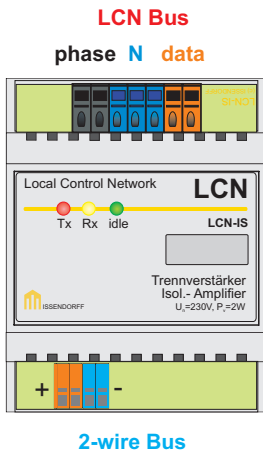


## Isolation amplifier for LCN

The LCN-IS separates the data wire through optical couplers and avoids a voltage carry over in distribution boxes. It serves as a bridge for RCD's (earth leakage circuit breakers) or extending the data wire over a distance of 1 km.



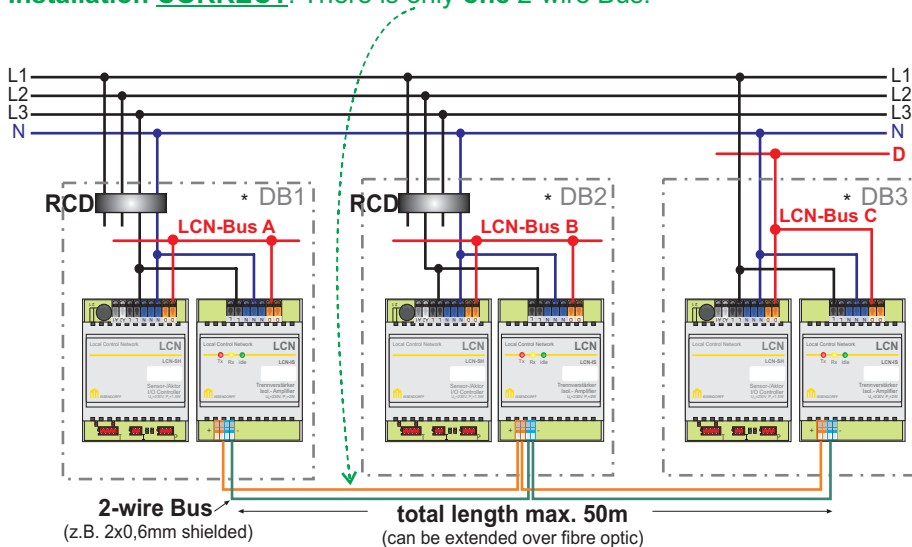
With large establishments, the LCN-IS can be used for wiring in a star pattern: 2-15 isolation amplifiers form a node, from which each strand (NYM-J) max. 1 km in length are lead into the building.

When operating isolation amplifiers in several distribution boxes, the coupling of the nodes is carried out over fibre optic coupling modules; see LCN-LLG and LCN-LLK.

### The LED's display:

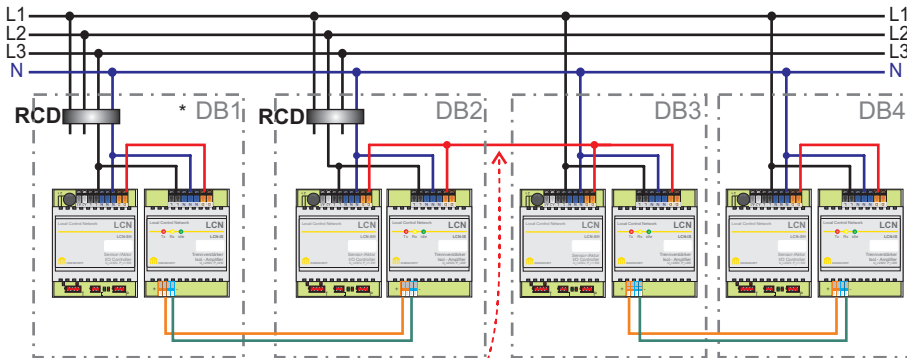
- GREEN (idle)** = operation indication (lights permanently)
- YELLOW (Rx)** = reception indication (flashes when telegrams are received from the LCN-Bus)
- RED (Tx)** = sending indication (flashes when telegrams are sent to the LCN-Bus)

Installation **CORRECT**: There is only **one** 2-wire Bus!



