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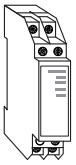
merten™

## PlusLink distributor

User Guide



MEG5130-0001

## For your safety

**⚠⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks
- Connecting several electrical devices
- Laying electric cables
- Safety standards, local wiring rules and regulations

**Failure to follow these instructions will result in death or serious injury.**

**⚠⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK**

The PlusLink carries an electrical current and the outputs may carry an electrical current even when the device is switched off.

- Before working on the device or the loads, always de-energize the device across all phases by switching all respective upstream miniature circuit breakers.

**Failure to follow these instructions will result in death or serious injury.**

*Notice*

**HAZARD OF EQUIPMENT DAMAGE**

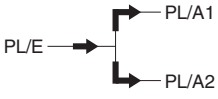
- Ensure that the device is disconnected from its circuit during the insulation resistance test.

**Failure to follow these instructions can damage the device.**

## Getting to know the PlusLink distributor

In a PL system, only signals that are connected to the same phase are communicated between devices. The PlusLink distributor (referred to below as **PL distributor**) can transmit signals in a PL system between devices that are connected to different phases.

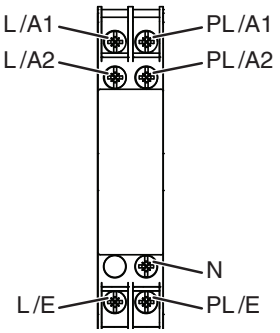
Signal transmission takes place in one direction only. Signals from the devices in one phase and PL line are forwarded to devices from up to two further PL lines and phases.




The PL distributor itself electrically isolates the input (PL/E) and the two outputs (PL/A1 and PL/A2) from each other. The PlusLink distributor can therefore be installed when more than one RCB (Residual Circuit Breakers) is in use. A signal distribution is conducted, not an electrical transmission. The PL line and phase are each connected in pairs to the terminals of the PL distributor:

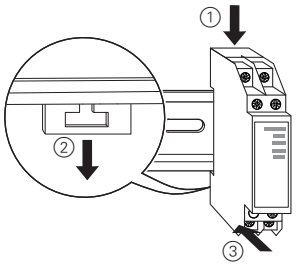
- PL line and phase at the input: PL/E and L/E
- PL line and phase at output 1: PL/A1 and L/A1
- PL line and phase at output 2: PL/A2 and L/A2

## Connections




## Installing the PL distributor

It is installed on a DIN-rail TH35 according to EN 60715.




## Connecting the PL distributor

### Installation examples

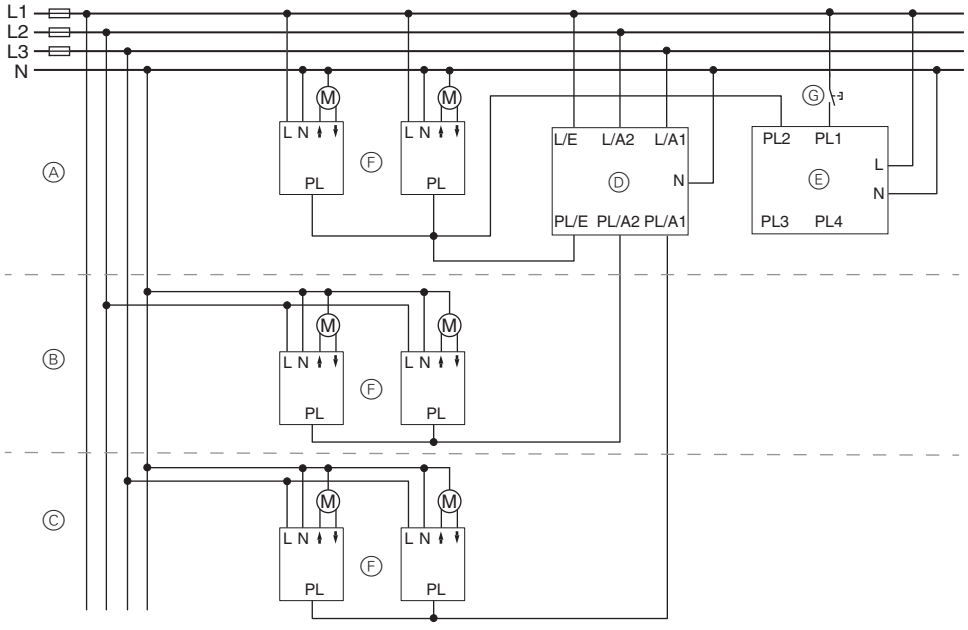
***Central blind control over several floors and 3 phases***

One PL line is installed in the PL system for each floor and phase.

