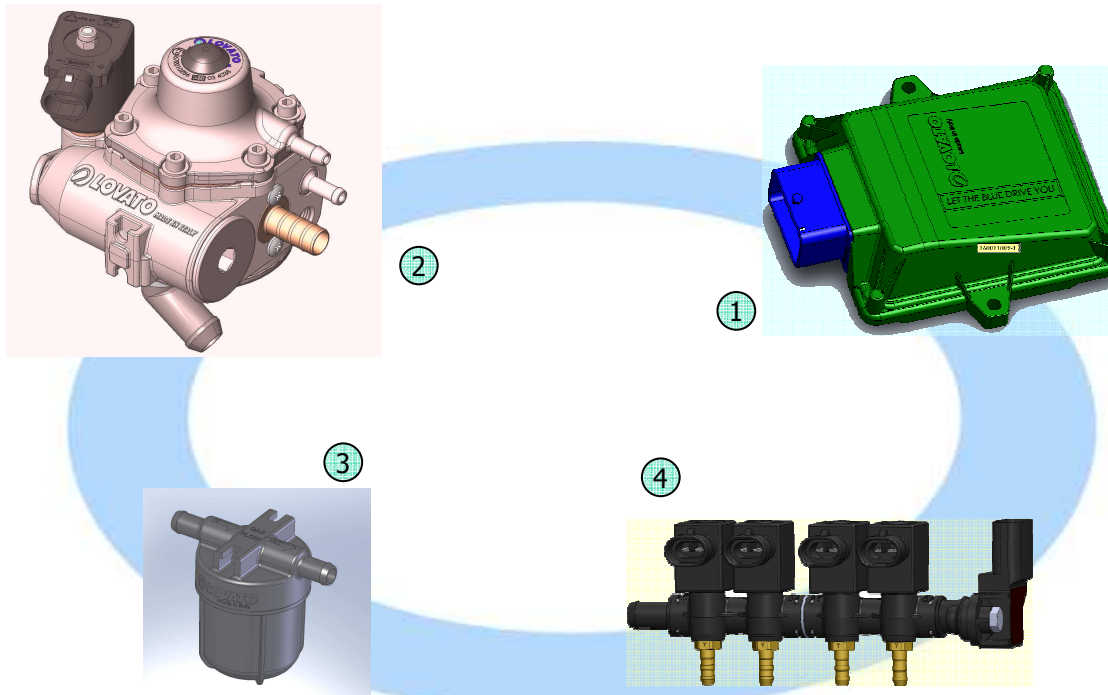
