

# AMM - P3M8 HIGH-PERFORMANCE MOTORCYCLE IGNITION FOR MILWAUKEE-EIGHT® ENGINES



CUSTOMER INFORMATION

## CONGRATULATIONS!

You've done it.

You just bought the AMM - P3M8, the world's finest ignition system for all Harley-Davidson® Milwaukee-Eight® engines.

Well done. We have put all our experience into this new ignition system in order to give you full control over your engine's performance. The AMM - P3 is able to deliver superior engine performance, better than any other ignition system.

The AMM-P3M8 is a special version of our highly-successful AMM-P3 that was initially designed for the Twincam engine. The new Milwaukee-Eight® engine shares a similar crank-sensor- and tooth-pattern with the Twincam, however there are timing changes in the sensor interface that are accommodated in the P3M8 high-performance ignition-system.

We are making the AMM-P3M8 ignition system available for those who want to use the new M8 engine with a carburetor (instead of EFI) in a custom- or racing-motorcycle, thereby eliminating the need of the unnecessarily complex OE electric system.

The AMM-P3M8 uses the stock M8 crank-sensor and dual-plug ignition-coil and takes full advantage of the enhanced M8 cylinder-head and overall engine design.

Due to the continuous air/fuel mixing-action that is inherent in all carbureted systems, the resulting mixture is much more homogenous (compared to the stock EFI) which, in conjunction with an excellent ignition system like your AMM-P3M8, results in a highly refined engine performance that you will realize at first start, and will never want to miss again.

Please take note that the AMM-P3M8 high-performance ignition system does not limit engine-power nor vehicle-speed (except by adjustable rev-limit). It is intended for the experienced rider only! Full engine power-output will be available according to the camshaft, carburetor/air-cleaner as well as exhaust system used. If you do not intend to build a racing bike, it is a good idea to start with a smaller carburetor instead of one of the biggest available carbs.

This ignition system has been designed, tested, improved and again tested and refined to deliver the maximum possible performance. It is not designed nor tested to be street legal in any country or state, please refer to your local regulations. If in doubt, check out the next police station.

AMM-P3M8 is eminently suited for all Harley-Davidson® Milwaukee-Eight®-engines.

## COMPLETELY ADJUSTABLE ADVANCE CURVE

The high resolution advance curves of the AMM - P3M8 ignition can be adjusted anywhere and anytime within a fraction of a second with the 3 control knobs. No computer required. The P3M8 lets you individually adjust the maximum advance timing, rate of advance timing, & rpm limit. This unique feature enables you to tune your Harley®-Engine within seconds or to change the character of your engine. One is sure: You will discover how great Your Harley®-Engine can perform.

Whether you have installed drag-, sport- or stock-pipes, bigger cylinders, hotter cams or a compressor or turbo-charger: the AMM - P3M8 is able to reveal the full potential of your engine, while maintaining rock solid reliability, ultrafast throttle response and smooth idle at any rpm, you desire.

The AMM-P3M8's blue LED monitors power- and sensor-status.

## „SYNCHRO-CONTROL“

The AMM - P3M8 ignition features the „SYNCHRO-CONTROL“ mode, a development by AMM, capable of automatically optimizing engine-torque through the entire rpm-range. This is done in real-time by elaborate large-scale calculations in the ignition computer. Therefore a rear-cylinder offset adjustment is not necessary.

## RIDING PLEASURE

Nothing powers your Harley-Davidson® Milwaukee-Eight® engine better than the AMM - P3M8. Period. Install Your AMM - P3M8, start your engine and go for a ride.

If you have any questions or need more information about our products don't hesitate to contact the next AMM-dealer AMM directly. Additional information is also available on our web-site: [www.amm.haan.de](http://www.amm.haan.de)



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# ALTMANN MICRO MACHINES

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### Limited Warranty:

ALTMANN MICRO MACHINES („AMM“) warrants to you as an end-user purchaser AMM Hardware Products against defects in material and workmanship for a period of FIVE (5) YEARS from the date of original manufacturing, as indicated on the guarantee certificate.

