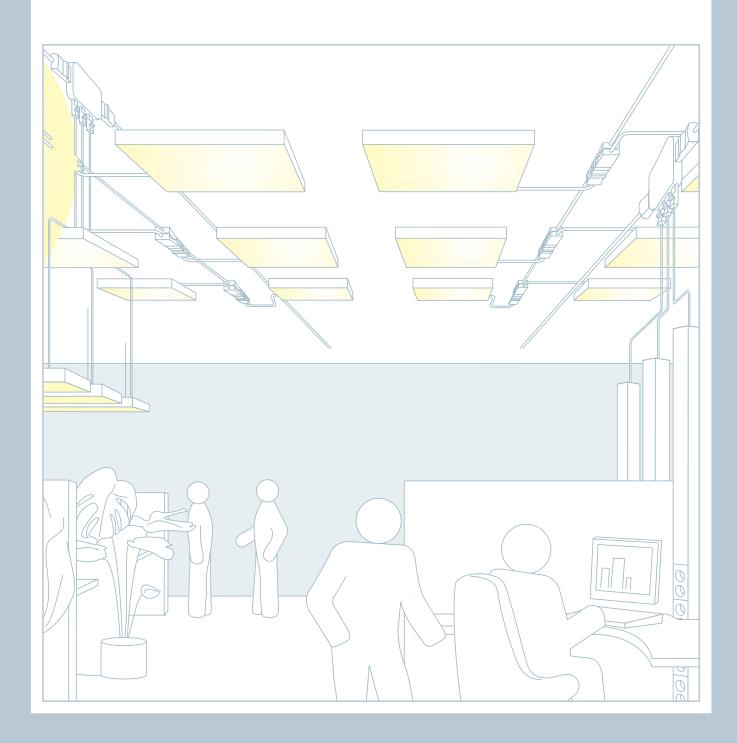


DESIGNER'S GUIDE

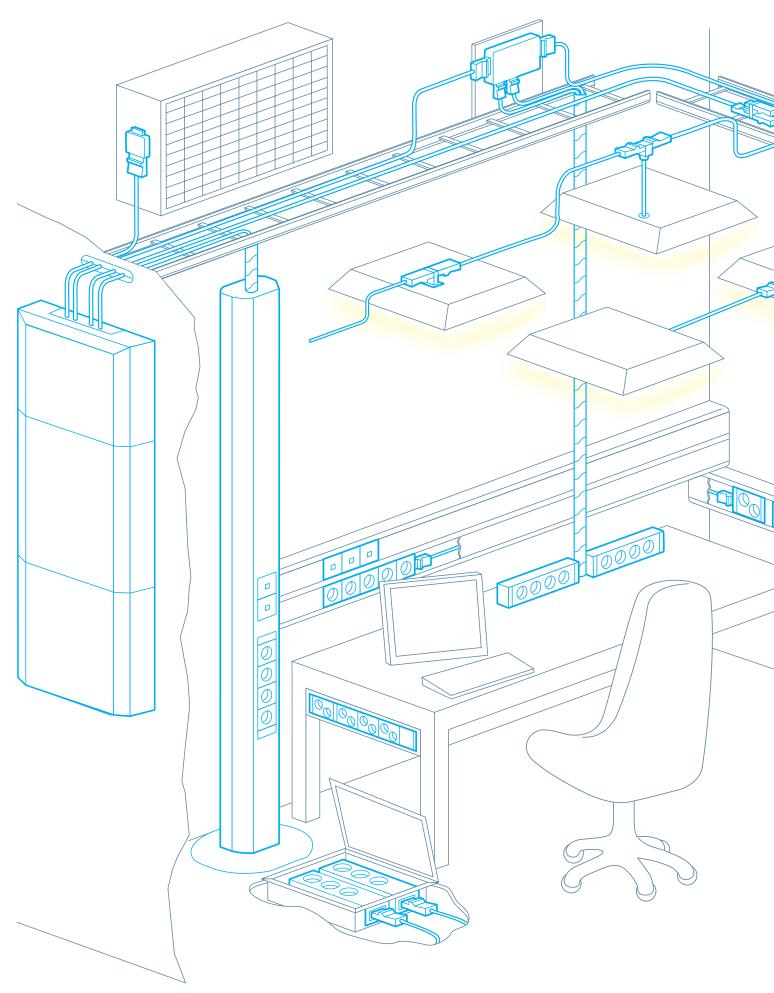
Wiring solutions for prefabricated installation

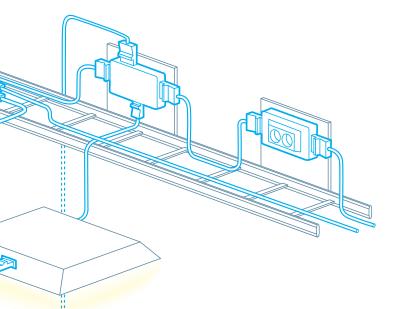




Prefabricated Installation System

The prefabricated installation system is used to facilitate installation work and to meet the requirements of modern building construction. The industrially prefabricated installation system is part of a developed building process, where flexibility and industrial production advantages are combined. It is based on advanced prefabrication for electrical installations. Thus the installation work is faster and afterwards changes are easy to carry out. Advantages of the system: • Flexibility of planning • Time and money saving • Fast installation Alterations are easy • Components can be reused



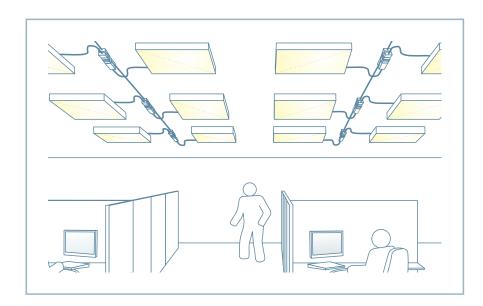


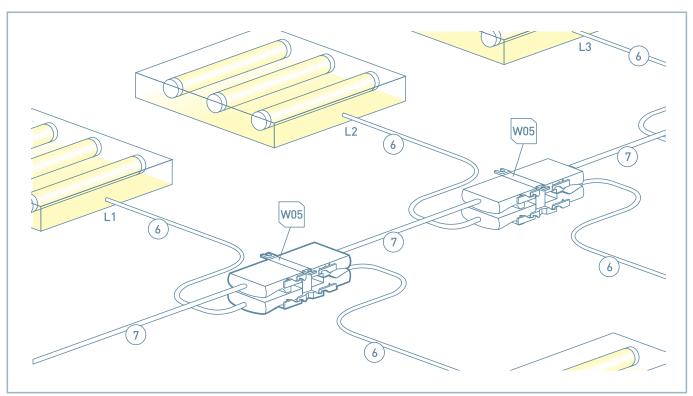
| CONTENT | |
|--|-----|
| Prefabricated Installation System | 3 |
| Open-plan Office | |
| Lighting Installation with Distribution Block | 6 |
| Lighting Installation with Distribution Box | 8 |
| Lighting Installation with Distribution Block | 10 |
| Lighting Solution with T-distribution Block and Three Phase Supply | 12 |
| Lighting and Socket Outlet Installation with Distribution Box | |
| Socket Outlet Installation with Distribution Box | |
| Energy-saving Solution for Lighting with Switch Box and Presence Detector | |
| Lighting Installation with Control Box by DALI | |
| Lighting Installation with Distribution Blocks and T-blocks by DALI | 22 |
| Workroom | |
| Energy-saving Solution for Lighting with Switch Box and Twilight Switch | 24 |
| Lighting Installation with T-distribution Block and Power Control Box | |
| Lighting Installation with Power Control Box | |
| Socket Outlet Installation with Service Pole | |
| Meeting Room | |
| Lighting Installation with T-distribution Block and Power Control Box | 32 |
| Lighting Installation with T-distribution Block with Cable and Power Control Box | |
| Corridor | |
| Installation Solution for Corridor | 36 |
| Lighting Installation with T-distribution Block and Power Control Box for Two Switches | |
| Lighting Installation with T-distribution Block and Relay Box | |
| Supermarket | |
| Lighting Installation with Integrated T-distribution Block | 42 |
| Lighting Installation with Flexible T-distribution Block and Power Control Box | |
| Shop | |
| Socket Outlet Installation | 46 |
| School | |
| Lighting Installation with Flexible and Fixed T-distribution Block | /,8 |
| Lighting Installation with Distribution and Power Control Boxes | |
| Hotel Room | 50 |
| Installation Solution with Relay Switch Box and Power Control Box | 52 |
| Installation Solution with Power Control Box | |
| Light Fitting Connections | |
| Installation System | |
| Product Code Key for Couplers and Accessories | |
| Product Code Key for EnstoNet Prefabricated Leads | |
| Color Codes and Markings for EnstoNet Connectors | |
| Outor Outes and markings for Enstonet Connectors | 02 |

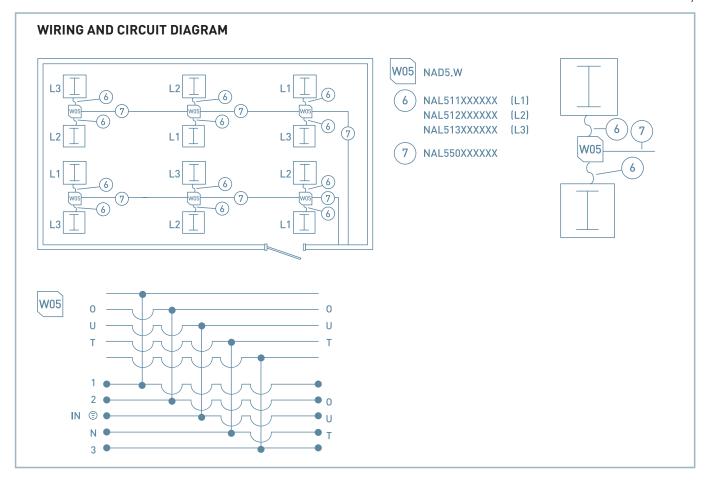
Lighting Installation with Distribution Block

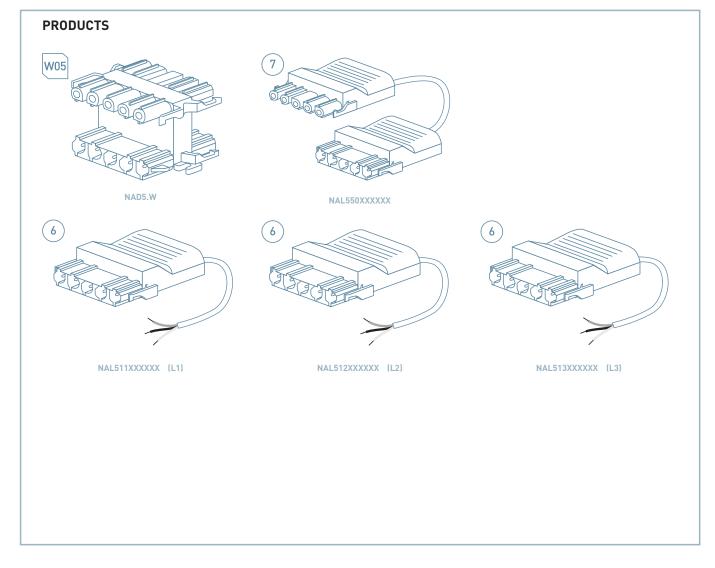
Installation with three phase continuous supply and two one phase supplies to light fitting. Light fittings are connected to one phase L1, L2 or L3.

- Meeting room
- Shop
- School
- Hotel
- Hospital - Workroom
- Corridor





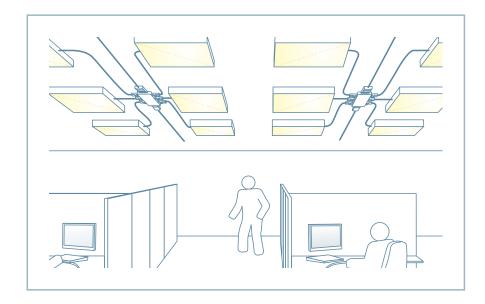


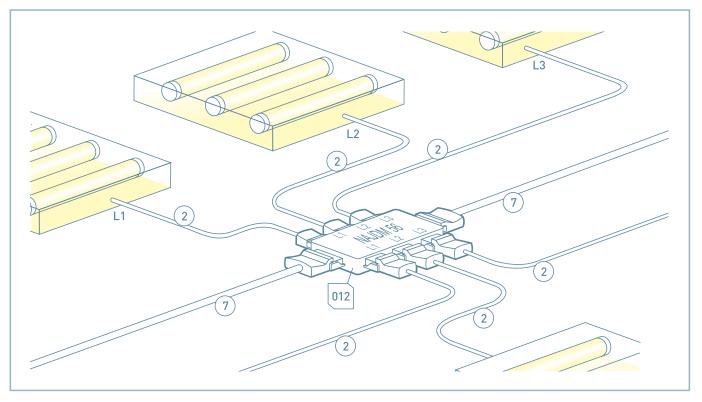


Lighting Installation with Distribution Box

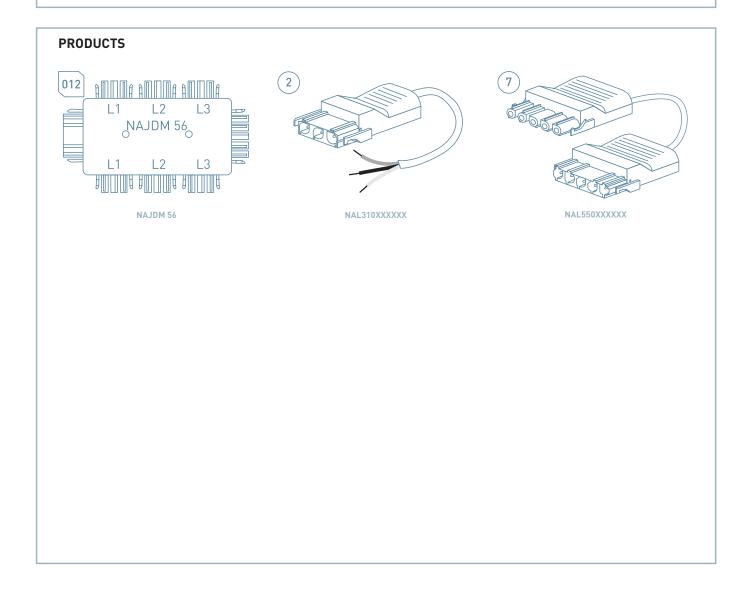
Installation with three phase continuous supply and six one phase outgoing to light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital - Workroom
- Corridor





