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**GOVONI**<sup>®</sup>  
*...just blue, just perfect!*



MADE IN ITALY

# SPECTRUM **PRO**

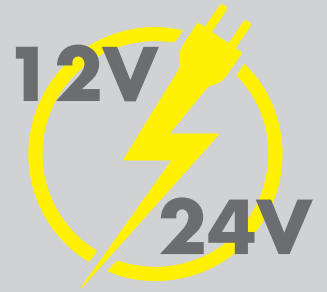
Multifunctional device for testing electronic components up to 24V



CODE  
**2100PRO**

edition  
**ENGLISH 06.2023**





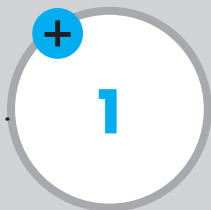
# SPECTRUM **PRO**

**MULTIFUNCTIONAL  
DEVICE FOR TESTING  
SENSORS AND  
ACTUATORS OF  
MODERN VEHICLES**



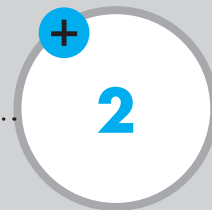
From the many years of experience gained by GOVONI technicians, who have been operating for years in the workshop equipment sector, **SPECTRUMpro** was born, the new digital electronic tester for checking electrical and electromechanical components.





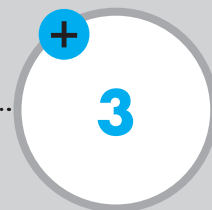
### DISPLAY

Two-line alphanumeric screen



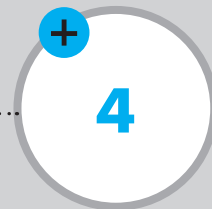
### KNOB CONTROL

Multifunction knob with digital encoder



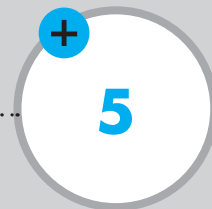
### USB PORT

for PC connection (software update and application programs)



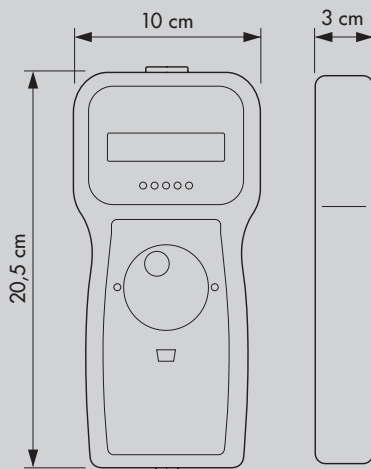
### SUPPLY VOLTAGE

9-28Vdc directly from the battery



### CONNECTION

Reverse and voltage peak protection  
Overcurrent protection through external fuses







# RESOLUTIVE!

...TO KEEP PACE WITH MODERN AUTOMOTIVE TECHNOLOGIES!

**IT DOESN'T LOSE ITS VALUE! THE DEVELOPMENT OF NEW UPDATES AND APPLICATIONS IS CONTINUING.**

Indispensable for checking the analog and PWM signals of the sensors and also for activating various types of electromechanical actuators.

A single instrument that contains infinite functions: the test and diagnosis capabilities of **SPECTRUM<sup>pro</sup>** are so broad and diversified that they have no comparison with any other device on the market.

WHAT IS IT

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# MULTIPLE DEVICES IN ONE!

## ... THANKS TO ITS FULL VERSATILITY AND EXPANDABILITY

Where self-diagnosis stops, it is essential to go back to the root of the problem, thanks to **SPECTRUM<sup>pro</sup>** the in-depth search for defective components is much simpler than with traditional equipment such as a multimeter and an oscilloscope, the piloting and control functions of the components allow you to verify functionality immediately.



### INTUITIVE!

AUTOMATICALLY RECOGNIZES THE VOLTAGE AT WHICH IT IS CONNECTED



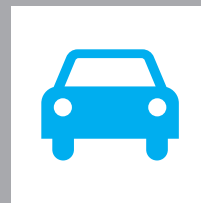
### perfect for HEAVY VEHICLES

- Heavy commercial vehicles
- Coaches / Buses



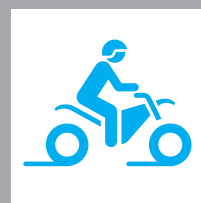
### Ideal for NAUTICAL

- Jet skis
- Boats with outboard motors
- Boats with inboard engines
- Yachts



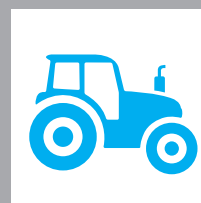
### ideal for CARS

- Passenger cars
- Light commercial vehicles



### ideal for MOTORBIKES

- Scooters and light motorcycles
- Motorbikes, Quadricycles,
- Quad



### ideal for EARTH MOVING EQUIPMENT

- Earthmoving equipment
- Operating machines

# STANDARD CABLES

## Included in the standard SpectrumPro box

Extremely simple to use, because it is able to change its function according to the cable that is connected to it.



