

# WIDEBAND O<sub>2</sub> SENSOR SIMULATOR

for ECU Testing



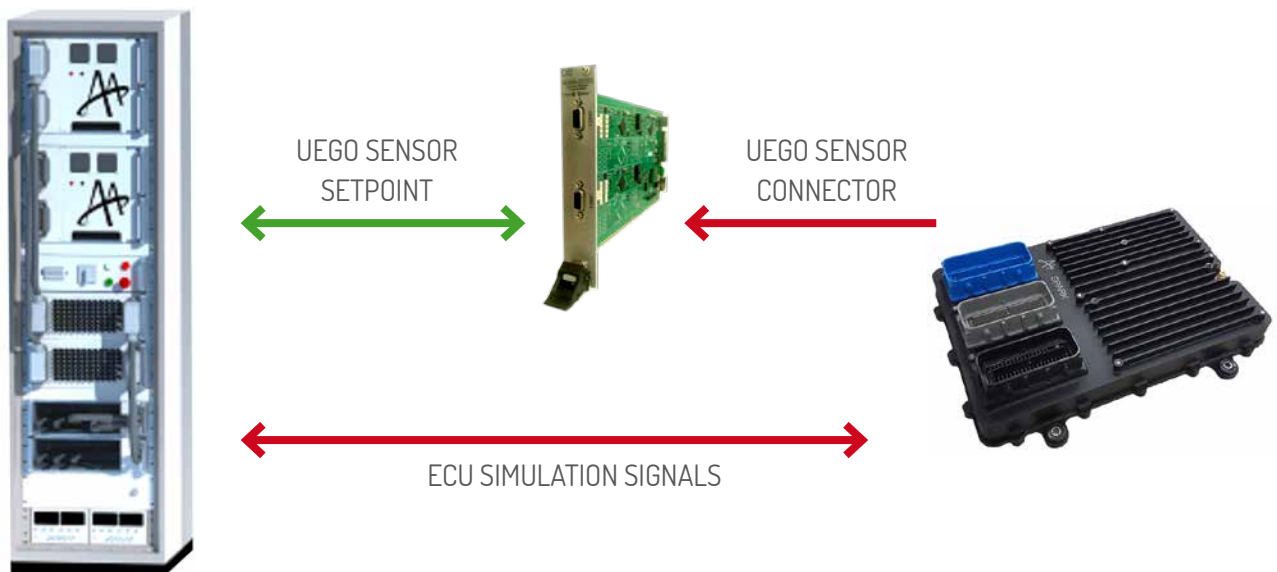
ALMA-10201/10401 (NI SLSC)  
ALMA-20201/20401 (Stand Alone)



# Distinctive features

The O<sub>2</sub> sensor simulator allows for a complete ECU testing solution, enabling close loop control on the AFR. The system is conceived to have an easily connection to any HIL system with a wide choice of controlling buses.

- Available in NI SLSC form factor or Stand Alone version
- 2 or 4 independent channels versions available
- Complete simulation in a single module, no additional hardware required
- Independent AFR and Temperature Setpoint
- Setpoint via Analog Signals or Ethernet bus (Stand Alone version) or Analog Signals or NI SLSC Bus (SLSC Version)
- Model based control allows to simulate a wide variety of Wideband Sensors
- Easy to install in existing systems, self protected and reliable operation



# Specifications

Characteristic	ALMA-10201	ALMA-10401	ALMA-20201	ALMA-20401
Module integration	NI SLSC	NI SLSC	Stand Alone	Stand Alone
Number of simulated sensors	2	4	2	4
Ethernet/UDP setpoint	no	no	yes	yes
Analog Voltage Setpoint	yes	yes	yes	yes
NI SLSC bus support	yes	yes	no	no
Pumping Current Range	±5 mA	±5 mA	±5 mA	±5 mA
Pumping Current Precision	1% FS	1% FS	1% FS	1% FS
Temperature Feedback Resistance	50 to 1050 $\Omega$	50 to 1050 $\Omega$	50 to 1050 $\Omega$	50 to 1050 $\Omega$
Temperature Feedback Resistance Precision	0.1% FS	0.1% FS	0.1% FS	0.1% FS
Internal model simulation frequency	80 kHz	80 kHz	80 kHz	80 kHz
Setpoint Update Frequency	up to 1kHz	up to 1kHz	up to 1kHz	up to 1kHz
Power Supply Voltage Range	Provided by SLSC Chassis	Provided by SLSC Chassis	12 to 28 V	12 to 28 V
Power Supply Current	1.5 A Max	1.5 A Max	1.5 A Max	1.5 A Max
Veristand Device Driver	yes	yes	yes	yes
Specialized Labview Communication Library	yes	yes	yes	yes



Originally established as a spin-off of University of Bologna, Alma Automotive represents the synergy between knowledge acquired in academic research activities and years of experience in developing applied solutions. The company has now evolved to offer both ready-to-use products and engineering services supported by bespoke hardware and software solutions.

Highly oriented towards new challenges, Alma Automotive's mission is to provide innovative solutions

and tools to help customers in the development of ever more efficient engines and powertrains. Our partnership with National Instruments and the strong relationship we have with top-tier automotive companies is testimonial to the high level of skill and quality of services offered to our clients.



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