On the ground floor Ⓐ, a central unit insert Ⓔ switches the blind control inserts Ⓕ in a PL line.

The PL line on the ground floor Ⓐ is connected to the input of the PL distributor Ⓓ (PL/E). The PL lines for the first and second floors are connected to the output (PL/A1, PL/A2). The PL distributor transmits the signal from the central unit insert on the ground floor to the blind control inserts on the upper floors. The central unit insert controls all loads in the PL system.

A panic button Ⓖ is connected to the PL1 connection of the central unit insert. The PL distributor transmits the signal to both upper floors. The panic button retrieves a panic scene for all connected devices in the PL lines.




Ⓐ Ground floor
Ⓑ First floor
Ⓒ Second floor
Ⓓ PL distributor
Ⓔ Central unit insert
Ⓕ Switch inserts with load
Ⓖ Panic button

EAV56193-02-UG-en 12/24

***Central and group control of blinds over several floors and 3 phases***

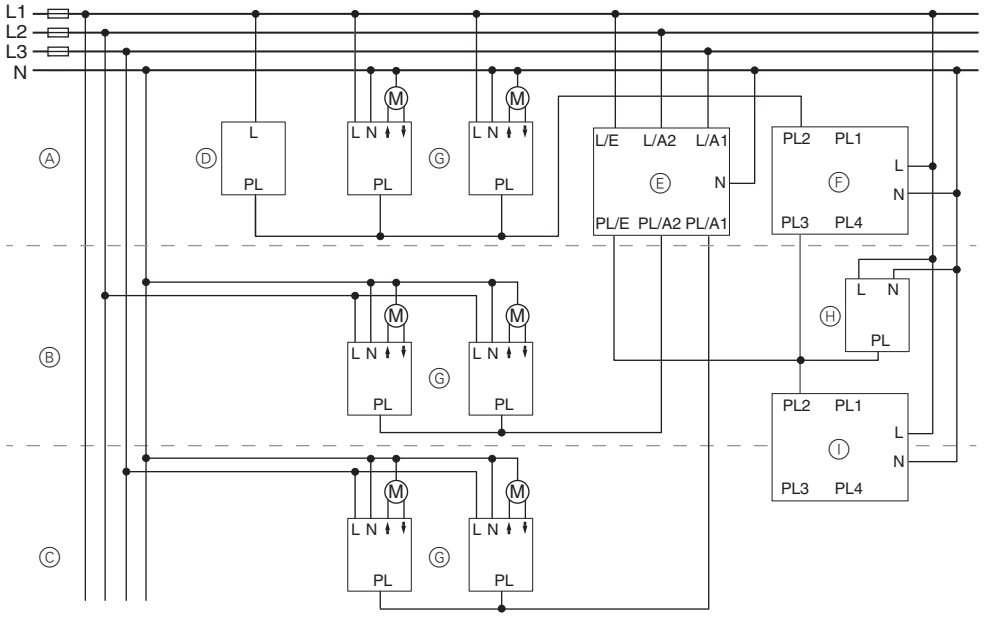
Power is supplied to a PL line via at least one connected relay/electronic/dimmer or blind control insert (receiving inserts). If a PL line is only used to forward the signal from a central controller to a PL distributor, an additional switch insert with a neutral conductor (e.g. relay switch insert or blind control insert) must be connected in order to supply the power.

One PL line is installed in the PL system for each floor and phase.

On the ground floor Ⓐ the blind control inserts Ⓖ in a PL line can be switched via a side controller Ⓓ. In addition, a central unit insert Ⓕ controls the blind control inserts in this PL line by means of the PL2 connection.

The PL3 connection of the central unit insert is connected to the input of the PL distributor Ⓔ (PL/E). An additional switch insert Ⓗ is installed in the PL line at the input of the PL distributor. It ensures the power supply to the PL line at the input of the PL distributor. The PL lines for the first and second floors are connected to the output (PL/A1, PL/A2). The PL distributor transmits the signal from the central controller to the blind control inserts on the upper floors. The central unit insert switches all loads in the PL system.

A further central unit insert Ⓘ is connected to the input of the PL distributor (PL/E). It only switches the blind control inserts in the upper floors.