### GO2101 PWM MULTIMETER

Acquisition cable, with the function of measuring voltages and analyzing ground-referred PWM signals



### GO2102 GROUND TEST

Acquisition cable, with the function of verifying the correct state of the mass



### GO2103 PULSE SENSE

Acquisition cable, with the function of detecting the signals of inductive components



### GO2104 DC VOLT GENERATOR

Emulation cable, with the function of generating 1V to 24V DC voltage



### GO2105 RESISTOR SIMULATOR

Emulation cable, with the digital simulator function of variable resistance (e.g. engine temperature sensor, etc...)



### GO2106 PWM POWER

Emulation cable, acting as a ground activated PWM power generator

### GO2107 "CROCODRILE" PROBE ADAPTER CLAMPS

Signal pickup adapter for supplied and optional cables

### GO2108 PROBE ADAPTER TYPE TESTER

Signal pickup adapter for supplied and optional cables

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# FUNCTIONS



## GO2101 PWM MULTIMETER



Acquisition cable, with the function of measuring voltages and analyzing ground-referred PWM signals

- VM = maximum voltage peak detected 0.0 - 100.0V
- Vm = minimum voltage peak detected 10.0 - 100.0V
- f = signal frequency 0 - 20.000Hz
- d.f. = duty factor/cycle of the signal PWM 0% - 100

## GO2102 GROUND TEST



Acquisition cable, with the function of verifying the correct state of both mechanical (chassis) and electronic (components) mass, with display of the test result

- MASS OK;
- MASS FAIR;
- MASS NOT OK

## GO2103 PULSE SENSE



Acquisition cable, with the function of detecting the signals of inductive components with only the contact of the detection sensor and the display of the operating frequency

## GO2104 DC VOLT GENERATOR



Emulation cable, with the function of generating DC voltage from 1V to 24V for simulating the output of analog sensors with negative ground

- V = variable voltage from 1V to 24V with 0.1V steps

## GO2105 RESISTOR SIMULATOR



Emulation wiring, with the digital simulator function of variable resistance from about 100Ω to about 25.000Ω for the simulation of the sensors (e.g. engine temperature sensor, etc...)

- R = Variable resistance from 100Ω to 25.000Ω with 200Ω steps.

Normally the "RESISTOR SIMULATOR" cable is used to simulate resistances towards the inputs of the control units which never go above 5V.

## GO2106 PWM POWER



Emulation wiring, with the function of PWM power generator with activation towards ground, for the control of inductive electromechanical loads (solenoids, injectors, etc.). **Protection on the power supply positive (+12V direct battery) via 20A in-line fuse**

- F = variable activation frequency from 1Hz - 1000Hz
- d.f. = duty factor/cycle variable (1% - 99%).

# OPTIONAL CABLES

Available on demand

With the innovative system of intelligent cables, to add a new function to **SPECTRUMpro** that was not there before simply update the software of the instrument and connect the new cable!



## GO2109 PWM POWER PLUS (5 PIN)

Emulation/acquisition cable, with PWM power generator function



## GO2110 PWM SIGNAL

Emulation cable, with the function of generating PWM waveforms with negative ground



## GO2111 PIEZO ACTIVATOR

Module wiring with the function of activating piezoelectric injectors



## GO2112 GLOW PLUG TEST

Emulation cable, with glow plug test function



## GO2113 OHM METER

Acquisition cable, with the resistance detection function



## ! GO2114 DIAGNOSTIC CAN EOBD

Diagnostic cable, with the function of analyzing the vehicle's CAN network

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When using the EOBd cable (**GO2114**) the **SPECTRUMpro** must **NOT** be connected to any power supply: neither to the car battery, nor to an external power supply, such as a bench power supply, etc. Just connect it directly to the EOBd socket of the vehicle and then continue with the guided procedure indicated on the device display.



