

M²DERN EXPO

SHELVES LIGHTING SYSTEM «M-LIGHT»

TECHNICAL CATALOG

Content

1. General information 4

2. LED-fitting..... 5

3. Voltage transducer 6

4. Power track 7

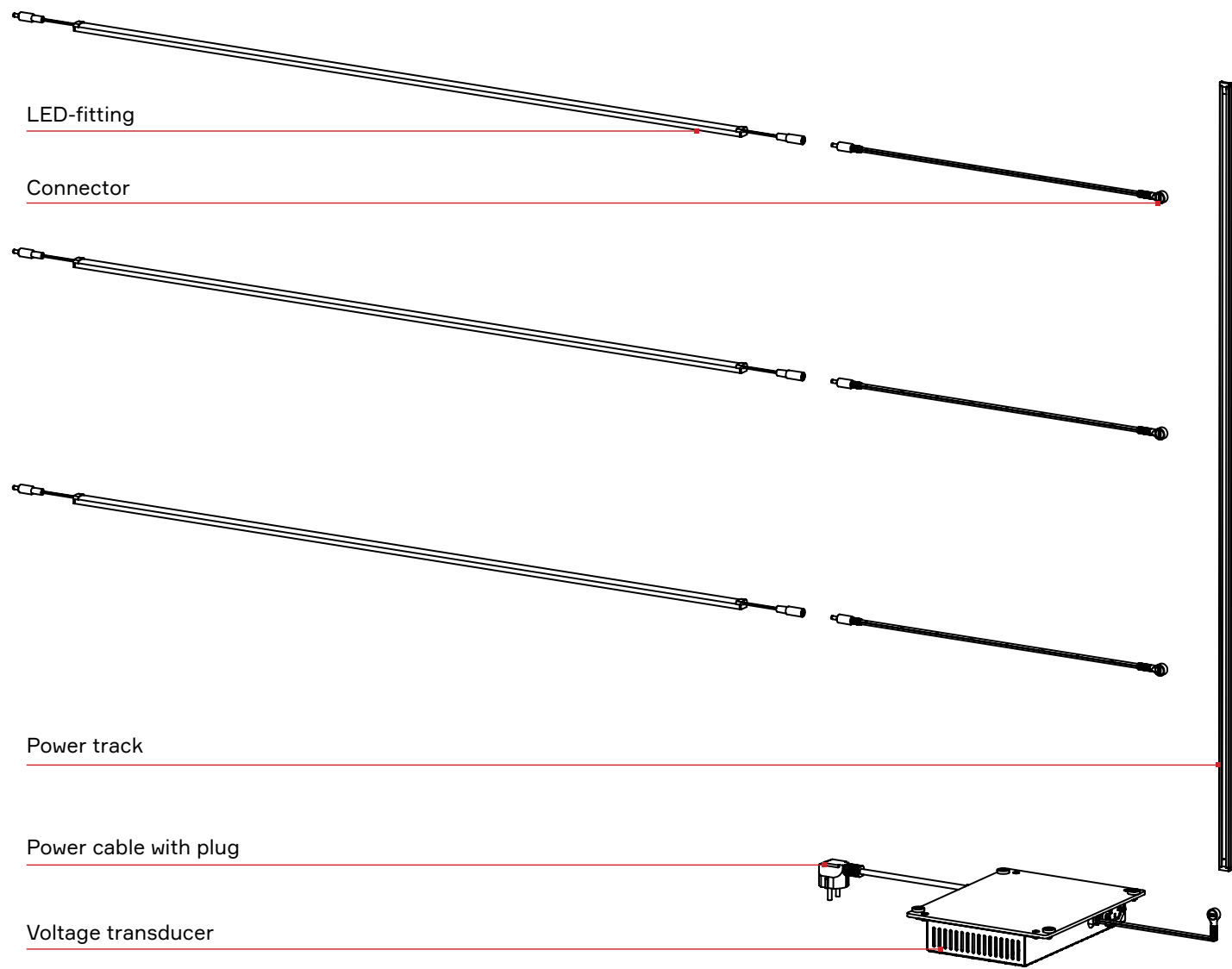
5. Connector..... 7

6. Lighting system calculation 8

7. Examples of complete set of lighting system of racks of different types..... 13

1. GENERAL INFORMATION

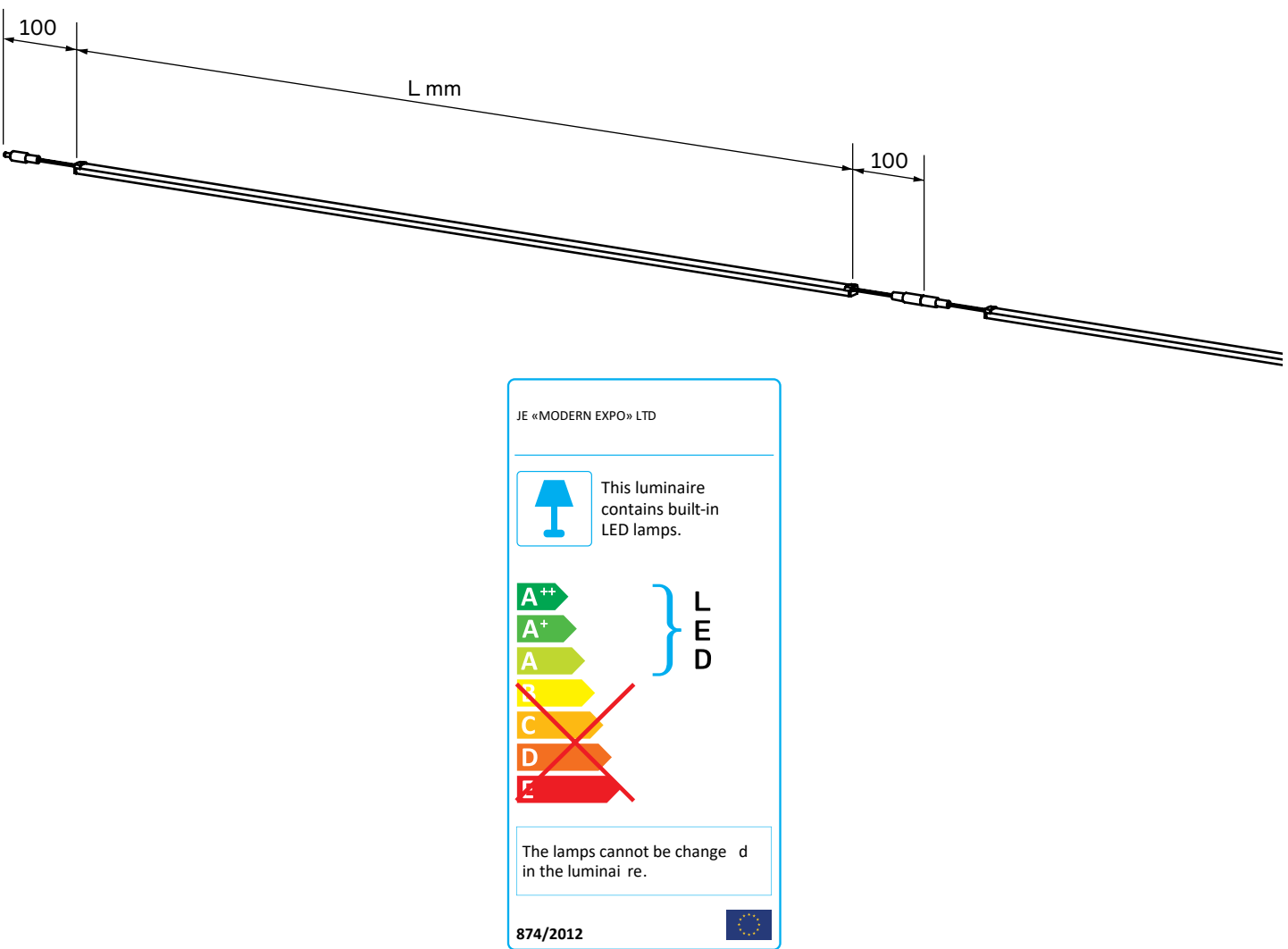
M-Light — lighting system for trade s helving The system is based on high quality illumination Easy installation of elements with the help of magnets Convenient connection High energy efficiency For all retail formats Compatible with KM and FS shelving systems (with metal back panels).



