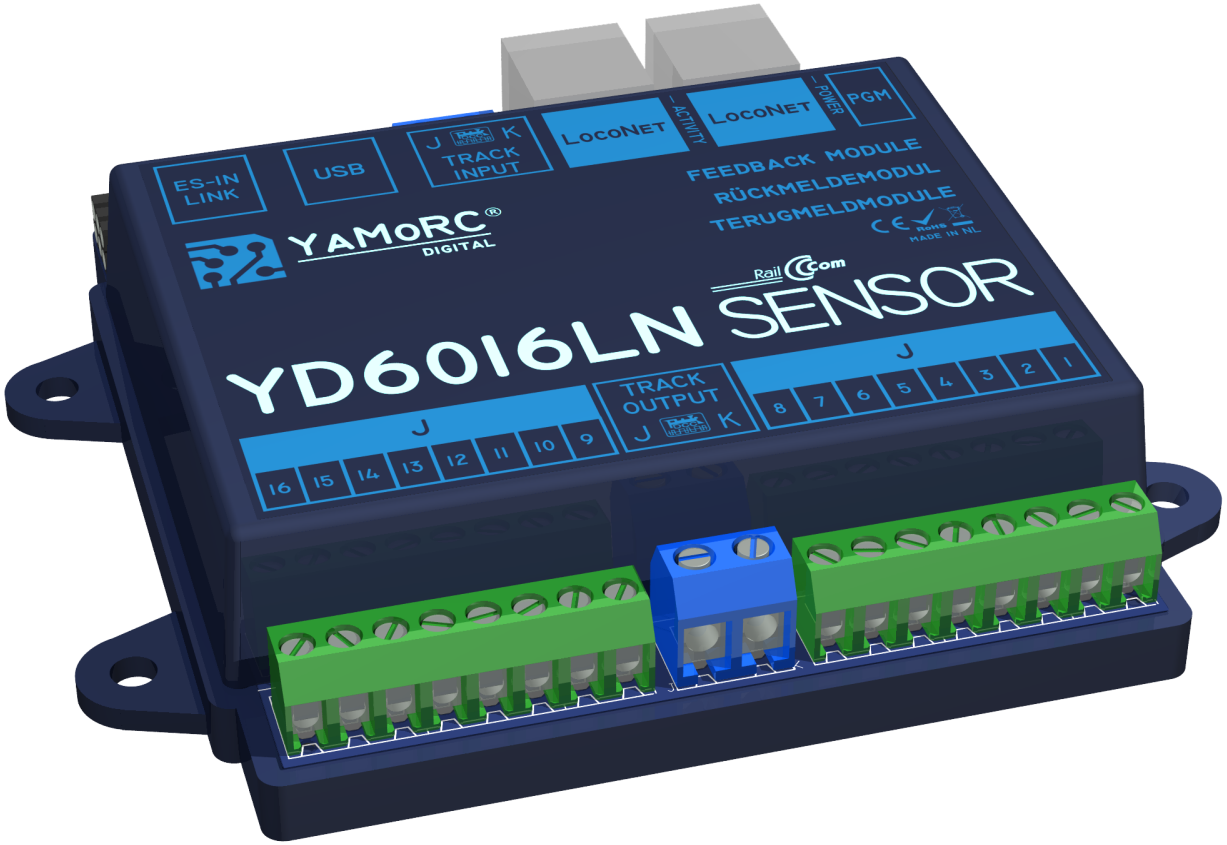
YAMORC®
DIGITAL

YD6016LN Sensor

16-Input-Railcom feedback module

Quick start

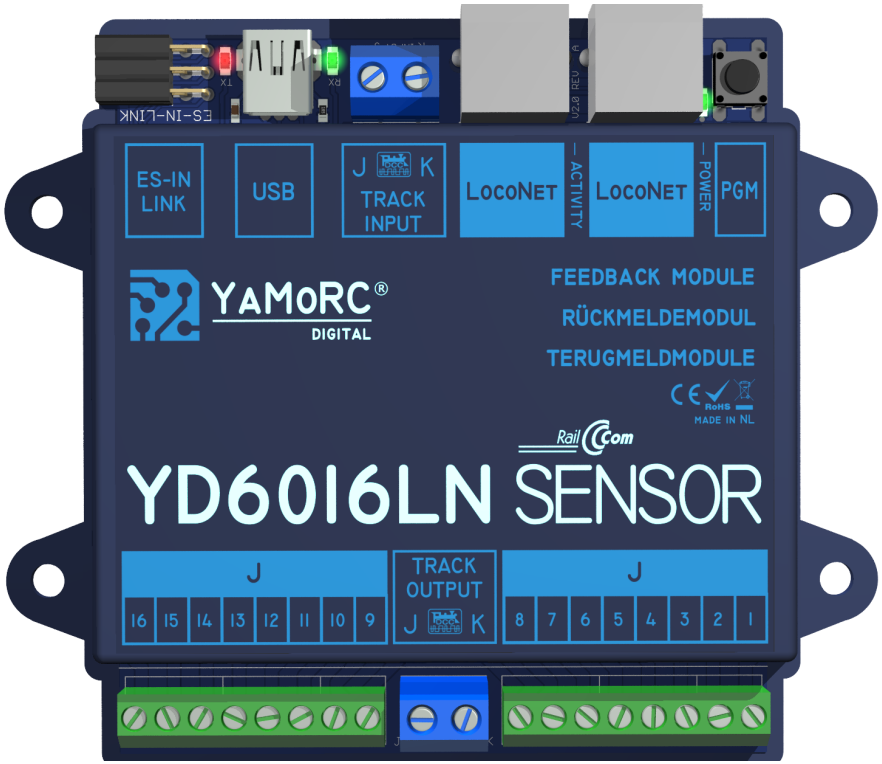
(2025-09-05)



Designed by Karst Drenth
Made in Germany
Assembled in NL

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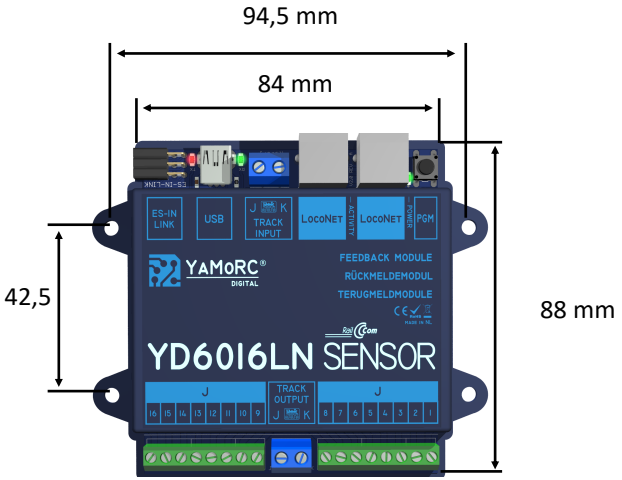
Description

