TECHNICAL DATASHEET

Chip tuning Mercedes R 320 CDI 224 hp

VEHICLE APPLICATION

MAKE Mercedes	MODEL R
ENGINE 320 CDI	ORIGINAL POWER 224 hp

DOCUMENT CODE	DBM-VEH-DBM1100
REVISION	01
ISSUE DATE	24/11/2026

PRECISION. PERFORMANCE. CONTROL.

Description

DrakeBox Monza auxiliary control unit for Mercedes R 320 CDI 224 hp, based on a programmable microcontroller with dedicated firmware and 14 selectable engine management maps. The system optimizes fuel-delivery and combustion parameters, adjusting engine management to improve power and torque delivery, with particular attention to fuel efficiency and the vehicle’s overall performance.

VEHICLE IDENTIFICATION

Make	Mercedes
Model	R
Version / engine	320 CDI
Original power	224 hp
Original torque	450 Nm

APPLICATION / COMPATIBILITY

Application reference	DBM1100
Production year	All
Transmission type	Manual and automatic transmissions: torque converter (AT), dual clutch (DCT / DSG), continuously variable (CVT), automated manual
Other compatibility	Particulate filter (FAP / DPF) and Start & Stop system.
Wiring harness	Vehicle-specific wiring harness for Mercedes R 320 CDI 224 hp
Connectors	Vehicle-specific Plug & Play connectors for Mercedes R 320 CDI 224 hp
Hardware revision	HW Rev. 1100-26
Firmware revision	Dedicated firmware calibrated for Mercedes R 320 CDI 224 hp
Verification method	Compatibility verified through internal testing and validation procedures.
Limitations	Calibrated intervention in accordance with the manufacturer's technical specifications and operating limits.

ARCHITETTURA E PRODUZIONE

Hardware architecture	Auxiliary control unit with an electronic architecture based on a programmable microcontroller.
Design	Designed in Italy.
Manufacturing	Manufactured and assembled in Italy.
Quality control	Functional testing performed on 100% of units produced.

PRODUCT – TECHNICAL SPECIFICATIONS

Product code	DRAKEBOX-MONZA
Product link	https://www.drakebox.co.za/chip-tuning-mercedes-r/chip-tuning-mercedes-r-320-cdi-224-hp-1100.html
IDENTIFICATION, DIMENSIONS AND ELECTRICAL CHARACTERISTICS	
Total weight	300 g
Wiring length	110 cm
Supply voltage	5 V
Current consumption	20 mA
Power consumption	100 mW
ELECTRONIC ARCHITECTURE	
Printed circuit board	PCB assembled with SMD and PTH components
Electronic encapsulation	Protective encapsulation of electronic components in epoxy resin against moisture and dust.
Microcontroller	Digital processing unit based on a programmable microcontroller, dedicated to signal processing and execution of the application firmware. Model and identifying specifications are confidential
Clock frequency	50 MHz
Operating temperature	−40 °C / +125 °C
FIRMWARE AND FUNCTIONS	
Programming	Dedicated firmware specifically calibrated for each vehicle application
Selectable maps	14 user-selectable maps
SYSTEMS AND INTERVENTION MODES	
Systems involved	Common Rail injection and turbocharging (turbocharger)
Intervention method	Optimization of engine fuel-delivery and combustion parameters.
INDICATION AND PROTECTION	
LED indicator	LED indicator for correct installation checks
Incorrect-connection protection	Built-in protection in the event of incorrect installation or connection
ENCLOSURE AND CONNECTIONS	
Enclosure	Durable plastic enclosure with carbon-effect finish
Wiring harness	0.50 mm² wires protected by corrugated conduit
Connectors	Vehicle-specific Plug & Play connectors with rubber seals for water protection
ACCESSORIES	
Available accessories	Switch, remote control, DrakeBox Connect

DECLARED PERFORMANCE DATA

	Before	DrakeBox Monza
Power	224 hp	306 hp
Torque	450 Nm	614 Nm
Consumption	standard	-20%
Speed	standard	+10%

Results may vary depending on vehicle condition, test conditions, maintenance and configuration. Values must be interpreted according to the stated source and method.
Performance data source: Declared values.

INSTALLATION

Estimated time	Approximately 10–20 minutes. The time may vary depending on the vehicle model and the accessibility of the connection points.
Required skill	Can be installed by a private user by carefully following the supplied instructions and the vehicle-specific wiring diagram.
Tools	Common hand tools and tools required to remove any engine-compartment covers.
Installation location	Connection at the original engine management system connectors, according to the vehicle application and its specific wiring diagram.
Connectors	Vehicle-specific Plug & Play connectors with rubber seals for water protection.
Cable routing	110 cm wiring harness with 0.50 mm² wires protected by corrugated conduit. Route and secure the harness along the path intended for the vehicle, avoiding moving parts and heat sources.
Checks before start	Before connection, check the wiring harness and connectors for damage and confirm that the connectors match the vehicle application. Follow the vehicle-specific diagram and instructions.
Checks after installation	After connection, check the status LED specified for confirming correct installation. If an abnormal indication appears or the connection is uncertain, stop the procedure and contact technical support.

The time, skill and equipment indications apply to most compatible vehicles. Variations may be necessary depending on the vehicle model and configuration. Always refer to the application-specific instructions.

SAFETY, WARRANTY AND SUPPORT

- Verify that the vehicle is in proper mechanical and maintenance condition before installation.
- Follow the vehicle-specific instructions and applicable laws in the country of use.
- Do not use the product to disable or alter emissions-control systems or safety devices.
- If warning lights, diagnostic faults or abnormal operation occur, stop using the product and contact a qualified technician.

Warranty

The DrakeBox Monza product is covered by a 24-month warranty from the date of purchase for manufacturing defects and defects covered by the applicable warranty.

The warranty does not apply in cases of improper use, installation contrary to the instructions, tampering, or work carried out by persons not authorized by Extremengineering S.r.l.

Warranty assistance procedure

To submit a warranty assistance request, the customer must contact the service centre by email or registered mail, providing the following information:

- Code and description of the defective product.
- Detailed description of the defect found.
- Copy of the invoice or other proof of purchase.
- Full name, telephone number and email address so that the service centre can contact the customer.

After receiving instructions from the service centre, the product must be suitably packed and sent to Extremengineering S.r.l. in accordance with the instructions provided by the service team.

Product shipment and handling

The customer is advised to use suitable packaging and a tracked shipping service, keeping proof of delivery.

Exclusions and transport damage

The warranty does not cover damage resulting from improper use, tampering, incorrect installation or unauthorized work. Any visible damage or issues attributable to transport must be reported promptly to Extremengineering S.r.l., preferably within 48 hours of receipt and in all cases before installation, together with photographs of the packaging and product.

The customer’s rights under applicable law remain unaffected.

CONTACT INFORMATION

Technical support	info@drakebox.com
WhatsApp	+39 371 190 7559
Official website	www.drakebox.com

DrakeBox® is a registered trademark of Extremengineering S.r.l.