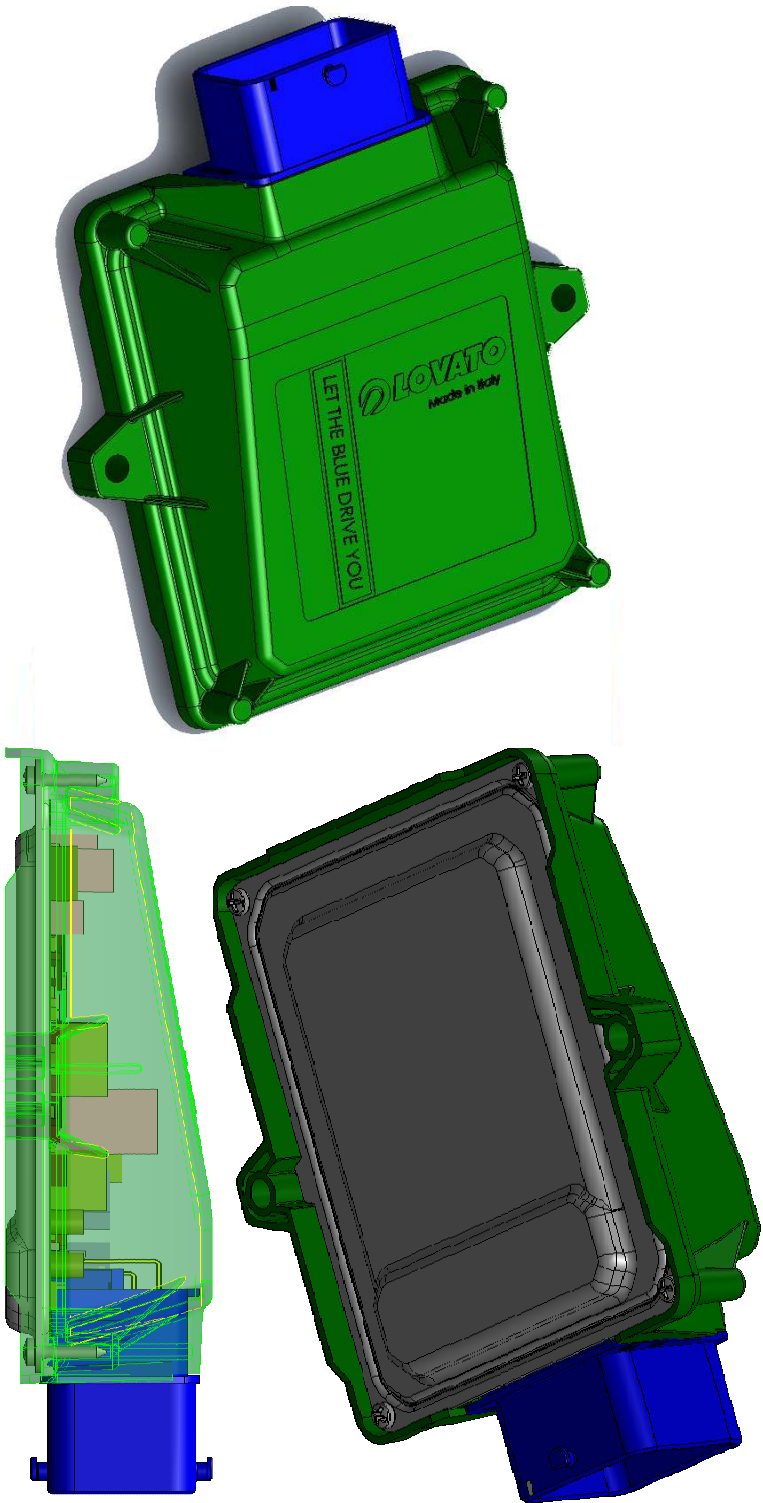


