EGT – GB – 02/2025

EGT SNR
Exhaust Gaz Temperature Sensor

EGT Exhaust Gaz Temperature Sensor

Sensor Function and Technologies

Exhaust gas temperature sensors are essential for protecting exhaust line components from critical overheating. With the evolution of engines becoming cleaner, economical and powerful, sensor technology has become more sophisticated to meet these new requirements.

These sensors, originally designed to protect the catalytic converter, now play a crucial role in protecting all exhaust components. They come in the form of probes connected to the exhaust line, measuring the temperature of the gases before or after the turbocharger or particulate filter. The temperature data is transmitted to the vehicle's on-board computer.

By providing accurate information about the exhaust gas temperature, the sensor helps regulate the engine
to reduce emissions and improve combustion efficiency, helping to maximize engine performance and longevity while protecting the environment.

EGT Exhaust Gaz Temperature Sensor

Fault Code	Description of the error
P00E3	Exhaust gas heat exchanger bypass valve A - Component jammed in open condition
P00E4	Exhaust gas heat exchanger bypass valve A - Component jammed in closed condition
P040A	Temperature sensor A for exhaust gas recirculation - Electric fault in circuit
P040B	Temperature sensor A for exhaust gas recirculation - Voltage deviation/malfunction
P040C	Temperature sensor A for exhaust gas recirculation - Signal too small
P040D	Temperature sensor A for exhaust gas recirculation - Signal too high
P040E	Temperature sensor A for exhaust gas recirculation - Signal varies/interrupts
P040F	Temperature sensors A and B for exhaust gas recirculation - Relationship implausible
P041A	Temperature sensor B for exhaust gas recirculation - Electric fault in circuit
P041B	Temperature sensor B for exhaust gas recirculation - Voltage deviation/malfunction
P041C	Temperature sensor B for exhaust gas recirculation - Signal too small
P041D	Temperature sensor B for exhaust gas recirculation - Signal too high
P041E	Temperature sensor B for exhaust gas recirculation - Signal varies/interrupts
P04CE	Temperature sensor C for exhaust gas recirculation - Electric fault in circuit
P04CF	Temperature sensor C for exhaust gas recirculation - Voltage deviation/malfunction
P04D1	Temperature sensor C for exhaust gas recirculation - Signal too small
P04D2	Temperature sensor C for exhaust gas recirculation - Signal varies/interrupts
P04E5	Temperature sensor D for exhaust gas recirculation - Electric fault in circuit
P04E6	Temperature sensor D for exhaust gas recirculation - Voltage deviation/malfunction
P04E7	Temperature sensor D for exhaust gas recirculation - Signal too small
P04E8	Temperature sensor D for exhaust gas recirculation - Signal too high
P04E9	Temperature sensor D for exhaust gas recirculation - Signal varies/interrupts
P04FA	Exhaust gas recirculation A - Temperature too high

EGT Exhaust Gaz Temperature Sensor

Fault Code	Description of the error
P050A	Exhaust gas temperature during cold start - Functioning fault
P050E	Exhaust gas temperature during cold start - Temperature too low
P0545	1st cylinder row exhaust gas temperature sensor 1 - Signal too high
P0546	2nd cylinder row exhaust gas temperature sensor 1 - Electric fault in circuit
P0547	2nd cylinder row exhaust gas temperature sensor 1 - Signal too small
P0548	2nd cylinder row exhaust gas temperature sensor 1 - Signal too high
P0549	2nd cylinder row exhaust gas temperature sensor 1 - Signal too high
P2031	1st. cylinder bank exhaust gas temperature sensor 2 - Electric fault in circuit
P2032	1st. cylinder bank exhaust gas temperature sensor 2 - Signal too small
P2033	1st. cylinder bank exhaust gas temperature sensor 2 - Signal too high
P2034	2nd. cylinder bank exhaust gas temperature sensor 2 - Electric fault in circuit
P2035	2nd. cylinder bank exhaust gas temperature sensor 2 - Signal too small
P2036	2nd. cylinder bank exhaust gas temperature sensor 2 - Signal too high
P2080	1st cylinder row exhaust gas temperature sensor 1 - Voltage deviation/malfunction
P2081	1st cylinder row exhaust gas temperature sensor 1 - Sporadic interruption in the circuit
P2082	2nd cylinder row exhaust gas temperature sensor 1 - Voltage deviation/malfunction
P2083	2nd cylinder row exhaust gas temperature sensor 1 - Sporadic interruption in the circuit
P2084	1st. cylinder bank exhaust gas temperature sensor 2 - Voltage deviation/malfunction
P2085	1st. cylinder bank exhaust gas temperature sensor 2 - Sporadic interruption in the circuit
P2086	2nd. cylinder bank exhaust gas temperature sensor 2 - Voltage deviation/malfunction
P2087	2nd. cylinder bank exhaust gas temperature sensor 2 - Sporadic interruption in the circuit

