YaMoRC® DIGITAL

YD8008 SOLENOID
8-FOLD SOLENOID DECODER
## Quick Start
(2022-10-04)

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Description

- The **YD8008** has eight three-pole outputs for connecting dual coil drives.

- The **YD8008** was specially developed for solenoid drives (Peco®, Seep®) that require high power (current) for switching. Thanks to the internal, innovative current storage unit (CDU), there is always enough power available for the solenoid drive (point machine) to switch reliably.

- The **YD8008** is not designed for the operation of MTB® turnout drives. For this purpose, please use the YD8116!

- Of course, the **YD8008** can also be used for "normal" solenoid drives (turnout drives e.g. from Roco®, Fleischmann®, Piko®, Märklin®). The current storage unit (CDU) ensures that these "normal" solenoid drives (turnout drives) switch reliably.

- The current storage unit (CDU) makes it possible to use power supply units (DC) and transformers (AC) with an output current from 500 mA, as the charging current of the current storage unit is a maximum of 380 mA. With a commercially available 2A power source, up to four YD8008s can be operated without overloading the power supply unit or transformer.

- The **YD8008** has a power management system that ensures error-free switching of the outputs at all times. Therefore, loss of switching commands is effectively avoided.

- The solenoid address (turnout address) is configured simply by pressing the programming button.
  We have deliberately decided to keep the configuration as simple as possible, which is why no further settings are required on the YD8008 for normal operation. Only a freely selectable solenoid address (turnout address) must be assigned as the start address. The YD8008 then automatically assigns the seven subsequent solenoid addresses.

- When delivered, the **YD8008** is preset with the solenoid addresses 1-8.

- Alternatively, the **YD8008** can be conveniently configured via the "ES-PGM Link" connection. Please note that this requires either a programming module (YD9101) or a YaMoRC module with an "ES-IN Link" connection (e.g. YD6016LN-xx).
  By configuring via the "ES-Link", it is possible to:

1. freely assign the switching addresses

2. change the switching pulse duration

3. adapt or make the address switching matrix and the inversion of the switching term.

Technical Data:

Number of Outputs	8 outputs (short-circuit proof up to 3A)
Digital Format	DCC
Address Area	1-2048
Load Capacity of a Single Output	5A
Input Voltage AC	Min. 10 VAC Max. 16 VAC
Input Voltage DC	Min. 12 VDC Max. 19 VDC
Housing Dimensions	84mm x 88mm x 22mm
Distance Between Holes	94.5mm, 42.5mm