EASY FAST SMART KIT



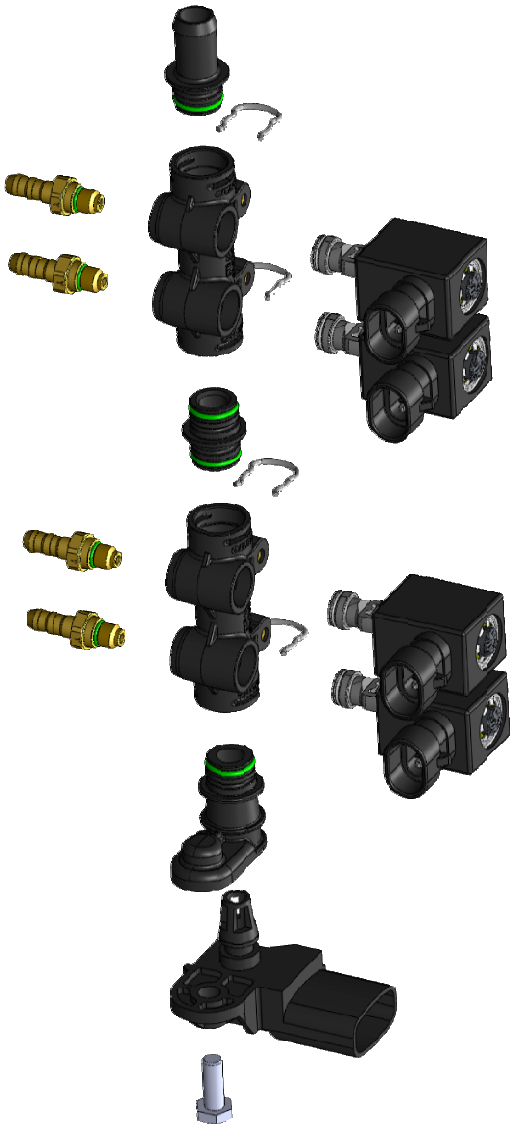
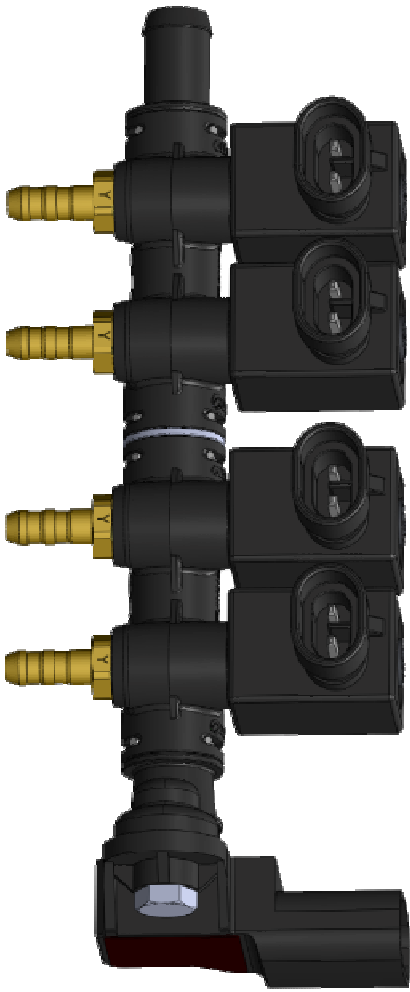
- ① MONOPLUG ECU SMART
- ② RIDUCER RGJ WITHOUT NTC
- ③ LOVATO FILTER WITHOUT SENSORS
- ④ LP INJECTOR (WITH MAINTENANCE) WITH PLASTIC RAIL AND P&T GAS SENSOR (BOSCH OR ELTEK)

ECU




LOVATO
LET THE BLUE DRIVE YOU

LP INJECTOR




LOVATO
LET THE BLUE DRIVE YOU

Main features



- Power supply: $V_{\text{batt}} = 9 \div 16\text{V}$
- Operating temperature: $-40 \div 110^{\circ}\text{C}$
- Current consumption without load: $I_{\text{max}} \leq 0.5\text{A}$
- Current consumption in stand-by: $I_{\text{standby}} \leq 5\text{mA}$
- Injectors: $I_{\text{max}} = 6\text{A}$, $V_{\text{batt,max}} = 16\text{V}$
- Gas ElectroValve (2 out): $P_{\text{max}} = 50\text{W}$, $I_{\text{max}} = 4\text{A}$
- One connector 48 PIN

Sensors



- Gas Pressure Sensor: FSU Lovato Filter, PT Bosch/Eltek
- MAP Sensor: FSU Lovato Filter, Original, Absent
- Gas Temperature Sensor: 4K7, 2k2 (PT Bosch/Eltek)
- Reducer Temperature Sensor: 4K7, Original, Absent
- Level Sensor: 1050 std, Lovato std lpg, 0-90 Ω , not std, inverse not std, std 806/807 (cng)
- Lambda probe (optional): 0-1V, 0-5V, 5-0V, 0.8-1.6V.
- Lambda Emulation (optional)