If you discover a defect, AMM will, at its option, repair, replace, or refund the purchase price of this product at no charge to you, provided you return it during the warranty period, with transportation charges prepaid, to AMM Germany. (You can obtain additional information by contacting AMM at the address printed on this certificate.)

To each product returned for warranty service, please attach your name, address, telephone number, error description, and the original guarantee certificate bearing the appropriate AMM serial numbers as proof of original retail purchase.

AMM does not warrant any products that are not AMM products. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication; if the product has been modified without the permission of AMM; if any AMM serial number has been removed or defaced, or if the original guarantee certificate is lost or not available.

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# AMM - P3M8 HIGH-PERFORMANCE MOTORCYCLE IGNITION

## SYSTEM OPERATION INSTRUCTIONS

Finding the proper advance-curve.

### The green knob sets the max. advance:

- 0 -> 26,0° for open pipes, very high comp., turbo
- 1 -> 30,0° for open pipes, high compression
- 2 -> 34,0° for stock or supertrapp-style exhaust
- 3 -> 38,0° for lightweight bikes with stock or supertr. exh.

### The yellow knob adjusts the rise of the curve.

- 0 -> very slow rise -> for turbo or very high compression
- 1 -> slow rise -> for open pipes and heavy bike touring
- 2 -> medium rise -> for sport exhaust, supertr. style
- 3 -> fast rise -> for racing applications only

### The red knob specifies the rpm-limit.

- 0 -> shutoff above 5750 rpm
- 1 -> shutoff above 6000 rpm
- 2 -> shutoff above 6250 rpm
- 3 -> shutoff above 6500 rpm

### Finding the right curve on a dyno:

With full throttle, adjust green knob, while monitoring engine power. The lowest setting with max. power is the right advance setting.

Record one dyno run from 1000 to 4000 rpm for every setting of the yellow knob. Check the torque values between 1000..4000 rpm. Adjust the yellow knob for best torque curve.

### Finding the right curve just by riding the bike:

With stock or sport (supertrapp, Vance & Hines, etc) exhaust, set both knobs: advance (green) and rise (yellow) to 2 -> 34° max. advance, medium rise.

With open pipes or higher compression set advance & rise to 1 -> 30° max advance, slow rise.

Try out and concentrate on the difference between these two settings, in order to get a feel for it. Then you may play with different settings.

### Rules of Thumb:

The louder the exhaust, the lower the max. advance should be. If exhaust is silent, you can have more advance. The higher the compression, the lower the max. advance must be.

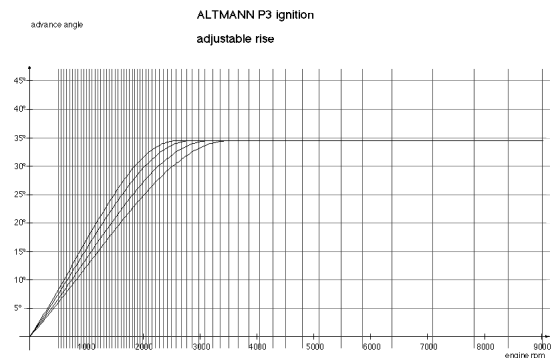
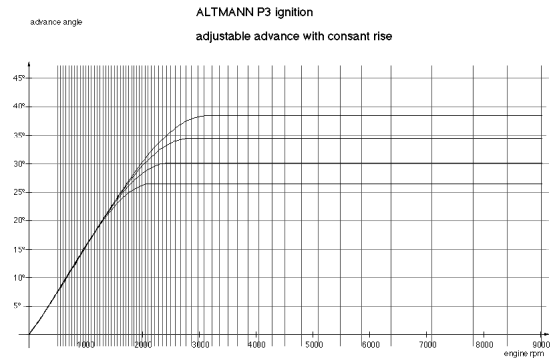
If you can't get it running, we will assist you. Just drop us a line: amm@haan.de

### What you should not do to your AMM - P3M8:

Do not open your AMM - P3M8. If you open the case, you will lose the warranty.