# FUNCTIONS

**SPECTRUM** *PRO*

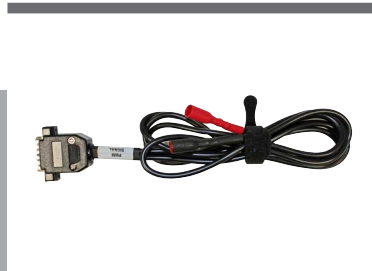
## GO2109 PWM POWER PLUS (5 PIN)



Emulation/acquisition cable, with PWM power generator function such as PWM POWER with integrated 5V voltage generator; mass generator and control of the Feedback. It is used for the activation of feedback controlled components via potentiometers

- F = variable activation frequency from 1Hz -1000Hz
- d.f. = duty factor/cycle variable (1% - 99%).
- Vi = Input volts (0V – 5V)

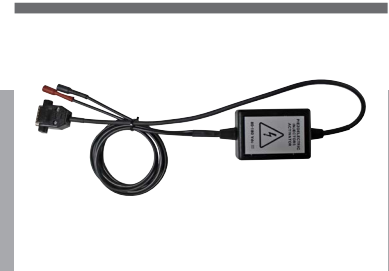
## GO2110 PWM SIGNAL



Emulation cable, designed to generate negative ground PWM waveforms, for emulating digital output sensors or driving low power electronic actuators

- V = signal width (0V - 12.0V) variable with 0.1V steps
- F = signal frequency (0Hz - 20.000Hz)
- d.f. = duty factor/cycle of the signal (1% - 99%)

## GO2111 PIEZO ACTIVATOR



Module-cable with piezo injector activation function, connects to device, is recognized and is ready to perform activation

 SOFTWARE 2.0 OR LATER UPDATE REQUIRED

## GO2112 GLOW PLUG TEST



Emulation cable, for glow plug test with measurement of the current absorption of the same and display of the tests

The test can be performed both with glow plugs mounted on the vehicle and on the bench with the aid of the cable with pliers supplied.

- Glow plugs test
- Control of the current absorbed in positive activation

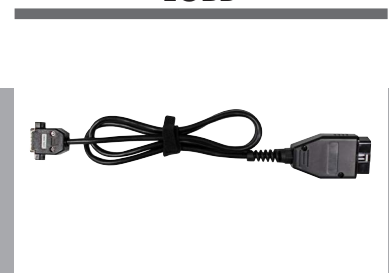
## GO2113 OHM METER



Acquisition, cable with resistance detection function

- 30 ohm - 200 ohm tolerance +/-10%
- 200 ohm - 25 kohm tolerance +/-5%

## GO2114 DIAGNOSTIC CAN EOBD



Diagnostic cable, with the function of analyzing the vehicle's CAN network through the self-diagnosis connector with display of the values and test result

- Checking the power supply voltage
- Check of current masses
- Checking the average voltage of CAN H and CAN L network
- Checking the resistance of the CAN network
- 40 ohms - 80 ohms