EGT Exhaust Gaz Temperature Sensor

Fault Code	Description of the error
P20E2	Sensors 1 and 2 for exhaust gas temperature, 1st. cylinder bank - Relationship implausible
P20E3	Sensors 1 and 3 for exhaust gas temperature, 1st. cylinder bank - Relationship implausible
P20E4	Sensors 2 and 3 for exhaust gas temperature, 1st. cylinder bank - Relationship implausible
P20E5	Sensors 1 and 2 for exhaust gas temperature, 2nd. cylinder bank - Relationship implausible
P244C	Exhaust gas temperature, 1st. cylinder bank - Temperature for regeneration too low
P244D	Exhaust gas temperature, 1st. cylinder bank - Temperature for regeneration too high
P244E	Exhaust gas temperature, 2nd. cylinder bank - Temperature for regeneration too low
P244F	Exhaust gas temperature, 2nd. cylinder bank - Temperature for regeneration too high
P2466	2nd. cylinder bank exhaust gas temperature sensor 3 - Electric fault in circuit
P2467	2nd. cylinder bank exhaust gas temperature sensor 3 - Voltage deviation/malfunction
P2468	2nd. cylinder bank exhaust gas temperature sensor 3 - Signal too small
P2469	2nd. cylinder bank exhaust gas temperature sensor 3 - Signal too high
P246A	2nd. cylinder bank exhaust gas temperature sensor 3 - Signal varies/interrupts
P246E	1st. cylinder bank exhaust gas temperature sensor 4 - Electric fault in circuit
P246F	1st. cylinder bank exhaust gas temperature sensor 4 - Voltage deviation/malfunction
P2470	1st. cylinder bank exhaust gas temperature sensor 4 - Signal too small
P2471	1st. cylinder bank exhaust gas temperature sensor 4 - Signal too high
P2472	1st. cylinder bank exhaust gas temperature sensor 4 - Signal varies/interrupts
P2473	2nd. cylinder bank exhaust gas temperature sensor 4 - Electric fault in circuit
P2474	2nd. cylinder bank exhaust gas temperature sensor 4 - Voltage deviation/malfunction
P2475	2nd. cylinder bank exhaust gas temperature sensor 4 - Signal too small

EGT Exhaust Gaz Temperature Sensor

Fault Code	Description of the error
P2476	2nd. cylinder bank exhaust gas temperature sensor 4 - Signal too high
P2477	2nd. cylinder bank exhaust gas temperature sensor 4 - Signal varies/interrupts
P2478	1st cylinder row exhaust gas temperature sensor 1 - Temperature not in target range
P2479	1st. cylinder bank exhaust gas temperature sensor 2 - Temperature not in target range
P247A	1st. cylinder bank exhaust gas temperature sensor 3 - Temperature not in target range
P247B	1st. cylinder bank exhaust gas temperature sensor 4 - Temperature not in target range
P247C	2nd cylinder row exhaust gas temperature sensor 1 - Temperature not in target range
P247D	2nd. cylinder bank exhaust gas temperature sensor 2 - Temperature not in target range
P247E	2nd. cylinder bank exhaust gas temperature sensor 3 - Temperature not in target range
P247F	2nd. cylinder bank exhaust gas temperature sensor 4 - Temperature not in target range
P2480	1st. cylinder bank exhaust gas temperature sensor 5 - Electric fault/interruption in circuit
P2481	1st. cylinder bank exhaust gas temperature sensor 5 - Signal too small
P2482	1st. cylinder bank exhaust gas temperature sensor 5 - Signal too high
P2483	1st. cylinder bank exhaust gas temperature sensor 5 - Voltage deviation/malfunction
P2484	1st. cylinder bank exhaust gas temperature sensor 5 - Signal varies/interrupts
P2485	2nd. cylinder bank exhaust gas temperature sensor 5 - Electric fault/interruption in circuit
P2486	2nd. cylinder bank exhaust gas temperature sensor 5 - Signal too small
P2487	2nd. cylinder bank exhaust gas temperature sensor 5 - Signal too high
P2488	2nd. cylinder bank exhaust gas temperature sensor 5 - Voltage deviation/malfunction
P2489	2nd. cylinder bank exhaust gas temperature sensor 5 - Signal varies/interrupts