2. LED-FITTING

Tab. 1

3000 K		6500 K	
L, mm	Item	L, mm	Item
600	1059-444-00	600	1059-447-00
950	1059-445-00	950	1059-448-00
1200	1059-446-00	1200	1059-449-00

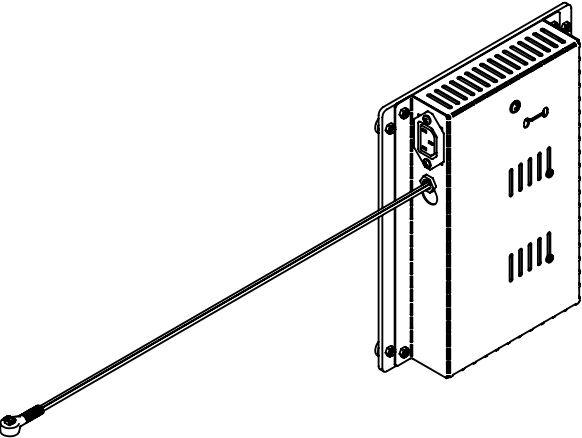


Holders 4001-134-38 (minimum 2 per lamp) must be ordered for mounting the LED luminaire on the chipboard shelf. Mounting screws are not included.

It is recommended to connect no more than 3 LED lights (950 and 1200 mm) and no more than 4 LED lights (600 mm) in series.

For shelves with a length of 665 mm we use LED fitting 600 mm, for shelves with a length of 1000 mm we use LED fitting 950 mm, for shelves w ith a length of 1250 and 1330 mm we use LED fitting 600 + 600 mm or 1200 mm.

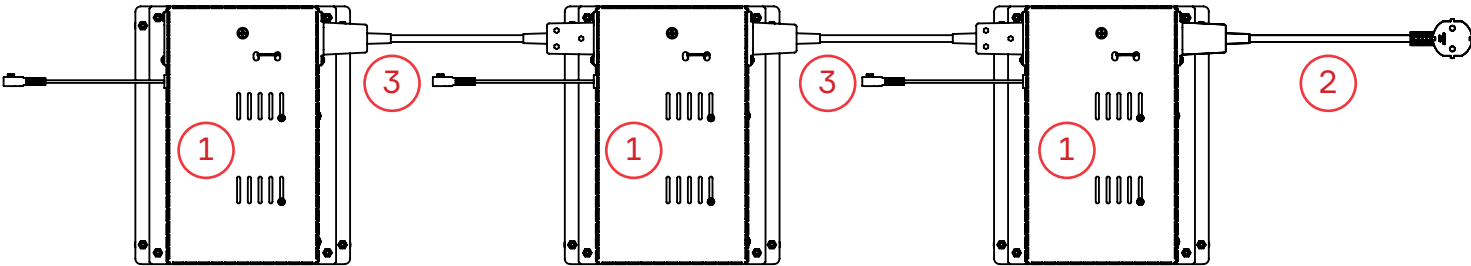
3. VOLTAGE TRANSDUCER



Tab. 2

Amperage, A	Item
3.2	1038-329-00
6.5	1038-330-00
8.8	1038-331-00
14.6	1038-274-00

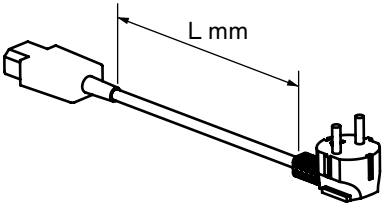
Serial connection of electrical units: 1) Voltage tranducer; 2) Power cable with plug; 3) Power connecting cable



Tab. 3

Item	Maximum number of electrical components
1038-329-00	10
1038-330-00	6
1038-331-00	4
1038-274-00	3