- The **YD6016LN-RC** has sixteen feedback inputs. These are divided into two groups of eight inputs. The feedback inputs of the YD6016LN-RC detect a consumer that activates the feedback device. The sensitivity of the feedback inputs is **4 mA** current consumption.
- The **YD6016LN**-RC has sixteen local Railcom® detectors. These detect the locomotive addresses that are present in the respective feedback section and transmit them to the control center. Up to four addresses in the feedback section are reliably detected. Address feedback can be transmitted via Railcom® **Channel 1** or Railcom® **Channel 2**.
- The **YD6016LN**-RC also has a global detector at the track out. This detects the locomotive addresses that are present in the feedback section and transmits them to the control center. Up to four addresses in the feedback section are reliably detected. Of course, a normal feedback input for occupied detection is also available here. Address feedback can be provided via Railcom® **Channel 1** or Railcom® **Channel 2**.
- With the **YD6016LN-RC**, it is possible to read locomotive decoders via POM decoders. The YD6016LN-RC also supports accessory POM (accessory decoder) programming. For both programming types, the respective decoder must support this POM programming method and it must be enabled in the decoder.
- With the **YD6016LN-RC,** two different address ranges can be assigned for feedback (Loconet® feedback device) and the block address (Railcom® data and locomotive address).
- The **YD6016LN-RC** can recognize information and messages (QoS, speed, container fill level) sent by the locomotive decoder and forward them to the control center.
- The feedback addresses are easily configured by pressing the programming button.
  We have deliberately decided to keep the configuration as simple as possible. For this reason, no further settings are required on the YD6016LN-RC for normal operation. All you need to do is assign a freely selectable feedback address as the start address. The YD6016LN-RC then automatically assigns fifteen subsequent feedback addresses.
- The **YD6016LN-RC** is preconfigured with the LocoNet® feedback addresses 1-16 when delivered.
- The firmware of the YD6016LN-RC can be updated at any time via the USB port. In addition, various settings can be adjusted using the configuration tool.
  Each feedback input can be assigned an individual feedback address and an individual switch-off delay. The feedback addresses can be freely assigned in the address space between 1 and 4096. In addition, an individual block address can be assigned if necessary. Entering a switch-off delay effectively prevents the feedback devices from flickering.
- The connection to **LocoNet®** is made either via LocoNet® B or T. **Caution!** LocoNet® T and B must never be connected to each other.
- The **YD6016LN-RC** can be expanded by a further five s88N modules with 16 feedback inputs via the “s88N-IN” connection. This creates a single LocoNet® module with 96 feedback modules.
- The **“ES-IN Link”** connection allows the YD6016LN-RC to be expanded by a further five YD6016ES modules. This creates a single LocoNet® module with 96 feedback modules.
- The “ES-IN Link” connection allows all other modules equipped with an “ES-PGM Link” connection to be configured.

Technical data

Number of feedback	16 inputs (arranged in two groups of 8)
	Additionally, a global detector
address range	1 - 4096
Load capacity of a feedback input	2 A
Total load capacity of all feedback inputs	4 A
Overload resistance of a feedback input	3 A for 100 ms
Sensitivity of the feedback devices (occupancy signal)	3 mA Current flow
Dimensions of the housing	84 mm x 88 mm x 22 mm
hole spacing	94,5 mm, 42,5 mm

dimensional drawing



Assembly

The YD6016LN-RC is mounted using the four mounting holes on the side of the housing.

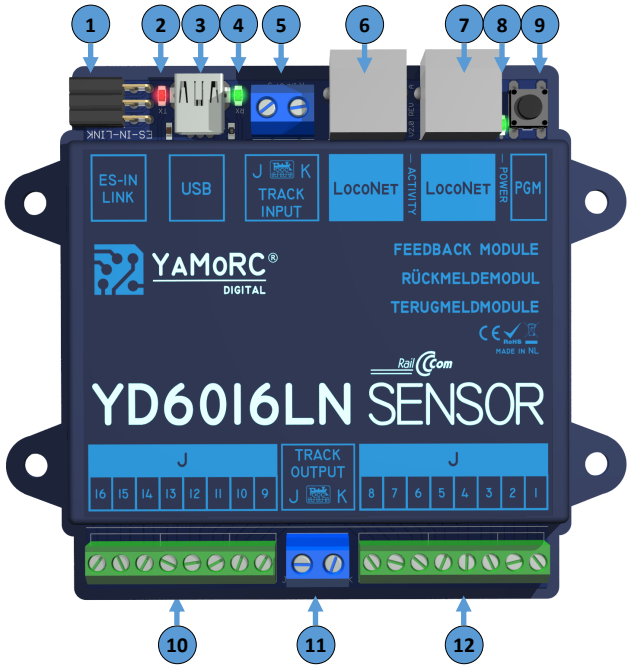
Important notes:

- The YD6016LN-RC is intended exclusively for operation on an electric model railway.
- The YD6016LN-RC is not a toy and is therefore not suitable for children under the age of 14.
- Never operate the YD6016LN-RC unattended.
- Power sources (power supply units, transformers, etc.) must comply with the current VDE/EN and CE standards.
- The power sources used (power supply units, transformers) must comply with protection class 2. Failure to do so may result in serious damage to the YD6016LN-RC. The power sources must be labelled with this symbol.
  Further information on the protection class can be found here, for example:
  https://www.google.com/search?q=schutzklasse+2&oq=schutzklasse+2



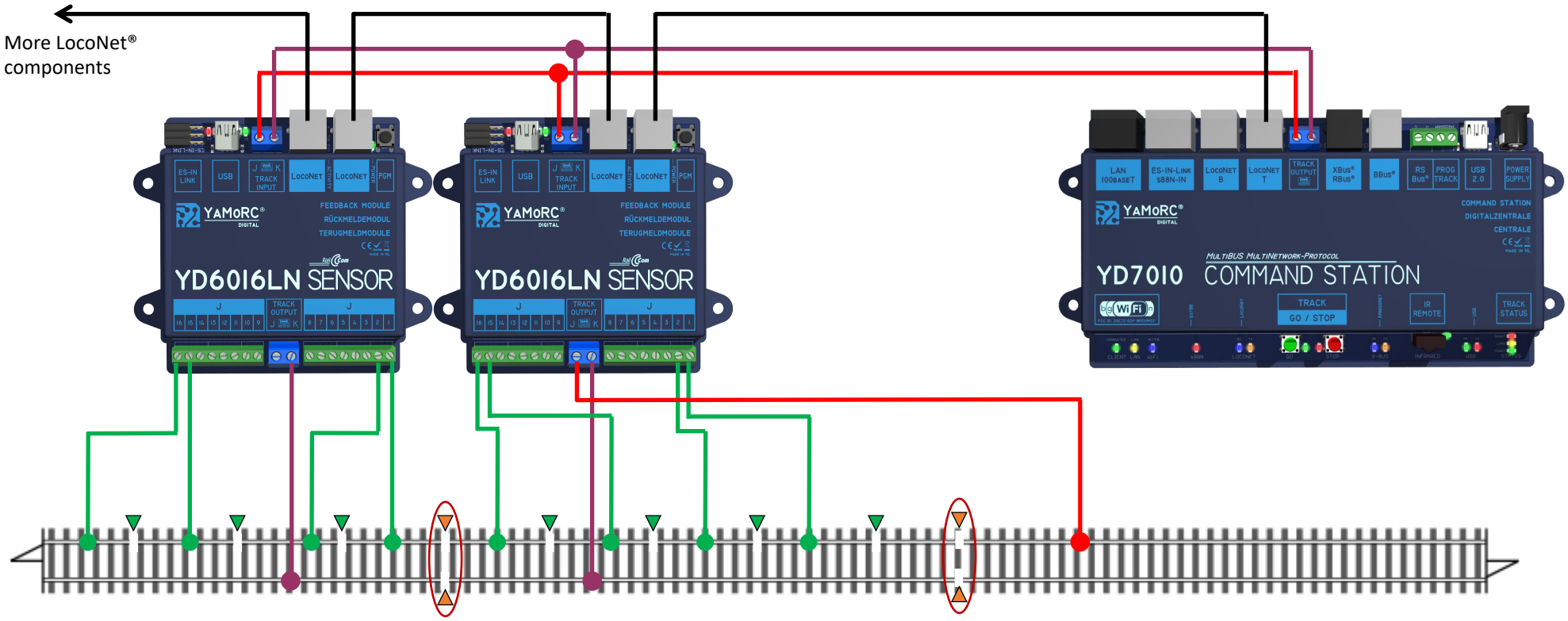
- Direct voltage sources **(DC)** must not exceed a maximum power of **60W**.
- AC voltage sources **(AC)** must not exceed a maximum output current of **3A**.
- Voltage sources must be fused in such a way that a cable fire cannot occur in the event of a fault.
- A **USB isolator** must be used as soon as connections (Track Input, Loconet®, ES-Link) other than the USB connection of the YD6016LN-RC are used. The USB isolator prevents dangerous ground loops or equalising voltages or currents between the components.
- A common ground connection of different voltage sources or circuits is not permitted. This will destroy the YD6016LN.
- It is essential to ensure that the wiring cross-section of the individual connections is sufficient.
- The connection terminals for "C" are designed for a cross-section of 0.75 mm².
  All other terminals are designed for a cross-section of 0.5mm².
- Connection work must always be carried out in a de-energised state. Disconnect or switch off LocoNet® and power supply from the control centre via "Track Input".
- The YD6016LN-RC must never be installed near strong heat sources, such as radiators or locations exposed to direct sunlight
  . Therefore, install the YD6016LN-RC in a location with sufficient ventilation to dissipate the waste heat.
- The YD6016LN-RC was developed exclusively for dry indoor areas. Therefore, do not operate the YD6016LN-RC in environments with large fluctuations in temperature and humidity or outdoors.
- Do not attempt to open the YD6016LN-RC. Improper actions can lead to the destruction of the YD6016LN-RC.
- If the YD6016LN-RC is used to configure other YaMoRC modules, a connection to LocoNet® must be disconnected.