EGT Exhaust Gaz Temperature Sensor

Fault Code	Description of the error
P24C2	Sensor system for exhaust gas temperature, 1st. cylinder bank - Relationship of multiple sensors implausible
P24C3	Sensor system for exhaust gas temperature, 2nd. cylinder bank - Relationship of multiple sensors implausible
P24F2	Exhaust gas recirculation temperature and charge air cooler temperature - Relationship implausible
P2BA4	Exhaust gas upstream of catalytic converter - Exhaust gas values implausible
P2BA5	Exhaust gas upstream of particulate filter - Exhaust gas values implausible

General guidelines

This installation instruction serves only as a general guideline for the work to be carried out and does not take into account the manufacturer's specific specifications.
Specific manufacturer's information must be taken into account if they are not an integral part of this documentation.
The prescribed torque values must be taken into account in case they are not an integral part of this documentation.

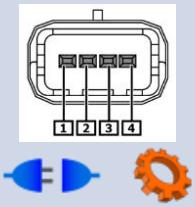
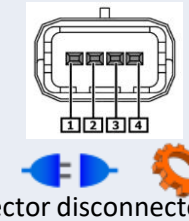
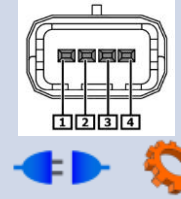
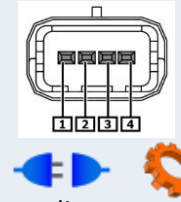
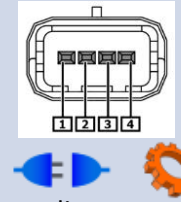
Instructions

EGT sensor upstream of the particulate filter _ Interior resistance
EGT sensor upstream of the particulate filter _ Line resistance
EGT sensor upstream of the particulate filter _ Short-circuit resistance
EGT sensor upstream of the particulate filter _ Power supply on the ECU
EGT sensor upstream of the particulate filter _ Power supply to the component
EGT sensor upstream of the particulate filter _ Voltage drop

EGT sensor downstream of the particulate filter _ Interior resistance
EGT sensor downstream of the particulate filter _ Line resistance
EGT sensor downstream of the particulate filter _ Short-circuit resistance
EGT sensor downstream of the particulate filter _ Power supply on the ECU
EGT sensor downstream of the particulate filter _ Power supply on the component
EGT sensor downstream of the particulate filter _ Voltage drop

Exhaust Gas Temperature Sensor (EGT) upstream of the particulate filter

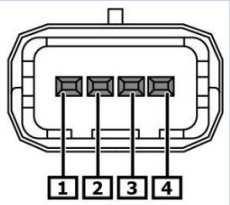
Interior resistance

PIN	Values	Information	Prerequisites	Graphic
PIN 2 closed PIN 1	≥ 350 Ω ≤ 390 Ω		Remove the ignition. EGT sensor upstream of the active particulate filter Temperature 900 °C	 Connector disconnected, measurement on component
PIN 2 closed PIN 1	≥ 750 Ω ≤ 950 Ω		Remove the ignition. EGT sensor upstream of the active particulate filter Temperature 600 °C	 Connector disconnected, measurement on component
PIN 2 closed PIN 1	≥ 9100 Ω ≤ 11000 Ω		Remove the ignition. EGT sensor upstream of the catalytic converter Temperature 200 °C	 Connector disconnected, measurement on component
PIN 2 closed PIN 1	≥ 1700 Ω ≤ 2200 Ω		Remove the ignition. EGT sensor upstream of the catalytic converter Temperature 400 °C	 Connector disconnected, measurement on component
PIN 2 closed PIN 1	≥ 33000 Ω ≤ 35000 Ω		Remove the ignition. EGT sensor upstream of the catalytic converter Temperature 0 °C	 Connector disconnected, measurement on component

