



# SMOKE AND GAS ANALYSYS

## EQUIPMENTS & SOLUTIONS FOR GARAGE

**GAS ANALIZERS**



**SMOKEMETERS**



**STARGAS FAMILY**



**OTC**  
**EUROPE**



### GAS ANALYZER - 488OTC

488OTC is an infrared exhaust gas analyzer for gasoline engines. Tests conducted with 488OTC allow operators to measure CO, CO<sub>2</sub>, HC, O<sub>2</sub> values according to which LAMBDA coefficient is automatically calculated the operator's work is facilitated since the rpm and oil temperature values can be kept under control at the same time. Kit is also available as an optional in order to measure NO<sub>x</sub>.

### SMOKEMETERS - 495/01OTC & 495/02OTC

Smokemeter chamber mod 495/01OTC analyses the degree of opacity in diesel engine exhaust gas. Base on the absorption of a light beam by the smoke, the utilized technology guarantees both reliability and accuracy when it come to results.

The instruments is present for serial connection to the multi-operative centres of the Visa family and computer unit series.

The 495/02OTC has the same functions of 495/01OTC but has been designed to be lodged into the 940 trolley.



### GAS ANALYZER - 898LIGHTOTC combined with 495/02OTC

Stargas 898 Light OTC was conceived as a global diagnostics system that may feature a built-in exhaust gas analyser for a gasoline engine class 0 OILM type-approved. It is an intelligent unit being able to manage a smoke analysis chamber for diesel engines model 495/02OTC, oscilloscope, ECUdecoder™/EOBD, and Ecutat@car.

Thanks to a gas analysis upgrading kit the light version may be supplemented with the exhaust gas analyser having same functions and metrological features as the exhaust gas analyser for gasoline engines present in the Stargas 898OTC model.



### TECHNICAL SPECIFICATIONS

	488OTC	495/01OTC	495/02OTC	898LIGHTOTC
Mains power supply	110/220/240 V (±15%)	12-0-12V	12-0-12V	Mains 90 ÷ 270 V
Measuring range	CO 0÷99,9% Vol (res. 0.01) CO <sub>2</sub> 0÷19,9% Vol (res. 0.1) HC 0÷9999 ppm Vol (res.1) O <sub>2</sub> 0÷4% Vol. (res.0.01) O <sub>2</sub> 4÷25,0% Vol (res. 0.1)	0÷99,9% (res.0.1) opacity	0÷99,9% (res.0.1) opacity	Automatic measurement of: Ambient temp -40÷60 (res.1) Ambient press. 750÷1060mbar (res.1) Ambient rel. humidity 0÷100% (res.1)
Induction rpm counter	0÷9990 rpm (res. 10)	0÷9990 rpm (res. 10)	0÷9990rpm (res.10)	0÷10000rpm (res.10) -battery conn 0÷20000rpm (res.10)-induction clamp 0÷15000rpm (res.10)-antenna system
Electronic Lambda test	NO	---	---	---
Operating temperature (°C)	5÷40	5÷40 (±2)	5÷40 (±2)	5÷40
Measuring gas induction	8 l/min (approx)	Measuring chamber temperature check	Measuring chamber temperature check	---
Response time	<10sec (probe length 3mt)	---	---	---
Zero setting	Electronic and automatic	Automatic	Automatic	---
Condensate drain	Continuous and automatic	---	---	---
Warm up time	Max 15 min	Max 5 min	Max 5 min	---
Serial output	RS232	RS232	RS232	COM1-COM2 for autodiag interface SMOKEMETER RS232/PC - RS485
Printer	24 columns	---	---	24 column
Dimension	400x180x420 mm	465x160x190 mm	470x230x220 mm	400x180x450mm
Weight	13.5kg	Approx 10 kg	6 kg	8,6kg approx



### STARGAS 898OTC

Stargas 898OTC is a analyzer which works both as measuring unit and as multi-operative station without being connected to a PC.