Hardware overview



1	**ES-IN Link**	Connection for additional modules with "ES Link" functionality. This connection makes it possible to easily configure modules that have an "ES-PGM Link" connection. Alternatively, five YD6016ES feedback modules with 16 inputs each can be connected.
2	**Red LED TX**	*-*-* Display Configuration process via "ES Link" is running or data is being sent via USB. * The LED lights up more strongly as the load on the sensors increases, indicating a higher load.
3	**USB Connection**	To configure the YD6016LN-RC
4	**Green LED RX**	*-*-* Data is received via USB,
5	**Track Input J K**	Track input connection of the module (track connection from the control centre or booster)
6	**LocoNet® Connection 1**	
7	**LocoNet® Connection 2**	
8	**Green LED**	LocoNet® and power supply available. (***** flashes continuously as soon as voltage is present)
9	**Programmingbutton**	
10	**9 : J : 16**	Feedback input connection Nr. 9 (2. Feedback group) Feedback input connection Nr. 16
11	**Track Out J K**	Track Out connection (track output) and global detector of the module
12	**1 : J : 8**	Feedback input connection Nr. 1 (1. Feedback group) Feedback input connection Nr. 8

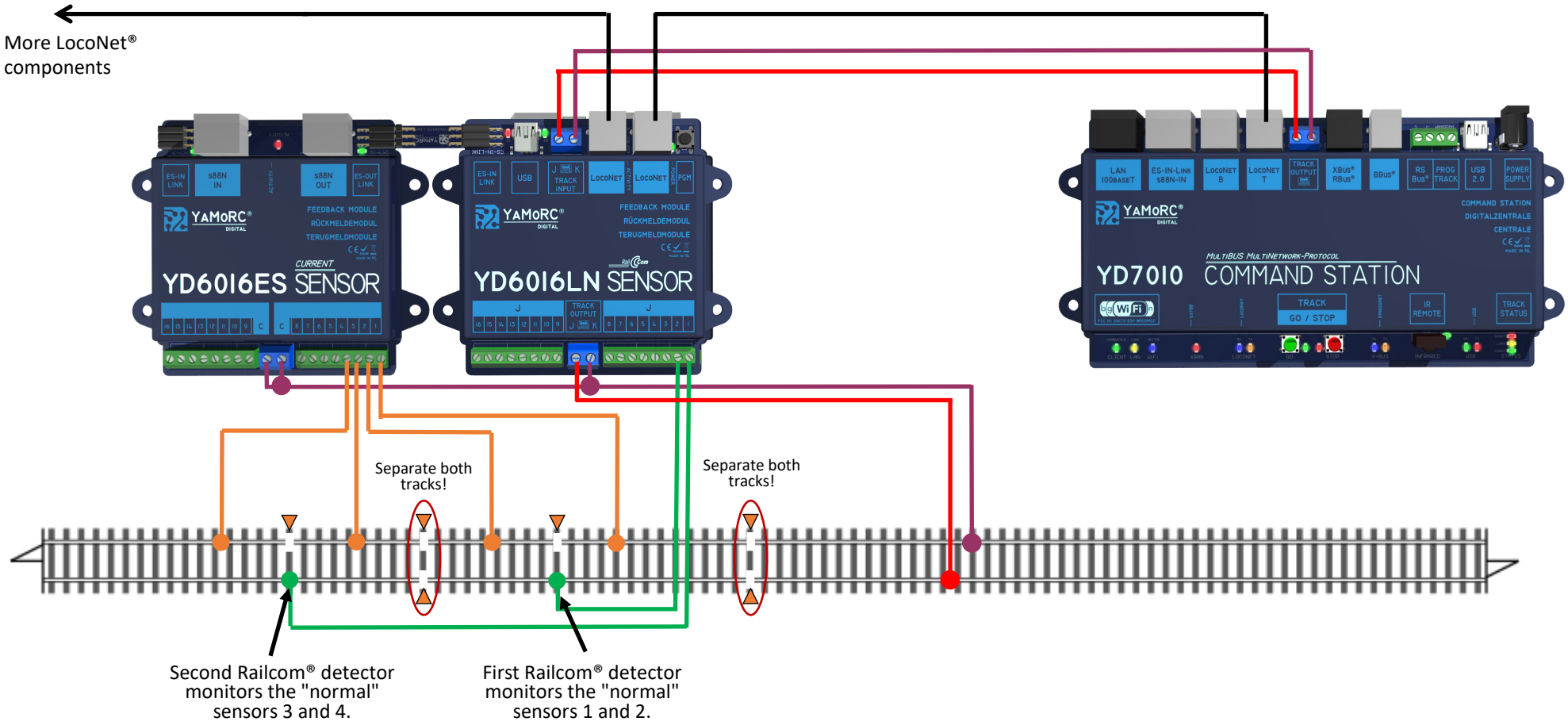
