

MIC4-ZS Ignition Controller

For MWM[®]/DEUTZ[®] Gas Engines with
TEM-ZS1 and TEM-ZS3 Ignition Systems



Ignition Controller

MIC4-ZS MOTORTECH IGNITION CONTROLLER

Based on the MIC4 series, MOTORTECH produces a special controller version as a replacement for the TEM-ZS1 and TEM-ZS3 ignition system used on MWM®/DEUTZ® gas engines. Designed as an exchange device, the MIC4-ZS enables a quick conversion without great effort.

With its future oriented electronical concept, the MIC4-ZS convinces with improved engine starting performance, smooth running and improved combustion. The significantly higher and controllable ignition energy (MOST) compared to the TEM-ZS devices, the accurate spark timing and diversified online diagnostics help to improve engine efficiency, spark plug life and availability of the equipment under the strictest emission regulations.

In addition to the MIC4-ZS ignition controller, the prepared conversion kits include the required high-performance ignition coils. Pre-chamber spark plugs or spark plug leads can be re-used, as these ignition coils have the same secondary connections as the original ones. The ignition coils – designed for MOTORTECH ignition controllers with MOST technology – guarantee the ideal performance support, especially when it comes to alternative combustibles with alternating or relatively low fuel value, e.g. biogas, mine gas, woodgas, sewage gas, landfill gas etc.



Technical benefits

- Plug&Play solution for easy conversion
- No wiring or mechanical adaptations necessary
- The communication with TEM control enables full system integration
- Total preservation of all important components as well as maintaining the intuitive control and all functions of the TEM system (including diagnostic)
- Configuration data of ignition are taken over by the management system after being connected
- After conversion, the high-voltage values are displayed in kV in the TEM system. In this way, the spark plug status can be monitored during operation and the replacement time determined.
- More than double the ignition energy (300 mJ)
- Boost feature with 500 mJ ignition energy for improved starting performance
- Smoother running of the engine
- Improved combustion
- Less wear to engine components
- The available kits include all components for a successful upgrade
- If expensive pre-chamber spark plugs are to be eliminated, then DENSO® standard spark plugs (model GL3-3 or GL3-5) and the corresponding MOTORTECH spark plug leads can also be ordered.

System Overview



Required components

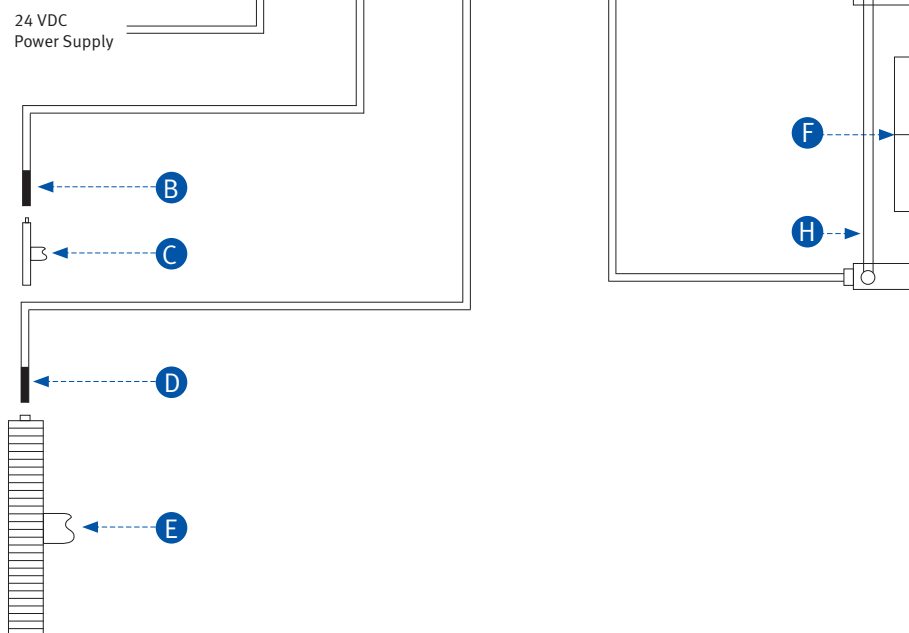
- 1 MIC4-ZS ignition controller
- 2 High-performance ignition coil

Accessories (optional)

- 3 PolyMot™ spark plug lead
- 4 DENSO® spark plugs

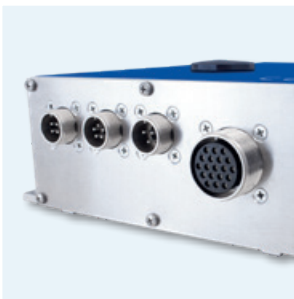
Description

- A TEM management system
- B Hall effect pickup
- C Camshaft
- D Magnetic pickup
- E Crankshaft
- F Engine
- G Cylinder
- H Connecting harness for the multifunction rails of A- and B-Bank
- I Multifunction rail





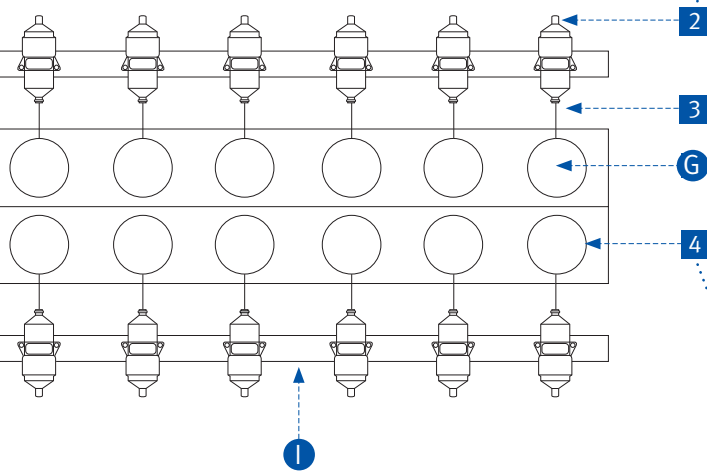
Identical fastening points of the ignition controller make mechanical adaptations unnecessary.