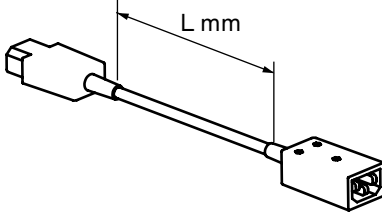
Power cable with plug



Tab. 4

L, mm	Item
1800	4100-094-99
3000	9900-159-84
4500	9900-164-23

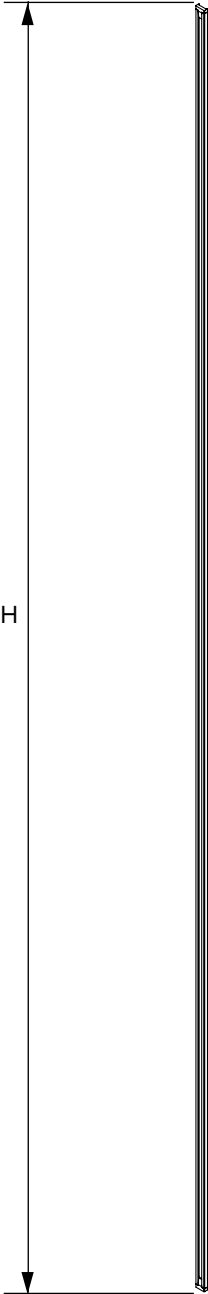
Power connecting cable



Tab. 5

L, mm	Item
1800	4100-900-23
3000	4100-900-32
4500	4100-900-27

4. POWER TRACK



Tab. 6

H, mm	Item
2000	4001-103-64

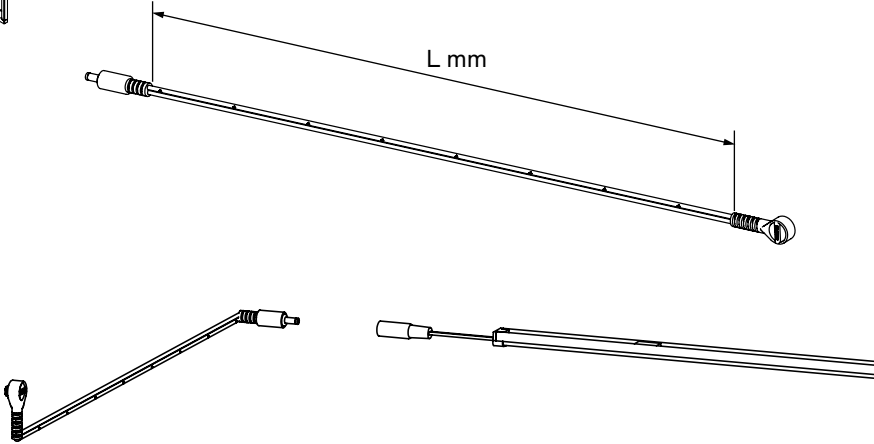


Maximum current 10 A per power track

5. CONNECTOR

Tab. 7

L, mm	Item
400	4001-374-52
600	4001-375-52



For shelves with a width of 200, 300, 400, 500 mm we use a connector 400 mm.
For shelves 600, 700 mm we use the 600 mm connector.

6. LIGHTING SYSTEM CALCULATION

We advise you to graphically depict the elements of the lighting system according to the task. To calculate the necessary elements of the M Light lighting system, you need:

- 1. Depending on the type of product, select the desired light temperature (warm 3000K or cold 6500K).
- 2. Depending on the length of the shelves, choose the required length of LED lamps.
- 3. Determine the required number of lamps.
- 4. Choose an electrical unit depending on the length and the required number of lamps:
 - 4.1. If to one electric unit it is necessary to connect fixtures of identical length usability of data Table. 8.

Tab. 8

Number of LED lamps that can be connected to one electrical unit				
Lamp length, mm	Voltage transducer			
	1038-329-00	1038-330-00	1038-331-00	1038-274-00
600	1 - 9	10 - 19	20 - 26	27 - 36
950	1 - 6	17 - 12	13 - 17	18 - 22
1200	1 - 5	6 - 10	11 - 14	15 - 18

For example: for 10 lamps of 600 mm the electric unit 1038 330 00 for 16 lamps of 1200 mm the electric unit 1038-274-004.

- 4.2. If to one electric unit it is necessary to connect lamps of various length usability of data Table. 9 and Table. 10

Tab. 9

Lamp length L, mm	Electricity consumption, A
600	0,27
950	0,42
1200	0,53

Tab. 10

Voltage transducer	Maximum allowable current, A
1038-329-00	3,2
1038-330-00	6,5
1038-331-00	8,8
1038-274-00	14,6

The basic rule at this stage: the total current of all luminaires connected to one electrical unit should not exceed the maximum allowable current for this electrical unit Tab. 10.

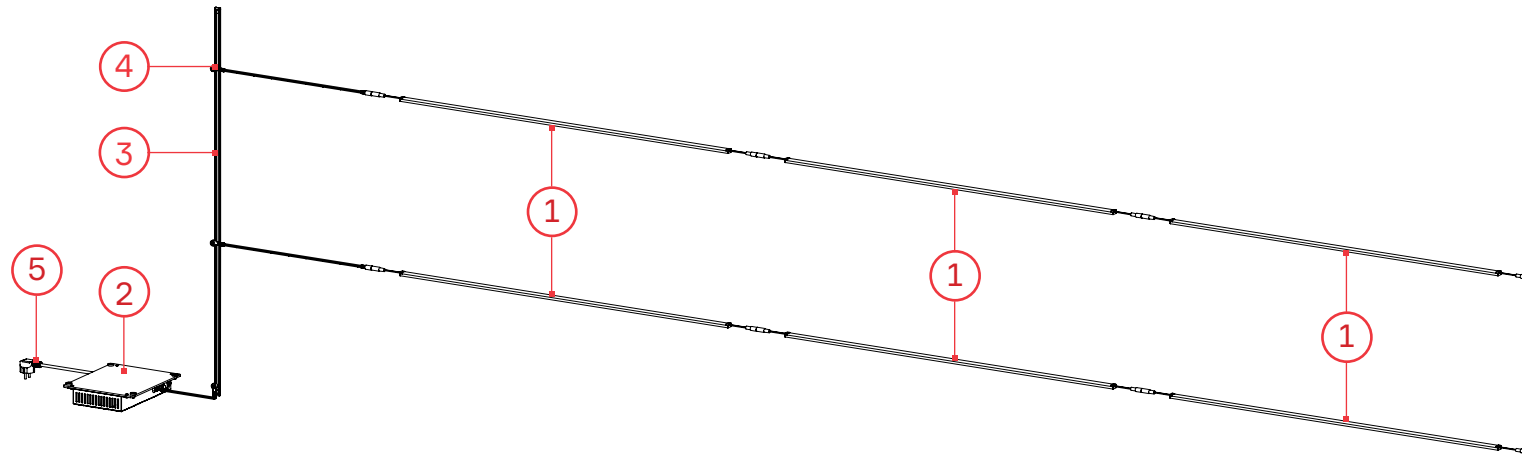
- 5. Select the required number of power track according to the scheme of the lighting system.
- 6. Depending on the depth of the shelves, choose the required length of connectors.
- 7. Determine the required number of connectors:
 - if we illuminate only one rack, the number of connectors is equal to the number of shelves that need to be illuminated;
 - if we illuminate several racks placed in one line (illuminations are connected in series) the connectors are used only for th e first rack in the building.

- 8. Choose the length of the power cable with the plug for connecting the electrical unit to the mains, depending on the distance of the socket.
- 9. If there are several racks in the building, you can use a series connection of electrical units.
- 10. To connect the electrical units to each other, you need to choose a connecting power cable of the required length.

Example 1.

Choose a lighting system for racks according to the following data: Three racks placed in one line, wall construction. It is necessary to illuminate 2 shelves, which are located at the same level in height. Shelf width 1000 mm, shelf depth 500 mm. Goods on the shelves – food.