Example of connecting the feedback unit to the 2-wire track and LocoNet®



Important!
The second track must be connected to the "K" terminal of the YD6016LN-RC, as shown here. Failure to observe this may result in incorrect address messages. It is also necessary to separate the tracks on both sides between different YD6016LN-RCs.

Caution!
All connection work on the YD6016LN-RC must always be carried out in a de-energised state. **Disconnect** the power supply from the mains and switch off the control centre !

Connection example of the YD6016LN-RC feedback unit in conjunction with YD6016ES-CS on the 2-wire track and LocoNet®

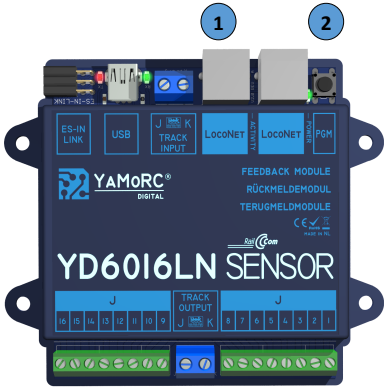


This connection example shows how a local detector of the YD6016LN-RC can be used to equip several feedback sections of the YD6016ES-CS with Railcom® monitoring. To do this, it is important to connect the track out terminal "K" of the YD6016LN-RC to the "C" terminal of the YDR60116ES-CS. In addition, track separation must be provided on both sides between the individual Railcom® sections.

Caution!
All connection work on the YD6016LN-RC must always be carried out in a de-energised state. **Disconnect** the power supply from the mains and switch off the control centre !

