

ECU
REMAPPING

CARS/TRUCKS/TRACTORS
MODULES

MOTORBIKES
MODULES

POWER BENCH
TESTERS

RAPiD
BIKE

SMART

INSTALLING INSTRUCTIONS

Kit code K27-SMR-003A

Applicability

Make: **BMW**Model: **S 1000 R** **21-22****S 1000 XR** **20-22**

Component view and item ID

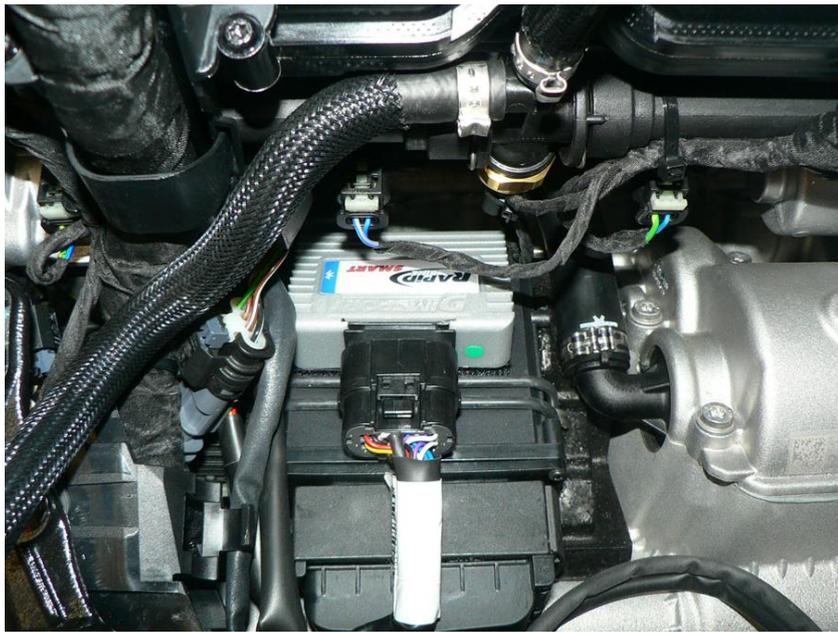
Wiring code: **F27-SMR-003**Module code: **F27RBSMART**

Precautions/Disclaimer

For the correct SMART module function, the motorcycle system must be intact and fully functional. Installation must be carried out by competent personnel and the supply conditions such as "**Appendix 1**" at the end of this instruction manual, must be read and accepted.

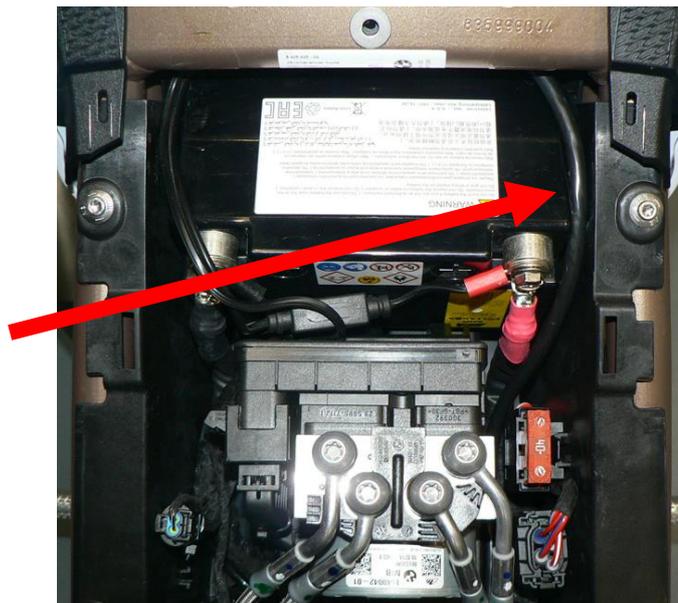
Installation procedure

1. Turn ignition off.
2. Remove seats, side fairings and fuel tank.
3. Place the SMART unit under the fuel tank using the provided Velcro and connect the wiring harness.



OBD – Diagnostic port

4. Route the wire marked as **DIAGNOSTIC** toward the tail
passing on the side of ABS pump
and battery



then under the passenger's seat lock and connect it to OEM diagnostic port.