Schematically depict the connection diagram as follows:



1. Choose the light temperature: for food we recommend warm light 3000K.
2. Choose the length and number of illumination: for a shelf of 1000 mm – length 950 mm, the required number – 6 pcs. Article: **1059-445-00** (Tab. 1).
3. We select the electrical unit: since all the lamps are the same length, we use Tab. 8: for 6 lamps of 950 mm the electric unit **1038-329-00** is suitable.
4. In this lighting scheme we use one power track **4001-103-64** (Tab. 6).
5. For a shelf depth of 500 mm, select the appropriate connector **4001-374-52** (Tab. 7).
6. Determine the number of connectors: because we use a series connection of lamps, the connectors will be used only for the first rack. Therefore, the required number of connectors is 2 pcs.
7. Choose a power cable with a plug – **4100-094-99** depending on the desired length (Tab. 4).

Therefore, to illuminate the shelves according to the conditions of this task, the following elements will be required

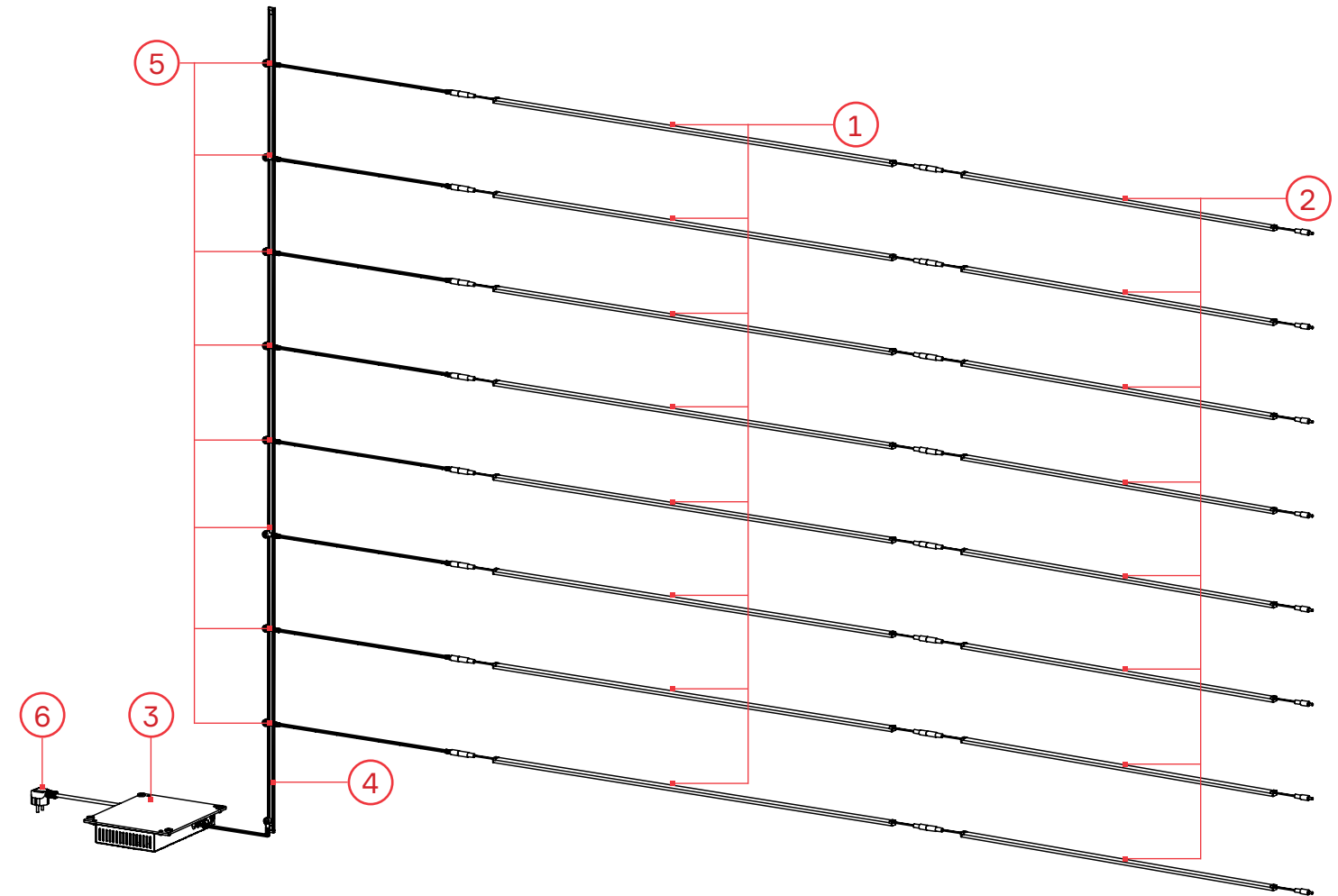
- 1) **1059-445-00** KM SV 24V 3000K 950 LED fitting 24V M Light – 6 pcs.
- 2) **1038-329-00** KM ELV 2P 24V 3,2A Electrical unit for two connections – 1 pc.
- 3) **4001-103-64** Power track 2000 mm, HC series, black, 10A, 5v 220v – 1 pc.
- 4) **4001-374-52** C onnector 400 mm, HC series, black, with magnets – 2 pcs.
- 5) **4100-094-99** Power cable Gembird PC 186 VDE, 1.8 m, section 3*0,75 (electric plug) – 1 pc.

Example 2.

Choose a lighting system for racks according to the following data:

Two racks placed in one line, on which it is necessary to illuminate 8 shelves. The shelves are located at the same level in height. Shelf width of one rack 1000 mm, another rack – 665 mm, shelf depth 600 mm. Goods on the shelves – cosmetics.

Schematically depict the connection diagram as follows:



1. Choose the temperature of light: for non food products we recommend cold light 6500K.
2. Choose the length and number of illuminations:
 - for a shelf of 1000 mm – length is 950 mm, necessary quantity – 8 pieces. Article: **1059-448-00** (Tab. 1);
 - for a shelf of 665 mm – length is 600 mm, necessary quantity – 8 pieces. Article: **1059-447-00** (Tab. 1).
3. We select the electrical unit: since we have illuminations of different lengths, we use Table. 9 and Table. 10.

Calculate the total current consumption for 8 lamps of 600 mm and 8 lamps of 950 mm:
 $8 \times 0,27 + 8 \times 0,42 = 5,52 \text{ A}$.

Therefore, for this case, choose the electrical unit **1038-331-00** (with the maximum allowable current 7,05 A. Total current consumption $5,52 \text{ A} \leq$ the maximum allowable current 7,05 A).