Configuring the feedback addresses and the total number of feedback devices of the YD6016LN-RC

YaMoRC has decided to make the programming of the YD6016LN-RC as simple as possible. The YD6016LN-RC is pre-assigned "out of the box" with the LocoNet® feedback addresses 1-16. Of course, any other feedback address can also be assigned as the start feedback address. The start feedback address is assigned by switching the corresponding DCC turnout address via the turnout control panel of the control centre used. In the same way, the YD6016LN-RC is informed of how many feedback modules are present on the YD6016LN-RC. If no further feedback modules are connected via the "ES-IN Link" connection or the "s88N-IN" connection, it is not necessary to set the number of feedback modules, as the YD6016-CS is already pre-assigned with the internal number of feedback modules (16). If you have any questions, please contact our service department. We will certainly find a solution for you.



Configuration of the start feedback address

1. Establishing a connection to the control centre via LocoNet. (1)



2. Switch on the power supply to the control centre.
3. Press the **programming button** once to set the YD6016LN-RC to configuration mode for the start feedback address. The green LED confirms with the flashing sequence flash, LED off, flash, LED off (*-*-) (2) etc. that the YD6016LN-RC is in configuration mode for the start feedback address.
4. Call up the points control panel of the control centre and the points address (e.g. 17) that is to be assigned as the start feedback address. Do not carry out a switching operation yet! (Please refer to the documentation for your control centre or app for the exact procedure for calling up a points control panel).
5. Press the desired turnout address (e.g. 17), which is to be used as the start feedback address, once on the turnout control panel of the control centre. The following fifteen feedback addresses (18-32) are assigned automatically. This means that the YD6016LN-RC occupies sixteen consecutive feedback addresses (17-32). (For the exact procedure for switching a switch address, please refer to the documentation for your control centre or app).

➡ If no other feedback modules are used on the YD6016LN-RC ("ES-Link", "s88N"), configuration mode can be exited by pressing the programming button.

6. The assignment of the feedback addresses is complete and the YD6016LN-RC switches to configuration mode for the total number of feedback devices.
Continue on the next page with point 7.

Configuring the total number of sensors of the YD6016LN-RC

The total number of feedback units is calculated from the internal feedback units (16 units) of the YD6016LN-RC and the number of feedback units connected via the "ES-IN Link" or "s88N".
Example: If two YD6016ES modules are connected to the YD6016LN-RC via "ES-IN Link", the number of individual sensors must be added together. (16+16+16=48 sensors). The total number (48) must be communicated to the YD6016LN-RC by switching the corresponding DCC turnout address as described here.

7. Once the start feedback address has been assigned, the YD6016LN-RC automatically switches to configuration mode for the total number of feedback devices. The green LED confirms with the flashing sequence flash, flash, LED off, flash, flash, LED off (**-**-) etc. that the YD6016LN-RC is in configuration mode for the number of feedback devices.
8. Call up the points control panel of the control centre and the calculated points address (48). Do not perform a switching operation yet! (Please refer to the documentation for your control centre or app for the exact procedure for calling up a points control panel).
9. Press the calculated points address (48) once on the points control panel of the control centre. (Please refer to the documentation for your control centre or app for the exact procedure for switching a points address).
10. The allocation of the number of sensors is complete and the YD6016LN-RC automatically exits configuration mode.

Caution!
All connection work on the YD6016LN-RC must always be carried out in a de-energised state. **Disconnect** the power supply from the mains and switch off the control centre !