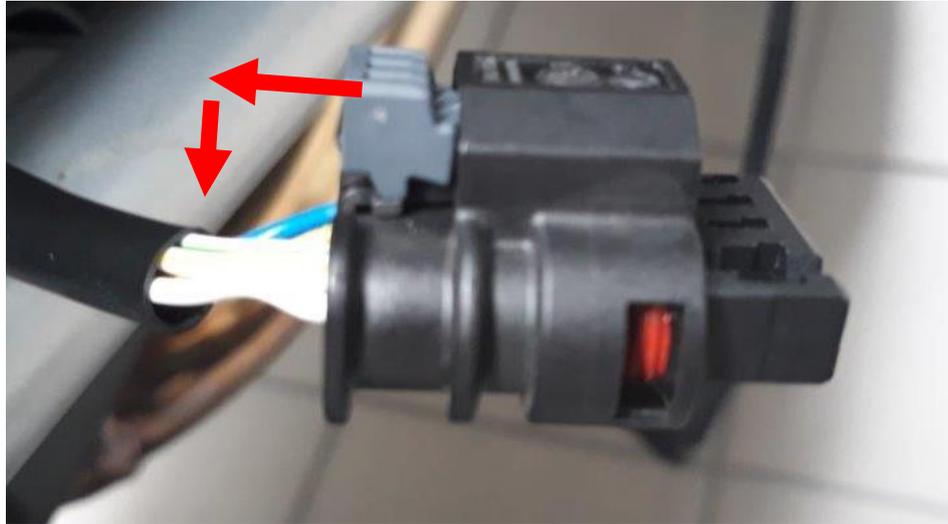


Front left O2 Sensor - LW1

5. Locate the connectors of the left Lambda sensor placed under the crankcase.



- a. Unfasten the connectors from the frame by rotating them clockwise.
- b. Pull out and then push down the grey tab to disconnect the connectors.

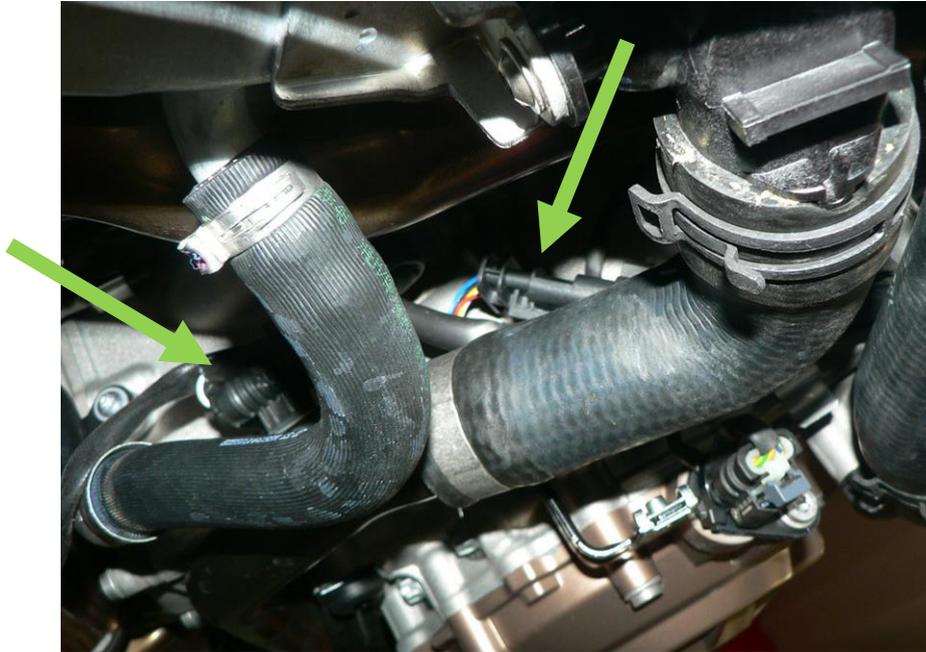


6. Route the connectors marked as **LW1** between frame and engine head, following the same path of OEM wiring harness for Lambda sensor.



