



MAXOTRONIC

MICRO - LAUNCH - SYSTEMS

MANUAL IGNITION CONTROL D 19-4 COMPLETE SET

Order. Nr. 0520-01

Dear Customer!

We are glad that you have chosen a product of **MAXOTRONIC**. The operation of this system is quite easy; nonetheless it is very important to read the manual carefully to guarantee a long, trouble-free, and safe handling of this product. Please follow the safety regulations! In case of giving this product to someone else, please hand over the manual as well!

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1. PURPOSE

The *igniting system D19-4* has been developed for the use in the field of model/remote-controlled toys. With this set you have the opportunity to make your model functional like the originals. You can use it for tanks, ships, helicopters, and planes equally. The electronic of high quality (SMD technique) enables you to fire 2x19 and 2x4 electric igniters **separately** and **selectively** through a free channel (3 positions). The switching network of this system is 3 fold safeguarded and makes a safe and easy handling possible. The correct function of the system can be monitored by a *control unit* with super bright LEDs. The approx. 30 cm long connecting cable enables you to install the *control unit* everywhere in your model. You are only allowed to use delivered igniters. These igniters of class I undergo strikt quality controls and facilitate an exactly firing after each impulse on your transmitter.

2. GENERAL

The ignition control D 19-4 is a complete system that can fire electric ignitors of class 1 by remote control (35Mhz/40Mhz). We want to emphasize that only original components of renowned companies have to be used. Mixing components of different manufacturers is strongly forbidden

3. CONTENTS

| | | |
|----|-------------------------------|------------------------|
| 1x | <i>Ignition Control D19-4</i> | with connection cables |
| 1x | <i>Control unit</i> | |
| 2x | <i>Rocket containers</i> | Type 9 |
| 2x | <i>Unilock</i> | Type 4 |
| 2x | <i>Ignition board</i> | Type 19 class I |
| 2x | Clamp Connector | 20-pin |
| 2x | Clamp Connector | 6-pin |
| 1x | Mounting parts | |
| 1x | Safety glasses | |
| 1x | Cleaning brush | |
| 1x | Manual | |

4. INSTALLATION

All parts of the *Ignition Control D 19/4* have to be installed on suitable places on and in your model, respectively. The *control unit* has to be installed that it is visible and easy to handle. Prior to mounting the *rocket containers* you have to drill 2 wholes (diameter 1mm) through the green FRP fixation plates. Therefore, press the FRP fixation plates into the milled slot by using a vise. Afterwards drill the holes and secure the safety stirrup with superglue. The *rocket containers* have to be fixed properly on your model. All screws and safety stirrup have to be controlled before every use. It is strongly forbidden to modify the products of **MAXOTRONIC!!!**

5. PUTTING INTO OPERATION

Before the first use of the *Ignition Control D 19-4* you have to select a free channel on the transmitter. Be sure that all trims and mixers for this channel are set to zero!

| | | |
|----------|-----------------|-----------------------|
| Settings | Futaba | Travel adjust +/-100% |
| | Graupner, Robbe | Travel adjust +/-125% |

IMPORTANT: Before using the *Ignition Control D 19-4* the function of the system has to be tested!

During the testing the *ignition boards* have to be disconnected! Furthermore, the switch of the *control unit* has to be at position **RESET/TEST**.



Figure 1: Control unit ready for testing

If these conditions are fulfilled the transmitter and afterwards the receiver on your model can be turned on. Consequently, the *Ignition Control D 19-4* is live and can be tested.

Then, operate the selected switch channel on the transmitter. Accompanying to the switch impulse of the transmitter the **blue** LED marked by 19 and the **blue** LED marked by 4 on the *control unit*, respectively, shines. When the signals appear the other way around, the channel on the transmitter has to be reversed.



Fig. 2: **Operation** stages on the control unit during testing

If the test works like described above, you can be sure, that the signal of the transmitter is correctly processed by the *Ignition Control D19-4*. Now, you can switch to position **FIRE** on your *control unit*.



Figure 3: Control unit at position **Fire**

During first switching on the transmitter (whether 19 or 4) the accompanying **blue** LED (19 or 4) and the **green** LED **READY** will shine together.



Figure 4: Control unit after first operation

After the second switching on the transmitter (whether 19 or 4) an additional third **red** LED **ARMED** is visible. This signal will shine until the switch will be returned to position **RESET/TEST**.