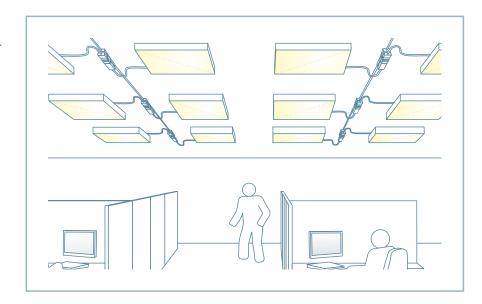
WIRING AND CIRCUIT DIAGRAM 012 NAJDM 56 2 NAL310XXXXXX NAL550XXXXXX L1 L2 L3 012 1 🗊 N 1 🗊 N 1 🗊 N 2 0 3 N 🗊 1 N 🗊 1 N 🗊 1 L1 L2 L3

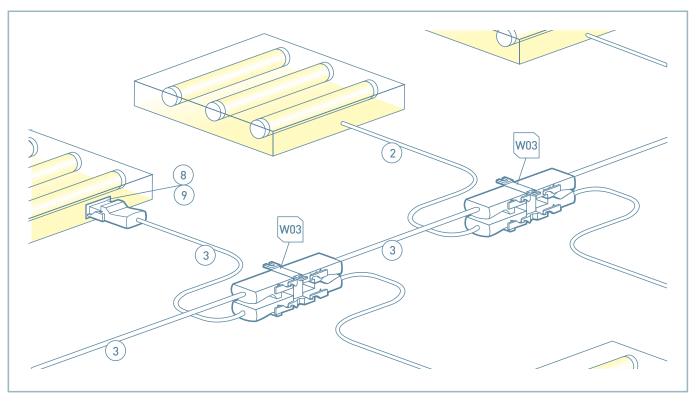


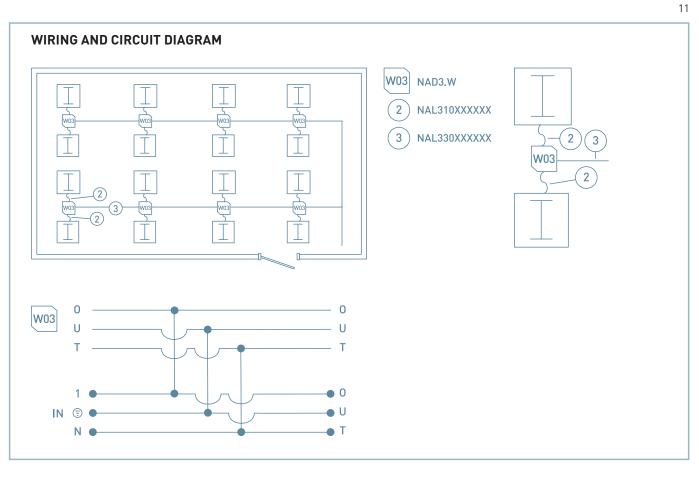
Lighting Installation with Distribution Block

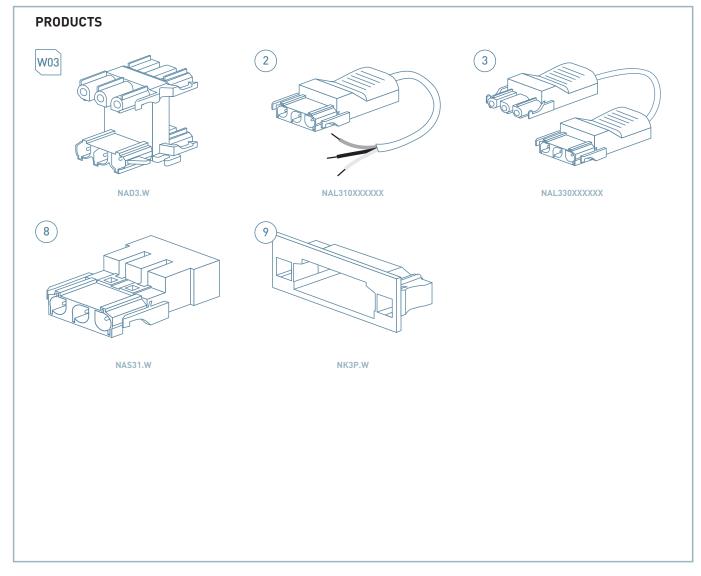
Installation with one phase continuous supply and two outgoings to light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital
- Workroom
- Corridor





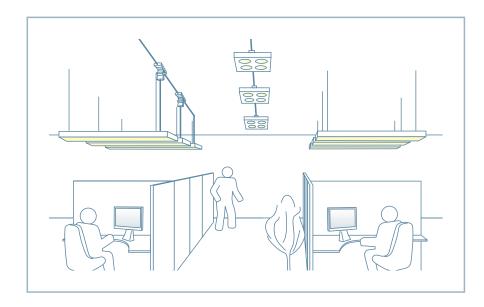


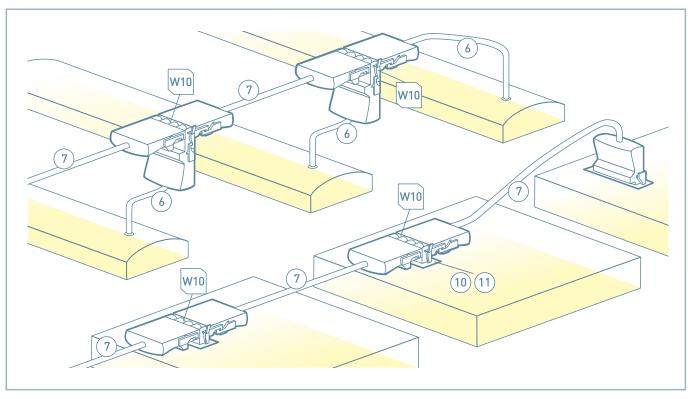


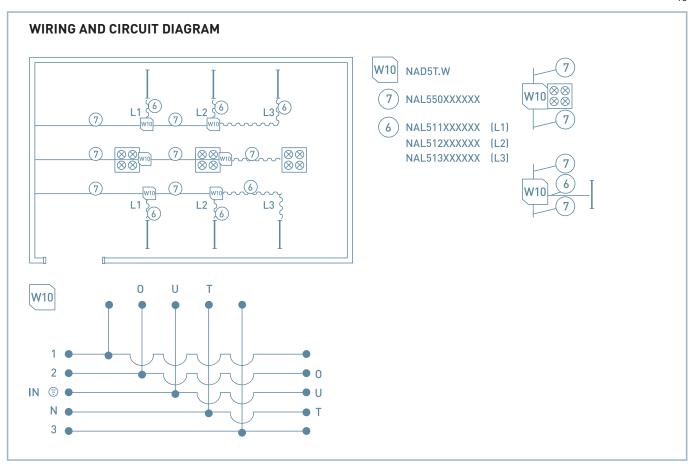
Lighting Solution with T-distribution Block and Three Phase Supply

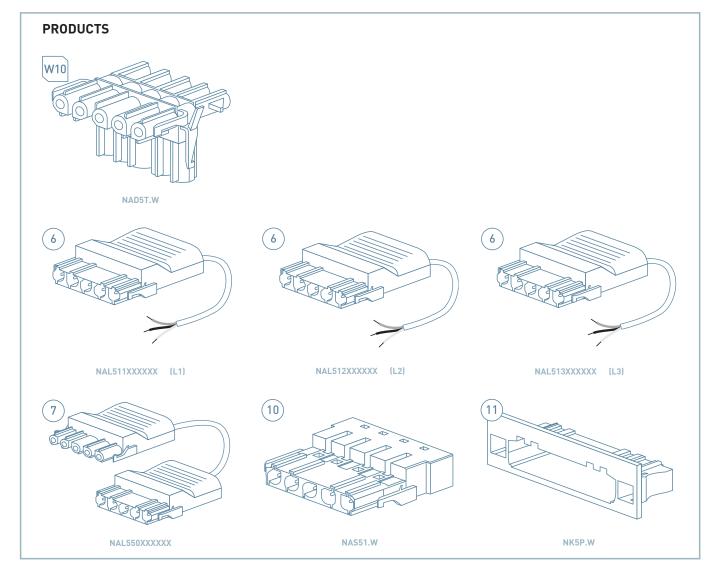
Installation with three phase continuous supply and single branching of one phase supply to light fitting.

- Meeting room
- Shop
- School
- Hotel
- Hospital
- Workroom
- Corridor





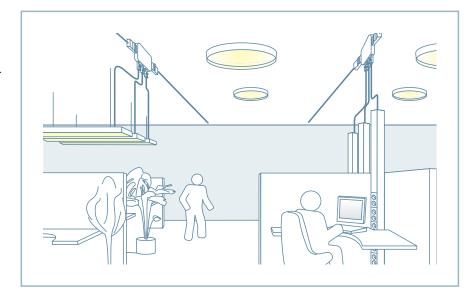


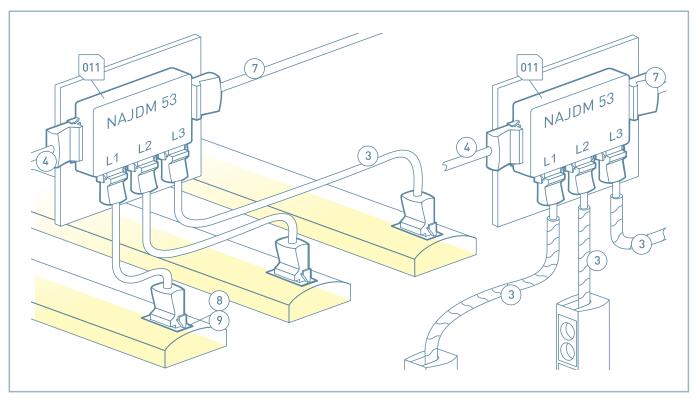


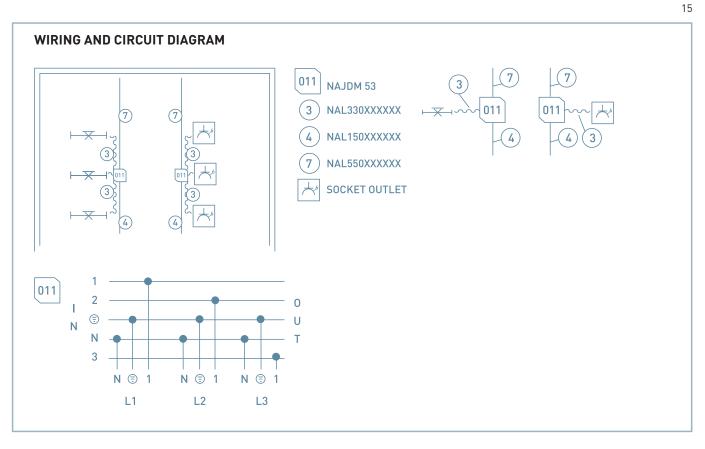
Lighting and Socket Outlet Installation with Distribution Box

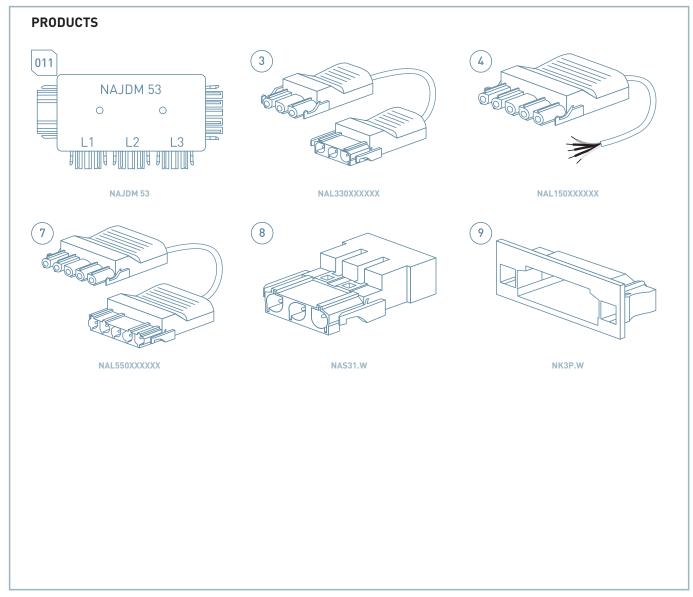
Installation with three phase continuous supply and three one phase branching to light fittings or sockets.

- Meeting room
- Shop
- School
- Hotel
- Hospital
- Workroom
- Corridor





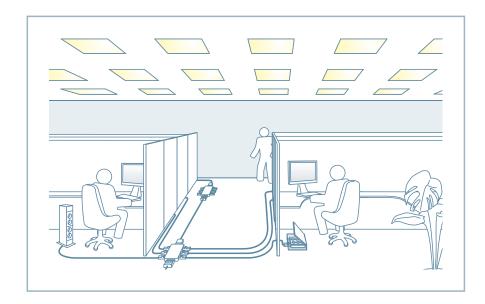


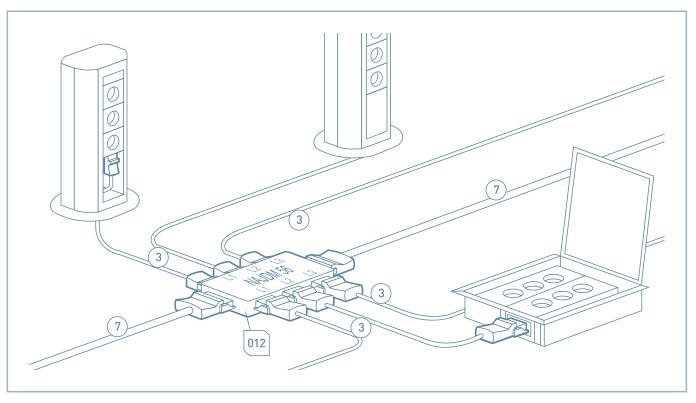


Socket Outlet Installation with Distribution Box

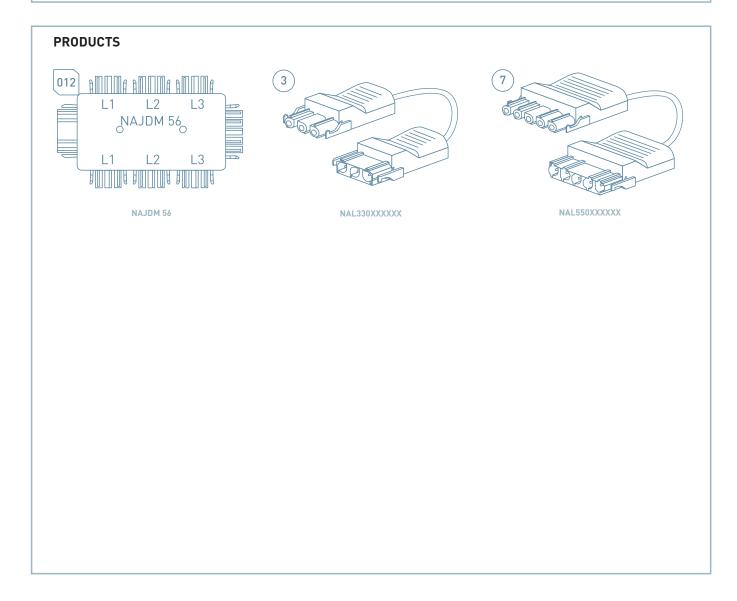
Installation with three phase continuous supply and six one phase branchings to sockets or light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital Workroom
- Corridor





