

Junction Box

For Obelux LED Aviation Obstruction Lights

OBELUX
AVIATION LIGHTS

Obelux Oy, Kutomotie 6 B, 00380 Helsinki, FINLAND | The information in this document is subject to change without notice.

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Mechanical characteristics

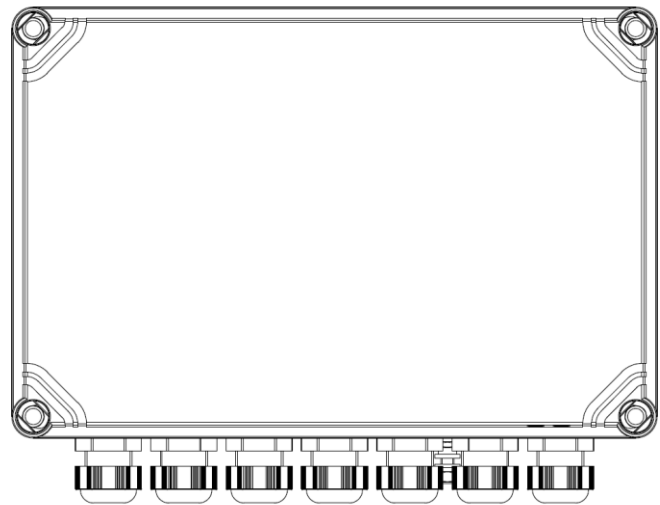
- ▶ **Enclosure:**
Shock-resistant polycarbonate
Degree of protection IP65
- ▶ **Dimensions (W x H x D):**
300 x 200 x 132 mm
- ▶ **Weight:** < 2,3 kg
- ▶ **Cable glands:**
8 x M20 (Ø8-14 mm cable)

Electrical characteristics

- ▶ **Operating voltage:**
100-240 V_{AC} or 10-60 V_{DC}
- ▶ **Circuit breaker:**
ACW-models: C6
DCW-models: C10
- ▶ **Operating temperature range:**
-40 °C ...+55 °C

Connector specifications

- ▶ **Power IN / OUT:**
Wire cross section 0,2 – 4 mm²
(solid wire max 6 mm²)
- ▶ **Data IN / OUT:**
Wire cross section 0,2 – 1,5 mm²
(solid wire max 2,5 mm²)
- ▶ **Output 1-4:**
Wire cross section 0,2 – 1,5 mm²
(solid wire max 2,5 mm²)