CE

# BRILLIANT!

**MAKE YOUR TESTS SMART!**

**THE TESTS CAN BE CARRIED OUT BOTH WITH THE COMPONENT MOUNTED ON THE VEHICLE AND ON THE "BENCH".**



# ACCESSORIES

constantly developing

**GO** CODE **2118PRO**

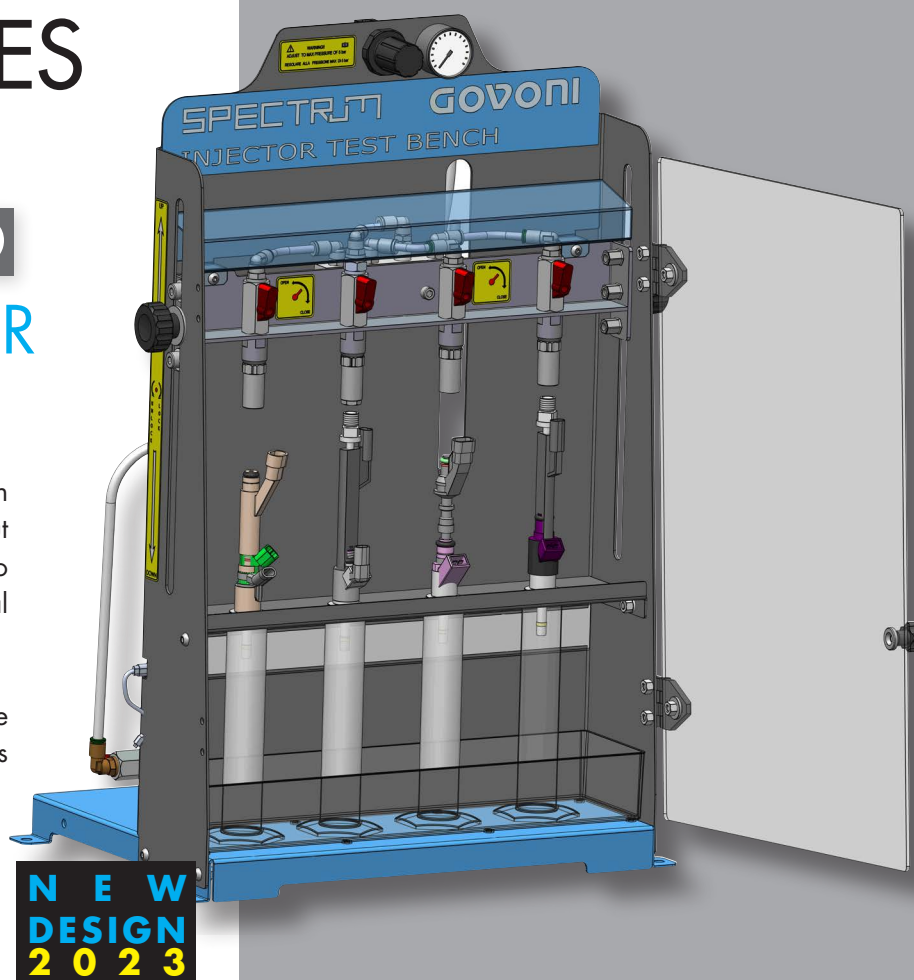
## PETROL INJECTOR TEST BENCH



The small size allows the injector test bench to be positioned on a shelf but without taking up too much space, and also makes it transportable despite its structural sturdiness.



Safe both for the environment and for the operator himself, as the use of electricity is not directly required.



### TECHNICAL DATA

Possibility to test up to 4 injectors simultaneously

Suitable for any petrol injector

Compressed air supply with adjustable pressure from 0 to 5 bar (72.5PSI-500 Kpa) 0 a 5 bar

Sliding injector holder rail with quick coupling adjustable in height with taps to be able to open or close the passage of the liquid for each injector

Graduated burettes for immediate reading of the injectors flow rate

Quick connection burettes

Integrated flushing liquid tank with filler cap with maximum capacity of 2000 c.c. (2 liters)

Quick release air hose

Test bench dimensions L=max454 x H=685 x D=300mm

Combined with **SPECTRUM<sub>pro</sub>** and in particular with its dedicated functions and strategies, it makes diagnostics, cleaning and flow control of fuel injectors easy, fast and above all within everyone's reach, often the cause of malfunctions and directly attributable to increased emissions pollutants

follow us on  
**YouTube**

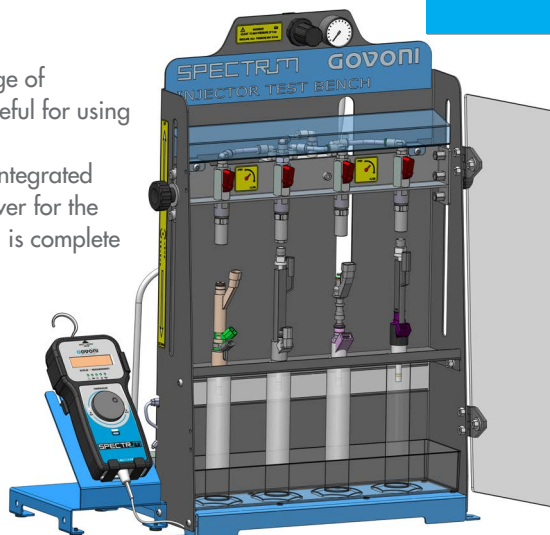


**+** **GOVONI** completes the range of accessories with other tools useful for using **SPECTRUM<sub>pro</sub>**.

The test bench can in fact be integrated with a docking station and cover for the device, so that the workstation is complete and **100% performing!**

The configuration consists of:

- test bench
- docking station
- cover



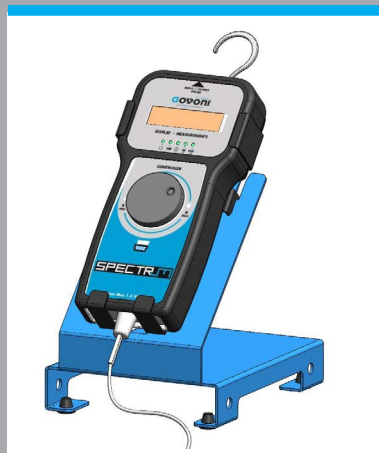
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# DOCKING STATION

Complete with removable cover, with retractable hanging hook.  
Ideal workstation for bench operations.

## EXAMPLE OF USE



**GO** CODE 2115

# COVER

Ergonomic cover, with retractable hanging hook.  
Practical and transportable, to be hooked to the hood of the vehicle or other support points, allowing hands-free interventions.

## EXAMPLE OF USE



**GO** CODE 2116



*Toolmaking with passion!*

**GOVONI srl**

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