Dimensional Drawing
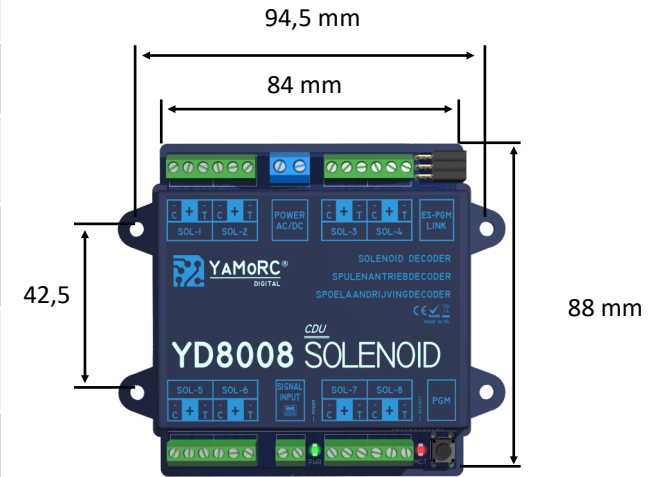
Mounting

The YD8008 is mounted via the four mounting holes on the side of the housing.
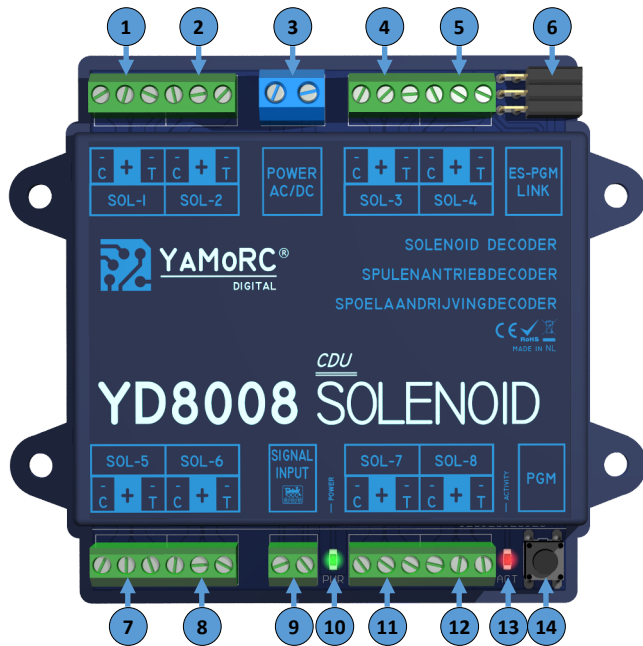
Important Notes (Including Health & Safety):

- The YD8008 is intended exclusively for operation on an electric model railway.

- The YD8008 is **not** a toy and is therefore **not** suitable for children under 14 years of age.

- **Never** leave the YD8008 operating without your presence. Please disconnect the product before leaving it unattended.

- Voltage sources (power supplies, transformers, etc.) must comply with the current VDE/EN and CE standards.

- The voltage sources used (power supplies, transformers) must comply with Protection Class 2. Failure to comply may result in serious damage to the YD8008. The voltage sources must be marked with this symbol (illustrated below).

  Further information on the **P**rotection **C**lass 2 can be found here: https://www.xppower.com/resources/blog/iec-protection-classes-for-power-supplies

- Voltage sources must **not** exceed a maximum output current of 3A.

- Voltage sources must be fused in such a way that a cable fire cannot occur in the event of a fault.

- AC transformers must **not** exceed a maximum output voltage of 16 VAC.
  The YD8008 internally rectifies AC voltage and always outputs DC voltage at the output terminals. It is essential to observe the polarity of the output terminals (- + -)!

- A common ground connection of different voltage sources or circuits is **not** permitted. This will destroy the YD8008.

- It is essential to ensure a sufficient wiring cross-section of the individual connections.

- The connection terminals for power are designed for a cross-section of 0.75 mm².
  All other connection terminals are designed for a cross-section of 0.5 mm².

- Connection work must always be carried out in a de-energised state. Disconnect or switch off power AC/DC and signal input.

- Discharging the internal power storage unit (CDU) takes approximately 10 minutes; all connection work may only be carried out after this time.

- The YD8008 must **never** be installed near sources of intense heat, such as radiators or places exposed to direct sunlight. Therefore, install the YD8008 in a place with sufficient ventilation to be able to dissipate the waste heat.

- The YD8008 is designed for dry indoor use only. Therefore, do **not** operate the YD8008 outdoors or in environments with extreme fluctuations in temperature and humidity.

- Do **not** attempt to open the YD8008. Improperly performed actions can lead to the destruction of the YD8008.