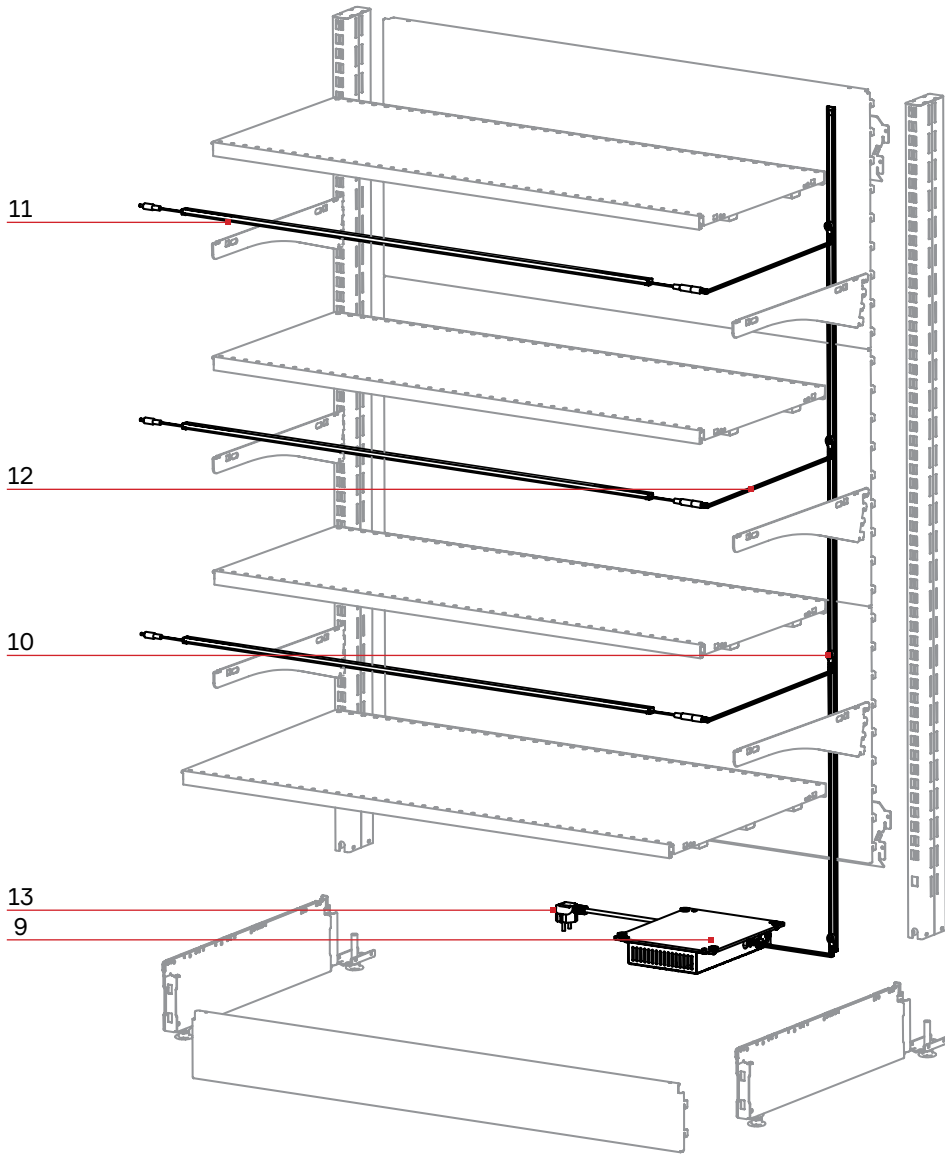
4. In this scheme of lighting we use one power track **4001-103-64** (Tab. 6).

5. For a shelf depth of 600 mm, select the required connector **4001-375-52** (Tab. 7).
6. Determine the number of connectors: because we use a series connection of lamps, the connectors will be used only for the first rack. Therefore, the required number of connectors is 8 pcs.
7. Choose a power cable with a plug – **9900-159-84** depending on the desired length Tab. 4.
- Therefore, the following elements will be needed to illuminate the shelves according to the conditions of this task:
- 1) **4001-103-62** LED fitting 950 mm, hb 6500K (HC series, SMD3014, 24V) – 8 pcs.
 - 2) **4001-103-61** LED fitting 600 mm, hb 6500K (series HC, SMD3014, 24V) – 8 pcs.
 - 3) **1038-331-10** KM ELV 2P 24V 8,8A Electrical unit for two connections (9005) – 1 pc.
 - 4) **4001-103-64** Power track 2000 mm, HC series, black, 10A, 5v 220v – 1 pc.
 - 5) **4001-375-52** Connector 600 mm, HC series, black, with magnets – 8 pcs.
 - 6) **4100-094-99** Cable of 3,0 m (PVS 3*0,75, plug with grounding, VDE plug) – 1 pc.