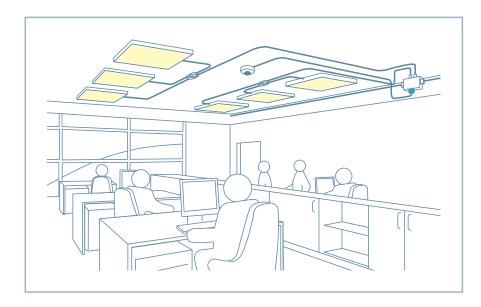
WIRING AND CIRCUIT DIAGRAM 012 NAJDM 56 3 NAL330XXXXXX NAL550XXXXXX SOCKET OUTLET L2 L3 L1 012 1 🗊 N 1 🗊 N 1 🗊 N 2 0 **=** N 3 N 🗐 1 N 🗊 1 N 🗊 1 L1 L2 L3

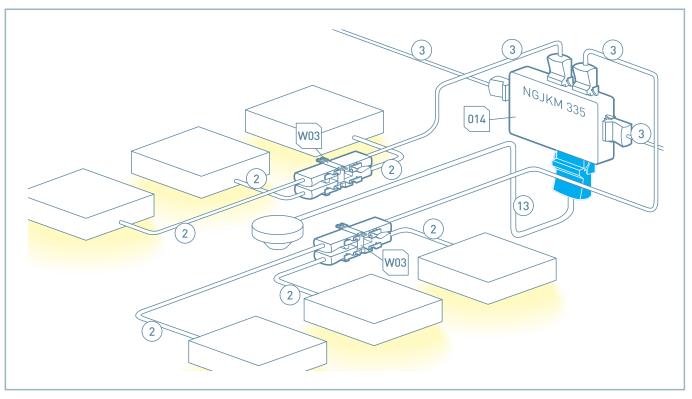


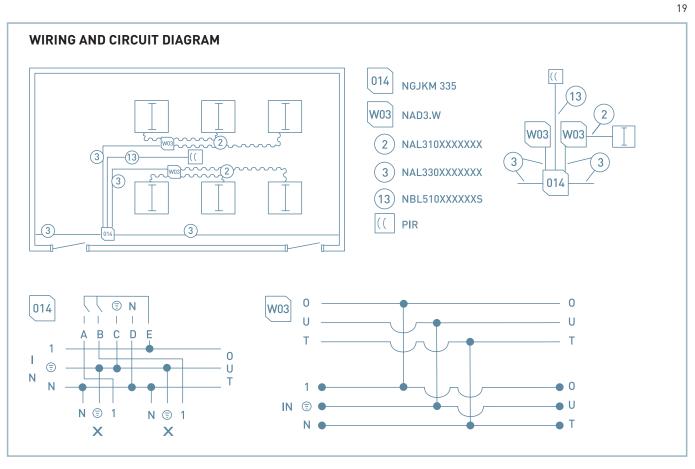
Energy-saving Solution for Lighting with Switch Box and Presence Detector

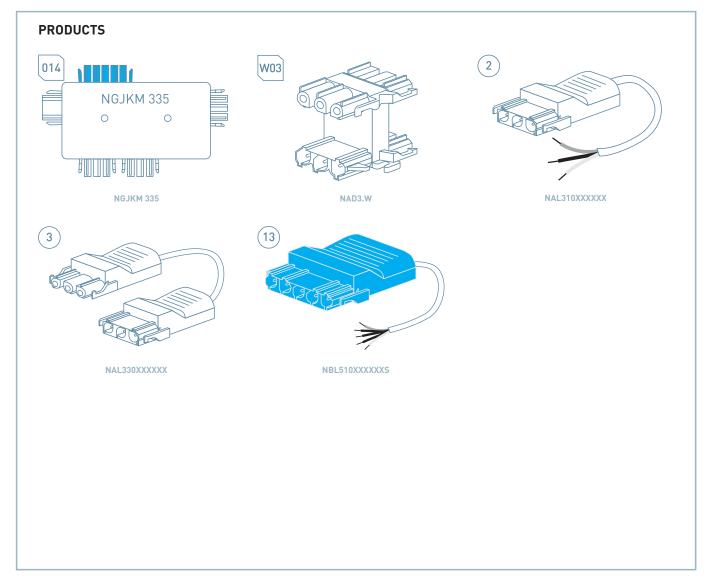
Installation with one phase continuous supply and two one phase outgoings to light fittings. Light fitting chain is presence detection controlled.

- Meeting room
- Shop
- School
- Hotel
- Hospital - Workroom
- Corridor





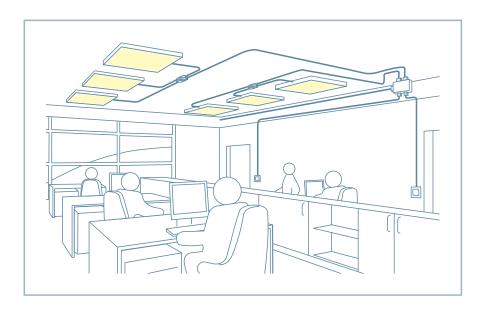


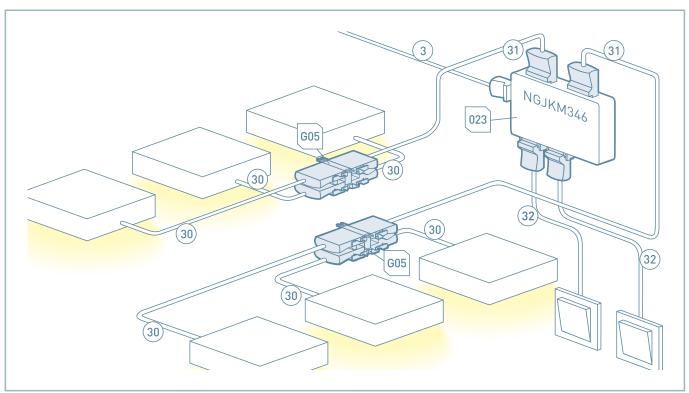


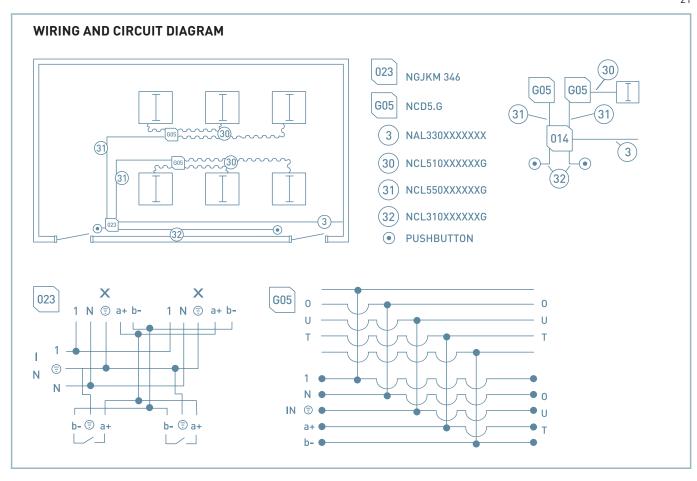
Lighting Installation with Control Box by DALI

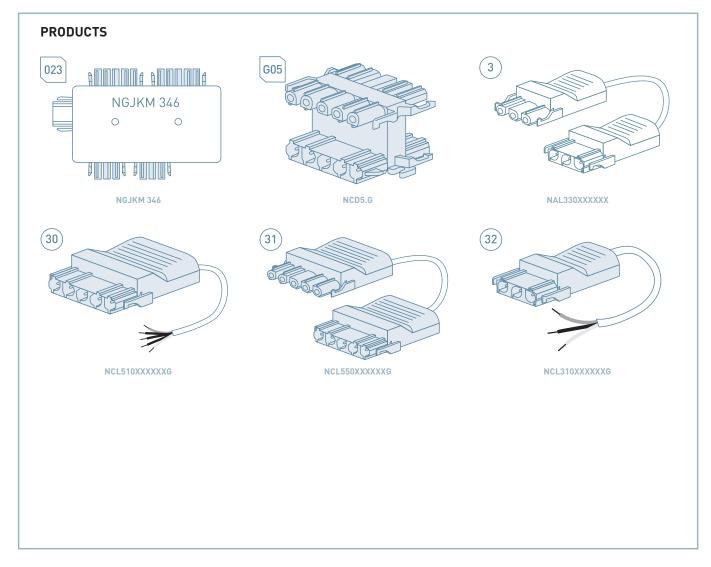
Installation with one phase power supply where supplies for light fittings are dimmer controlled via two parallel connected push buttons by DALI. Power supplies and DALI are branched with five pole cable sets to light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital - Workroom
- Corridor





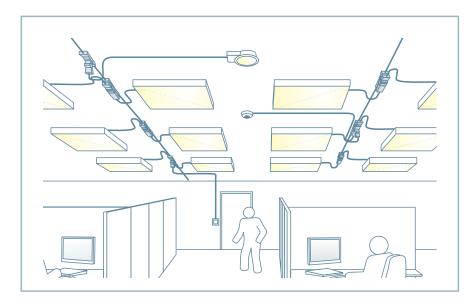


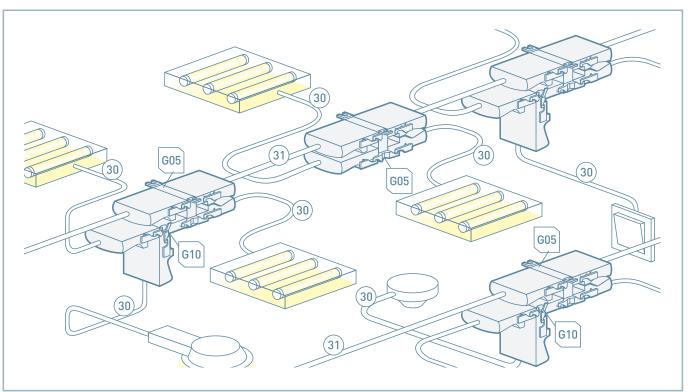


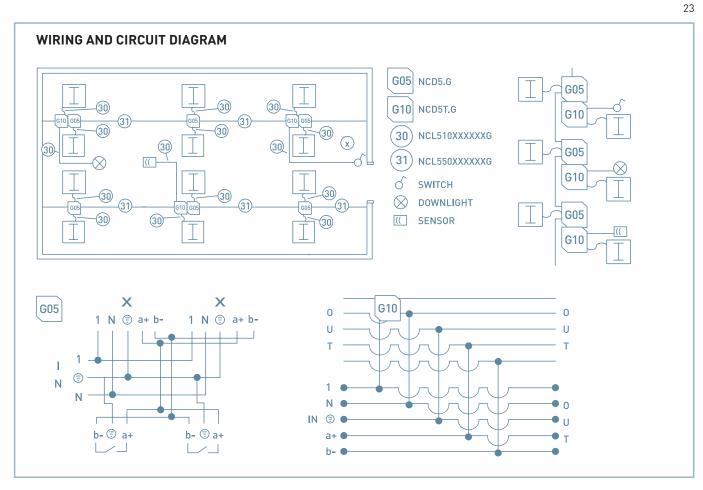
Lighting Installation with Distribution Blocks and T-blocks by DALI

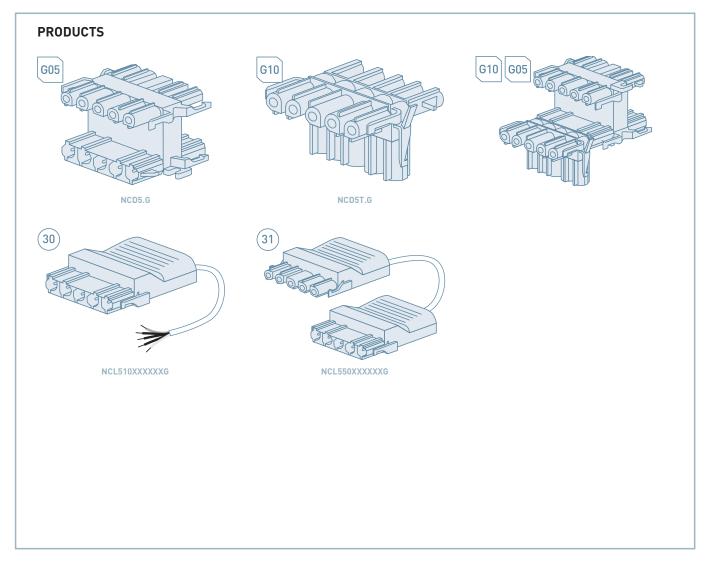
Installation with one phase power supply and DALI system for light fittings. The light fittings are controlled by a switch and a presence detector. Power supplies and DALI are branched with five pole cable sets to light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital - Workroom
- Corridor







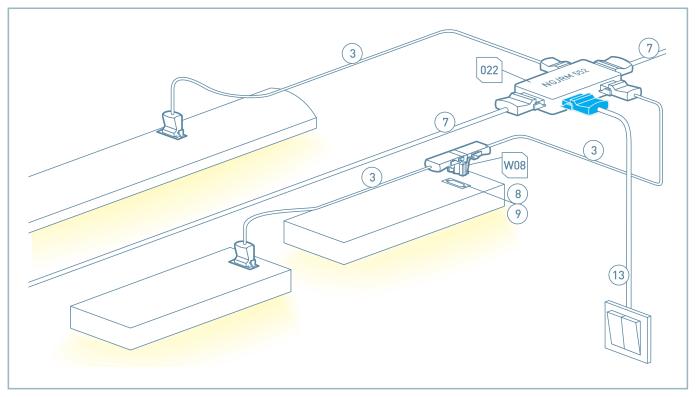


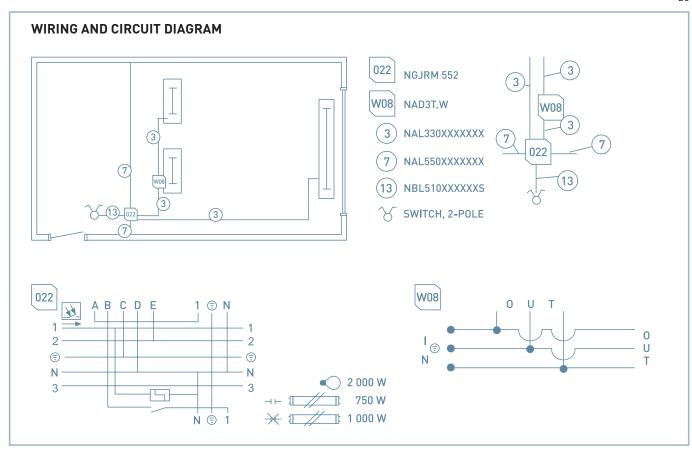
Energy-saving Solution for Lighting with Switch Box and Twilight Switch

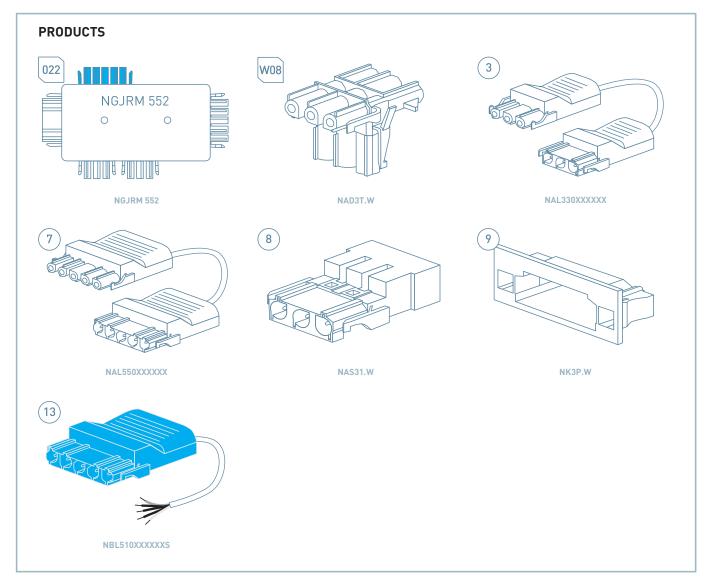
In this energy-saving solution the daylight is used for adjusting the lighting where light fittings near windows are being controlled centralized. The lights close to windows can also be switched off using switches. A double switch controls two light fittings. Installation with three phase continuous supply.

