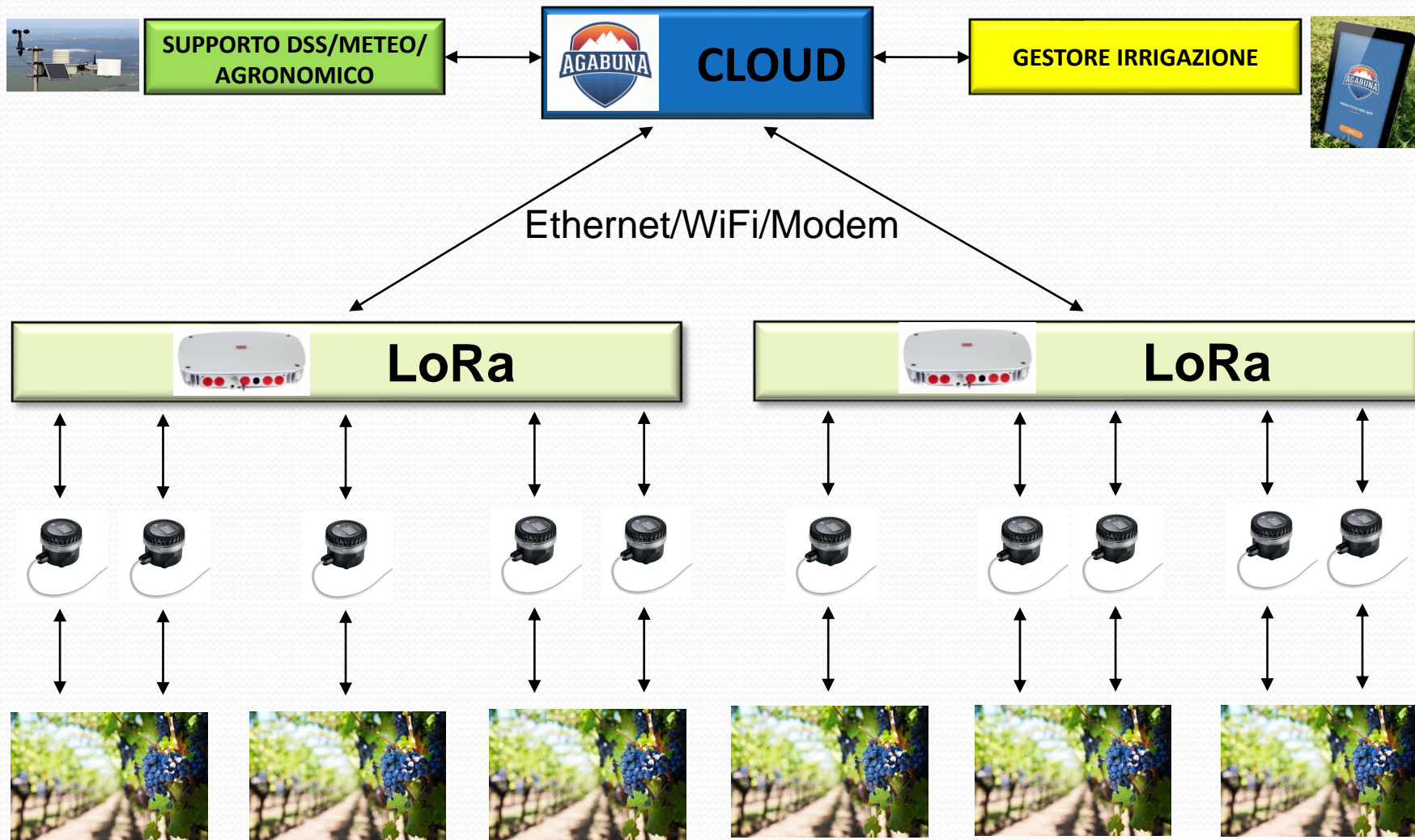


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# Example of a large application architecture



# LoRa RF<sup>®</sup>



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# CLOUD PLATFORM (Decoder System)