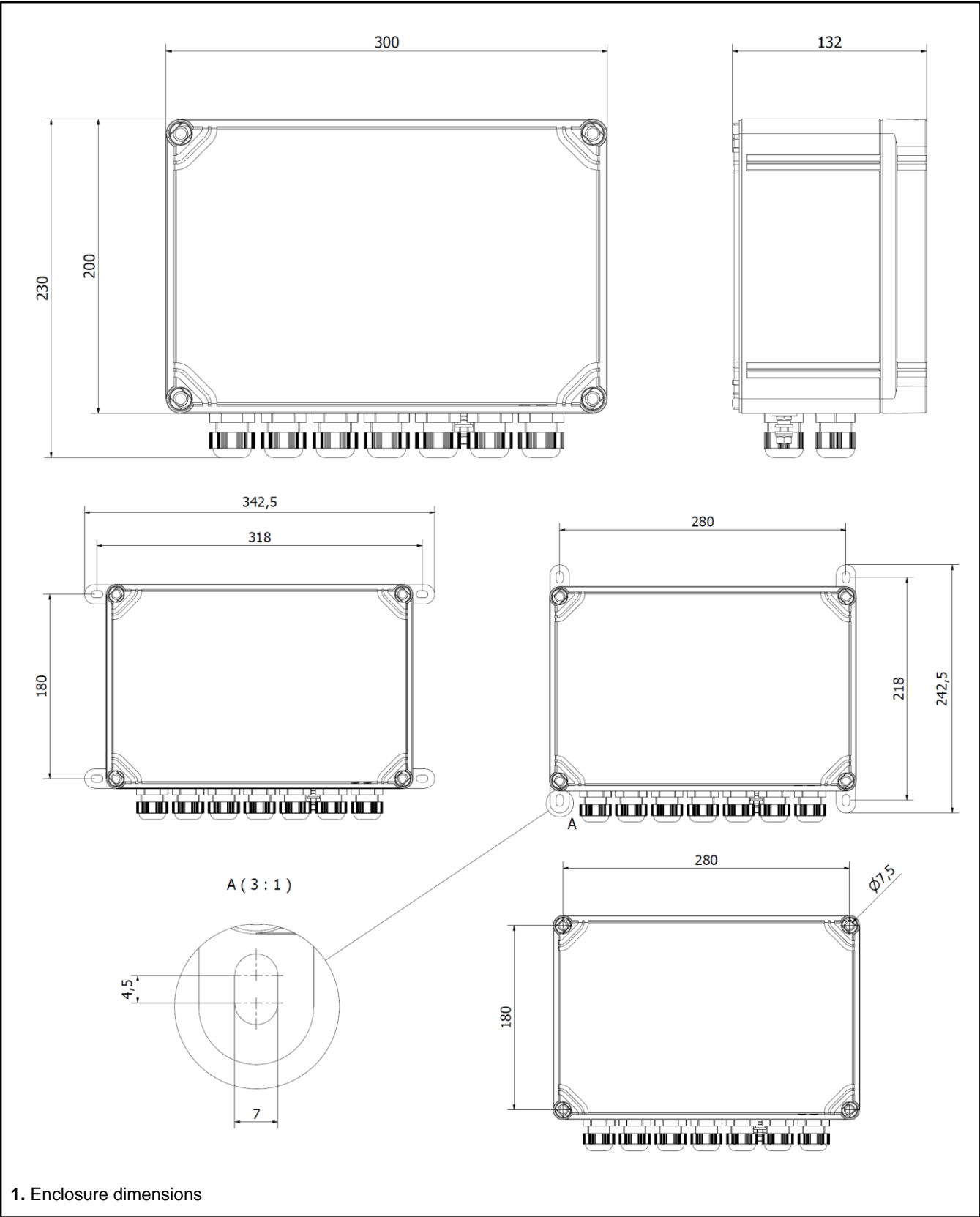
Junction Box

For Obelux LED Aviation Obstruction Lights

Obelux junction box is used to distribute power and data to Obelux aviation lights. Junction box can connect maximum of four (4) lights to one power and data line. Junction boxes can be also connected with each other allowing several levels of lighting through one power and data line. One Obelux controller can control and monitor all the lights individually.

▶ Key Features

- ▶ Junction Box for Obelux light heads
- ▶ Can connect to four (4) lights
- ▶ Junction Boxes can be daisy-chained to allow larger aviation light systems controlled by one central Obelux controller
- ▶ Long maintenance-free lifetime