7. EXAMPLES OF COMPLETE SET OF LIGHTING SYSTEM OF RACKS OF DIFFERENT TYPES

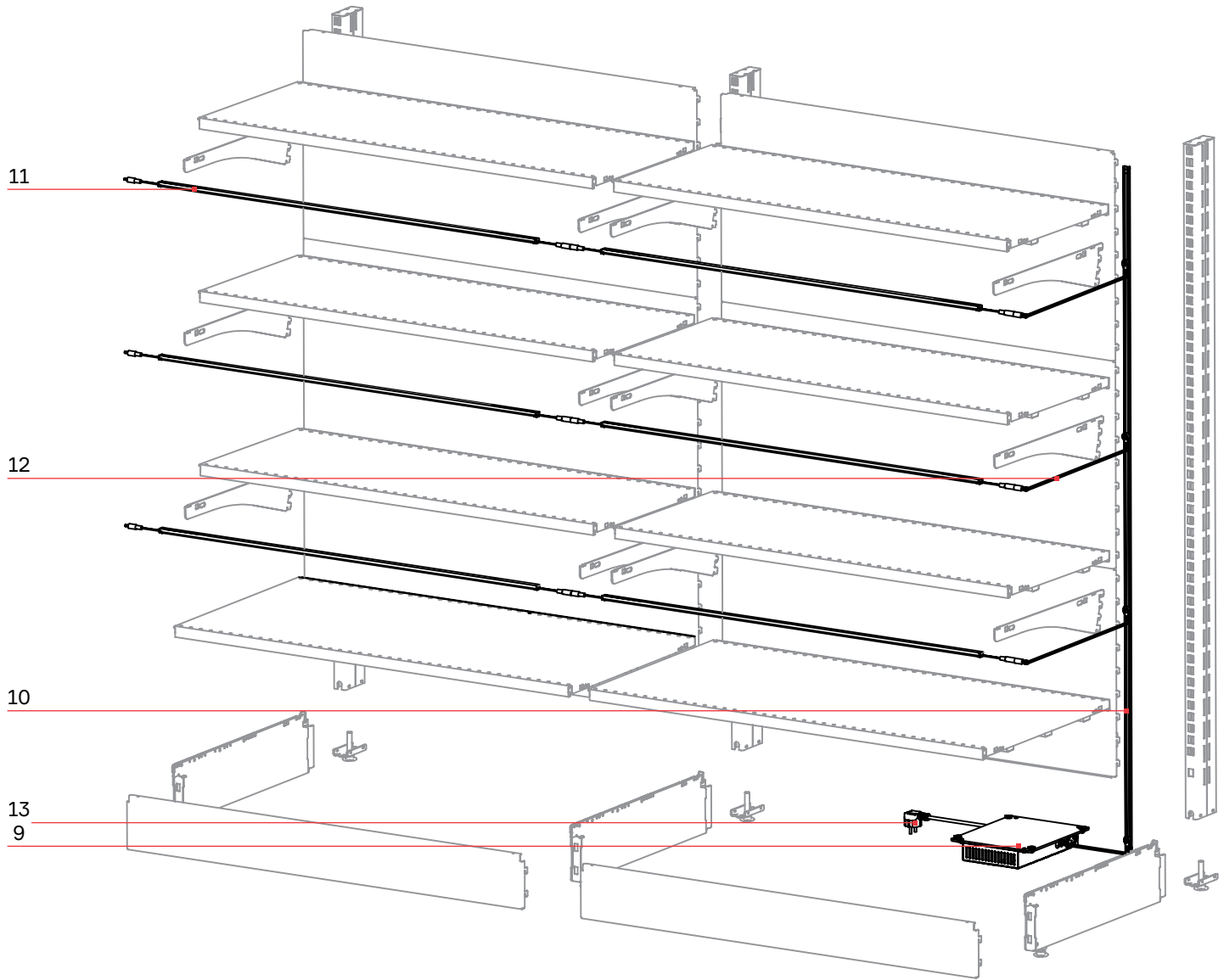
Wall unit with back panels

Nº	Name of element	pcs.
1	Upright	2
2	Insert	2
3	Base foot	2
4	Shelf	1
5	Shelf	3
6	Universal bracket	6
7	Back panel	3
8	Plinth	1
9	Voltage transducer	1
10	Power track	1
11	LED fitting	3
12	Connector	3
13	Power cable with plug	1



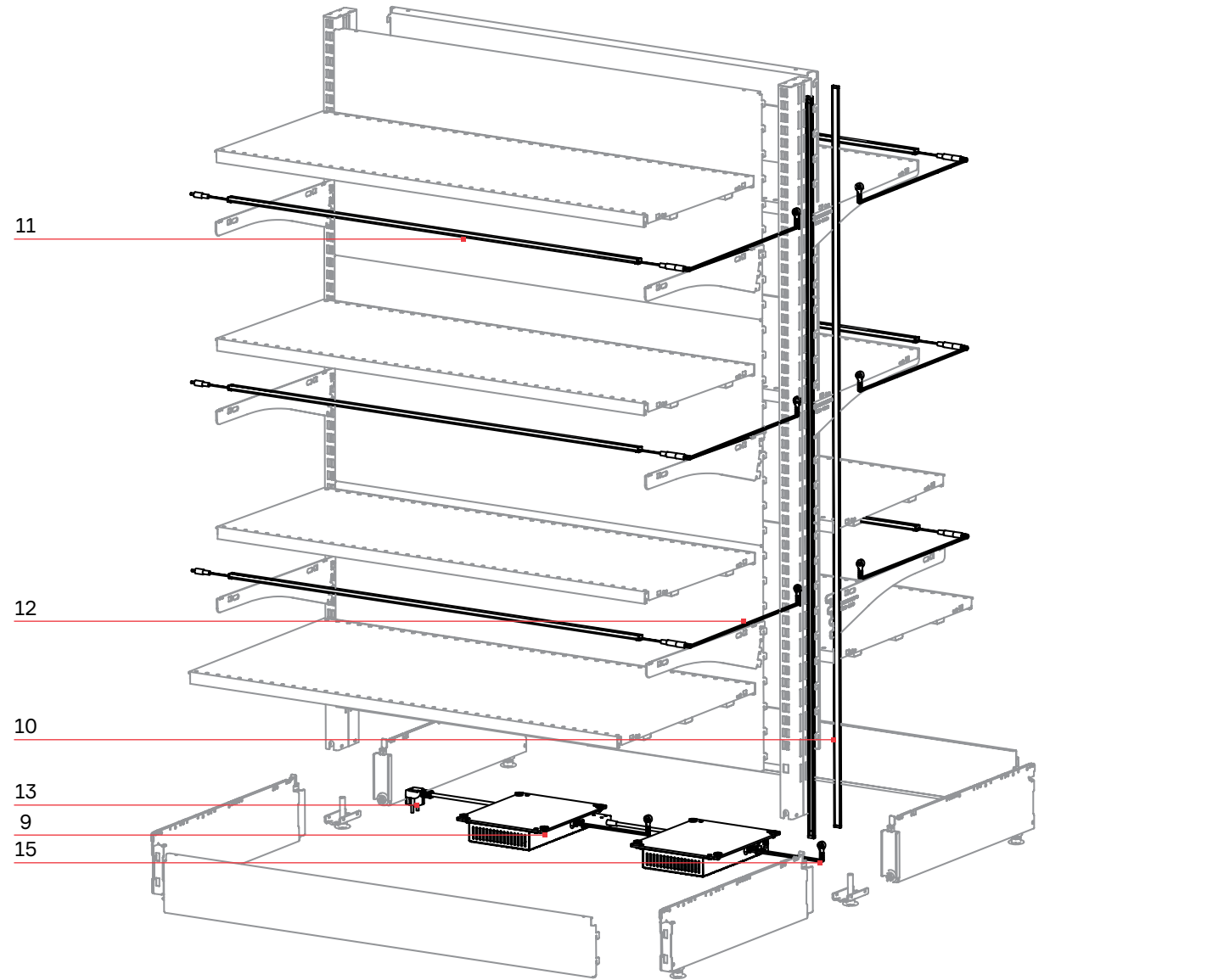
Wall units with back panels

Nº	Name of element	pcs.
1	Upright	3
2	Insert	3
3	Base foot	3
4	Shelf	2
5	Shelf	6
6	Universal bracket	12
7	Back panel	6
8	Plinth	2
9	Voltage transducer	1
10	Power track	1
11	LED fitting	6
12	Connector	3
13	Power cable with plug	1