As a matter of fact its central unit easily switches from the exhaust gas test to the autodiagnosis oscilloscope functions and technical database.

Stargas can also be remotely controlled through an alphanumeric keyboard with infrared rays remote control. Stargas 898OTC is the first exhaust gas analyzer being OIML Class 0 type approved.

The applied technology makes it already fit for the possible future changes that could be introduced by the European regulation.

Stargas can carry out CO, CO2, HC, O2, NOx (optional), Lambda, RPM, engine temperature measurement; integrated RPM measuring from the battery; environmental condition measurement: temperature, atmospheric pressure, relative humidity, Lambda Test (1V/5V). When connected to the smokes measurement chamber (495/02OTC), Stargas can carry out opacity measurements for diesel engines.

The connection with the ECUdecoder enables Stargas to dialogue with modern vehicles electronic central units, by verifying the functioning of the devices that are managed by the ECU. For instance: ignition, injection, ABS, air-bag, intelligent suspensions, etc.

Gas analyzer

Smokemeter

Autodiagnosis

EOBD

Oscilloscope-Diagnosis

Ecudatacar



### STARGAS 898PLUSOTC

Stargas 898 Plus OTC easily switches from the exhaust gas test, measuring CO, CO2, HC, O2, NOX (optional), Lambda, RPM and engine temperature, smoke Diesel engine test to Autodiagnostic, Oscilloscope, Technical Database and maximum speed test management for motorbike.

#### BENEFITS

- New Electronics with more memory capacity and speed
- LCD TFT colour graphic high lightness display
- High voltage
- Oscilloscope
- Ohmmeter
- RPM counter from battery or lighter
- RPM Antenna to pick up remote for Petrol and Common Rail Engine
- USB-HOST (printer)
- USB-DEVICE (PC)
- 

#### KIT 898PLUSOTC

- Stargas 898 Plus OTC
- Low and High Voltage Oscilloscope composed by: Low Voltage clamp-on cables
- Ohmmeter kit composed by cables clamp-on ammeter, test prod, alligator clip
- RPM Antenna kit to pick-up remote
- RPM Cable from lighter
- Cable 3 in 1 for Stargas supply from batteries, RPM taking from batteries and supply autodiagnostic module 5041OTC

## STARGAS 898BOXOTC

Exhaust gas analyzer "Stargas BOX" to be used with VISA Win or PC:

- Software Windows
- Measurement CO, CO<sub>2</sub>, HC, O<sub>2</sub>, Lambda, NOX (opt.)
- RPM with battery or antenna kit (opt.)
- Environment parameters automatically
- Lambda Test 0 ÷ 5V
- OIML Class 0