Exhaust Gas Temperature Sensor (EGT) upstream of the particulate filter
Line Resistance

PIN	Values	Information	Prerequisites	Graphic
PIN 1 closed 120V NR PIN 76	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested., Remove the contact., to be used for checking the electrical diagrams	 Connector removed, measurement on harness
PIN 2 closed 120V NR PIN 77	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested., Remove the contact., to be used for checking the electrical diagrams	 Connector removed, measurement on harness

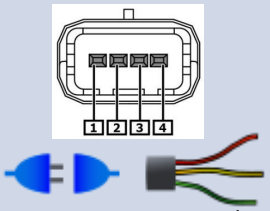
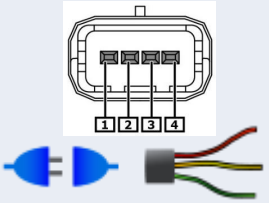
Exhaust Gas Temperature Sensor (EGT) upstream of the particulate filter
Short-circuit resistance

PIN	Values	Information	Prerequisites	Graphic
	≥ 10000000 Ω	Check all component connector cables.	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	

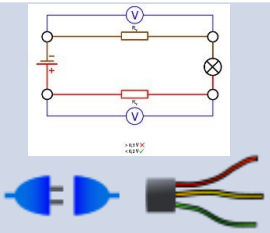
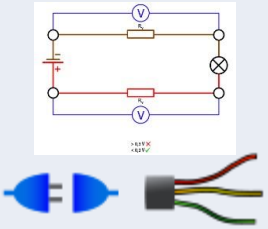
Exhaust gas temperature sensor (EGT) upstream of the particulate filter
Power supply on the control unit (ECU)

PIN	Values	Information	Prerequisites	Graphic
120V NR PIN 77 closed 120V NR PIN 77	≥ 4,5 V ≤ 5,5 V		Turn the ignition to position 2	 Connector not disconnected

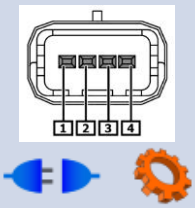
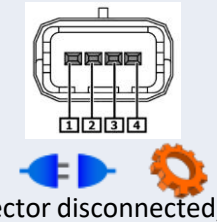
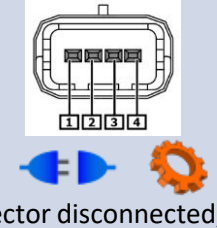
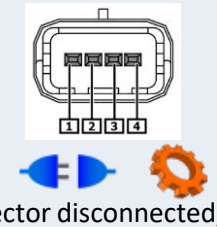
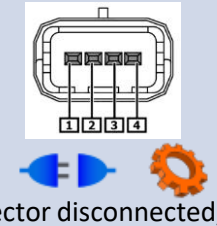
Exhaust gas temperature sensor (EGT) upstream of the particulate filter
Power supply to the component

PIN	Values	Information	Prerequisites	Graphique
PIN 3 closed 120V NR PIN 56	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 4 closed 120V NR PIN 55	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness

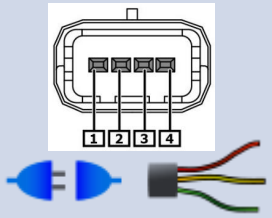
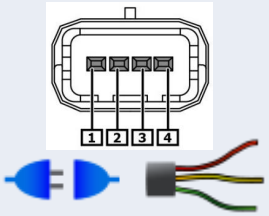
Exhaust gas temperature sensor (EGT) upstream of the particulate filter
Voltage drop

PIN	Values	Information	Prerequisites	Graphique
PIN 1 closed 120V NR PIN 76	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 2 closed 120V NR PIN 77	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness

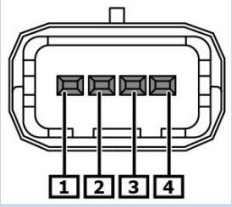
Exhaust Gas Temperature Sensor (EGT) downstream of the particulate filter
Interior resistance