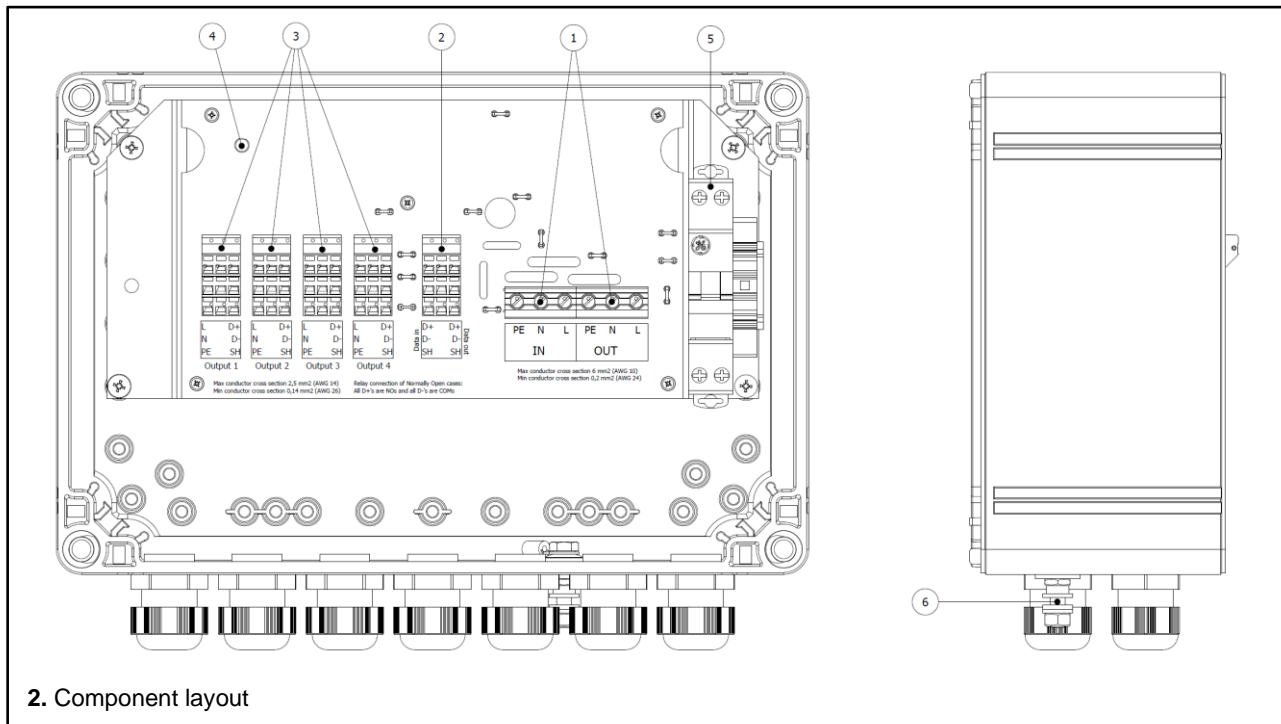


1. Enclosure dimensions

Order code:	Operating voltage:	Number of outputs:	Application:	Packing dimensions:
JB-ACW-MB-P	100-240 V _{AC}	4	ModBus	335x265x145 mm, 2,6 kg
JB-DCW-MB-P	10-60 V _{DC}	4	ModBus	335x265x145 mm, 2,6 kg

Recommended cables to use with Junction Box
 Servo 4G1,5+(2x1,5)
 Order code: **CBL-PDNL-xxxx** (x = length)





2. Component layout

1 Power IN / OUT

ACW-models:

Mark	Description	Information
PE	Protective earth	PE line is typically indicated with yellow/green colour
N	Neutral terminal	Colour typically blue
L	Live terminal	Colour typically brown

DCW-models:

Mark	Description	Information
PE	Protective earth	PE line is typically indicated with yellow/green colour
-	Negative terminal	Negative connector for DC
+	Positive terminal	Positive connector for DC

Connector is screw connection terminal block.

Conductor cross-section: 0,2 – 4 mm² (solid wire max 6 mm²)

2 Data IN / OUT

Mark	Description	Information
D+	Data +	RS-485 non-inverting pin
D-	Data -	RS-485 inverting pin
SH	Shield	Shield

Connector is spring cage terminal block.

Conductor cross-section: 0,2 – 1,5 mm² (solid wire max 2,5 mm²)

3 Output 1-4

Mark	Description	Information
PE	Protective earth	PE line is typically indicated with yellow/green colour
N	Neutral terminal	Colour typically blue
L	Live terminal	Colour typically brown
D+	Data +	RS-485 non-inverting pin
D-	Data -	RS-485 inverting pin
SH	Shield	Shield

DCW-models:

Mark	Description	Information
PE	Protective earth	PE line is typically indicated with yellow/green colour
-	Negative terminal	Negative connector for DC
+	Positive terminal	Positive connector for DC
D+	Data +	RS-485 non-inverting pin
D-	Data -	RS-485 inverting pin
SH	Shield	Shield

Connector is spring cage terminal block.

Conductor cross-section: 0,2 – 1,5 mm² (solid wire max 2,5 mm²)

4 LED indicator

LED indicator shows power status.

- Orange:** AC connected
- Green:** DC connected correctly
- Red:** DC connected incorrectly. Reverse the polarity for correct use.