- Meeting room
- Shop
- School
- Workroom





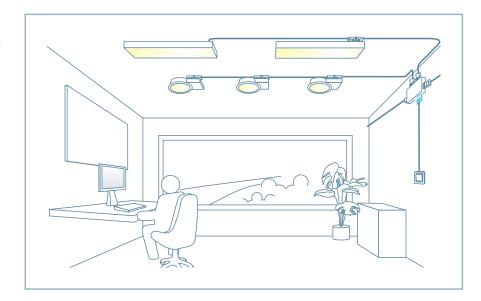


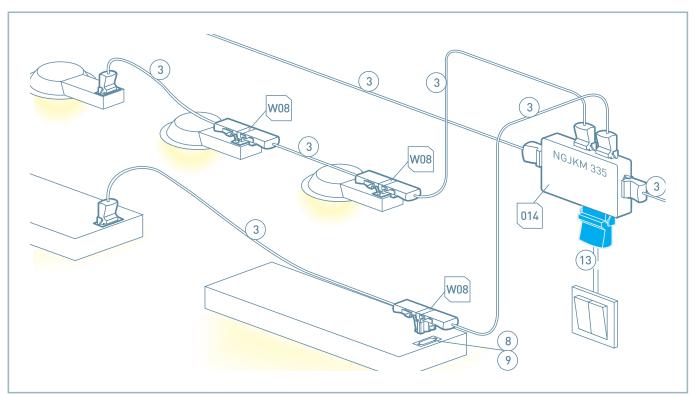


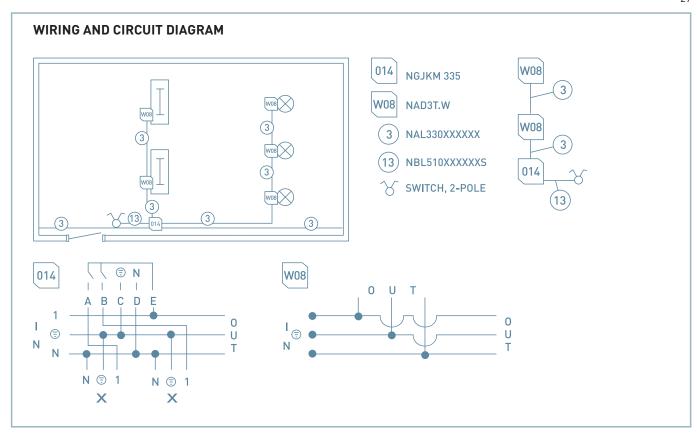
Lighting Installation with T-distribution Block and Power Control Box

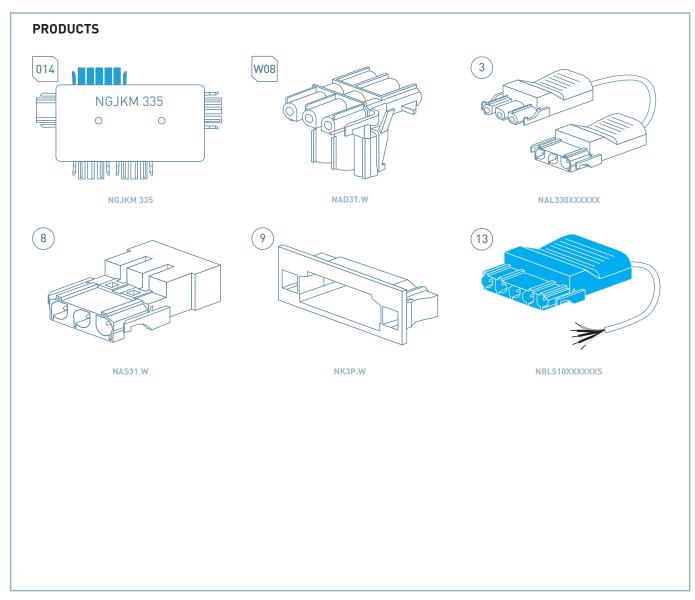
Installation with one phase continuous supply and on/off-switching of two separate light fitting chains. Chain installed with one phase T-distribution blocks.

- Meeting room
- School
- Hotel
- Hospital





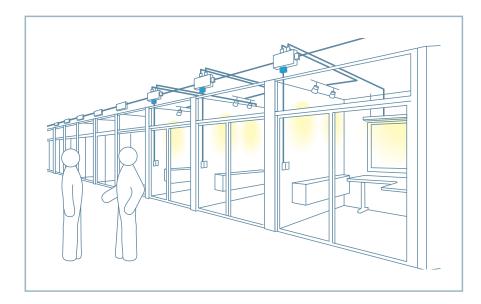


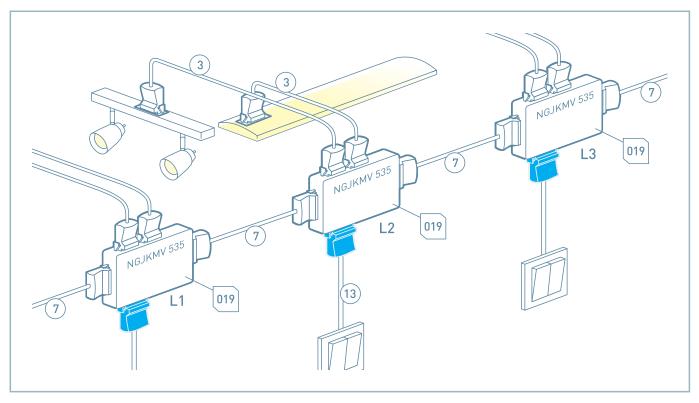


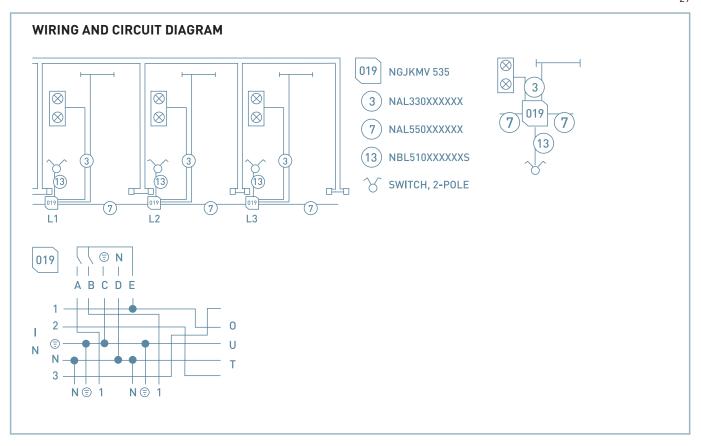
Lighting Installation with Power Control Box

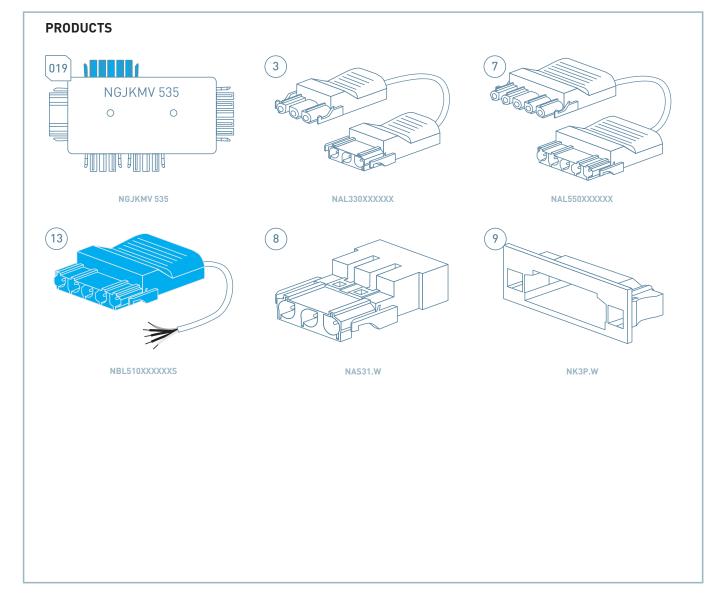
Installation with three phase continuous supply with phase rotation and branching via a double switch to two one phase outgoings to light fittings.

- Meeting room
- School
- Hotel
- Hospital Corridor





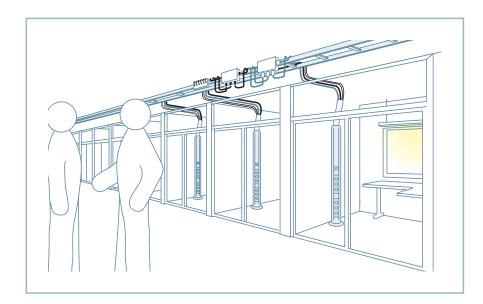


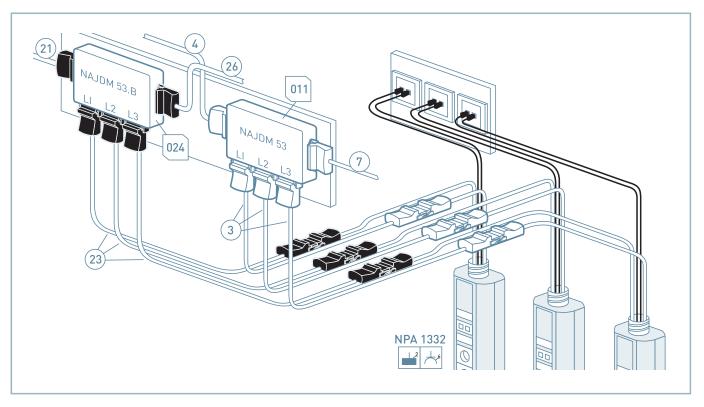


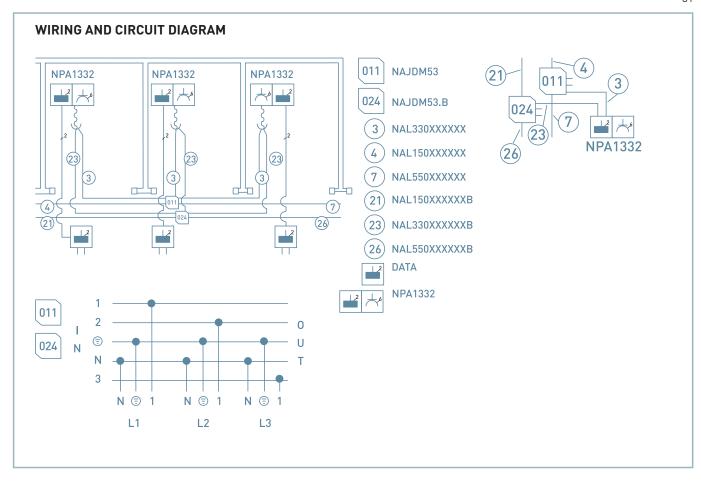
Socket Outlet Installation with Service Pole

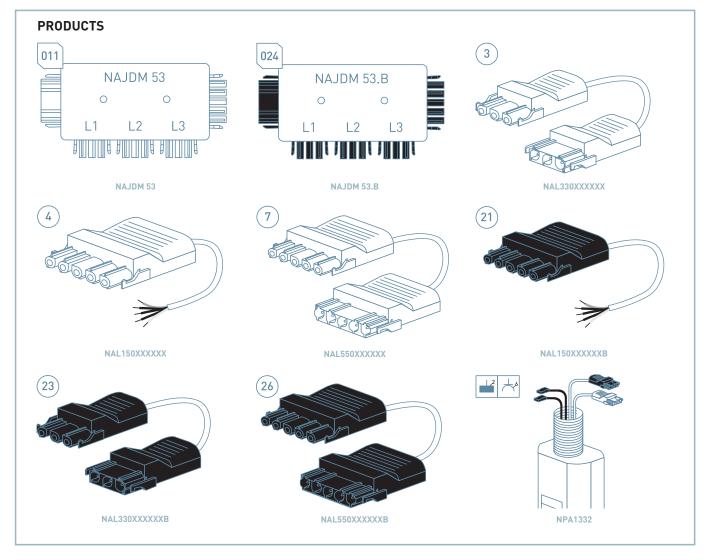
Installation with three phase continuous supply and three one phase branching to service poles.