Figure 5: Control unit after second operation

If there is any problem during the examination of the test it is forbidden to put the *Ignition Control* into operation. Check all steps and settings one more time properly and repeat the test. Should the renewed test go wrong, please contact **MAXOTRONIC**.

If the function test worked properly, it is possible to put the *Ignition Control D19-4* into operation.

FOR THE SAVE USE IT IS VERY IMPORTANT TO KNOW:

After the first switching on the transmitter the **green** LED **READY** will shine. That means the *Ignition Control D19-4* is ready to use.

After the second switching on the transmitter the **green** LED **READY** and **red** LED **ARMED** will shine. **That means the *Ignition Control D19-4* is armed!**

After every following switch on the transmitter (permanent shining of the green and red LED) an igniter will be fired. This happens alternately on the right and the left side, beginning on the right side. This will be repeated until all connected (max. 2x19 and 2x4) electrical igniters are fired. If you want to stop the operation early, put the switch of the *control unit* at position **RESET/TEST** and remove all ignition boards and all igniters, respectively.

If you want to use your model without the *Ignition Control D19-4* you have to remove all ignition boards and igniters, respectively, and switch the control unit to position **RESET/TEST**.

6. MOUNTING OF CLAMP CONNECTERS

The delivery content includes 2 pieces of 20-pin and 6-pin clamp connectors. They come loose in the package to enable the installation of the cables specifically for your model. The best way to fix the clamp connectors is to press them in a vise. It is also possible to fold the 20 polar cables and insert them into braided hose for better installation through your model to the *rocket container*. When you fan out the cable, be careful not cutting the core of the cables. Take care that the clamp connectors are mounted correctly, otherwise the polarisation is wrong and the *Ignition Control D19-4* will not work. For easier installation the cables are labelled.



Fig. 10 und Fig. 11: Montage example

7. CONNECTING THE IGNITION BOARDS

Before the *ignition boards* are inserted into the *rocket containers*, the remote control must be shut off and the switch on the *control unit* must be put into position **RESET/TEST**. Insert the *ignition boards* only according to the following pictures and be sure that all screws are proper fastened. Due to the exact production of the parts it needs a bit of „feeling“ to insert the *ignition boards*. Therefore it is important to check the orientation of the single electrical igniters before inserting. The cable of the 20-pin connector always needs to be on the side indicated as „TOP“, and should be orientated to an upright, middle position.

Also be sure, that the three screws M2, which fixate the lid of the *rocket containers*, are proper fastened.

Set the switch on the *control unit* to the position **FIRE** only immediately before using the Ignition Control D19-4. Immediately after use the switch must be put to position **RESET/TEST** again, and all ignition boards / igniters have to be removed.

By appropriate usage of the *control unit*, a maximum of comfort and safety is assured.

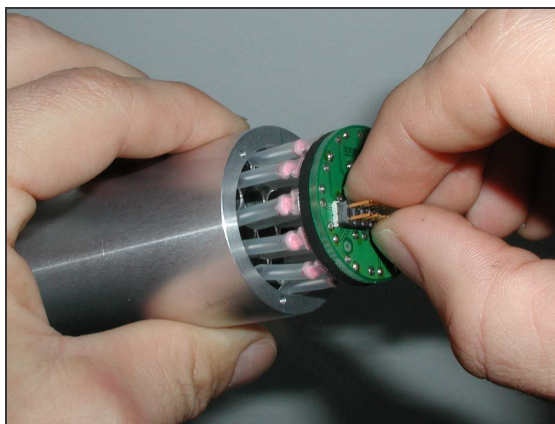
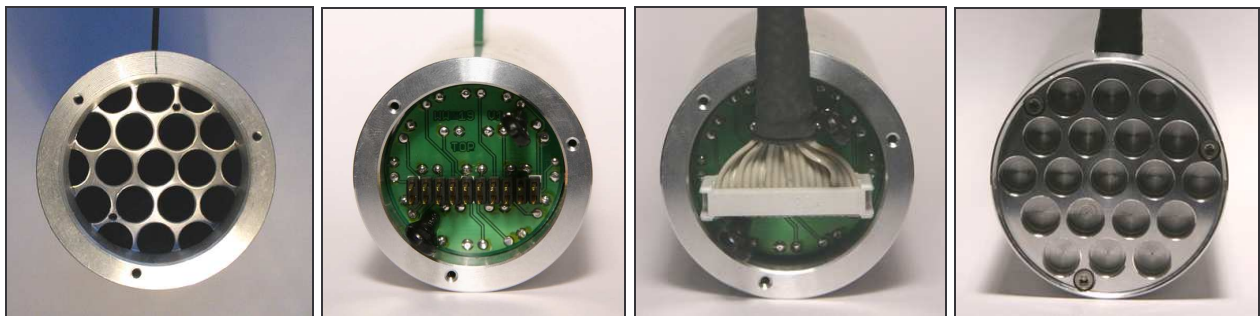