7. Fasten Rapid Bike wiring harness to OEM Lambda wiring harness using zip ties.

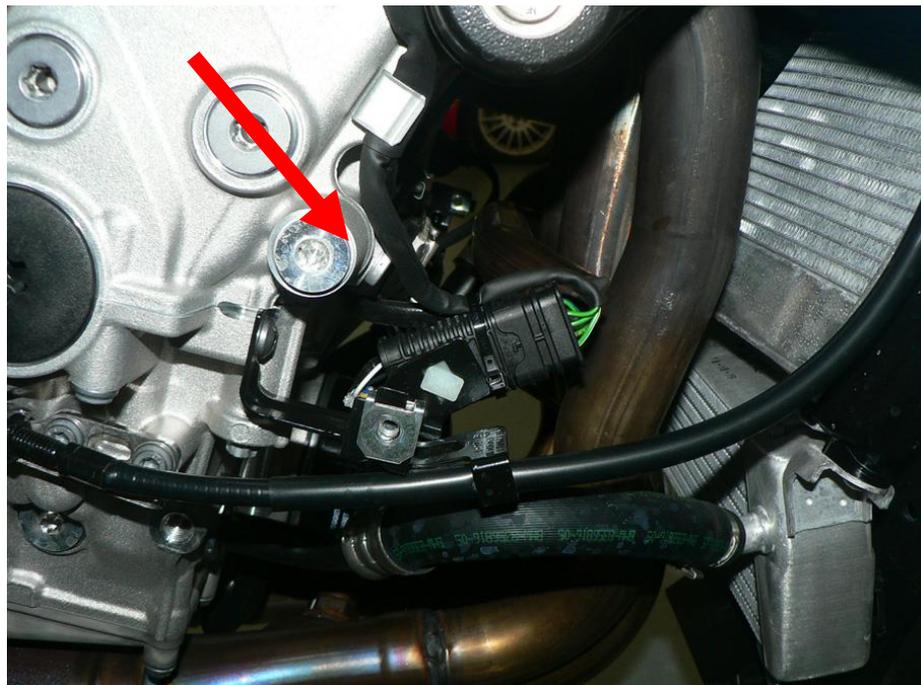
8. Plug the connectors marked as **LW1** in-line with the stock wiring.



(Picture has been shot from below)

Front Right O2 sensor - LW2

9. Locate the connectors of the right Lambda sensor placed between engine and exhaust manifold. Follow instructions at point 5 to unfasten and disconnect the connectors.

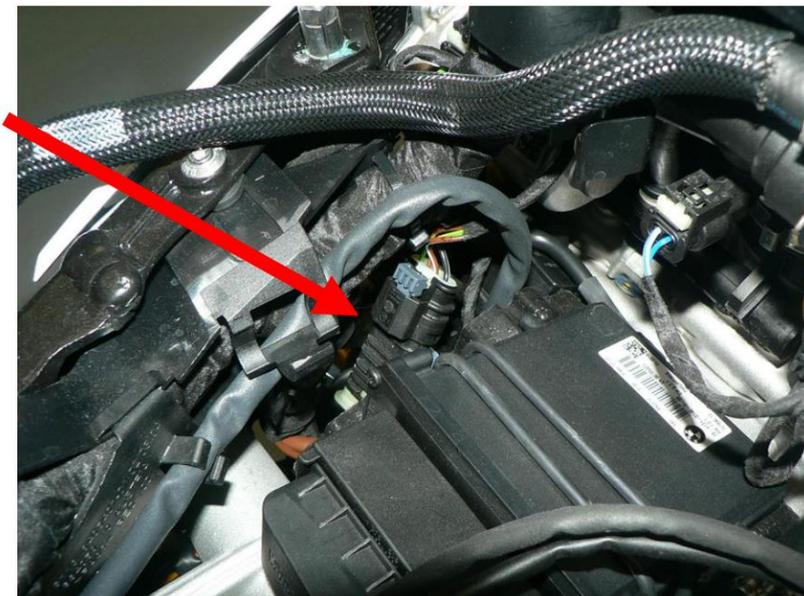


10. Route the connectors marked as **LW2** on the right side of the engine, following the same path of OEM wiring harness for O2 (Lambda) sensor.
11. Fasten Rapid Bike wiring harness to OEM O2 wiring harness using zip ties.
12. Plug the connectors marked as **LW2** in-line with the stock wiring and fasten them using zip ties to keep them away from exhaust manifold.