\* DB1 = distribution box 1

## Installation faulty: There are 2 independent 2-wire Buses!



Here 2 two-wire buses are falsely coupled over the LCN-Bus!

With this (faulty) installation, the transfer safety and the transfer performance are affected.

\* DB1 = distribution box 1

**NOTES:**

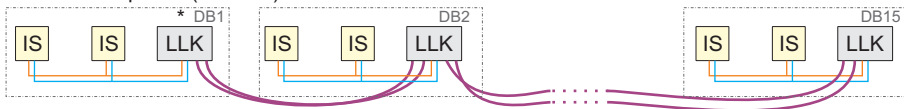
- ` The two-wire bus in copper connects LCN-IS devices within a distribution box.
- ` For longer distances as 50m, the two-wire bus in copper can be extended with fibre optic cable and galvanically separated at the same time: which means several distribution boxes can be coupled with fibre optic cables. In this way a free topology can be chosen and fibre glass cable mixed with plastic fibre cable, see also installation guide from the LCN-LLG/LLK.
- ` Up to three node points are possible with more than one LCN-LLx - see construction variations page 5.
- ` Every LCN-IS builds up a new LCN-Bus with a max. cable length (NYM) of 1000m (data wire).
- ` In the basic expansion, at least two LCN-IS's are required.
- ` In one segment, only one **independent** 2-wire bus is allowed - not 2! - see graphic on pages 2 and 3!
- ` Two-wire buses in copper may only be extended up to 50m in length.
- ` Just as prescribed from VDE: The connecting cable between LCN-IS and LCN-LLx devices is a signal cable must not be layed together with 230V cables in cable channels or cable routes.

## Construction variations:

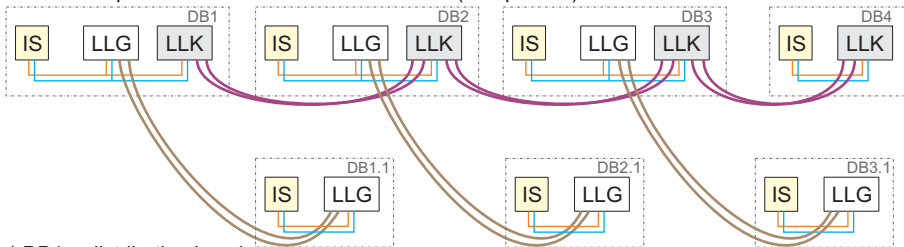
max. 15 participants (LCN-IS/-LLx) on one 2-wire Bus in copper



max. 15 node points (lineated)



max. 3 node points with more than one LCN-LLx (star pattern)



\* DB1 = distribution box 1

**Technical data****Connection**

power supply:	230V AC $\pm$ 15%, 50/60Hz (110V AC and 24V AC available)
power consumption:	2W
terminals/wire type:	screwless, solid max. 2,5mm <sup>2</sup> or fine wire with wire-end sleeves wire-end sleeves max. 1,5mm <sup>2</sup> loop through current max. 16A

**two-wire Bus**

terminals/wire type:	screwless, solid max. 0,8 mm <sup>2</sup> (shielded)
cable length:	max. 50 m (together)
participants:	max. 15 (sum of LCN-IS/-LLK/-LLG's)

**installation**

operating temperature:	-10°C to +40°C
air humidity:	max. 80% rel., non condensing
environmental conditions:	Use as stationary installation according to VDE632, VDE637
protection art:	IP 20
dimensions (B x D x H):	68mm (4HP) x 92mm x 66,5mm
installation:	DIN rail 35mm (DIN50022)

Technical information and images are non binding. Changes are reserved.  
Technical hotline: +49 5066 998844 or [www.LCN.de](http://www.LCN.de)