This solution can also be used in - Open-plan office







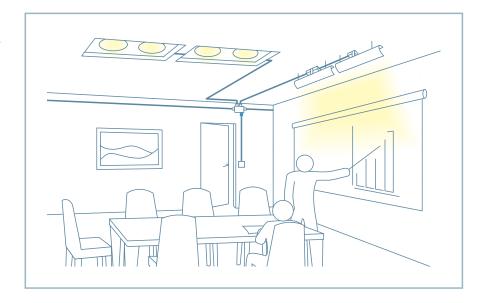


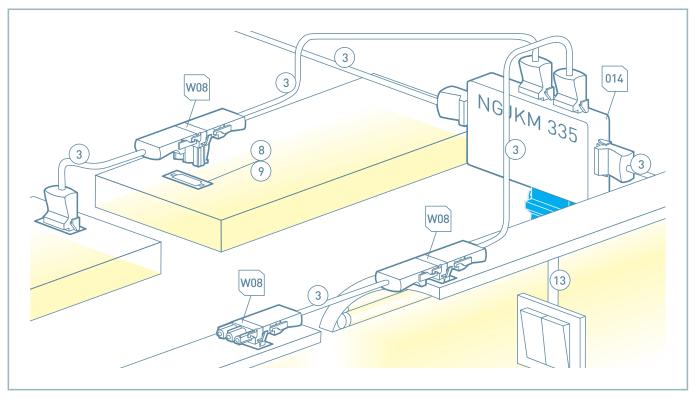
Meeting room

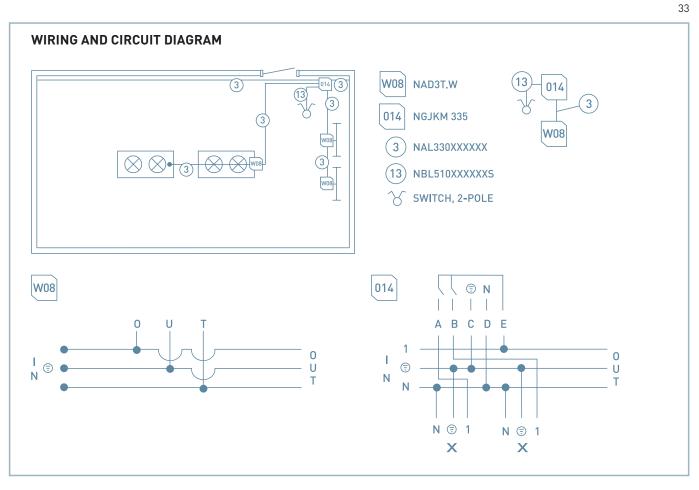
Lighting Installation with T-distribution Block and Power Control Box

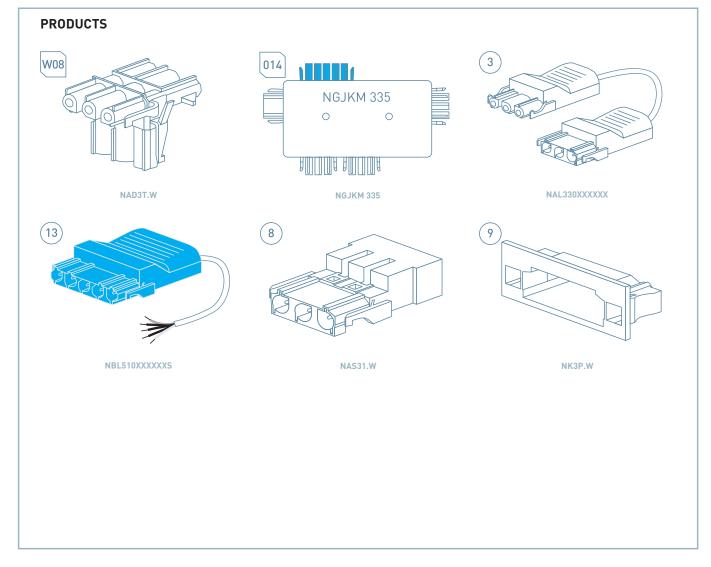
Installation with one phase continuous supply and on/off-switching of two separate light fitting chains. Chain installed with one phase T-distribution blocks.

- School
- Hospital
- Workroom







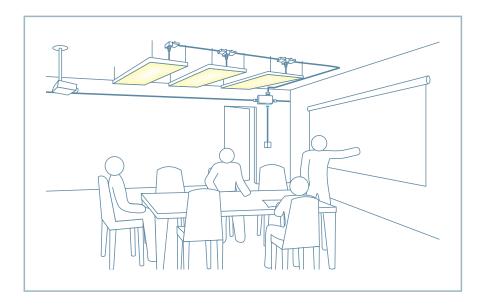


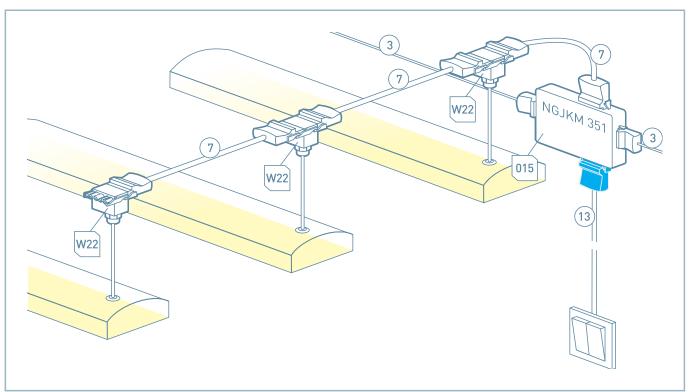
Meeting room

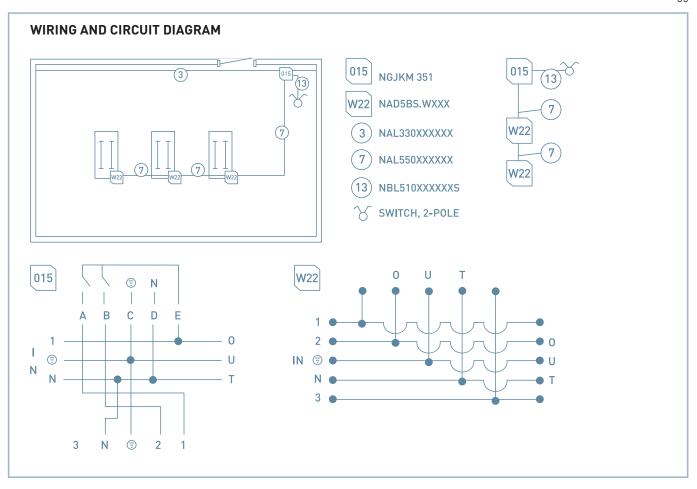
Lighting Installation with T-distribution Block with Cable and Power Control Box

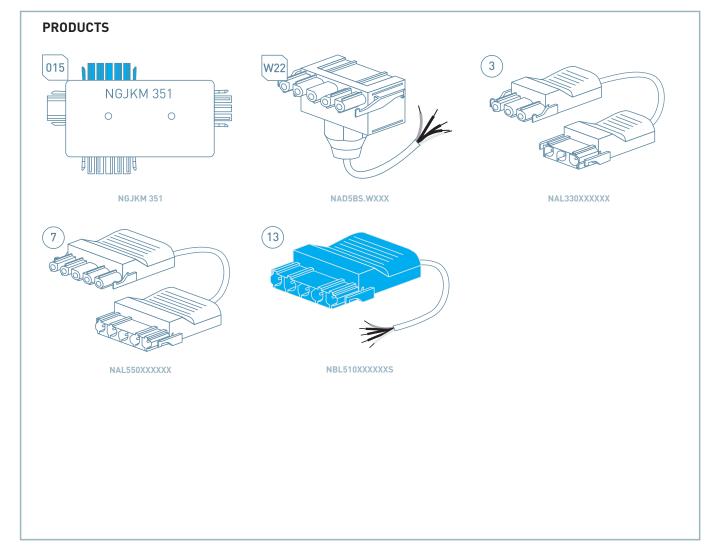
Installation with one phase continuous supply and on/off-switching of two light fitting chains branched with one outgoing connector. Light fitting chain installed with separate T-distribution block. With this connection two light sources in the same light fitting can be controlled separately.

- Shop
- School
- Hotel
- Hospital
- Workroom
- Corridor









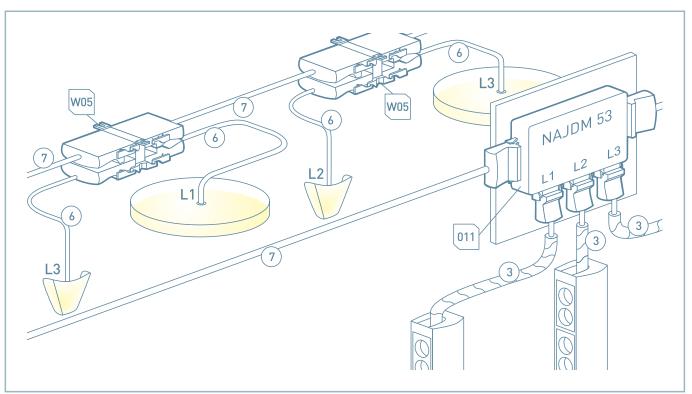
Corridor

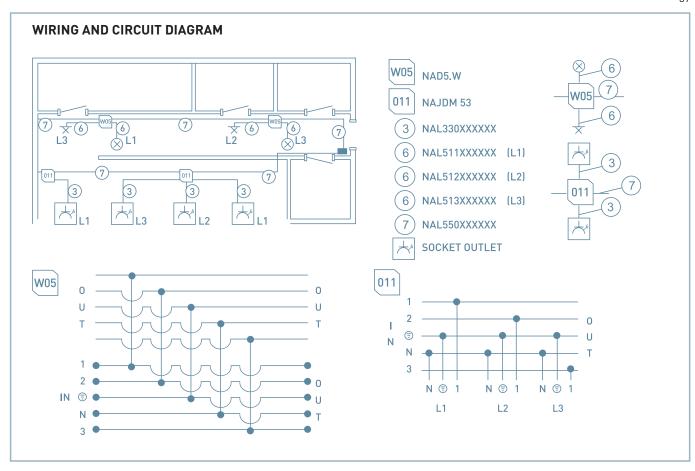
Installation Solution for Corridor

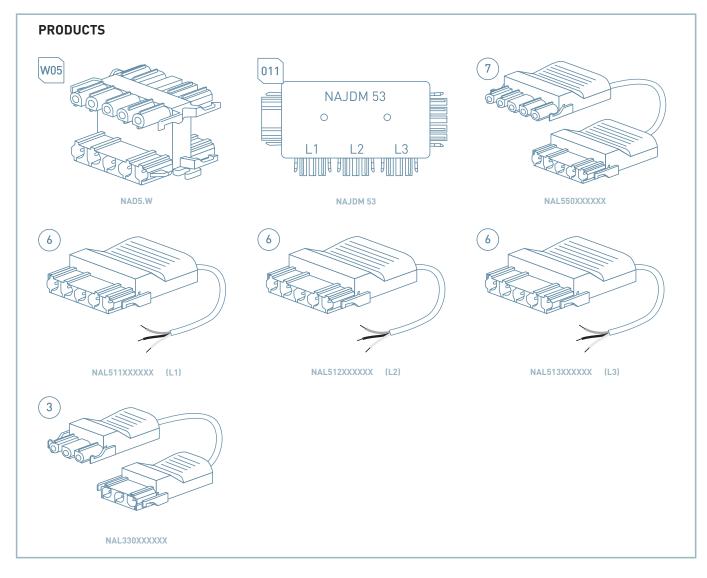
Installation with three phase continuous supply and branching to two one phase outgoings to light fittings.

- Meeting room
- Shop
- School
- Hotel
- Hospital







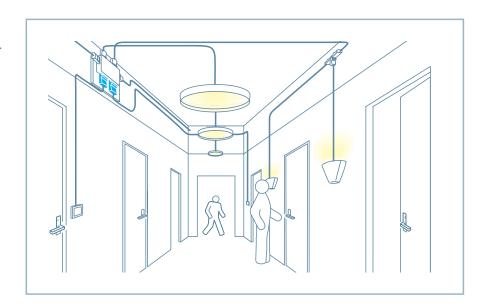


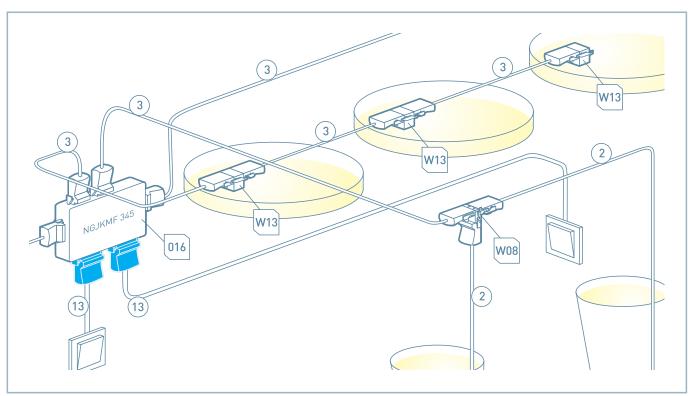
Corridor

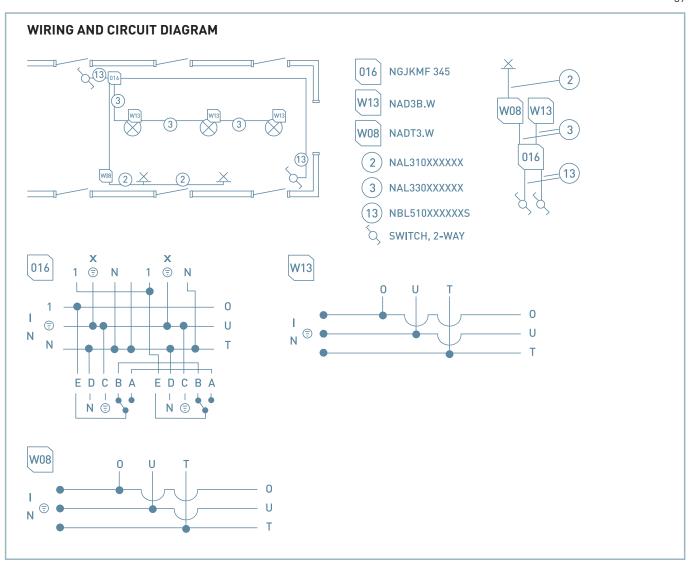
Lighting Installation with T-distribution Block and Power Control Box for Two Switches

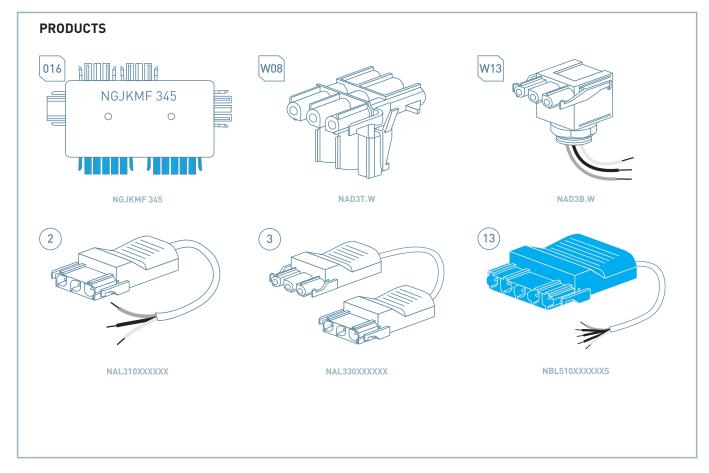
Installation with one phase continuous supply and branching via two change over switches. Outgoings for two separate supplies to light fittings.