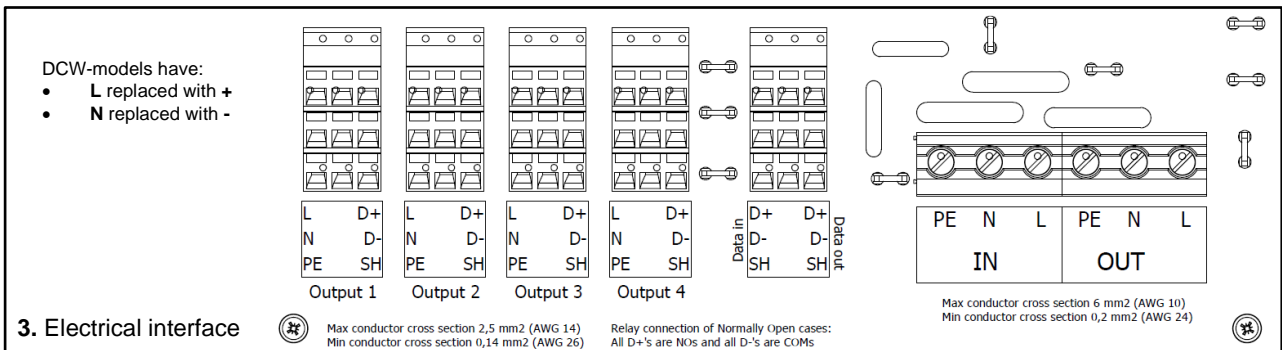
5 Circuit breaker

Circuit breaker for disconnecting power from outputs 1-4. Breaker characteristics:

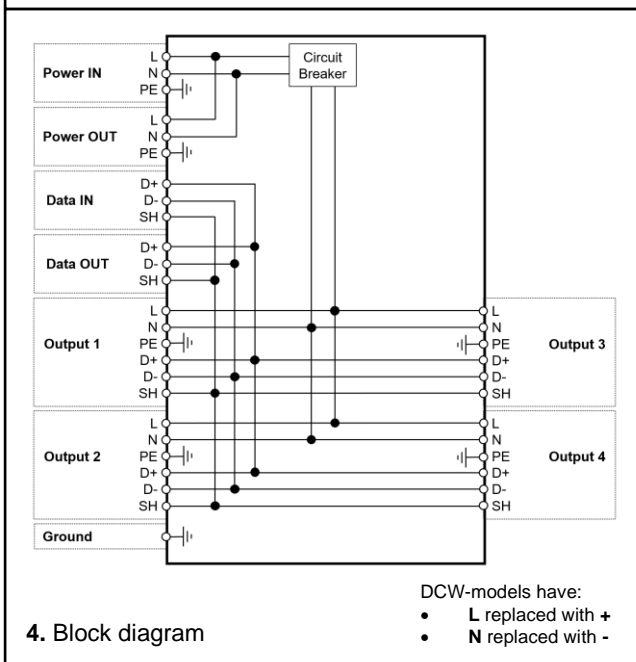
ACW-models: C6
DCW-models: C10

6 Ground

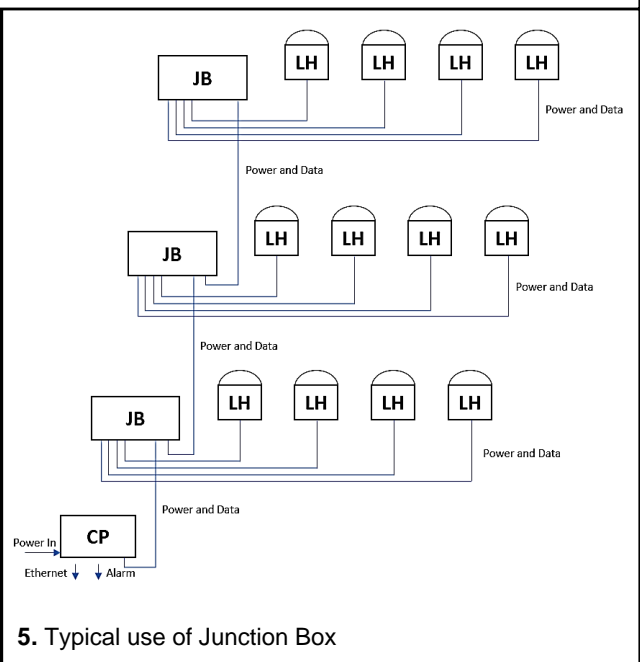
There is an M6 grounding bolt at bottom of the enclosure for external grounding. Use suitable terminal ring and 10 mm spanner or equivalent for tightening.