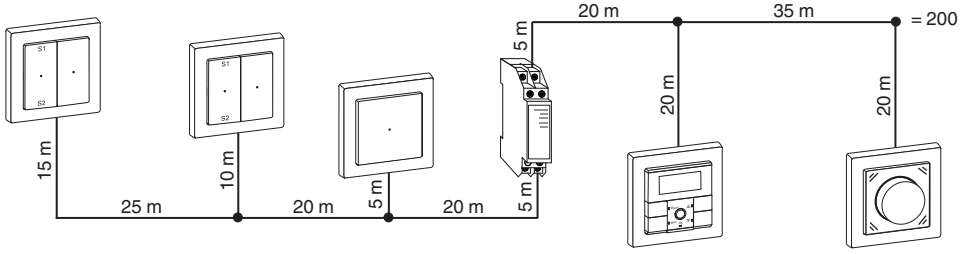



Ⓐ Ground floor
Ⓑ First floor
Ⓒ Second floor
Ⓓ Side controller
Ⓔ PL distributor
Ⓕ Central unit insert / all floors
Ⓖ Switch inserts with load
Ⓗ Switch insert with neutral conductor for power supply
Ⓘ Central unit insert / upper floors

***PL distributor as repeater in a PL line***

| **Recommended cables for a PL installation** | NYM-J 3 x 1.5 mm² | NYM-J 4 x 1.5 mm² | NYM-J 5 x 1.5 mm² |
|---|---|---|---|
| **Maximum total cable sections in a PL line** | 100 m | 80 m | 65 m |

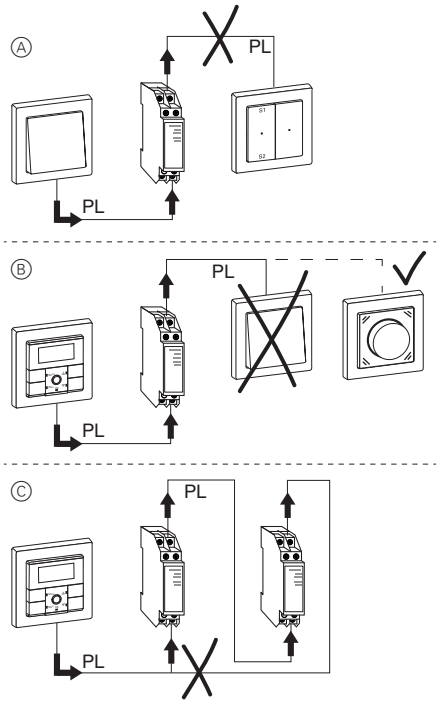
The maximum cable length in a PL system is 100 m for each PlusLink line, using an NYM-J 3 x 1.5 mm² cable. A PL distributor can extend the system by up to 100 m more.




***Example of limited signal transmission***

Make sure that signal transmission to and from the PL distributor is unrestricted in a PL system. Note the following:

- The signal for a mechanical push-button at the input (PL/E) of the PL distributor is not transmitted (see example Ⓐ).
- The signal for a mechanical push-button at the output (PL/A) of the PL distributor is not recognised by a central controller at the input (PL/E) of the PL distributor. Signals of the central controller that are forwarded by the PL distributor may be lost (see example Ⓑ).
- Preclude feedback: multiple PL distributors may only be installed in a PL line in one direction (see example Ⓒ).




Ⓐ A mechanical push-button is connected to the input (PL/E) of the PL distributor. The PL distributor ignores the signal and does not forward it.

Ⓑ A display timer module is installed at the input (PL/E) of the PL distributor. The PL distributor forwards the control signal of the time switch to the PL line at the output (PL/A). The signal is lost if a mechanical push-button in the PL line at the output (PL/A) is pressed at the same time.

Ⓒ Two PL distributors are integrated in a PL line. The PL line is connected to the output (PL/A) of the first PL distributor and to the input (PL/E) of the second. If the PL line from the output (PL/A) of the second PL distributor is fed back to the input (PL/E) of the first PL distributor, the signal runs in an infinite loop. This blocks the PL system.

## *Technical data*

| | |
|---|---|
| Mains voltage: | AC 220/230 V ~, 50/60 Hz |
| Connections: | 7 screw terminals for max. 2 x 2.5 mm² |
| PL input and phase: | PL/E and L/E |
| PL outputs and phase: | PL/A1 and L/A1, PL/A2 and L/A2 |
| Neutral conductor: | required |
| IP protection rating: | IP20 |
| Device width: | 1 module = 18 mm |

Dispose of the device separately from household waste at an official collection point. Professional recycling protects people and the environment against potential negative effects.

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EAV56193-02-UG-en 12/24