This solution can also be used in - Open-plan office







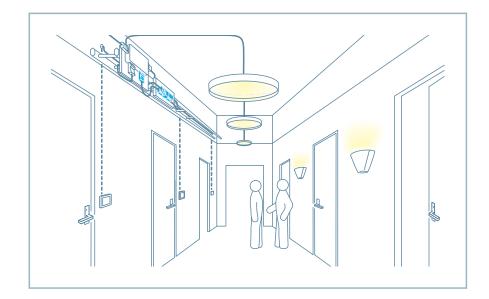


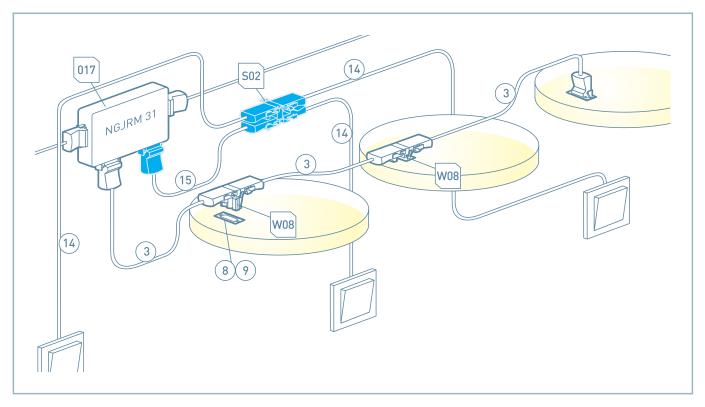
Corridor

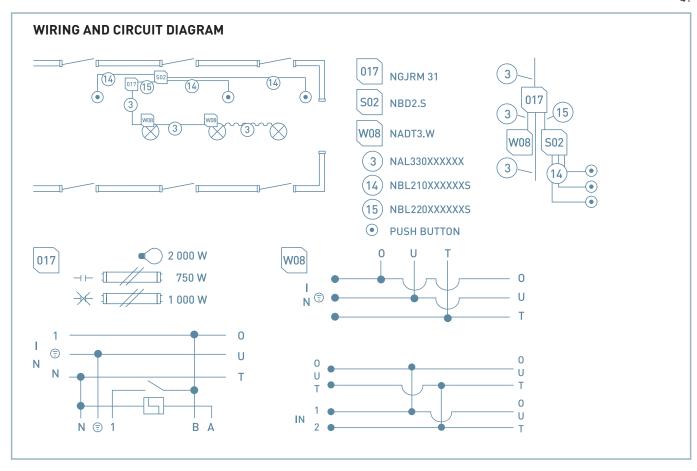
Lighting Installation with T-distribution Block and Relay Box

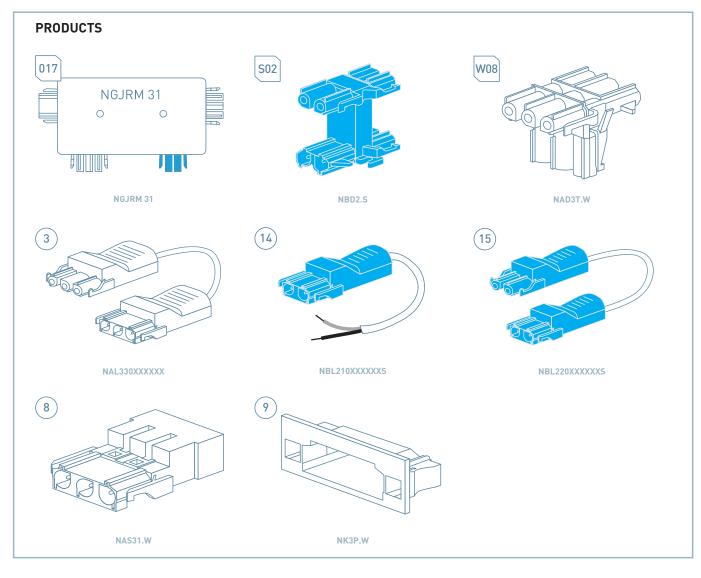
Installation with one phase continuous supply. Parallel connected push switches controls relay which is branching to one one phase outgoing for light fittings.

- Meeting room
- Open-plan office
- School
- Hotel
- Hospital
- Workroom









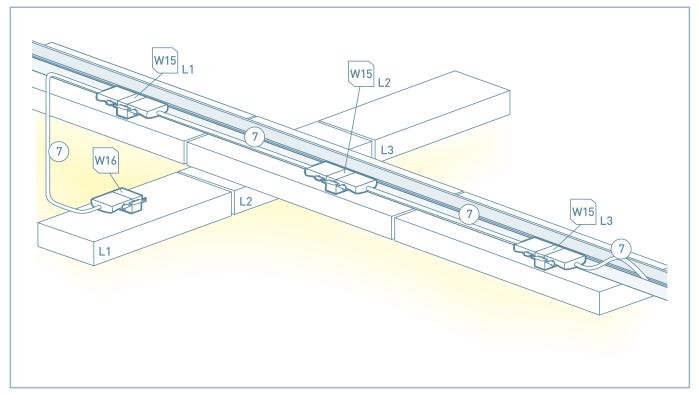
Supermarket

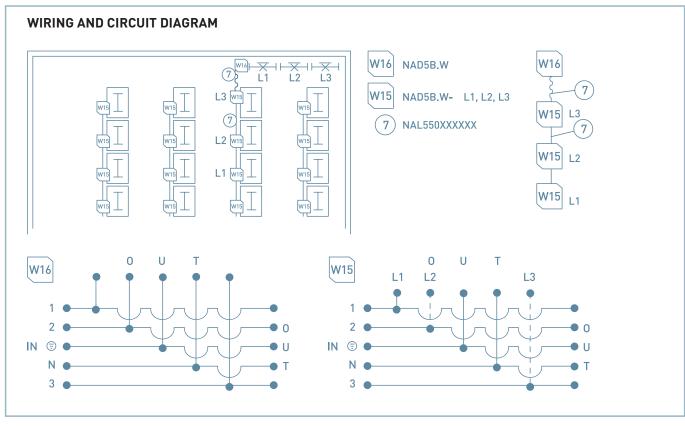
Lighting Installation with Integrated T-distribution Block

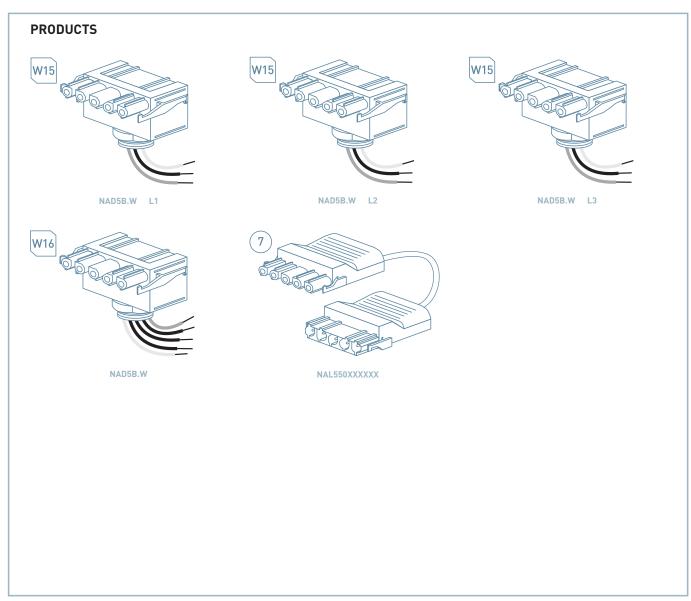
Installation with three phase supply continuous and integrated T-distribution blocks with alternatively one or three phase outgoings.

- Open-plan office
- School









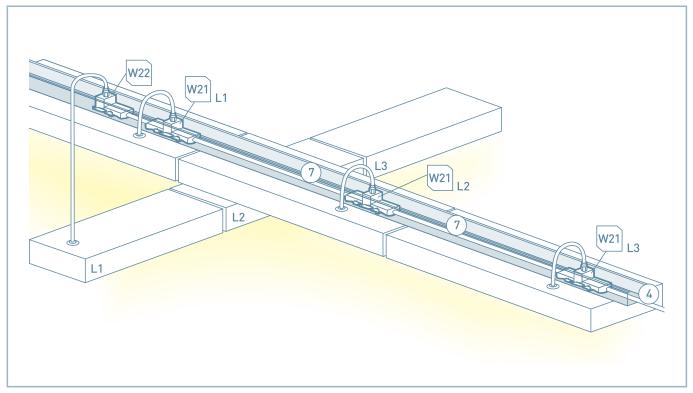
Supermarket

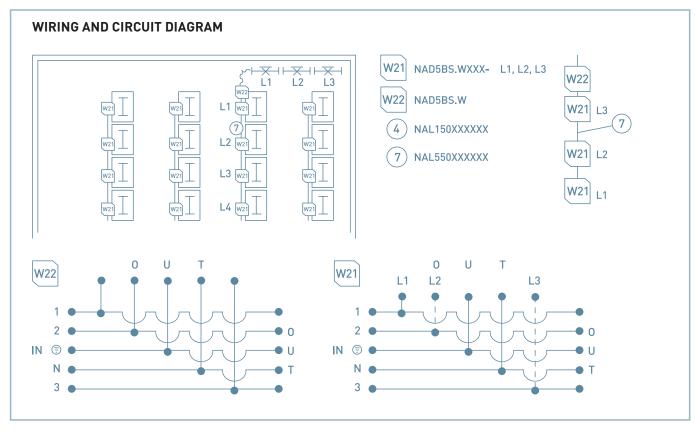
Lighting Installation with Flexible T-distribution Block

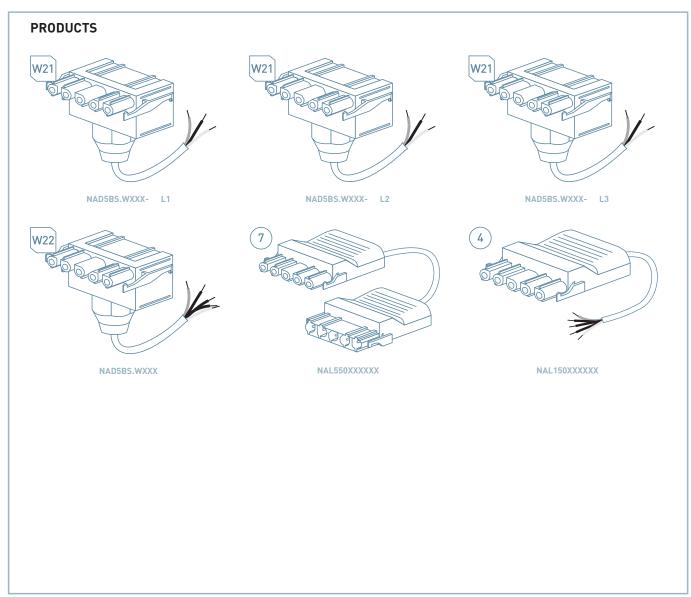
Installation with three phase supply continuous and flexible T-distribution blocks with alternatively one or three phase outgoings.

- Open-plan office
- School







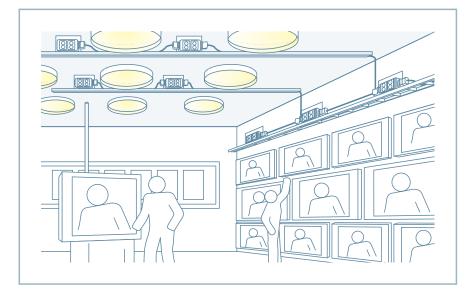


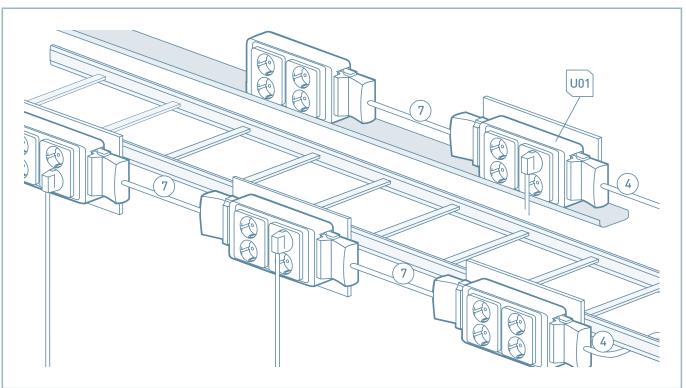
Shop

Socket Outlet Installation

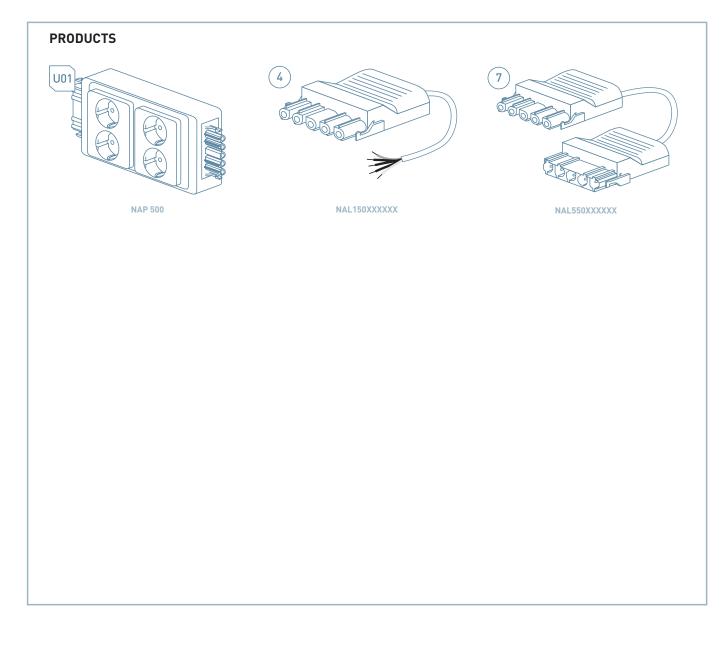
Prefabricated socket boxes with integrated EnstoNet connectors for continuous supply of power.