Product/Hardware Overview

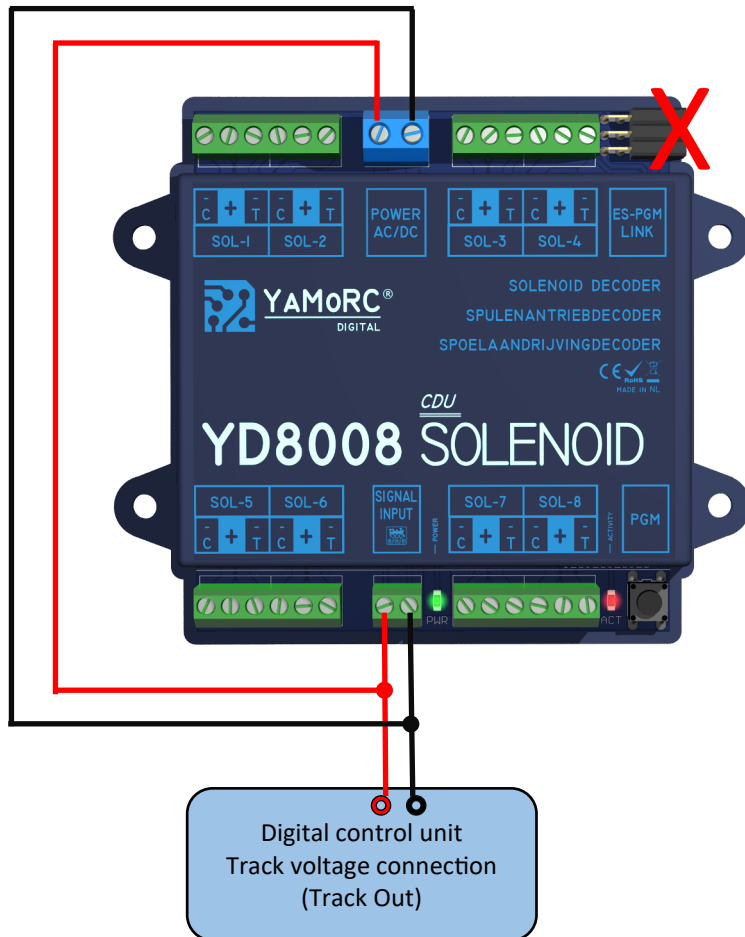| 5	SOL-4		**Connection fourth solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
6	ES-PGM Link		**Connection YaMoRC programming adapter**
			With the YaMoRC programming adapter, firmware updates and advanced programming can be carried out.
7	SOL-5		**Connection fifth solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
8	SOL-6		**Connection sixth solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
9			**Connection DCC track signal (track voltage)**
10	Green LED		3 states: 1. Heart-beat blinking - normal, idle operation, power present 2. High-speed blinking - idle operation, no power present 3. Dimmed intensity (usually increasing over time) - CDU is charging
11	SOL-7		**Connection seventh solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
12	SOL-8		**Connection eighth solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
13	Red LED		**Activity display** one pulse of the LED, one solenoid address is controlled
14	Programming switch		

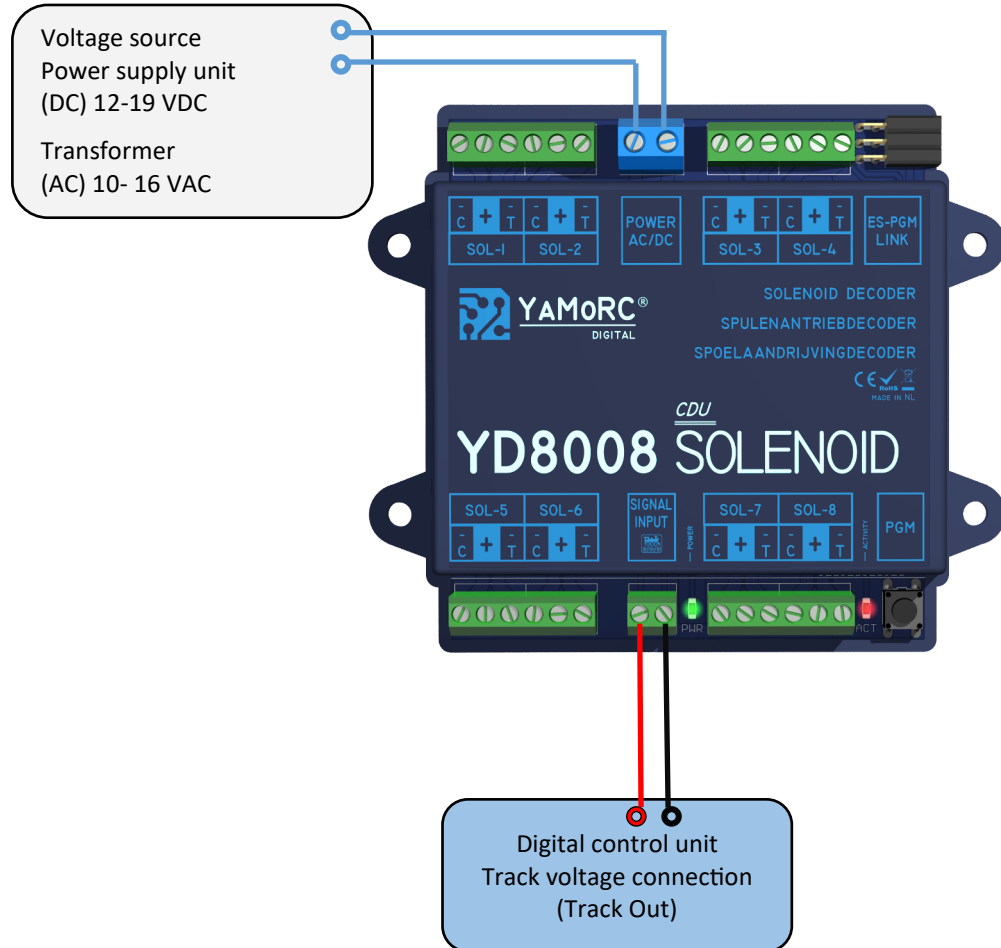| 1	SOL-1		**Connection first solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
2	SOL-2		**Connection second solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)
3	Power AC/DC		**Connection power supply for the solenoids** Input voltage AC (alternating voltage) min. 10 VAC max. 16 VAC Input voltage DC (direct voltage) min. 12 VDC max. 19 VDC
4	SOL-3		**Connection third solenoid (turnout drive)**
		C	connection solenoid straight (green button)
		+	common connection solenoid article
		T	connection point machine bent (red button)

