



NO_xCAN(g)

- ▶ Universally applicable, extremely compact CAN bus measurement module, fully compatible with CSM products
- ▶ Connection of the two common types of NO_x sensors NTK / NGK Spark Plugs and NGK Insulator (equivalent to Siemens VDO) for measuring NO_x, O₂, and AFR and pressure (optional)
- ▶ Optional capability of connecting a pressure compensation
- ▶ Optional capability of connecting a display head with freely programmable outputs
- ▶ Programmable fuel types like H:C-, O:C-, N:C-ratio and H₂
- ▶ Field recalibration for minimization of sensor aging
- ▶ Integration in ETAS INCA via CSM INCA AddOn from INCA 6.x
- ▶ Operating temperature / protection: -40 °C to +125 °C / IP67
- ▶ LED status indicator, bicolour (red, green)
- ▶ Outstanding price/performance ratio



The ECM measurement modules NO_xCAN and NO_xCANg, distributed by CSM solve the **complex measurement demands** of automotive measurement technology. In addition to providing outstanding measurement ranges and accuracy, NO_xCAN and NO_xCANg are suited for testing bench applications as well as for mobile use. Due to the significantly extended operating temperature range from -40 °C to +125 °C and protection class IP67, NO_xCAN and NO_xCANg are ideally suited to be used inside engine compartments. This minimizes set-up times, saves material and minimizes potential sources of error. As a special feature, these modules can be placed less than 2 m from the measuring point.

NO_x sensors

The NO_x sensors delivered by ECM are calibration-certified. The calibration data is stored in the memory chip of the connector. Thus the sensors and instruments can be replaced without any problems at any time.

Calibration can be easily performed using ambient air as well as a NO_x two-point calibration within operating conditions. This user-specific calibration data is also stored in the memory chip.

Therefore the sensor can be tested and calibrated centrally. If the sensor is distributed to another user, the calibration data is automatically available.

Pressure compensation

The possibility of pressure compensation with optional pressure sensor improves the accuracy.

Available measurement data on CAN

Beside NO_x, O₂, λ and AFR (Air Fuel Ratio) NO_xCAN and NO_xCANg outputs pressure (by using the optional pressure compensation) and all sensor parameters are available on the CAN.

Specifications NO_xCAN(g) modules

Technical Data	NO _x CAN (NTK)	NO _x CANg (NGK, Siemens VDO)
Inputs	1x NO _x sensor, 1x pressure sensor (optional)	
Measurement range		
NO _x	0 bis 5000 ppm (for $\lambda \geq 1$)	0 to 5000 ppm (for $\lambda \geq 1$)
Lambda	0.40 to 25	0.40 to 25
AFR	6.0 to 364	6.0 to 364
%O ₂	0 to 25	0 to 25
Accuracy		
NO _x	±30 ppm (@0 to 1000 ppm) otherwise ±3 %	±15 ppm (@0 to 1000 ppm) otherwise ±1.5 %
Lambda	±0.008 (@ $\lambda = 1$) ±0.016 (@ $\lambda = 0.8$ to 1.2) otherwise ±0.018	±0.008 (@ $\lambda = 1$) ±0.016 (@ $\lambda = 0.8$ to 1.2) otherwise ±0.018
AFR	±0.15 (@AFR = 14.6) ±0.40 (@AFR = 12 to 18) otherwise ±1.0	±0.15 (@AFR = 14.6) ±0.40 (@AFR = 12 to 18) otherwise ±1.0
%O ₂	±0.4 (@%O ₂ = 0 to 2) otherwise ±0.8	±0.4 (@%O ₂ = 0 to 2) otherwise ±0.8
Response / processing time	< 150 ms for Lambda, AFR and %O ₂ < 700 ms for NO _x	< 150 ms for Lambda, AFR and %O ₂ < 1000 ms for NO _x
Fuel types	programmable H:C, O:C and N:C ratios and H ₂	
CAN interface	CAN2.0B, High Speed (ISO 11898)	
Configuration	via CAN bus with CSM ConfigTool or CSM INCA AddOn, all settings and configuration data stored in the device; alternatively: configuration and data transmission via CANopen protocol	
Power supply		
Minimum	11 V DC	
Maximum	28 V DC	
Housing		
Protection class	IP67	
Dimensions (w x h x d)	approx. 145 x 120 x 40 mm	
Operating conditions		
Operating temperature	-40 °C to +125 °C	
Conformity	CE	

ECM ENGINE CONTROL
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