Fig. 6 – Fig. 10: Installation of the ignition boards

8. CONNECTING THE ELECTRICAL IGNITERS

Before connecting the *igniters*, the remote control must be switched off and the switch on the *control unit* must be in position **RESET/TEST**. Connect the *igniters* only according to the following figure and be sure, that accompanying screws are proper fastened. The upper row of screw terminals is the ground row. Connect one wire of the igniter to the top row, the other one to the bottom row of terminals. The colours of the wires may differ from lot to lot – this is not important, as the igniters have no polarisation.

Put the switch on the *control unit* to the position **FIRE** only immediately before using the *Ignition Control D19-4*. Immediately after use the switch must be put into position **RESET/TEST** again, and all ignition boards / igniters have to be removed.

By appropriate usage of the *control unit*, a maximum of comfort and safety is assured.

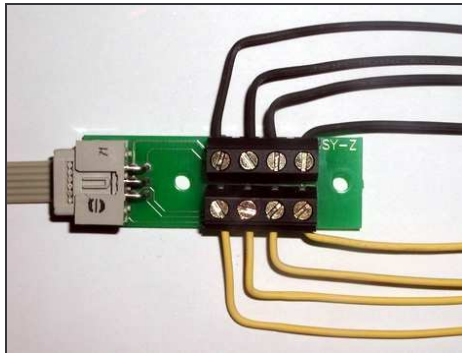


Fig. 11: Connecting the electrical igniters

9. CLEANING AND MAINTENANCE

After each use of the *Ignition Control D19-4* the cables and connectors have to be cleaned and checked for damage. Be aware that by proper cleaning especially the 20-pin connectors may be used longer without exchanging them. The *rocket containers* need to be cleaned by using the brush included within the set. This works best by using the brush with an *accu-drill*. Check all screws and accessory parts after EACH use of your model. Improper mounted parts may get loose and lead to serious damage.

10. LEGAL REGULATIONS

You are responsible to comply with all technical and legal regulations regarding installation and use of the *ignition control D19-4*, according to the laws of the country you use the model in. This set contains pyrotechnical parts belonging to class I.

11. SAFETY REGULATIONS

The *Ignition Control D19-4* is no toy, and therefore only suitable for modellers from age 18 up. Always use the safety glasses included within the set.

Ignition boards must not get into the hands of children.

Use the *Ignition Control D19-4* only for the intended use according to this manual.

Operation is not allowed, until function is checked according to this manual.

The *Ignition Control D19-4* is only intended for use in areas where no static discharges occur. Use the model only in areas where no persons or animals are staying and where any damage of goods is impossible. Relevant traffic-, liability- and accident-prevential rules for remote controlled models remain unaffected by this manual.

Never use in closed rooms.

Never aim at persons or animals.

Mention that solely you are responsible for safety when using the *Ignition Control D19-4*.

Act on your own responsibility and check the chosen terrain for its suitability before starting up the model in which the *Ignition Control D19-4* was implemented.

Stop using the *ignition control D19-4* immediately if malfunctions occur and restart it not until any malfunctions are eliminated.

You are liable to check the *ignition control D19-4* before any use. Replace spare parts as necessary to ensure a safe operation.

The function test has to be executed only without ignition boards in place.

Also be sure of the reliability of your model.

Check all screws and mounting parts for tight attachment and damage at regular intervals. Improper mounted parts may get loose and lead to serious damage.

Use only original components with your remote control set.

The electrical igniters must only be stored in the original packaging of the set. Take notice of the expiration date. After expiration the electrical igniters must not be used anymore.

Consider the significant laws and regulations of your country.

The *ignition control D19-4* is intended exclusively for use with electrical igniters class I of the company **MAXOTRONIC**.

When using the *ignition control D19-4* you are obligated to use eye- and hand protection to assure the required safety.

Before any start-up the *ignition control D19-4* and the corresponding components must be checked for proper function according to Par. 5 of this manual.

Use only original parts – modifications are not permitted!