## TECHNICAL SPECIFICATIONS

	898OTC	898BOXOTC	898PLUSOTC
Mains power supply	Mains 90 ÷ 270 V Battery 10 ÷ 16 Volt	Mains 90 ÷ 270 V Battery 10 ÷ 16 Volt	Mains 90 ÷ 270 V Battery 10 ÷ 16 Volt
Display	LCD coloured 320x240	- - -	LCD coloured TFT technol.320x240
Keypad	11 basic keys+5 function keys Infrared remote control (option)	- - -	11 basic keys+5 function keys Infrared remote control (option)
Measuring range	CO 0÷15,000% Vol (res. 0,001) CO <sub>2</sub> 0÷20,00% Vol (res. 0,01) HC 0÷30000 ppm Vol (res.1) O <sub>2</sub> 0÷25,00% Vol. (res.0.01) NO 0÷5000% Vol (res. 1 - optional) Lambda 0,5÷2,000 (res. 0,001)  Automatic measurement of: Ambient temp -40÷60 (res.1) Ambient press. 750÷1060mbar (res.1) Ambient rel. humidity 0÷100% (res.1)	CO 0÷15,000% Vol (res. 0,001) CO <sub>2</sub> 0÷20,00% Vol (res. 0,01) HC 0÷30000 ppm Vol (res.1) O <sub>2</sub> 0÷25,00% Vol. (res.0.01) NO 0÷5000% Vol (res. 1 - optional) Lambda 0,5÷2,000 (res. 0,001)  Automatic measurement of: Ambient temp -40÷60 (res.1) Ambient press. 750÷1060mbar (res.1) Ambient rel. humidity 0÷100% (res.1)	CO 0÷15,000% Vol (res. 0,001) CO <sub>2</sub> 0÷20,00% Vol (res. 0,01) HC 0÷30000 ppm Vol (res.1) O <sub>2</sub> 0÷25,00% Vol. (res.0.01) NO 0÷5000% Vol (res. 1 - optional) Lambda 0,5÷2,000 (res. 0,001)  Automatic measurement of: Ambient temp -40÷60 (res.1) Ambient press. 750÷1060mbar (res.1) Ambient rel. humidity 0÷100% (res.1)
Induction rpm counter	0÷10000rpm (res.10) -battery conn 0÷20000rpm (res.10)-induction clamp 0÷15000rpm (res.10)-antenna system	0÷10000rpm (res.10) -battery conn 0÷20000rpm (res.10)-induction clamp 0÷15000rpm (res.10)-antenna system	0÷10000rpm (res.10) -battery conn 0÷20000rpm (res.10)-induction clamp 0÷15000rpm (res.10)-antenna system
Electronic Lambda test	YES	YES	YES
Operating temperature (°C)	5÷40	5÷40	5÷40
Measuring gas induction	10 l/m (approx)	10 l/m (approx)	10 l/m (approx)
Response time	<10sec (probe length 3mt)	<10sec (probe length 3mt)	<10sec (probe length 3mt)
Zero setting	Electronic and automatic	Electronic and automatic	Electronic and automatic
Condensate drain	Continuous and automatic	Continuous and automatic	Continuous and automatic
Warm up time	Max 60 sec.	Max 60 sec.	Max 60 sec.
Serial output	COM1-COM2 for autodiag interface SMOKEMETER RS232/PC - RS485	COM1-COM2 for autodiag interface SMOKEMETER RS232/PC - RS485	COM1-COM2 for autodiag interface SMOKEMETER RS232/PC - RS485
Printer	24 columns	- - -	24 columns
Dimension	400x180x450 mm	400x180x450 mm	400x180x450 mm
Weight	8,6 kg	8,6 kg	8,6 kg



## AUTODIAGNOSTIC CONFIGURATION WITH 5041OTC



**STARGAS**  
898OTC  
898LIGHTOTC  
898PLUSOTC

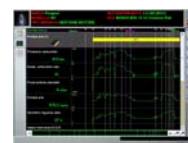
COMPACT FLASH

RS232



**SMART MODULE**  
5041OTC

+



**FLIGHT RECORDER**  
FR50



**DIAGNOSTIC CABLES**  
31174F

## DATA TRANSMISSION KIT IN WIRELESS MODE

The wireless connection allows to eliminate the serial connection by cable connecting the tools gas, smokemeter, head-light adjuster, rpm counter, and noise meter of the overhaul centre to the PC station.

Configuration is ensured by a USB "Master" key and as many RS232 "SLAVE" keys as the number of connected tools.

The Wireless system can work only with the new VISA PLANet software in Windows.



VISA PLANet



### BT80

Software Kit and Master USB key class 1



### BT488

Kit for connection of analyzer series 488OTC

Including: SLAVE key and serial cable/power supply unit from 488OTC

### BT495

Kit for smokemeter 495/01OTC connection

Including: SLAVE key and serial cable/power supply unit from 495/01OTC

### BT898

Kit for Stargas 898OTC, 898BOXOTC, 898PLUSOTC analyzer connection

Including: SLAVE key and serial cable and power supply unit from 898OTC



Authorized distributor



SPX ITALIA SRL - Tecnotest division  
Via Provinciale, 12 - 43038 Sala Baganza PR - Italy  
Tel. +39 0521 837311 Fax +39 0521 837302