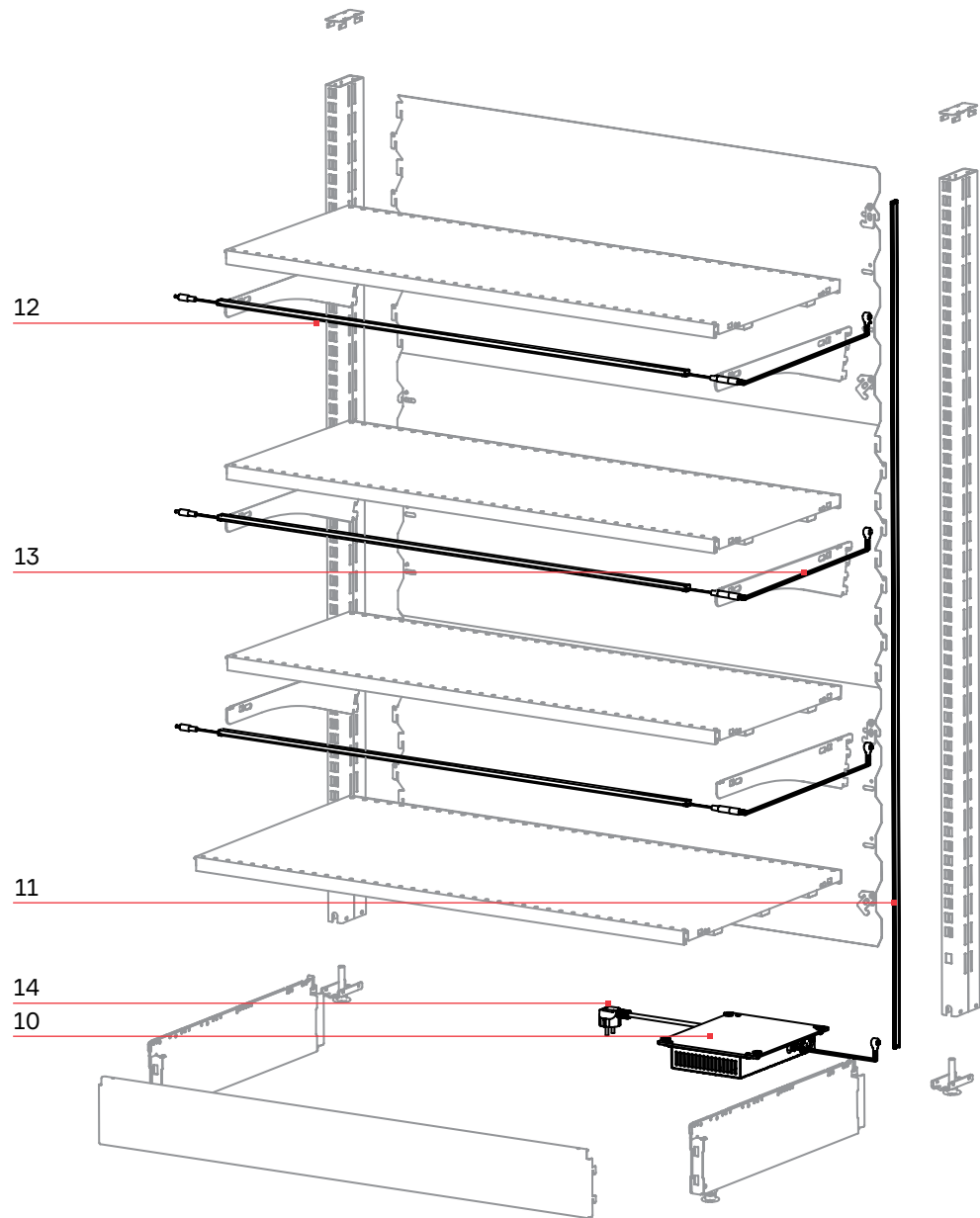
Gondola unit with back panels

Nº	Name of element	pcs.
1	Upright	2
2	Insert	2
3	Base foot	4
4	Shelf	2
5	Shelf	6
6	Universal bracket	12
7	Back panel	6
8	Plinth	2
9	Voltage transducer	2
10	Power track	2
11	LED fitting	6
12	Connector	6
13	Power cable with plug	1
14	Power connecting cable	1