When cleaning your motorcycle, do not aim with a high pressure water-stream at your AMM - P3M8.

Each adjusting knob of your P3 has 4 switch positions that are indicated by a number in the small knob-window. Do not leave any one of the 3 knobs between two positions, since you may weaken the locking spring inside the switch mechanism.



## AMM - P3M8 HIGH-PERFORMANCE MOTORCYCLE IGNITION INSTALLATION INSTRUCTIONS

### Checklist:

- If you have a heart-disease, let someone else do the job!
- The AMM - P3M8 system is no toy. If you don't want to be electrocuted, turn ignition OFF and disconnect the ignition coil (the coil connector) during installation. It is good practice to disconnect the battery during installation.
- The AMM - P3M8 is designed to be a powerful tool for the experienced rider. It will give you flawless engine performance, but it is not checked to comply with any law or regulation in any state or country. If you use it, you do it on your own risk and responsibility. If in doubt, check out your local police station.
- The AMM - P3M8 lets you adjust the advance curve over a broad range. Please read the operation instructions for finding the appropriate advance setting for your bike. Using a completely wrong curve will give bad engine performance and should be avoided.

**Note:** The complete OE electric system becomes unuseable when upgrading to carburetor. It shall be removed entirely from the bike (if present) and replaced with a simple and reliable electric system similar to the motorcycle schematic diagram shown at the end of this manual.