Left Rear O2 Sensor - LN1

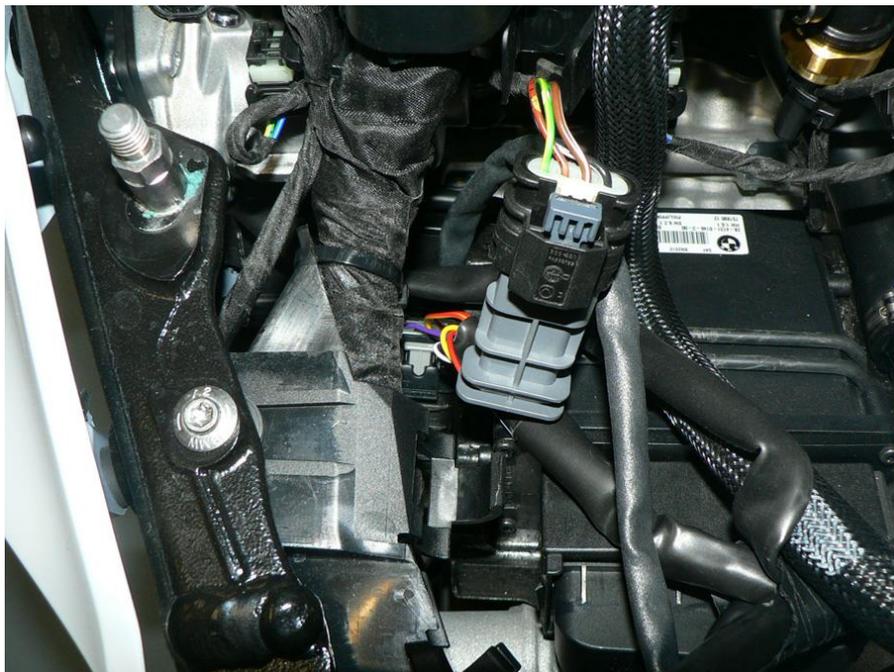
13. Locate and disconnect the connectors of the left post catalytic converter Lambda sensor placed under the fuel tank.



- a. Using a flat tool to gently pull away the plastic hook and unfasten the connectors from the frame may help unplugging the connectors.