SMART vs PLUS & STD

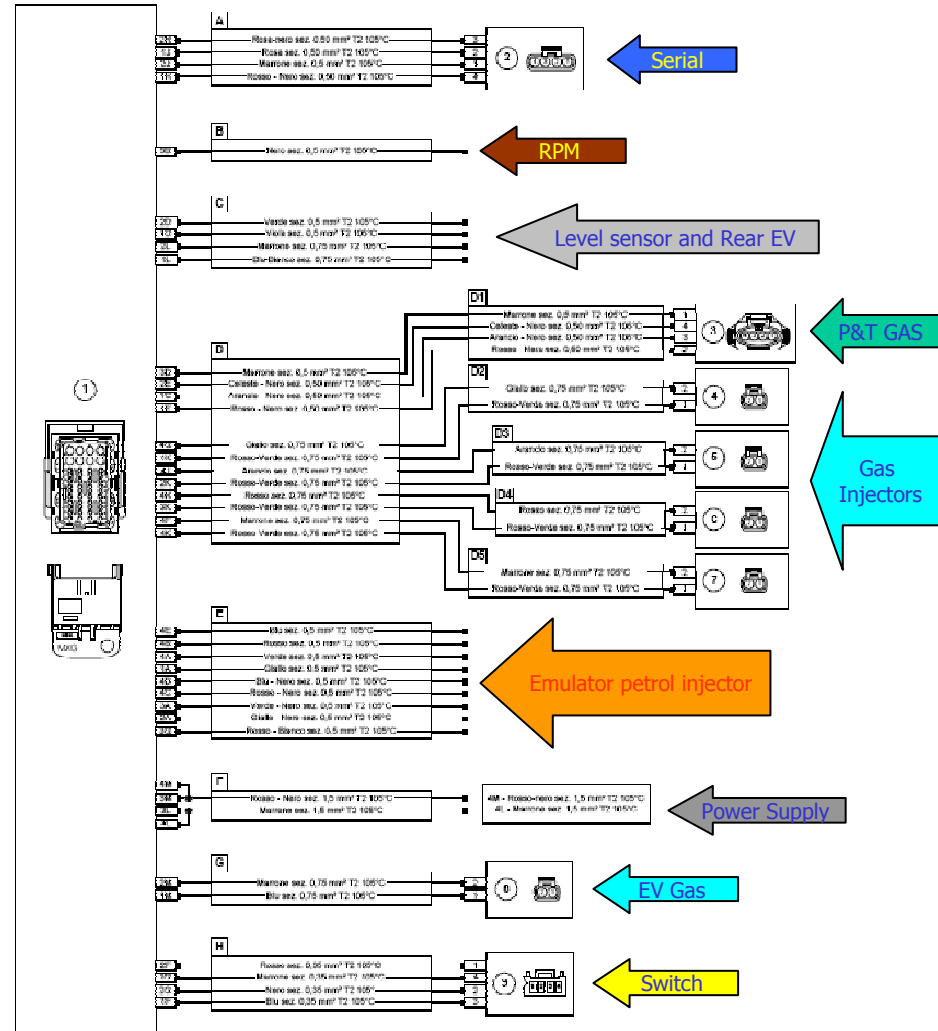
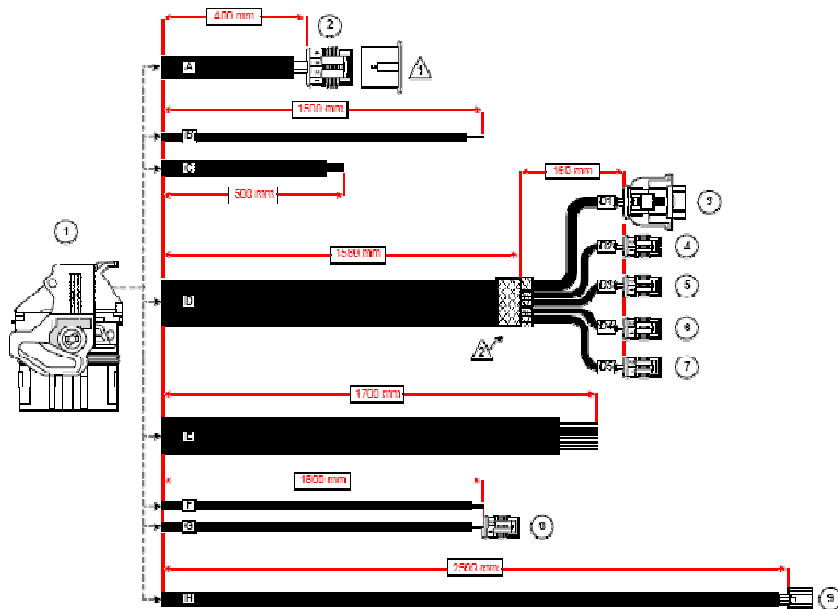