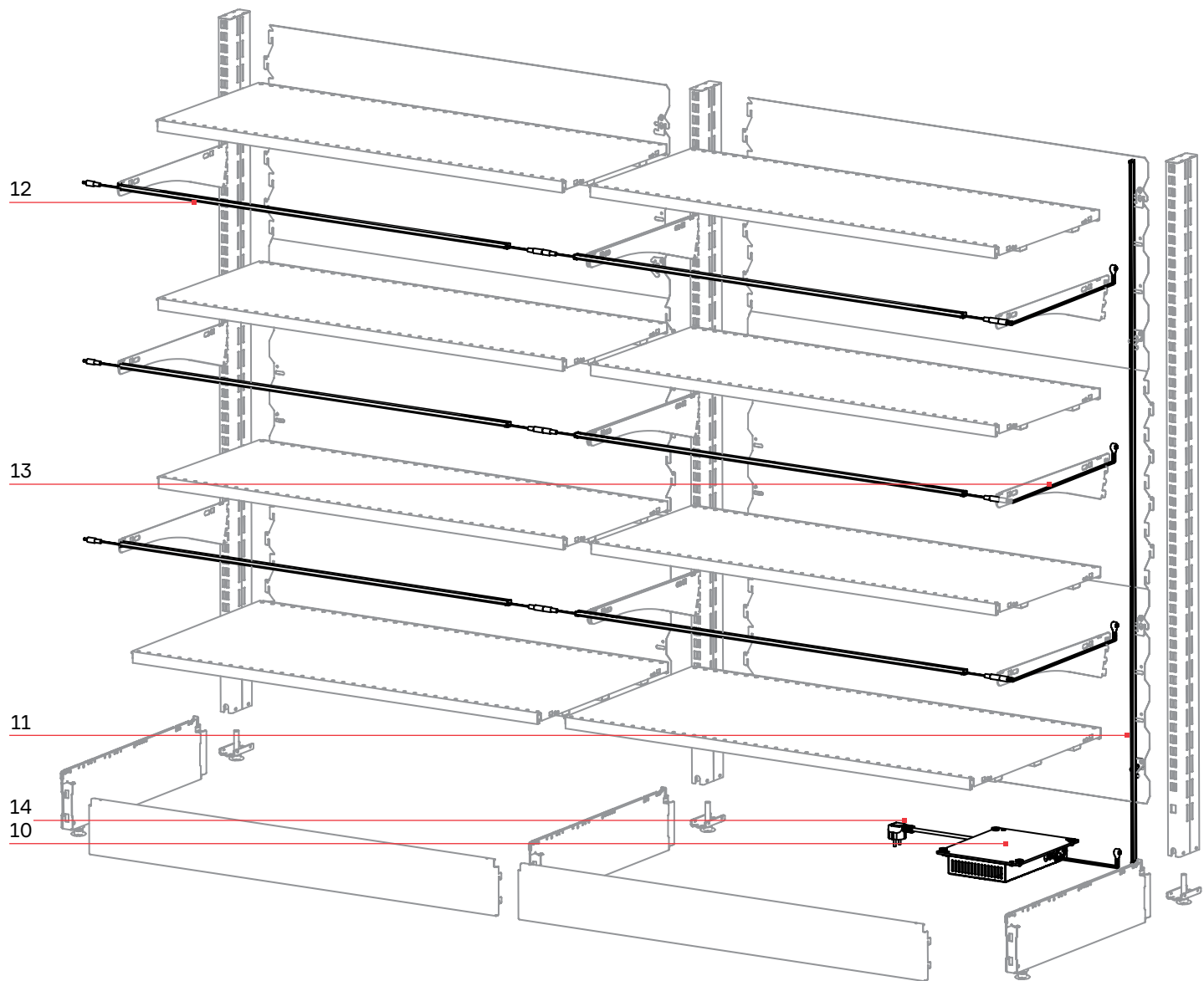
Wall unit with middle back panels

Nº	Name of element	pcs.
1	Upright	2
2	Insert	2
3	Base foot	2
4	Shelf for middle back panel	1
5	Shelf for middle back panel	3
6	Universal bracket	6
7	Middle back panel	3
8	Upright top plug	2
9	Plinth	1
10	Voltage transducer	1
11	Power track	1
12	LED fitting	3
13	Power supply connection cable	3
14	Power cable with plug	1



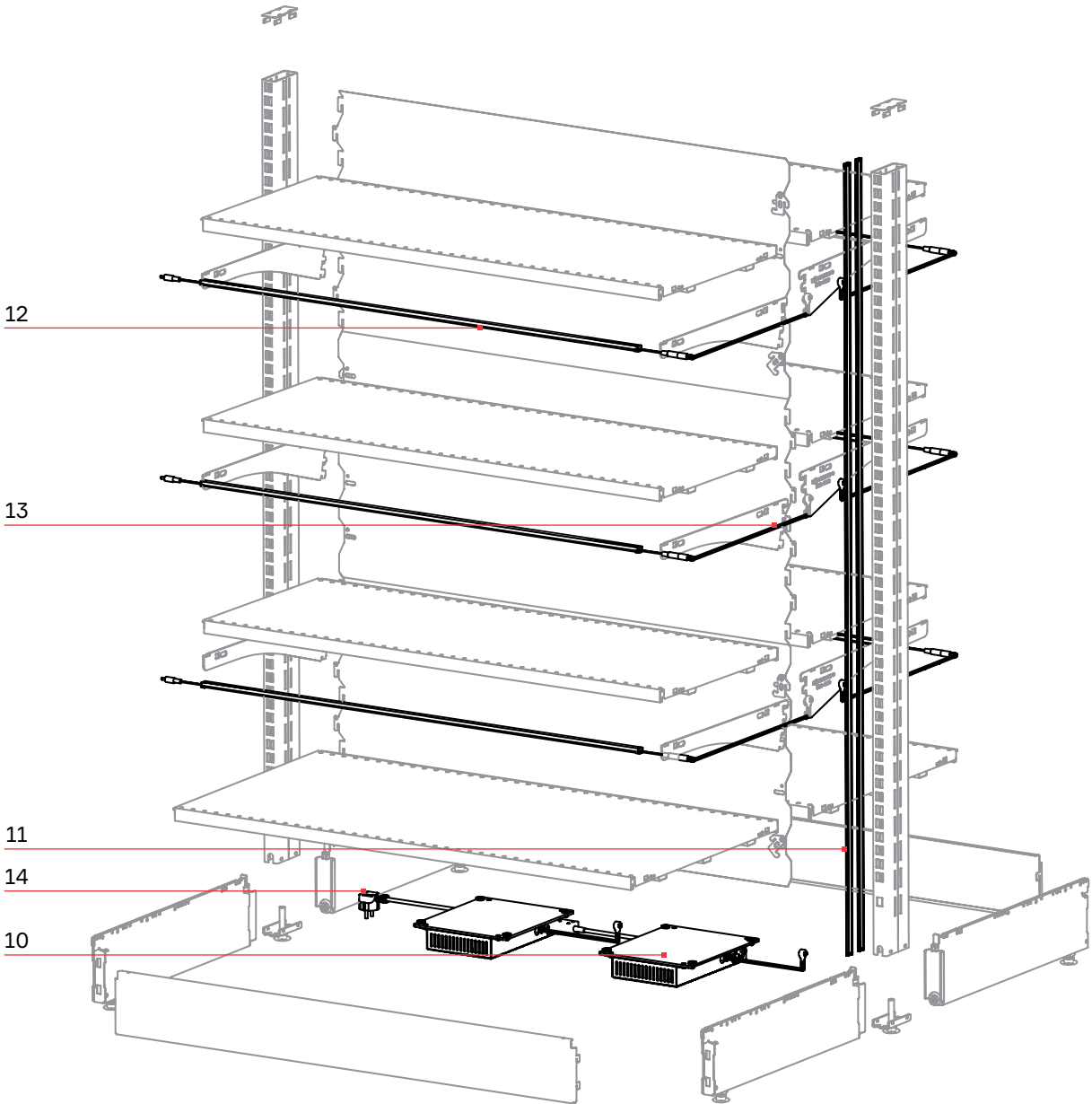
Buildings of 2 sections and back panels

Nº	Name of element	pcs.
1	Upright	3
2	Insert	3
3	Base foot	3
4	Shelf for middle back panel	2
5	Shelf for middle back panel	6
6	Universal bracket	12
7	Middle back panel	6
8	Upright top plug	3
9	Plinth	2
10	Voltage transducer	1
11	Power track	1
12	LED fitting	6
13	Power supply connection cable	3
14	Power cable with plug	1



Shelving with middle back panel

Nº	Name of element	pcs.
1	Upright	2
2	Insert	2
3	Base foot	4
4	Shelf for middle back panel	2
5	Shelf for middle back panel	6
6	Universal bracket	12
7	Middle back panel	3
8	Upright top plug	2
9	Plinth	2
10	Voltage transducer	1
11	Power track	1
12	LED fitting	6
13	Power supply connection cable	6
14	Power cable with plug	1



M²DERN EXPO

Head Office
Modern Expo Lutsk, Ukraine

T +380 (332) 78 95 00
info@modern-expo.com
modern-expo.eu