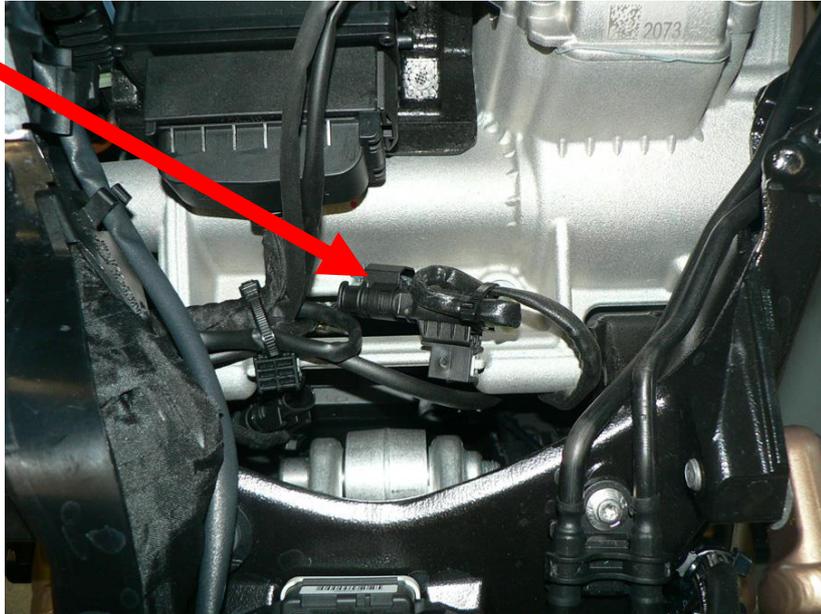


14. Plug the connectors marked as **LN1** in-line with the stock wiring.

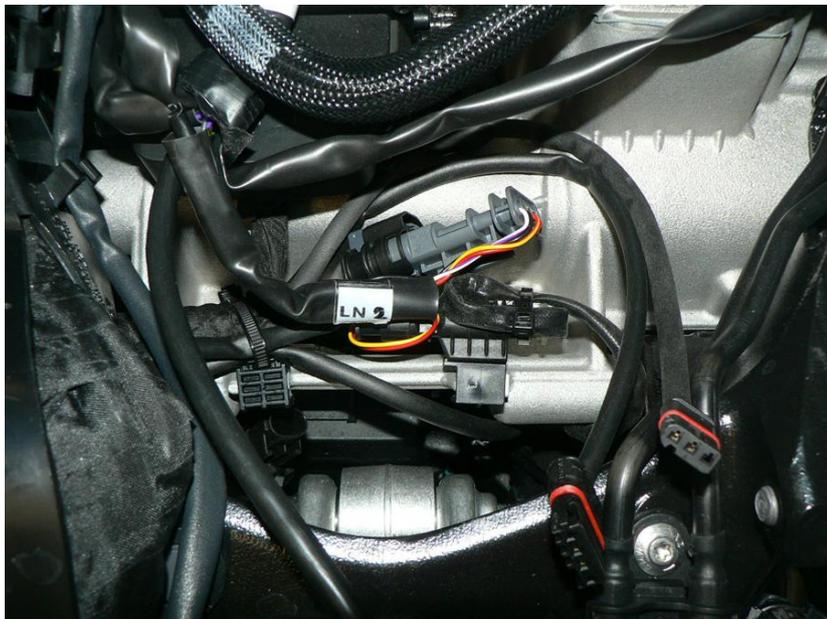


Right Rear O2 Sensor – LN2

15. Locate and disconnect the connectors of the right post catalytic converter Lambda sensor placed under the fuel tank.



16. Plug the connectors marked as **LN2** in-line with the stock wiring.



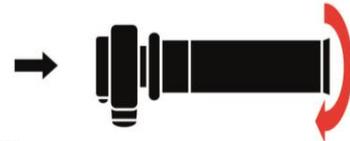
17. Ensure the wiring harness is properly fastened, then re-install fuel tank, side fairings and seats.

Controls and work

Turn on the ignition and start the engine, after a few moments the control unit is activated and begins to work (ON mode). Rapid Bike SMART is already programmed with a preset map and works with corrections tested in the development phase.

The procedure illustrated below shows how to bring the SMART control unit to OFF, allowing the bike to function without modifications as stock calibration.

Turn ignition on and open throttle completely 5 times within 10 seconds



SMART unit OFF



Repeat the operation to turn SMART unit ON



SMART unit ON



To carry out additional checks and more, you can use the software for PC/Laptop (with Windows®) or a smartphone. The sw. it can be downloaded free of charge from our website www.rapidbike.it or www.DimSPORT.it; instead the phone APP. is available in both Android® and IOS® on-line 'stores'. These instruments, via **Bluetooth** (BLE type) wireless connection, also allow you to:

- Activate or deactivate, ON-OFF mode
- Raise or lower the preset control curve
- Verify the functioning and the corrections in real time

The image displays the Rapid Bike SMART software interface on a PC and the Rapid Bike Smart APP on a smartphone. The PC interface shows a graph of RPM vs. Throttle Position (T.P.S.) with a yellow line representing the control curve. The smartphone app shows the app store listing and several screenshots of the app's interface, including a 'Rapid ON' button and a 'DATA VEICOLO' screen.

Appendix 1

USER'S RESPONSIBILITIES

RAPID device allows the User to have access to some engine parameters (for example: lambda, fuel, rpm limiter, etc.). Changing such parameters might make the vehicle non in compliance with some power and/or speed and/or emissions standards of Your Country and also might determine a superior wear and tear of mechanical and electrical components of the vehicle, to the point that manufacturer's (or seller's) warranty might be considered void.

Dimsport Srl (except as set forth hereafter) does not grant any warranty and shall never be considered liable for any disruption that may derive from using RAPID device, in particular with respect to any extra wear and/or deterioration of the engine or of any other mechanical and/or electrical part of vehicle.

The reading and understanding of RAPID device Instructions must forerun the use of RAPID device (in all its parts).