Connection of the Power Supply

The YD8008 can be powered either directly from the control panel or with a separate DC power supply (recommended) or AC transformer.

Power supply of the YD8008 directly via the digital central unit

Power supply of the YD8008 via a separate power supply unit (DC) or a transformer (AC) with min. 500 mA output current

Attention: If a 6016LN-xx is used to configure the YD8008 is used, the connection from Power AC/DC to the track out of the central unit or a booster must be disconnected
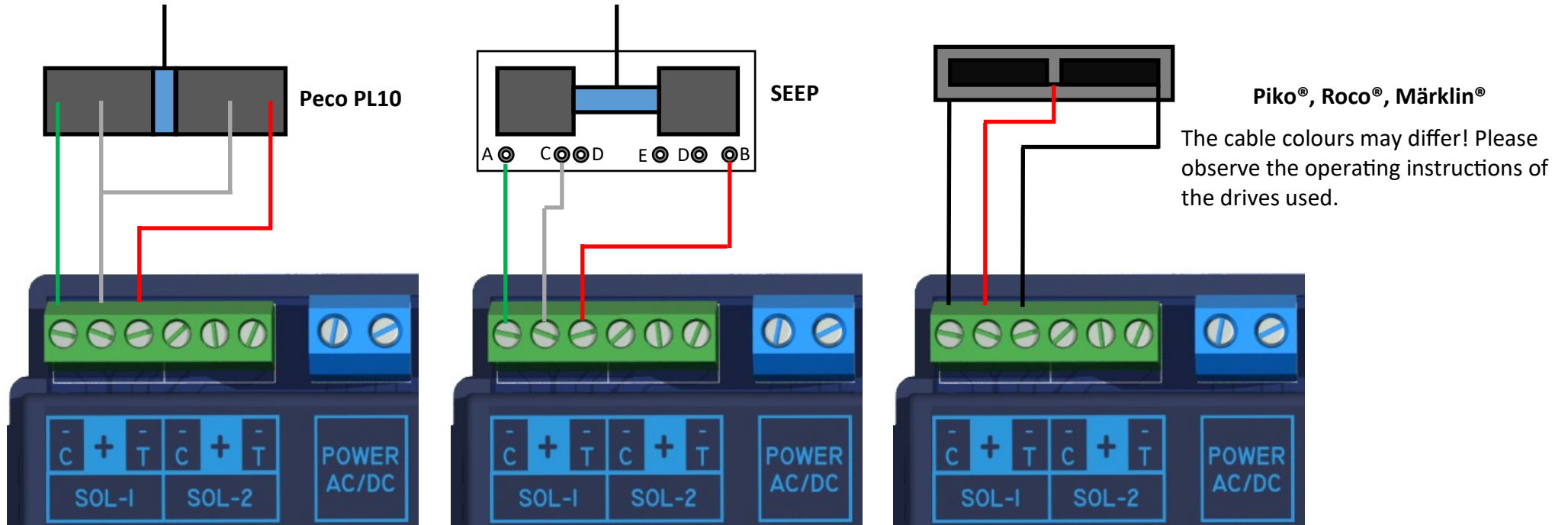

Voltage source
Power supply unit
(DC) 12-19 VDC

Transformer
(AC) 10- 16 VAC

Digital control unit
Track voltage connection
(Track Out)

Digital control unit
Track voltage connection
(Track Out)

Attention!
All connection work on the YD8008 must always be carried out in a de-energised state. Disconnect the power supply from the mains and switch off!

