

# Bosch Engineering GmbH

## Denoxtronic® 2 retrofit solution



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Invented for life



### Engineering services for reduction of nitrogen oxides (NO<sub>x</sub>)

The development of low production volume and niche market vehicles often requires specialized engineering services. Bosch Engineering GmbH offers solutions for these vehicles. Individual engineering services and experiences from mass production projects are utilized to adapt the exhaust gas treatment system to the distinctive features of the vehicles as well as the target markets.

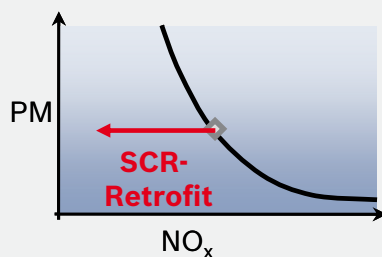
Bosch Engineering GmbH provides solutions for system layout, software development and calibration of selective catalytic reduction systems (SCR) for Heavy-Duty, Off-Highway, Marine and stationary engines applications based on modern calibration tools and methods.

### Denoxtronic® 2 retrofit product description

For retrofit applications generally communication to engine controller is not available. For calculation of urea dosing quantity the NO<sub>x</sub> mass flow information is required and therefore evaluation of additional sensors is possibly necessary.

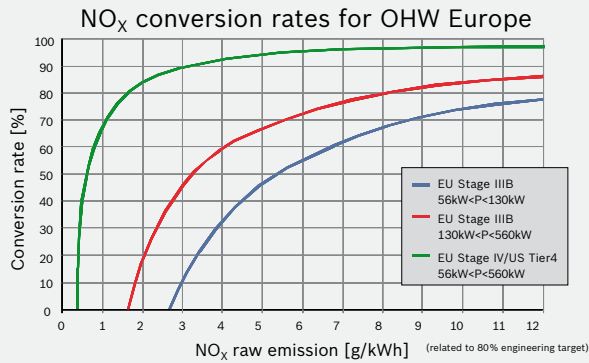
Bosch Engineering GmbH has developed an advanced dosing control unit for retrofit application based on Denoxtronic® 2.

In combination with closed loop dosing strategy this product enables maximum NO<sub>x</sub> reduction rates.

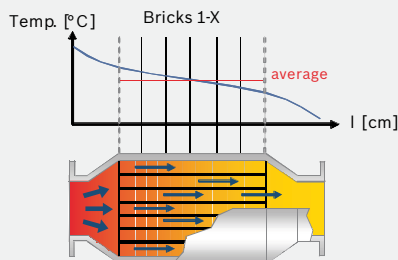


### Customer benefits

- ▶ Achieve current and future NO<sub>x</sub> emission targets by retrofitting your existing engine
- ▶ Operation without engine controller possible, even at mechanical controlled engines
- ▶ High NO<sub>x</sub> reduction rates due to closed loop dosing strategy
- ▶ Components are series production at high quality level
- ▶ System development, start up and calibration from one source



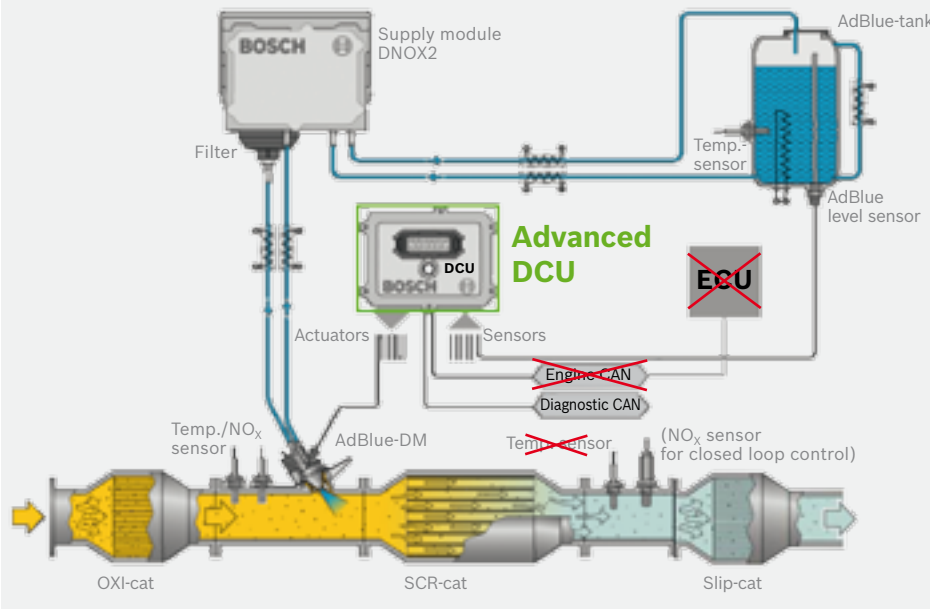
**SCR catalyst temperature model**



**System Characteristics**

- ▶ Advanced dosing control: Evaluation of additional sensors for calculation of exhaust gas flow rate
- ▶ Engine ECU independent operation
- ▶ System components are basically from Denoxtronic® 2 and therefore already standard-production-application at high quality level
- ▶ Cooling circuit of dosing module operated with AdBlue, therefore independent of engine cooling system
- ▶ Dosing strategy with closed loop control
- ▶ Flexible software supporting efficient calibration for various applications
- ▶ Application for Heavy-Duty, Off-Highway, Marine and stationary engines

**System configuration of Denoxtronic® 2 retrofit solution**



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Printed in Germany  
 292000P0HY-C/CCA-201004-En