Impianto Configurazione Programmazione Centralina Report



PILCANTE1



fabriziocava91@gmail.com

IT ▾

Esci ↗

## Impianto

Ricarica

Annulla filtri

Decoder con valvole aperte

Decoder non funzionanti

<div>101</div> <div><div></div><div>101</div><div>DRV1</div></div> <div>101</div>	<div>102</div> <div><div></div><div>102</div><div>DRV1</div></div> <div>102</div>	<div>103</div> <div><div></div><div>103</div><div>DRV1</div></div> <div>103</div>	<div>104</div> <div><div></div><div>104</div><div>DRV1</div></div> <div>104</div>	<div>105</div> <div><div></div><div>105</div><div>DRV1</div></div> <div>105</div>	<div>106</div> <div><div></div><div>106</div><div>DRV1</div></div> <div>106</div>	<div>107</div> <div><div></div><div>107</div><div>DRV1</div></div> <div>107</div>
<div>108</div> <div><div></div><div>108</div><div>DRV1</div></div> <div>108</div>	<div>109</div> <div><div></div><div>109</div><div>DRV1</div></div> <div>109</div>	<div>110</div> <div><div></div><div>110</div><div>DRV1</div></div> <div>110</div>	<div>111</div> <div><div></div><div>111</div><div>DRV1</div></div> <div>111</div>	<div>112</div> <div><div></div><div>112</div><div>DRV1</div></div> <div>112</div>	<div>113</div> <div><div></div><div>113</div><div>DRV1</div></div> <div>113</div>	<div>114</div> <div><div></div><div>114</div><div>DRV1</div></div> <div>114</div>
<div>115</div> <div><div></div><div>115</div><div>DRV1</div></div> <div>115</div>	<div>116</div> <div><div></div><div>116</div><div>DRV1</div></div> <div>116</div>	<div>117</div> <div><div></div><div>117</div><div>DRV1</div></div> <div>117</div>	<div>118</div> <div><div></div><div>118</div><div>DRV1</div></div> <div>118</div>	<div>119</div> <div><div></div><div>119</div><div>DRV1</div></div> <div>119</div>	<div>120</div> <div><div></div><div>120</div><div>DRV1</div></div> <div>120</div>	<div>121</div> <div><div></div><div>121</div><div>DRV1</div></div> <div>121</div>



# CLOUD PLATFORM (Green Wall System)

Nome impianto:  AGABUNA

Installatore:

Cliente:

Ultima comunicazione: 2022-09-27 06:42:32

N.	Nome	Tipo	Valore	Stato	Azioni
3	Flussometro	Portata	0.00 L/min	OK	<a href="#">CONFIGURA</a> <a href="#">GRAFICO</a>
4	Sens Hum Reka serra 3	Analogico	46.66 %	OK	<a href="#">CONFIGURA</a> <a href="#">GRAFICO</a>
6	Sens hum Reka serra 2	Analogico	45.48 %	OK	<a href="#">CONFIGURA</a> <a href="#">GRAFICO</a>
					<a href="#">AGGIUNGI</a>

N.	Nome	Tipo	Stato	Media	Azioni
1	Serra 1	Normale	OFF		<a href="#">CONFIGURA</a> <a href="#">AVVIA</a> <a href="#">STOP</a>
2	Serra 2	Normale	OFF		<a href="#">CONFIGURA</a> <a href="#">AVVIA</a> <a href="#">STOP</a>
3	Serra 3	Normale	OFF		<a href="#">CONFIGURA</a> <a href="#">AVVIA</a> <a href="#">STOP</a>
4	Serra 4	Normale	OFF		<a href="#">CONFIGURA</a> <a href="#">AVVIA</a> <a href="#">STOP</a>
5	Serra 5	Normale	OFF		<a href="#">CONFIGURA</a> <a href="#">AVVIA</a> <a href="#">STOP</a>
					<a href="#">AGGIUNGI</a>