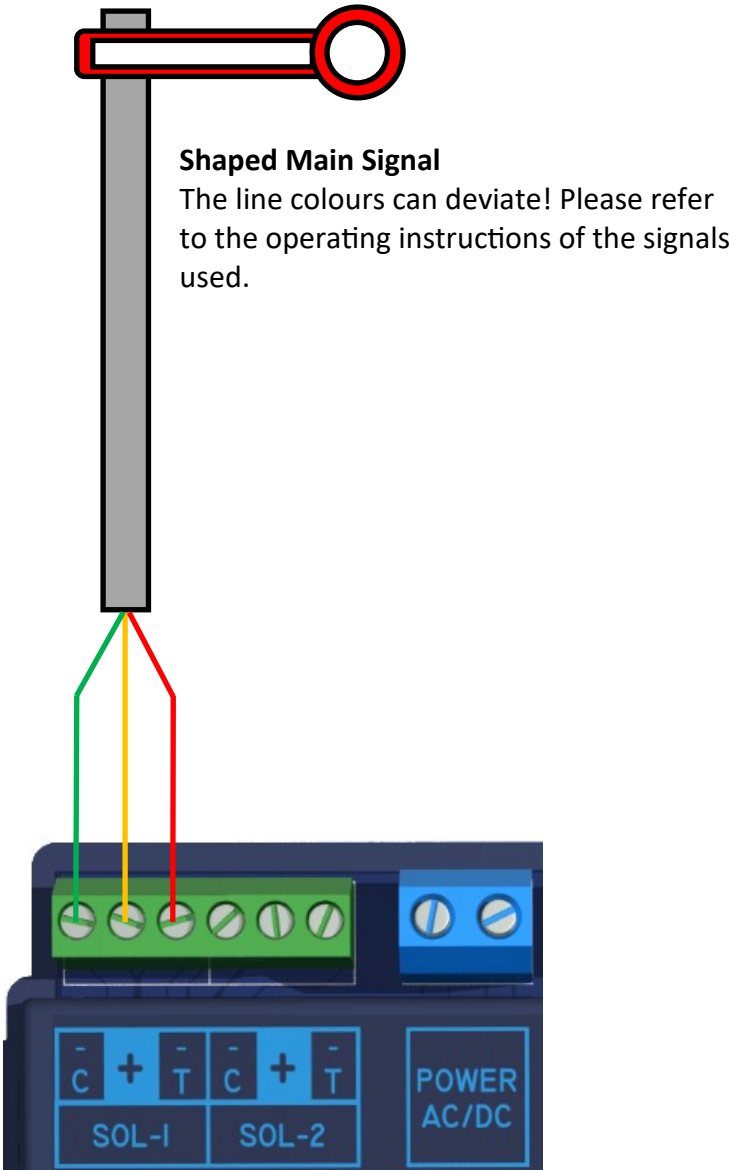## Connection Examples for Different Solenoid Coil Drives

Peco PL10

SEEP

A ⊚   C ⊚⊚ D   E ⊚ D ⊚ ⊚ B

Piko®, Roco®, Märklin®

The cable colours may differ! Please observe the operating instructions of the drives used.

Attention!
All connection work on the YD8008 must always be carried out in a de-energised state. Disconnect the power supply from the mains and switch off!

Connection Examples for Shape Signal

Shaped Main Signal
The line colours can deviate! Please refer
to the operating instructions of the signals
used.

Attention!
All connection work on the YD8008 must always be carried out in a de-energised state. Disconnect the power supply from the mains and switch off!