Use the YD6016LN-RC to configure the switching decoders of the YD8xxx series

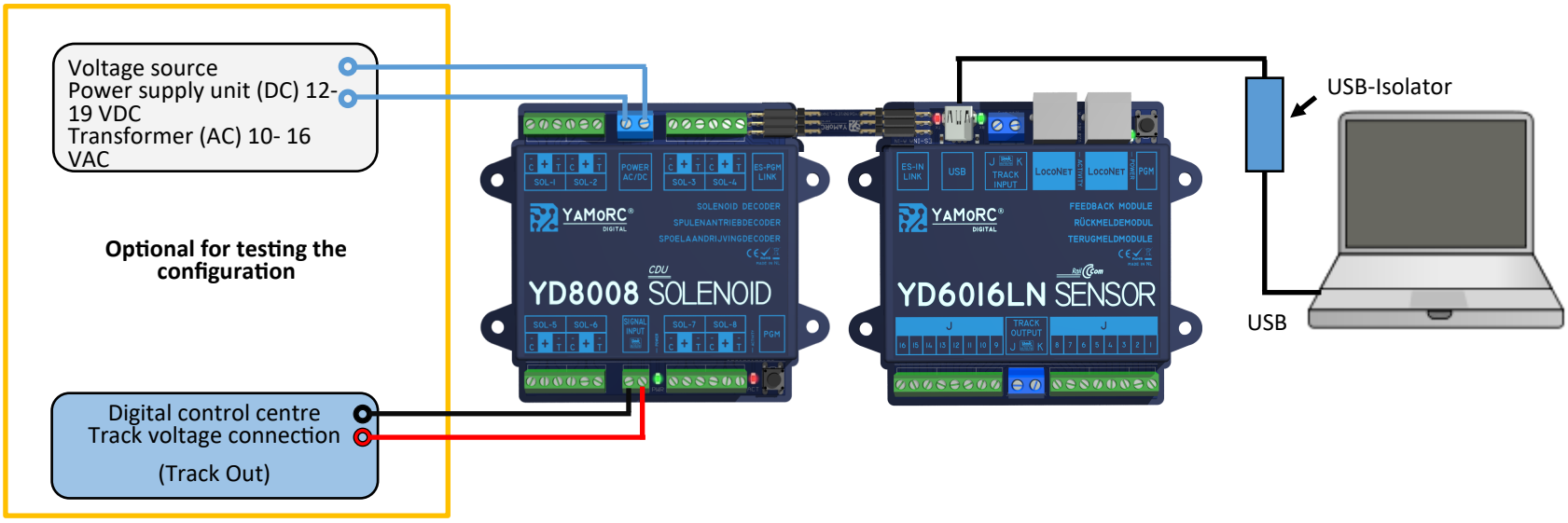
The YD6016LN-RC can be used to configure the YD8008, YD8044 and YD8116 switching decoders. The YD6016LN-RC configuration tool can be used to customise the settings of the switching decoders.

The following settings can be customised for the YD8xxx series switching decoders:

- Free assignment of switching addresses
- Switching pulse duration for each output
- Address switching matrix and inversion of the switching term
- Signal definitions can be selected and customised (YD8116)

Connecting the YD8xxx series switching decoders to the YD6016LN-RC via the "ES-Link" and what needs to be observed

- The power supply for the YD8008, YD8044 and YD8116 (Power AC/DC) must not be provided via the digital control centre and DCC (Track Out of the control centre).
- To test the settings, a separate AC or DC voltage source can be connected to "Power AC/DC" on the switching decoder.
- To prevent ground loops via USB, the YD6016LN-RC should always be connected alone to the PC or laptop via USB.
- The use of a USB isolator is recommended.
- The YD6016LN-RC is connected via "ES-IN Link" and the "ES-PGM Link" socket on the YD8xxx. The connection can be made either via the YD6901ES-LINK or the YD6902ES-EXT connection set.



Firmware update of the YD8xxx series switching decoders via "ES-Link" with the YD6016LN-RC

- The power supply to the YD8008, YD8044 and YD8116 via the "Power AC/DC" terminals and the "Signal Input" (track out of the control centre) must be disconnected before the firmware update.
- The LocoNet® connection on both LocoNet® sockets of the YD6016 must also be disconnected.
- A connection via "S88N IN" must also be disconnected.
- To prevent ground loops via USB, the YD6016LN-RC should always be connected alone to the PC or laptop via USB.
- The YD6016LN-RC is connected via "ES-IN Link" and the "ES-PGM Link" socket on the YD8xxx. The connection can be made either via the YD6901ES-LINK or the YD6902ES-EXT connection set.



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 by the repair or replacement delivery. Warranty claims can only be made to your dealer, enclosing any warranty certificate, proof of purchase and a description of the fault. Products sent directly to YaMoRC will neither be treated nor returned free of charge.

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