## PRESENT PROJECTS

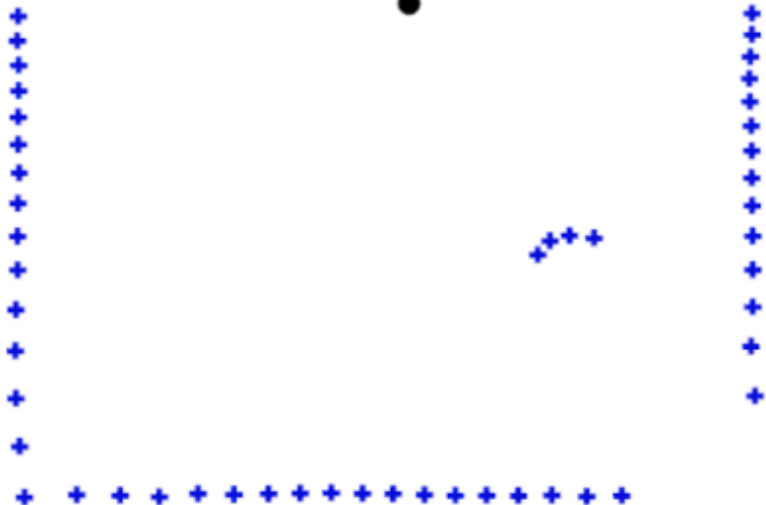
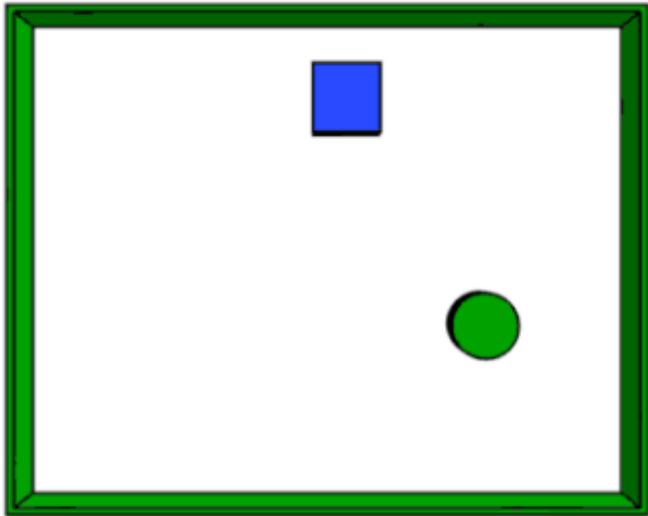
Self-propelled electric robot guided by GPS and Lidar Technology. Implements to be mounted:

- Sprayers
- Weed control rakes
- Cameras for pest control (recognition by means of AI)
- Environmental sensors