Configuring the Start Solenoid Address (turnout address)

YaMoRC has chosen to make the configuration of the YD8008 as simple as possible. For this reason, the YD8008 does not have the CV programming that is used as industry standard. The YD8008 can reliably switch most solenoid coil drives "out of the box". These include drives from SEEP®, Peco®, Gaugemaster®, Roco®, Fleischmann®, Piko®, Märklin®, Viessmann® and all other standard solenoid coil drives.

If you have any questions, please contact our service department. We will certainly find a solution for you.

Configure the start solenoid address

1. Connect the power supply to the power input. ①

2. Connect the signal input to the track voltage output of the central unit. ②

3. Switch on the power supply via power and the control unit.

4. Call up the turnout control panel of the central unit and the turnout address to be assigned as the start address. Do not carry out a switching operation yet! *(For the exact procedure on how to call up a turnout control panel, please refer to the documentation of your central unit or app).*

5. Press the programming button to put the YD8008 into configuration mode. The red LED next to the button will light up continuously to indicate that the YD8008 is in configuration mode. ③

6. Press the desired turnout address to be used as the start address once on the turnout control panel of the central unit. The following seven solenoid addresses are assigned automatically. Thus, the YD8008 occupies eight consecutive solenoid addresses. *(For the exact procedure for switching a turnout address, please refer to the documentation of your control unit or app).*

7. The assignment of the solenoid addresses is completed and the YD8008 automatically exits configuration mode. (The red LED next to the programming button goes out).
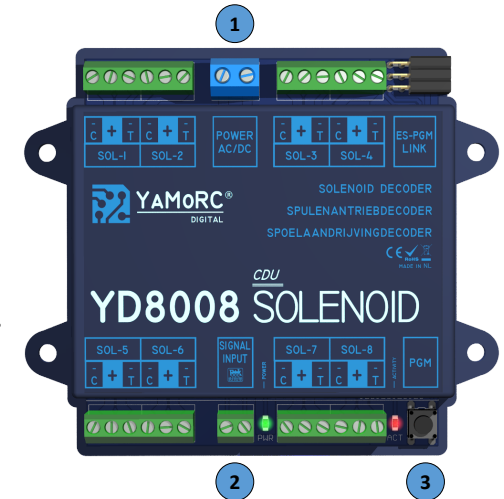
Attention!
All connection work on the YD8008 must always be carried out in a de-energised state. Disconnect the power supply from the mains and switch off!

Warranty

24 months warranty from date of purchase

Dear Customer,

Congratulations on your purchase from YaMoRC. YaMoRC's high quality products have been manufactured using modern manufacturing processes and have been subjected to careful quality control and tests.

Therefore, when purchasing a YaMoRC product, the company YaMoRC grants you a manufacturer's warranty of 24 months from the date of purchase in addition to the national warranty rights to which you may be legally entitled to, from your YaMoRC specialist dealer as contractual partner.

Warranty conditions:

This warranty applies to all YaMoRC products purchased from a YaMoRC dealer. Warranty services are only provided if proof of purchase is presented. Proof of purchase is the purchase receipt from the YaMoRC specialist dealer. It is therefore recommended to keep your purchase receipt safe.

Content of the guarantee/exclusions:

The warranty includes, at YaMoRC's discretion, the free repair or free replacement of the defective part, which can be proven to be due to design, manufacturing, material or transport faults. For this purpose, you must send the decoder to us properly stamped. Further claims are excluded.

The warranty claims are void:

1. in the case of general wear and tear at expected locations (e.g. screw terminals).
2. in the case of modification of YaMoRC products with parts not approved by the manufacturer.
3. in the case of modification of parts; especially by opening the housing.
4. if the product is used for purposes other than those intended by the manufacturer.
5. if the instructions given by YaMoRC in the operating manual have not been thoroughly read by the user & risked mis-use of the product.

The warranty period is not extended in the case of repair or replacement.

Warranty claims can be made either to your dealer, or by sending the claimed product directly to YaMoRC, together with the warranty certificate, proof of purchase and description of the defect.

Drenth Design & Consulting B.V.
Glazeniershorst 209
NL-7328 TJ APELDOORN
Liability: Drenth Design & Consulting B.V.
Phone: +31643392605
E-Mail: ddc@yamorc.com
Directors: Gabriele Drenth-Viertel, Karst Drenth
Trade register: 72184728
VAT No/Tax ID: NL-859019901B01