- Open-plan office School





WIRING AND CIRCUIT DIAGRAM U01 NAP 500 (4 NAL150XXXXXX (7 NAL550XXXXXXX U01 1 2 9 N N N N 3 3

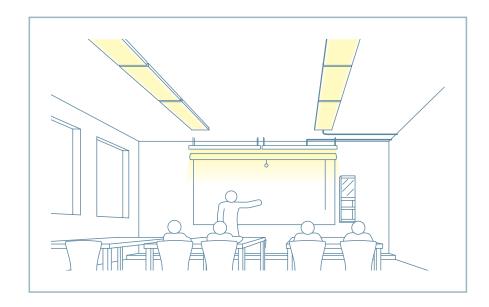


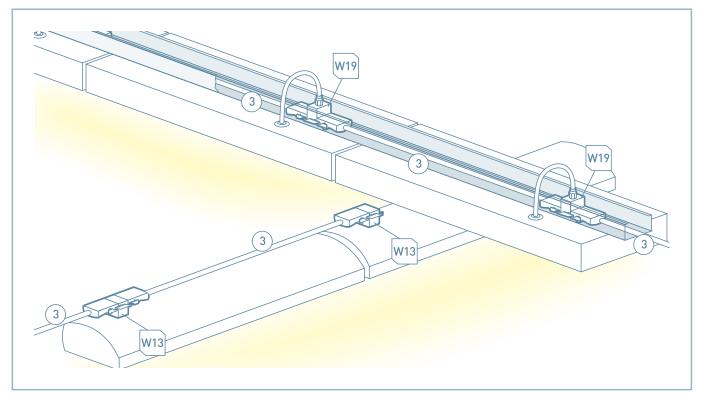
School

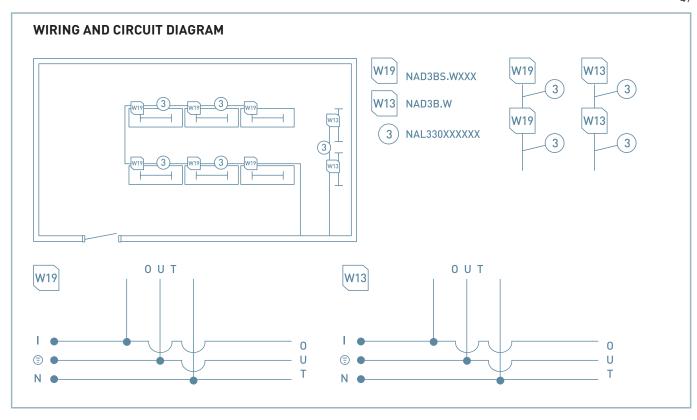
Lighting Installations with Flexible and Fixed T-distribution Block

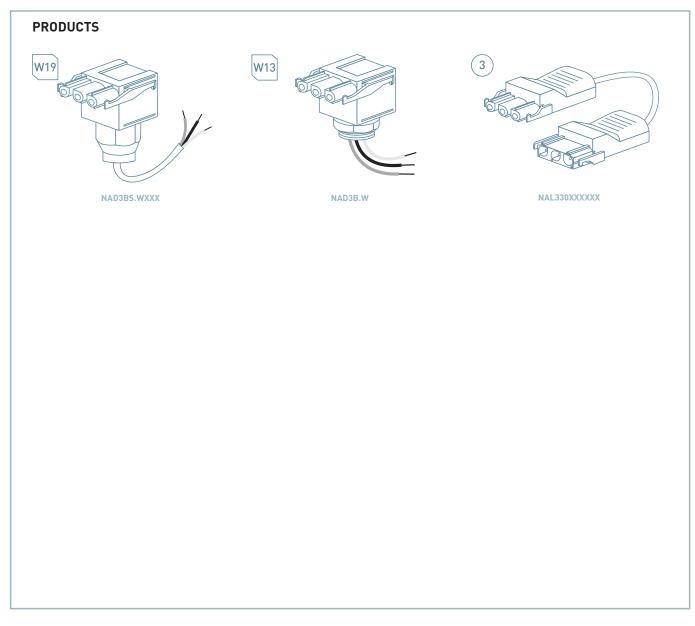
Installation with one phase continuous and integrated or flexible T-distribution block.

- Shop
- Open-plan office







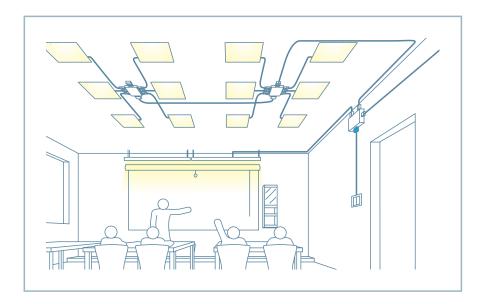


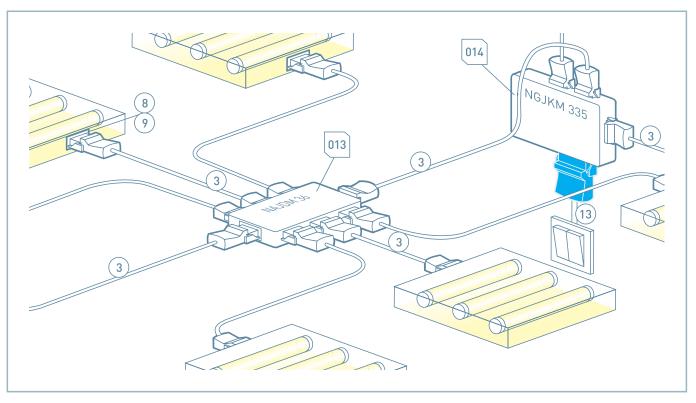
School

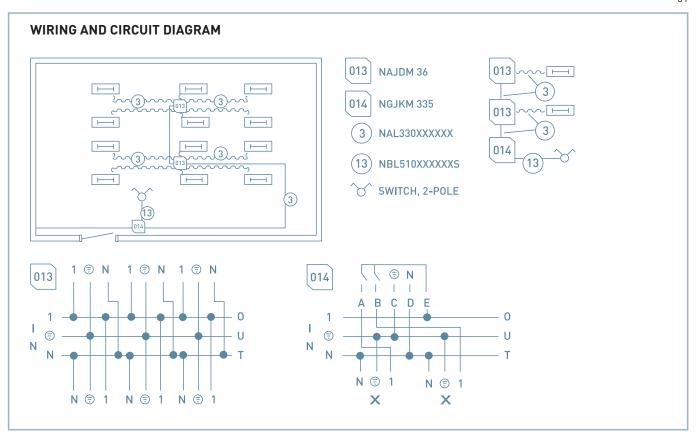
Lighting Installation with Distribution and Power Control Boxes

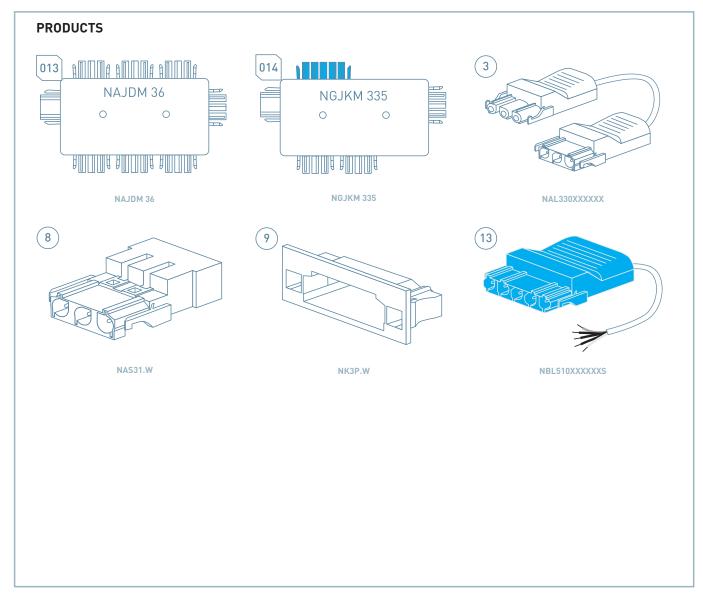
Installation with one phase continuous supply and on/off-switching of two separate branching combined with six outgoings to light fittings.

- Meeting room
- Shop
- Hotel
- Hospital
- Workroom
- Corridor









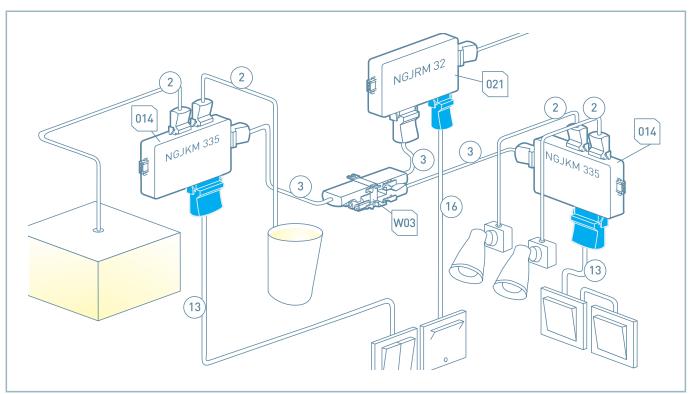
Hotel Room

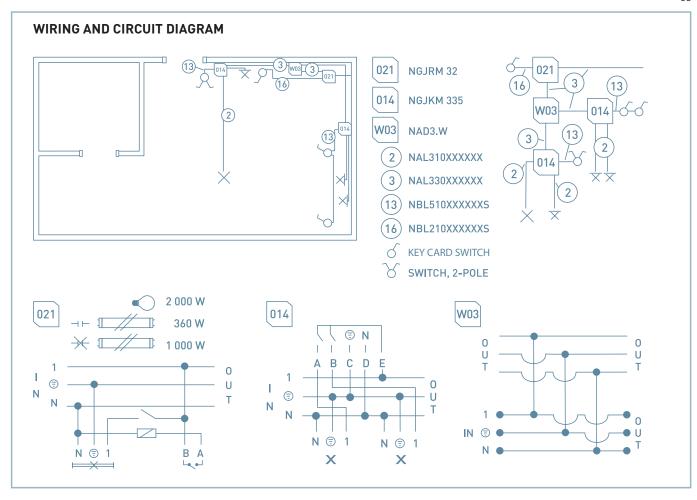
Installation Solution with Relay Switch Box and Power Control Box

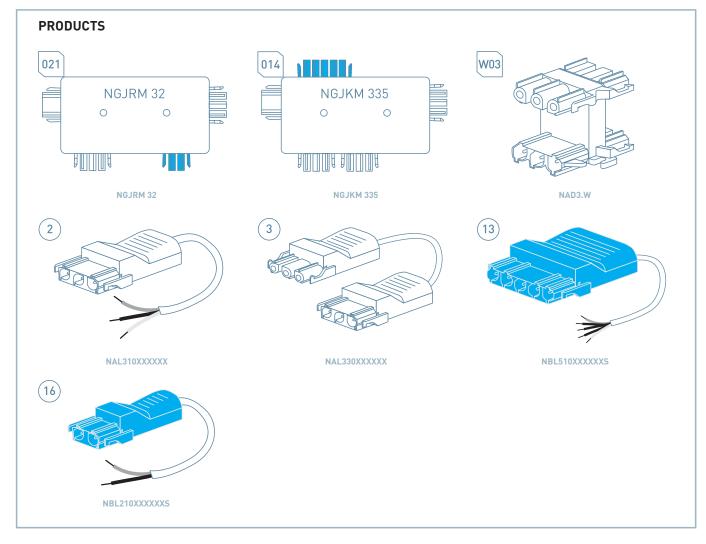
Installation with one phase switch box combined with a key card controlled relay switch box which is working as a main switch.

This solution can also be used in - Cabins in cruise ship









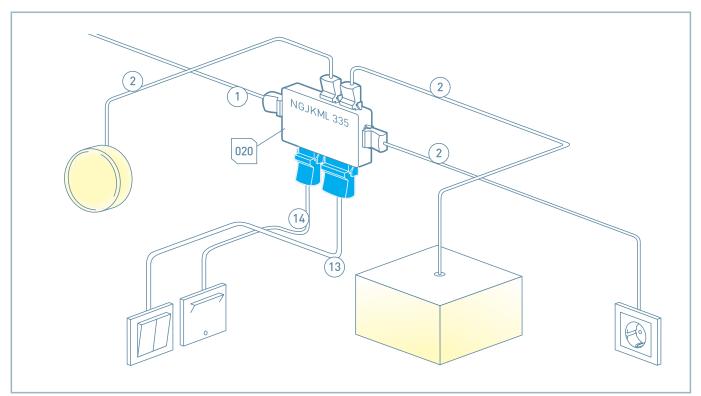
Hotel Room

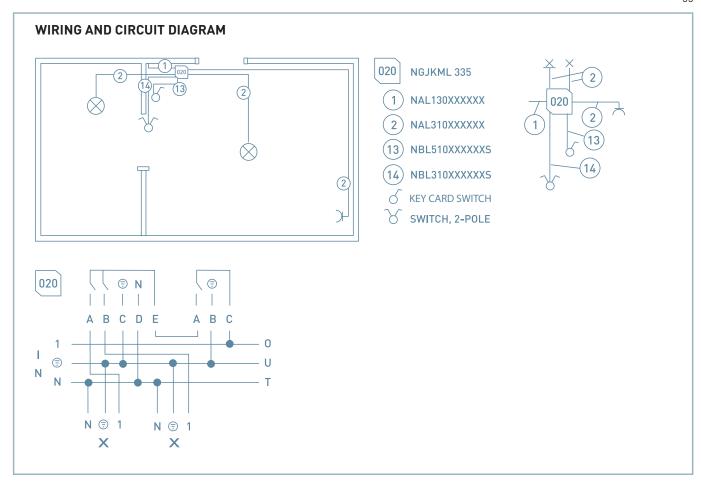
Installation Solution with Power Control Box

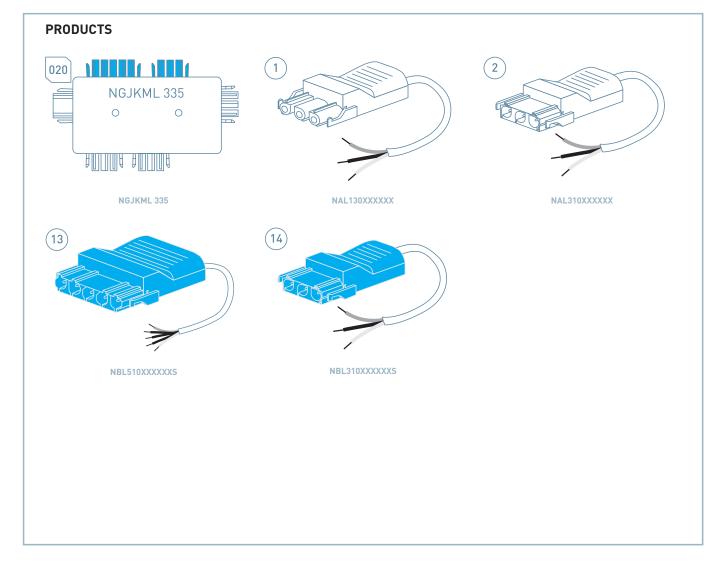
Installation with one phase continuous supply and on/off switching via a key card switch and a double switch. Branching to two separate light fittings.