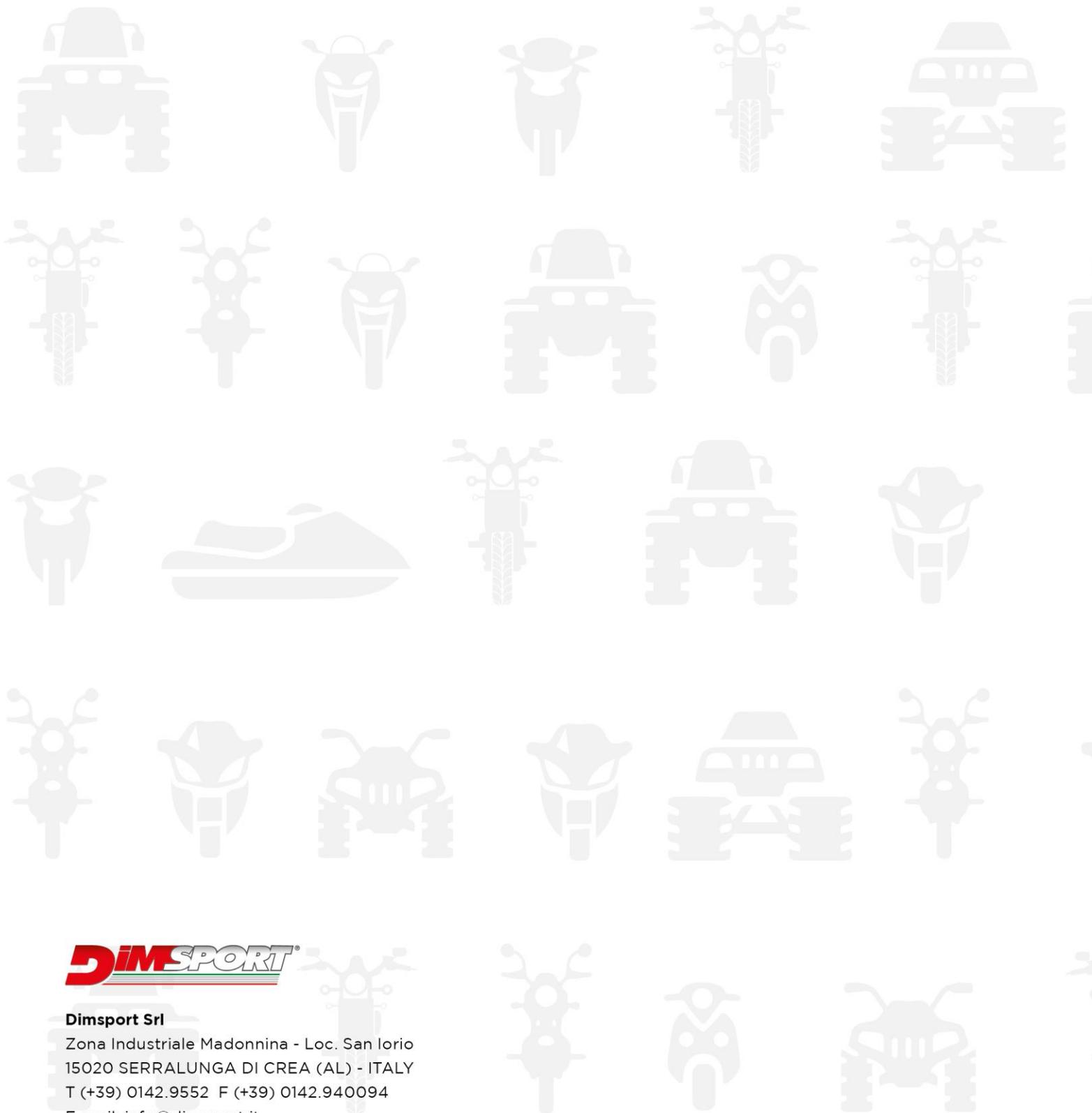
If the User is a consumer the provisions of D.lgs 206/2005 which concern the conformity warranty of purchased items shall apply (in accordance with such D.lgs 206/2005, a consumer is a person that buy products outside from his business). Therefore, the consumer with no extra expenses, has the right to obtain the conformity restatement of purchased item, by its replacement or reparation. For this purpose, Dimsport must be informed about item non-conformity within 2 (two) months from the discovery of such non-conformity. This warranty covers the defects that come within 2 (two) years from the delivery. The normal "wear and tear" shall never be considered non-conformity. This warranty shall never be applied if the consumer alters RAPID device and/or if the consumer directly or indirectly repairs it and/or if the non-conformity is due to improper, negligent or imprudent use of RAPID device.

If the User is a professional user, Dimsport only warrants that RAPID device is free from manufacture defects for 2 (two) years from the purchase date, provided that the professional user is able to demonstrate such date by showing proper documentation.

UNDER NO CIRCUMSTANCES SHOULD RAPID DEVICE BE USED TO BREAK THE LAW OF THE COUNTRY OF USE OF THE VEHICLE. FAILURE TO COMPLY WITH SUCH PROVISION WOULD DETERMINE THE IMMEDIATE TERMINATION OF THIS AGREEMENT.

Without prejudice to mandatory law provisions, Dimsport Srl shall be relieved from any and all contractual and / or extra-contractual liability for personal injury; for direct and / or indirect damage (both with reference to emerging damage and loss of profit); for any claim and / or cost of any kind; which has been suffered by the User or by any third parties and which may derive from the use or misuse and / or may depend and / or in any case may be attributable to RAPID device, except in the case that those events may be attributable to Dimsport for wilful misconduct or gross negligence. The foregoing limitations and exclusions shall be applied to the maximum extent permitted by legislation in force in the User's jurisdiction.

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