# LIDAR CONTROL



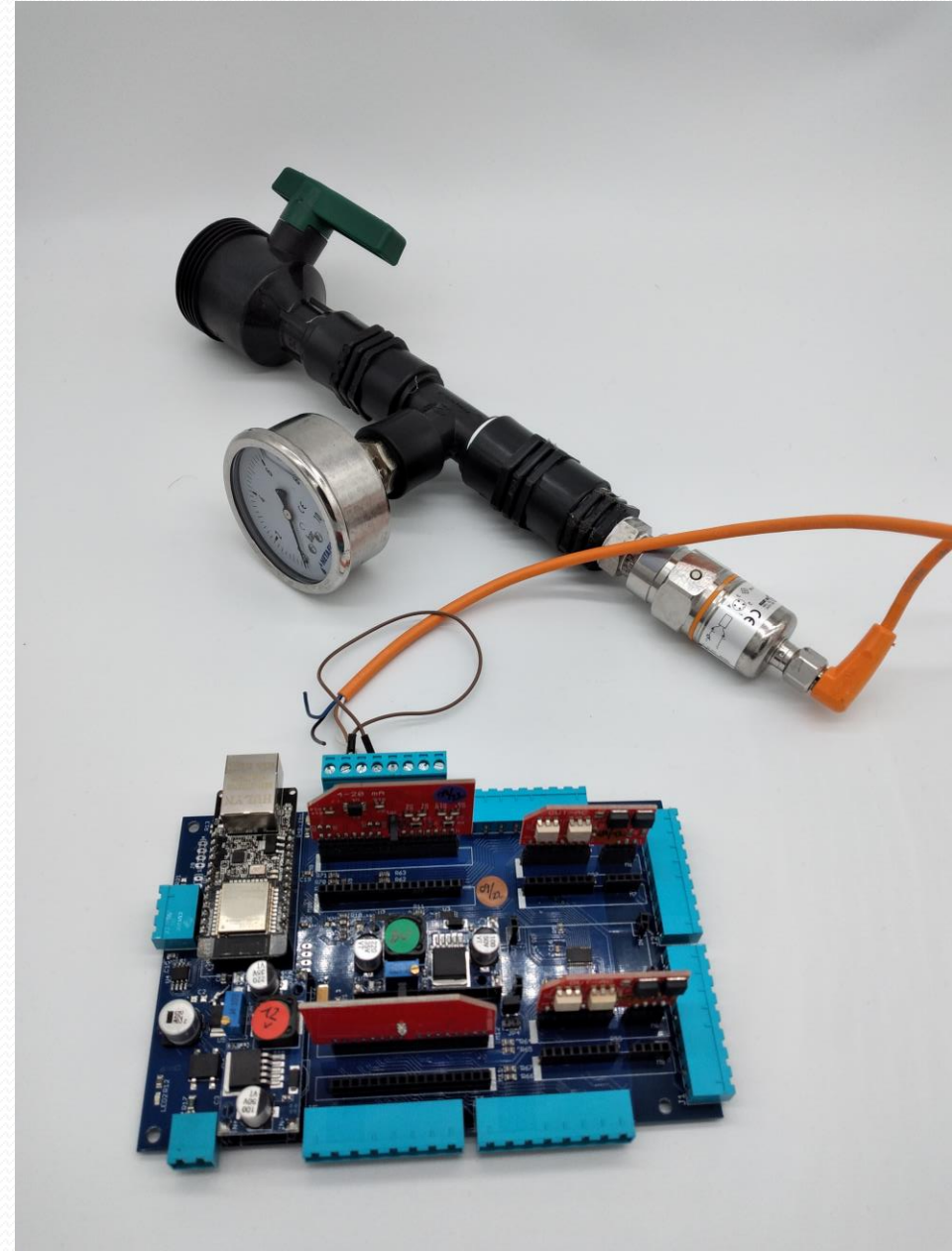
# PRESENT PROJECTS

AB-Modular Multi-functional  
control board.

GSM and/or Ethernet  
communication.

Able to:

- control DC and/or AC outputs
- read all types of industrial sensors (Voltage, Current, PT100)
- Remote control and programming thru dedicated Cloud platform



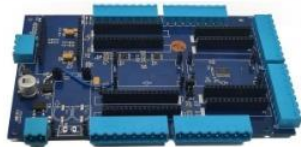


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# PRESENT PROJECTS

## AB Modular Cloud Platform

Impianti remoti > ABModular-94B555FFFE4



ABModular-94B555FFFE4

Firmware version: 23020601  
ONLINE

AZIONI

ESEGUI SCENARIO

PROGRAMMA METEO

Scenario base

Scenario Spumantizzazione

Scenario temperatura  
massima



STARTUP

Output  
Uscita: OUTPUT #5  
Stato: ON



Aggiungi

Regolazione con soglie

Controllo del valore di "Temperatura Spilimbergo": attivato alla soglia 22.9 °C e disattivato alla soglia 21.9 °C  
Attivazione per minimo 5 secondi e massimo 5 secondi  
Dopo una attivazione, tempo di recupero di almeno 1 minuti

Allarme  
Invio allarme con codice "0" (?)



Aggiungi

Regolazione con soglie

Controllo del valore di "Temperatura Spilimbergo": attivato alla soglia 15.0 °C e disattivato alla soglia 20.0 °C  
Attivazione per minimo 5 secondi e massimo 5 minuti  
Dopo una attivazione, tempo di recupero di almeno 1 minuti

Allarme  
Invio allarme con codice "2" (Temperatura insufficiente)



Aggiungi

SHUTDOWN

AGGIUNGI REGOLA

SALVA SCENARIO

RINOMINA

ELIMINA SCENARIO

INPUT

OUTPUT

1	
2	
3	PT100 Valore: -297.2 °C
4	PT100 Valore: -297.2 °C
5	PT100 Valore: 18.3 °C
6	PT100 Valore: -297.0 °C
7	PT100 Valore: -297.0 °C
8	PT100 Valore: -297.2 °C

1	
2	
3	
4	
5	AC USCITA AC Stato: OFF
6	AC USCITA AC Stato: OFF
7	AC USCITA AC Stato: OFF
8	AC USCITA AC Stato: OFF





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THANK YOU FOR YOUR ATTENTION.