This solution can also be used in - Cabins in cruise ship

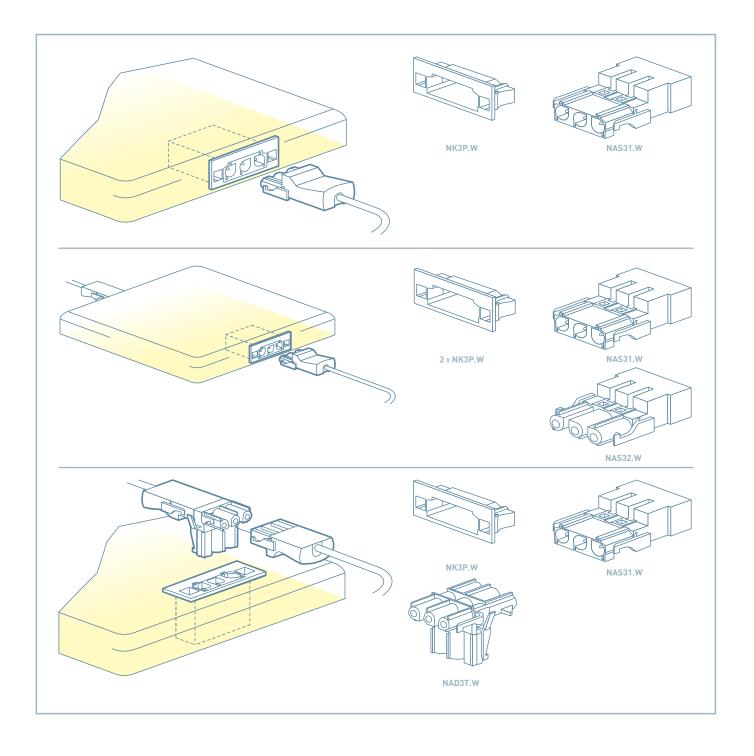


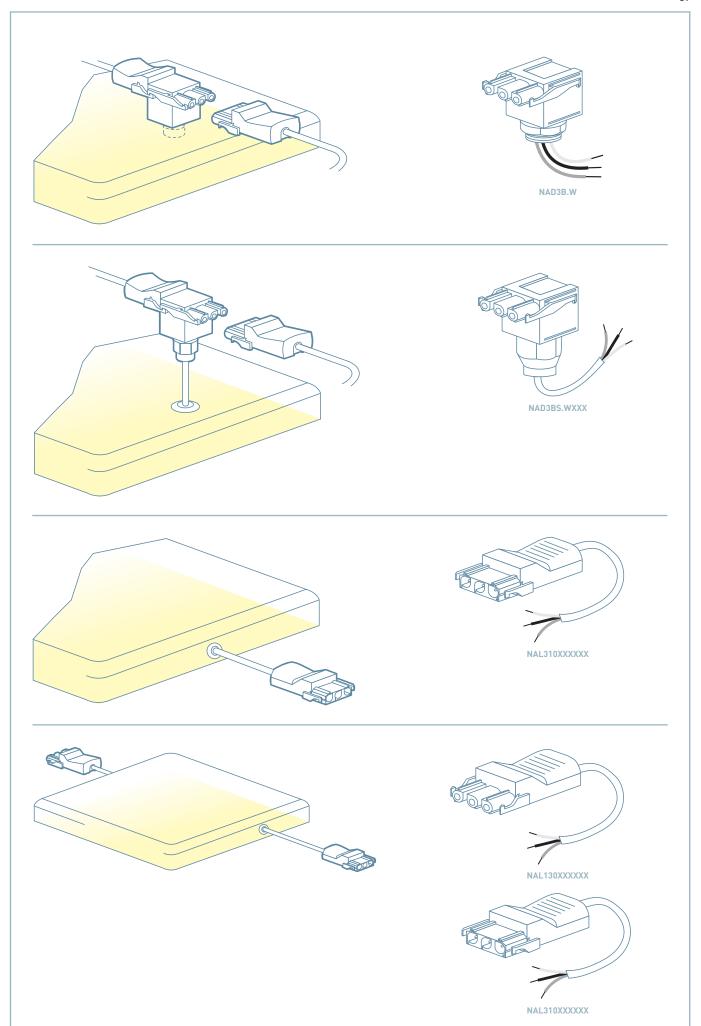






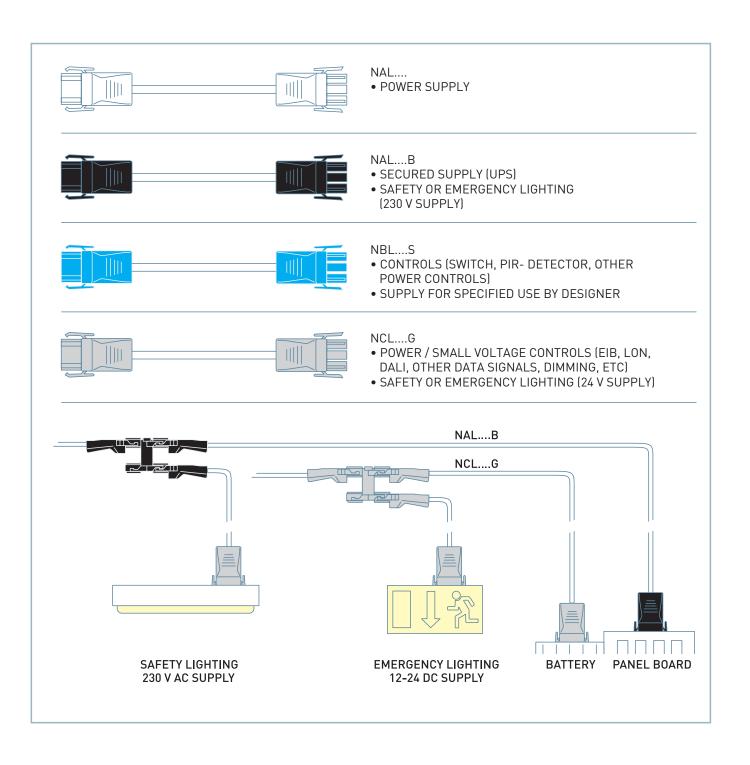
Light Fitting Connections

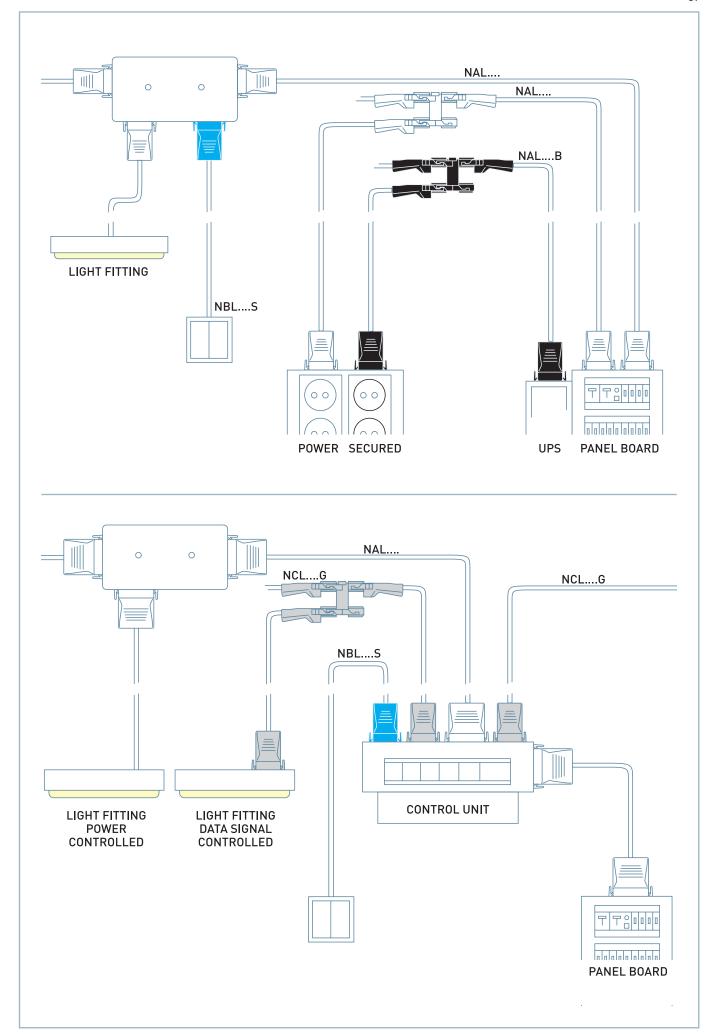




Installation System

Recommended usage or color codes.





Product Code Key for Couplers and Accessories

| N | | | | | | | | N = Net (product group) |
|---|-------------|----------|---|-----|------------------|-------------------|---|--|
| | A B C | | | | | | | A = standard coding (mechanical coding) B = second mechanical coding C = third mechanical coding The standard coding is A, the identifying colour of which is white or black. These are compatible with each other. |
| | | | | | | | | The second mechanical coding is the B coding, identifying the colour blue of beige. The B coding is not mechanically compatible with the A or C coding. |
| | | | | | | | | The third mechanical EnstoNet coding is the C coding, identifying the colour grey or red. The C coding is not compatible with the A or B connectors. |
| | | | | | | | | G as second character shows that e.g. in the junction box there are couplers with both A and B coding. Accessories independent of coding do not have a second character. |
| | | CDEJKLPS | | | | | | C = coupler D = distribution block E = PCB couplers J = junction box K = accessory L = prefabricated lead P = socket outlet box S = screwless coupler |
| | | | 2 | | | | | 2 = 2-poles, etc. |
| | | | | 1 2 | | | | 1 = installation plug (load side) 2 = installation socket (supply side) |
| | | | | | S D K R | | | S = strain-relief In the boxes the additional attribute shows, that: D = distribution box K = switchbox R = switchbox with a relay |
| | | | | | | H M D DL | | H = narrow coupler without latches M = plastic D = strain relief for two cables DL = strain relief for two thinner cables |
| | | | | | | | W | W = white ☐ F = beige |

Product Code Key for EnstoNet Prefabricated Leads

| N | Α | L | 3 | 3 | 0 | M | 1 | 5 | 0 | 1 | 0 | В | |
|---|-------------|---|-----------------------|-----------------------|------------------|--------|-----|--------|---|---|------------|---|--|
| N | | | | | | | | | | | | | N = Net |
| | A B C | | | | | | | | | | | | A = standard coding B = second mechanical coding C = third mechanical coding |
| | | L | | | | | | | | | | | L = lead |
| | | | 1 2 3 4 5 | | | | | | | | | | 1 = stripped, free other end 2 = 2-pole plug 3 = 3-pole plug 4 = 4-pole plug 5 = 5-pole plug |
| | | | | 1 2 3 4 5 | | | | | | | | | 1 = stripped, free other end 2 = 2-pole socket 3 = 3-pole socket 4 = 4-pole socket 5 = 5-pole socket |
| | | | | | 0 1 2 3 | | | | | | | | 0 = all phases connected shows the wirin 1 = L1 connected 2 = L2 connected 3 = L3 connected |
| | | | | | | M T | | | | | | | M = H05VV-F (RKK) cable typ T = S05Z1Z1-F (halogen free) |
| | | | | | | | 1 2 | 5 5 | | | | | 15 = 1,5 mm ² cross-section of conductor 25 = 2,5 mm ² |
| | | | | | | | | | 0 | 1 | 0 5 | | 010 = 1 meter length of the prefabricated lea 015 = 1,5 meters |
| | | | | | | | | | | | | В | B = black colour of the couple G = grey S = blue |

Color Codes and Markings for EnstoNet Connectors

| Product Group | Coding | Colour | Pole Markings | | | | |
|---------------------------|----------|---------------|---------------|-----------|-----------|-------------------------------|--|
| Number of Poles | | | 2 | 3 | 4 | 5 | |
| Prefabricated Leads | Α | white | | 1,⊕, N | | 1, 2,⊕, N, 3 | |
| | | black | | 1,⊕, N | | 1, 2,⊕, N, 3 | |
| | В | blue | A, B | A, B, C | | A, B, C, D, E | |
| | С | grey | | a+,⊕ , b- | | 1, N,⊕,a+, b- | EQUAL STATE OF THE PARTY OF THE |
| Distribution Blocks | Α | white | | | | | |
| | _ | black | | | | | |
| | В | blue | | | | | |
| | С | grey | | | | | |
| | | red | | | | | |
| T-Connectors | Α | white | | | | | |
| | <u> </u> | black | | | | | 650 |
| | B C | blue | | | | | OF CATH |
| | C | grey | | | | | |
| T-Connectors with wires | Α | red white | | | | | |
| 1-Connectors with wires | А | black | | | | | |
| | В | blue | | | | | |
| | С | grey | | | | | |
| | O | red | | | | | |
| T-Connectors with cable | A | white | | | | | |
| T Goilliectors with cable | , , | black | | | | | |
| | В | blue | | | | | |
| | С | grey | | | | | |
| nstallation Couplers | Α | white | 1, N | 1,⊕, N | 1,⊕, N, 2 | 1, 2,⊕, N, 3 | <u> </u> |
| | | black | 1, N | 1,⊕, N | 1,⊕, N, 2 | 1, 2,⊕, N, 3 | |
| | В | blue | A, B | A, B, C | | A, B, C, D, E | |
| | | beige | | A, B, C | | A, B, C, D, E | |
| | С | grey | a+, b- | a+,⊕, b- | | 1, N,⊕, a+, b- | |
| | | red | | 1,⊕, N | | 1, 2,⊕, N, 3 | |
| Screwless Installation | Α | white | 1, N | 1,⊕, N | 1,⊕, N, 2 | 1, 2,⊕, N, 3 | |
| Couplers | | black | | | 1,⊕, N, 2 | 1, 2,⊕, N, 3 | |
| | В | blue | A, B | A, B, C | | | |
| | | beige | | A, B, C | | | |
| | С | grey | a+, b- | a+,⊕, b- | | | |
| DOD 0 1 (C 1 1) | Α. | red | 4 N | 1,⊕, N | 1000 | 1 0 0 N 0 | |
| PCB-Couplers (Socket) | A | white | 1, N | 1,⊕, N | 1,⊕, N, 2 | 1, 2,⊕, N, 3 | |
| | В | blue | A, B | A, B, C | | A, B, C, D, E | 400 |
| PCB-Couplers (Plug) | C A | grey white | a+, b- | a+,⊕, b- | | 1, 2,⊕, N, 3 | |
| rob-couplers (riug) | В | blue | | | | 1, 2,⊜, N, 3 A, B, C, D, E | |
| | ь | blue | | | | A, D, C, D, E | |





BUILDING TECHNOLOGY

ENSTO ELECTRIC OY VECKJÄRVENTIE 1, P.O. BOX 110 FI-06101 PORVOO, FINLAND TEL. +358 204 76 21 ELECTRICGENSTO.COM WWW.ENSTO.COM