Due to the same connector configuration, the existing input and output wiring of the TEM-ZS devices can be re-used.



The high-performance ignition coil, designed for the MIC4-ZS, is compatible with existing pre-chamber spark plugs or spark plug leads.

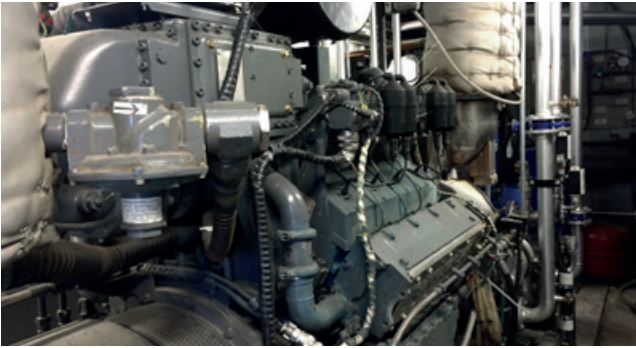


MOTORTECH's patented PolyMot™ spark plug leads are the most reliable leads in the industry. Made from a combination of ceramic, Teflon® and silicone, they transfer nearly any rate of high energy spark from the ignition coil to the spark plug.



To convert pre-chamber spark plugs to a standard type with J type electrodes, appropriate spark plugs can be ordered as an option. MOTORTECH recommends DENSO® spark plugs with an iridium/platinum or double-iridium alloy.

Ordering Information



Ordering Information – MIC4-ZS Kits

P/N	Description	Quantity	Equivalent to
75.30.150-08	MIC4-ZS kit for MWM®/DEUTZ® 8 cylinder gas engines <i>Contains:</i> <ul style="list-style-type: none"> ■ MIC4-ZS ignition controller P/N 66.00.425-16 ■ High-performance ignition coil P/N 06.50.065 	1 pc 8 pcs	MWM®/DEUTZ® TEM-ZS1 – P/N 1229 8101 KM MWM®/DEUTZ® TEM-ZS3 – P/N 1232 0993 KM
75.30.150-12	MIC4-ZS kit for MWM®/DEUTZ® 12 cylinder gas engines <i>Contains:</i> <ul style="list-style-type: none"> ■ MIC4-ZS ignition controller P/N 66.00.425-16 ■ High-performance ignition coil P/N 06.50.065 	1 pc 12 pcs	MWM®/DEUTZ® TEM-ZS1 – P/N 1229 8101 KM MWM®/DEUTZ® TEM-ZS3 – P/N 1232 0993 KM
75.30.150-16	MIC4-ZS kit for MWM®/DEUTZ® 16 cylinder gas engines <i>Contains:</i> <ul style="list-style-type: none"> ■ MIC4-ZS ignition controller P/N 66.00.425-16 ■ High-performance ignition coil P/N 06.50.065 	1 pc 16 pcs	MWM®/DEUTZ® TEM-ZS1 – P/N 1229 8101 KM MWM®/DEUTZ® TEM-ZS3 – P/N 1232 0993 KM

Ordering Information – Accessories (optional)

P/N	Description	Quantity	Equivalent to
06.85.179-20	PolyMot™ spark plug lead for MWM®/DEUTZ® gas engines <ul style="list-style-type: none"> ■ TBG620 series ■ TCG2020 series 	8, 12 or 16 pcs per kit	1230 0136
06.85.310H-11	PolyMot™ spark plug lead for MWM®/DEUTZ® gas engines <ul style="list-style-type: none"> ■ TBG616 series ■ TCG2016 series 	8, 12 or 16 pcs per kit	1227 8370
GL3-3	DENSO® spark plug <ul style="list-style-type: none"> ■ Thread size M18x1.5, thread reach 0.750 in (19.0 mm) ■ J-type electrode design (Ir/Pt) ■ HEX 13/16 in (20.8 mm) ■ Recommended for natural gas applications 	8, 12 or 16 pcs per kit	– 1242 0290, RB75WPCC-1 – 1242 0480, 18GZ5-77-2
GL3-5	DENSO® spark plug <ul style="list-style-type: none"> ■ Thread size M18x1.5, thread reach 0.750 in (19.0 mm) ■ J-type electrode design (Ir/Ir) ■ HEX 13/16 in (20.8 mm) ■ Recommended for special gas/natural gas applications 	8, 12 or 16 pcs per kit	– 1242 0290, RB75WPCC-1 – 1242 0480, 18GZ5-77-2
alternative B8324	MOTORTECH MHP spark plug <ul style="list-style-type: none"> ■ Thread size M18x1.5, thread reach 0.750 in (19.0 mm) ■ J-type electrode design (Ir/Ir) ■ HEX 13/16 in (20.8 mm) ■ Recommended for special gas/natural gas applications 	8, 12 or 16 pcs per kit	1242 0290, 1242 0480



Adaptation of ignition parameters

Please note that ignition parameters in the TEM system must be adapted (e.g. ignition timing) if converting to conventional spark plugs and spark plug leads. This requires access to management system features. The original efficiency of the engine with pre-chamber spark plugs might no longer be available.

Download now!



Application Guide for MWM/DEUTZ® Gas Engines

For further information about MOTORTECH equipment for MWM/DEUTZ® gas engines download the latest MWM/DEUTZ® application guide.



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