PIN	Values	Information	Prerequisites	Graphic
PIN 3 closed PIN 4	≥ 350 Ω ≤ 390 Ω		Remove the ignition. EGT sensor downstream of the active particulate filter Temperature 900 °C	 Connector disconnected, measurement on component
PIN 3 closed PIN 4	≥ 750 Ω ≤ 950 Ω		Remove the ignition. EGT sensor downstream of the active particulate filter Temperature 600 °C	 Connector disconnected, measurement on component
PIN 3 closed PIN 4	≥ 9100 Ω ≤ 11000 Ω		Remove the ignition. EGT sensor downstream of the catalytic converter Temperature 200 °C	 Connector disconnected, measurement on component
PIN 3 closed PIN 4	≥ 1700 Ω ≤ 2200 Ω		Remove the ignition. EGT sensor downstream of the catalytic converter Temperature 400 °C	 Connector disconnected, measurement on component
PIN 3 closed PIN 4	≥ 33000 Ω ≤ 35000 Ω		Remove the ignition. EGT sensor downstream of the catalytic converter Temperature 0 °C	 Connector disconnected, measurement on component

Exhaust Gas Temperature Sensor (EGT) downstream of the particulate filter
Line Resistance

PIN	Values	Information	Prerequisites	Graphic
PIN 3 closed 120V NR PIN 56	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 4 closed 120V NR PIN 55	≤ 0,8 Ω	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness

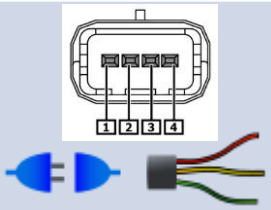
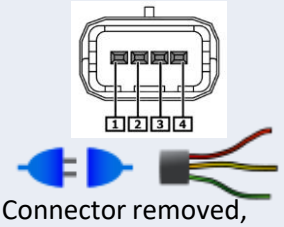
Exhaust Gas Temperature Sensor (EGT) downstream of the particulate filter
Short-circuit resistance

PIN	Values	Information	Prerequisites	Graphic
	≥ 10000000 Ω	Check all component connector cables.	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	

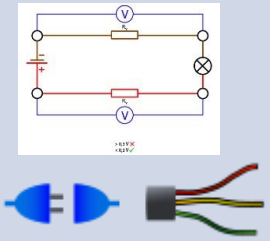
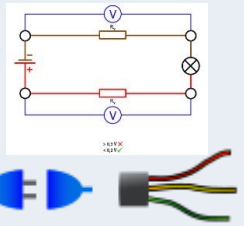
Exhaust Gas Temperature Sensor (EGT) downstream of the particulate filter
Power supply on the control unit (ECU)

PIN	Values	Information	Prerequisites	Graphic
102V NR PIN 56 closed 120V NR PIN 55	≥ 4,5 V ≤ 5,5 V		Turn the ignition to position 2	 Connector not disconnected

Exhaust gas temperature sensor (EGT) downstream of the particulate filter
Power supply to the component

PIN	Values	Information	Prerequisites	Graphic
PIN 3 closed Negative battery terminal	≥ 4,5 V ≤ 5,5 V		Turn the ignition to position 2	 Connector removed, measurement on harness
PIN 3 closed PIN 4	≥ 4,5 V ≤ 5,5 V		Turn the ignition to position 2	 Connector removed, measurement on harness

Exhaust gas temperature sensor (EGT) downstream of the particulate filter
Voltage drop

PIN	Values	Information	Prerequisites	Graphic
PIN 3 closed 120V NR PIN 56	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness
PIN 4 closed 120V NR PIN 55	≤ 0,3 V	Measured from component connector to engine ECU connector	Before the measurement begins, disconnect all connectors from the control units and parts to be tested. Remove the ignition. to be used for checking electrical schematics	 Connector removed, measurement on harness

Recommandations

Observe the manufacturers' assembly procedures and the torques indicated.
Consult the vehicle applications in our online catalogue: eshop.ntn-snr.com
Consult the dedicated assembly video on the SNR Youtube channel:
https://youtu.be/hqLV4vX_8eM?list=PLIEYgq5nxNl_WXO3q14F5ZISigdc5aOwx
https://youtu.be/bT2WNhf_Nvg?list=PLIEYgq5nxNl_WXO3q14F5ZISigdc5aOwx

Flash this QR Code to find our technical information.

RESPECT THE RECOMMENDATIONS OF THE VEHICLE MANUFACTURER!