Functions	SMART	PLUS	STD
K-Mappa 12x12	✓	X	✓
Management petrol addiction	✓	X	✓
Operation without MAP <i>(Vector "Threshold P_Gas" setting by software – not visible for installators)</i>	✓	X	X*
Operation with MAP <i>(Note: with SMART ecu, firmware and wiring are dedicated)</i>	✓	✓	✓
Operation without reducer NTC <i>(Vector "Delay time for gas switching" setting by software)</i>	✓	X	X*
Operation with reducer NTC <i>(Note: for SMART ecu, wiring is dedicated)</i>	✓	✓	✓
Lambda probe emulation for emission test <i>(Note: for SMART ecu, firmware and wiring are dedicated)</i>	✓	X	✓
Hardware diagnosis <i>(EV and GAS injector)</i>	X	X	✓
Others diagnosis <i>(P&T GAS, switch present, injector petrol wiring, ...)</i>	✓	✓	✓
K-LINE and CAN communication <i>(Note: for STD ecu, model OBDII is needed)</i>	X	X	✓

* Into standard model MAP and Reducer NTC are always presents

FEBRUARY 2010

LAYOUT



FEBRUARY 2010

Software modify



F1 Configuration	F2 Switching	F3 Sensors	F4 Map	F5 Adjustments	F6 Diagnosys	ESC
REVS <input type="text" value="0"/> rpm	GAS time <input type="text" value="0,00"/> ms	G. PRES. <input type="text" value="n.d."/> bar				
T. GAS <input type="text" value="n.d."/> °C	PETROL time <input type="text" value="0,00"/> ms	MAP <input type="text" value="n.d."/> bar				
T. RED. <input type="text" value="n.d."/> °C	EXTRA-INJ. <input type="checkbox"/> CUT-OFF <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/>					
<input type="checkbox"/> Anticipates injection sequence <small>Petrol strategies disabled in gas mode</small>		Switching <input type="text" value="in deceleration"/>				
Idle operation		Rev threshold for switching <input type="text" value="1600"/> rpm				
<input type="checkbox"/> GAS		Switching delay with engine warm <input type="text" value="25"/> s				
<input type="checkbox"/> Change back to petrol		Switching to petrol for low gas temperature <input type="text" value="0"/> °C				
<input type="checkbox"/> Petrol		Operation at high revs				
<input type="checkbox"/> GAS		<input checked="" type="checkbox"/> Petrol addition once time gas limit is reached <small>Modify this setting only with the engine off.</small>				
<input type="checkbox"/> Petrol addition						
<input type="checkbox"/> Petrol						

T.RED. – MAP – LAMBDA
don't appears into high part of window

The temperature threshold for
swintching don't appears

Software modify



F1 Configuration	F2 Switching	F3 Sensors	F4 Map	F5 Adjustments	F6 Diagnosys	ESC
REVS <input type="text" value="0"/> rpm	T. GAS <input type="text" value="n.d."/> °C	T. RED. <input type="text" value="n.d."/> °C	GAS time <input type="text" value="0,00"/> ms	PETROL time <input type="text" value="0,00"/> ms	G. PRES. <input type="text" value="n.d."/> bar	MAP <input type="text" value="n.d."/> bar
					<input type="checkbox"/> EXTRA-INJ. <input type="checkbox"/> CUT-OFF <input type="checkbox"/> DIAGNOSTICS	