### Installation:

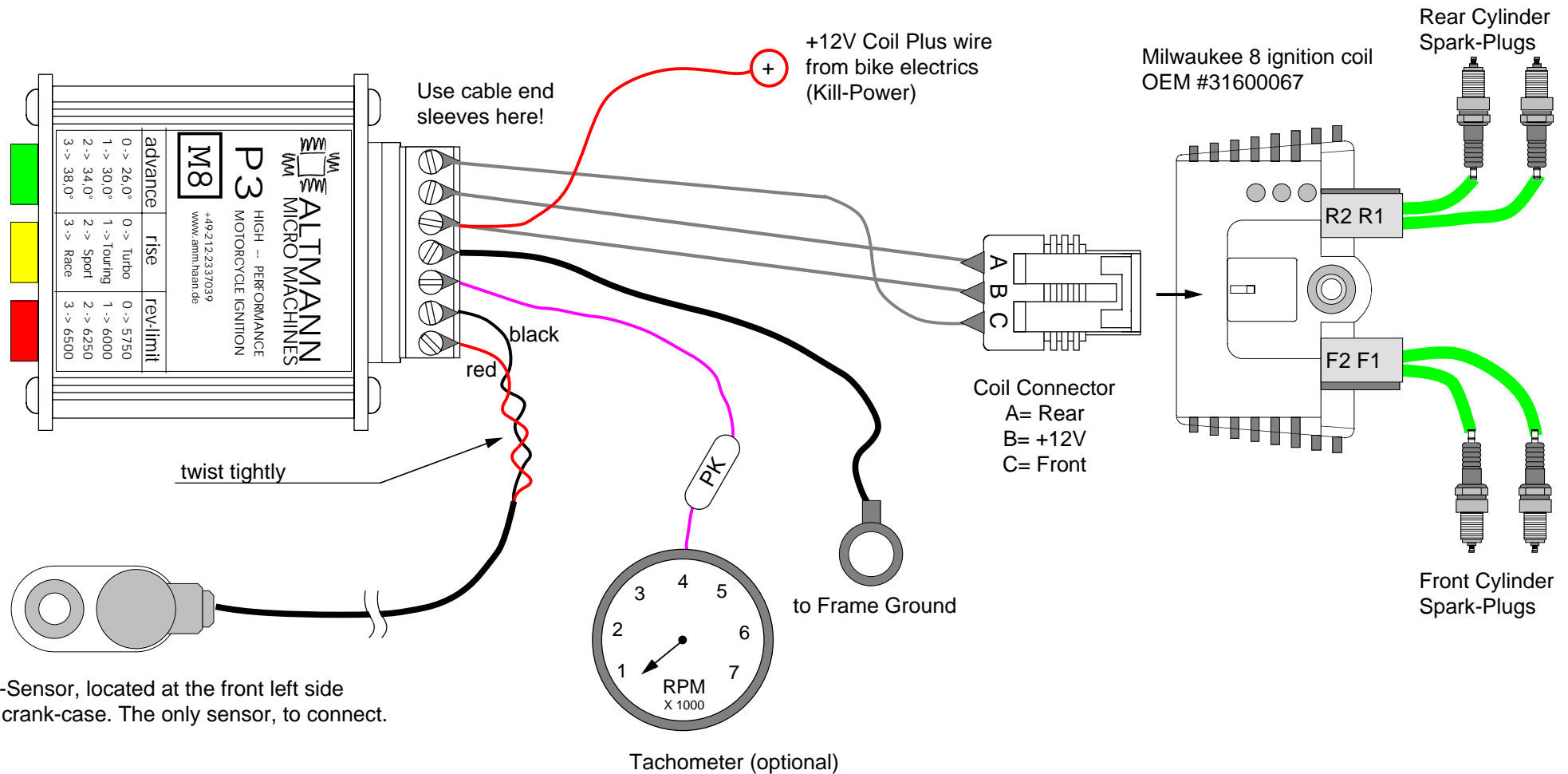
- 1) Best location for installing your AMM - P3M8 is under the seat, behind the side-cover, or any location without excessive heat or water exposition.
- 2) For operating the engine the AMM-P3M8 only needs connection to the crank-sensor and the ignition-coil as shown in the AMM-P3M8 system diagram. The ground wire of the AMM-P3M8 shall be connected directly to the central ground screw on the motorcycle frame using the supplied cable-shoe. The plus-supply line comes from the handlebar kill-switch.
- 3) Connections to the AMM-P3M8 are done by isolating the end of the wire, and crimping a cable end sleeve (supplied) on it. in order to ensure a trouble-free and long-lasting connection. Then screw the prepared end of the wire into the P3 connector. A sticker on the bottom-side of the AMM-P3M8 also shows the correct connection order.
- 4) The tach output of the AMM-P3M8 is a 5-Volt digital output which is able to drive many aftermarket tachometers. Leave unconnected, If no tach is present.
- 5) After connection according to the AMM-P3M8 systems diagram, no further adjustments are necessary. Connect ignition coil and battery.
- 4) Turn ignition ON... The blue LED lights up... You smile... Start the engine and go for a ride...
- 5) The blue LED of the AMM - P3M8 is your system's check-lamp. If it lights up, power is there. If it blinks during engine rotation, the crank-sensor signal is perfectly understood (crank-sensor okay) and ignition coil will receive timing pulses to operate the engine.
- 6) During engine starting, the AMM-P3M8 will begin to spark after the third revolution of the crank. This is to ensure proper synchronization to the engine.
- 7) Enjoy your first test-ride. Please ride carefully. Contact us by phone or email if you have any questions.

# AMM - P3M8 IGNITION SYSTEM - M8 ENGINE

## Connection Diagram for MILWAUKEE EIGHT ignition-coil (dual spark-plug heads)



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Crank-Sensor, located at the front left side of the crank-case. The only sensor, to connect.

### WARNING!

Persons with heart diseases must not install or maintenance this ignition system!

Do not overtighten terminal screws. Please take care, that there are no short circuits between the cables.

During installation keep the ignition coil disconnected from the P3 ignition in order to prevent dangerous voltages. Never use this ignition system without ignition cables and spark-plugs properly connected! This diagram is for coil OEM 31600067. If you use a different ignition coil, please refer to the corresponding diagram.

# AMM - P3M8 SIMPLE MOTORCYCLE WIRING DIAGRAM

Complete wiring diagram for riders who like a simple and reliable motorcycle.



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