

Precise. Rugged. Universal.

NOxCAN(g)

- ▶ Universally applicable, extremely compact CAN bus measurement module, fully compatible with CSM products
- ▶ Connection of the two common types of NOx sensors NTK / NGK Spark Plugs and NGK Insulator (equivalent to Siemens VDO) for measuring NOx, 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 NOxCAN and NOxCANg, distributed by CSM, solve the **complex measurement demands** of automotive measurement technology. In addition to provide outstanding measurement range and accuracy, NOxCAN and NOxCANg are suited for test bench applications as well as for mobile use. Because of the extreme extended operating temperature range from -40 °C to +125 °C and protection class IP67, NOxCAN and NOxCANg are applicable for use inside engine compartment and minimizes thereby set-up times, materials usage and potential sources of error. A special feature of these modules is the possibility to be placed > 2 m away from the measuring point.

NOx sensors

The from ECM delivered NOx sensors are calibration certified. The calibration data is stored in the memory chip of the connector. This assures the replacement of sensors and instruments at any time.

For best accuracy over the life of the sensors, calibration can be quickly performed using ambient air, also a NOx two point calibration within operating conditions. This user-specific calibration data is also stored in the memory chip. Therefore the sensor could be tested and calibrated centrally. If it is allocated to a user, the calibration data is automatically within.

Pressure compensation

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

Available measurement data on the CAN

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

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Specifications NOxCAN(g)

Technical data	NOxCAN (NTK)	NOxCANg (NGK, Siemens VDO)
Inputs	1 x NOx sensor, 1 x Pressure sensor (optional)	
Measurement range NOx Lambda AFR %O ₂	0 to 5000 ppm (for $\lambda \geq 1$) 0,40 to 25 6,0 to 364 0 to 25	0 to 5000 ppm (for $\lambda > 1$) 0,40 to 25 6,0 to 364 0 to 25
Accuracies		
NOx	±30 ppm (@0 to 1000 ppm) elsewhere ±3 %	±15 ppm (@0 to 1000 ppm) elsewhere ±1,5 %
Lambda	±0,008 (@ $\lambda = 1$) ±0,016 (@ $\lambda = 0,8$ bis 1,2) elsewhere ±0,018	±0,008 (@ $\lambda = 1$) ±0,016 (@ $\lambda = 0,8$ bis 1,2) elsewhere ±0,018
AFR	±0,15 (@AFR = 14,6) ±0,40 (@AFR = 12 bis 18) elsewhere ±1,0	±0,15 (@AFR = 14,6) ±0,40 (@AFR = 12 bis 18) elsewhere ±1,0
%O ₂	±0,4 (@%O ₂ = 0 bis 2) elsewhere ±0,8	±0,4 (@%O ₂ = 0 bis 2) elsewhere ±0,8
Response / Processing time	< 150 ms for Lambda, AFR and %O ₂ < 700 ms for NOx	< 150 ms for Lambda, AFR and %O ₂ < 1000 ms for NOx
Fuel types	Programmable H:C, O:C and N:C ratios, and H ₂	
CAN Interface Configuration	CAN2.0B, High Speed (ISO 11898) via CAN bus with ECM Config Tool or CSM INCA AddOn all settings and configuration are stored within module alternatively: Configuration and transmission with CANopen protocol	
Power Supply	11 to 28 V DC	
Dimensions (B x H x T)	approx. 145 x 120 x 40 mm	
Operating temperature / protection	-40 °C to +125 °C / IP67	
Conformity	CE	

ECM ENGINE CONTROL
AND MONITORING