GAS temperature adjustment

°C	0	10	20	30	40	50	60	70	Other
±100%	-7	-5	-3	-1	0	1	3	5	7

Delay switch over with gas temperature

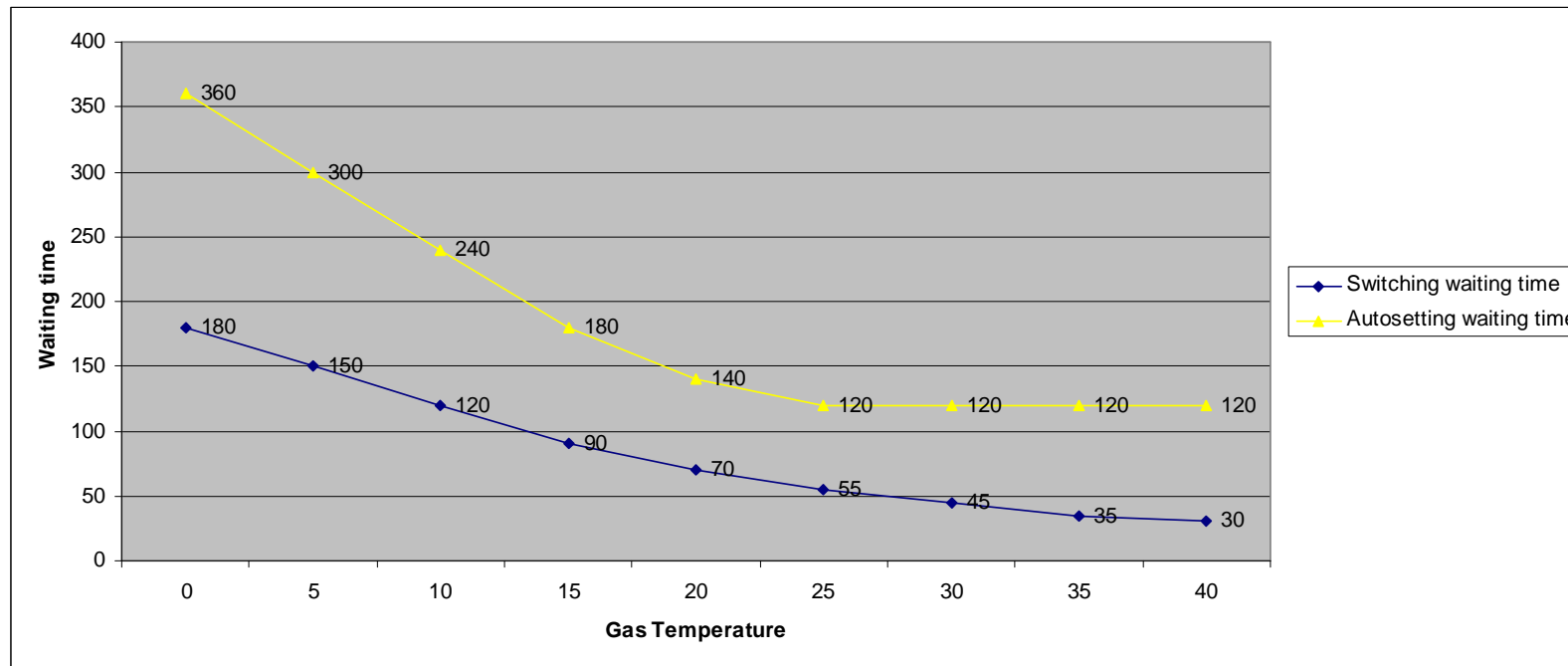
Rif.[°C]	0	5	10	15	20	25	30	35	40
Switch [s]	180	150	120	90	70	56	46	36	30

Adjustment re-entry from cutoff	<input type="text" value="0"/>	%
Number of injected phases	<input type="text" value="0"/>	

The shape of vector for temperature adjustment is different and don't appears the Reducer temperature adjustment

The new vector for delay to gas swithching appears (delay vs T_gas)

Switching management



Maintenance Injectors kit



①



②

SPAR PARTS

- Spring
- Seat
- O-ring



③



① MAINTENANCE KIT

② REVISION KIT

③ LP INJECTOR