Keep our environment clean. Circuit boards are hazardous waste – you are obligated to dispose the circuit boards correctly, whereas there is the possibility to return the boards to **MAXOTRONIC** on your own costs.

12. TECHNICAL DATA

Ignition Control D19-4

| | | |
|----------------------|-----------------|------------------------|
| Dimensions L x W x H | 80 x 60 x 20 mm | 3,15 x 2,36 x 0,79 in. |
| supply voltage | 4,8-6 Volt | |
| weight incl. cables | 150 gram | 5,29 oz. |

Control unit

| | | |
|----------------------|-----------------|------------------------|
| Dimensions L x W x H | 66 x 20 x 14 mm | 2,60 x 0,79 x 0,55 in. |
| Weight | 30 gram | 1,06 oz. |

Ignition board

| | | |
|----------------------|----------------|---------------------|
| Dimensions L x W x H | dia 34 x 25 mm | dia 1,34 x 0,98 in. |
| weight | 10 gram | 0,35 oz. |
| igniters | 19 pc. Class I | |

Unilock 4

| | | |
|----------------------|-----------------|------------------------|
| Dimensions L x W x H | 53 x 17 x 14 mm | 2,09 x 0,67 x 0,55 in. |
| weight | 20 gram | 0,71 oz. |
| Connectors | 4 | |

Rocket Containers

| | | |
|----------------------|-----------------|---------------------|
| Dimensions L x W x H | dia 130 x 44 mm | dia 5,12 x 1,73 in. |
|----------------------|-----------------|---------------------|

weight
material

255 gram
Aluminium

8,99 oz.

13. CE DECLARATION OF CONFORMITY

For the product *Ignition control D19-4* it is hereby declared, that it complies with the EMC-directives 89/336/EEC, 91/263/EEC and 92/31/EEC. Following Standards were consulted:
EN 50081-1, EN 50082-1

14. LIABILITY EXCLUSION

The *ignition control D19-4* is tested concerning emitted interference and interference resistance, and possesses a CE-mark. Therefore it is state of the art at the moment being put in circulation. In case of compliance with legal regulations a failure-free operation is possible. The ignition control D19-4 does not emit interference on other equipment. However, the CE-mark does not authorise you to a incautious usage of the electronics.

It is hereby expressly agreed, that the liability of MAXOTRONIC for damages, which were caused by the ignition control D19-4, is limited to an amount of EUR 3.000.000. You confirm, that this agreement clause was pointed out to you separately.

MAXOTRONIC is liable exclusively for deliberate and grossly negligent inflicted personal injuries and material damages. The claim for damages may only be asserted judicially within six months after the rightful claimant(s) attained knowledge of the damage, but not later than three years after the occurrence giving rise to a claim. Liability for any damages which are caused by inappropriate use of the Ignition control D19-4 as well as by failure to comply with this manual are hereby explicitly excluded.

15. WARRANTY

The product has to be checked immediately after delivery. **MAXOTRONIC** has to be notified in written form about defects found in this process immediately, but at the latest within 7 days after delivery. A description about extent and manner of the defects found has to be included with the notification.

Each *Ignition Control D19-4* passes through several checks during manufacture. We attach outstanding importance to a high standard of quality. For our products a warranty period of two years is granted. We safeguard for defects, which were present at the moment of delivery. For the origin of the period of warranty, the date on the receipt of your dealer is applicable. For this it is necessary to include the receipt when forwarding the *Ignition Control D19-4*. Possible repairs do not extend the period of warranty. If any malfunctions, manufacturing or material defects occur within the period of warranty, you are obligated to forward the Ignition Control D19-4 to **MAXOTRONIC** on your own costs, so that these defects can be corrected by **MAXOTRONIC** at no charge. We do not assume liability for damage or loss of the forwarded goods. For an efficient correction of damage a detailed description of the problem occurred is necessary. It is advisable to submit this to **MAXOTRONIC** in written form. Warranty is explicitly excluded for the connection cables and connectors for both ignition channels 19/4 left and 19/4 right. Liability to consequential loss arising from damages is limited to deliberate and grossly negligent fault of **MAXOTRONIC**.

16. SERVICE ADDRESS

At the address stated below we stand by for arising questions and queries at any time. For correction of defects and for repair, please send the *Ignition Control D19-4* to following address:

MAXOTRONIC

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5020 SALZBURG

AUSTRIA

Phone: +43-(0)650-3608870

e-mail: office@maxotronic.at

www: www.maxotronic.at

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