3. Electrical interface



4. Block diagram



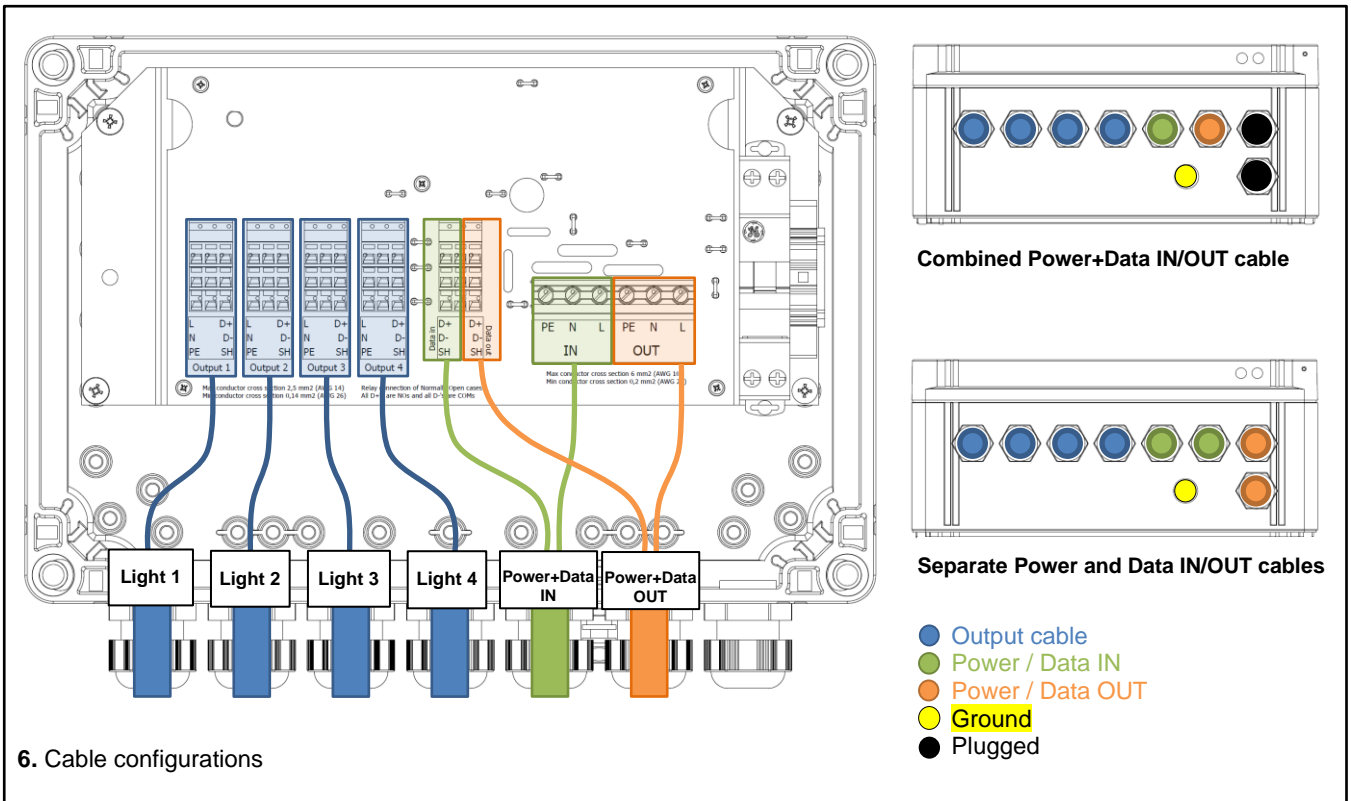
5. Typical use of Junction Box

Installation

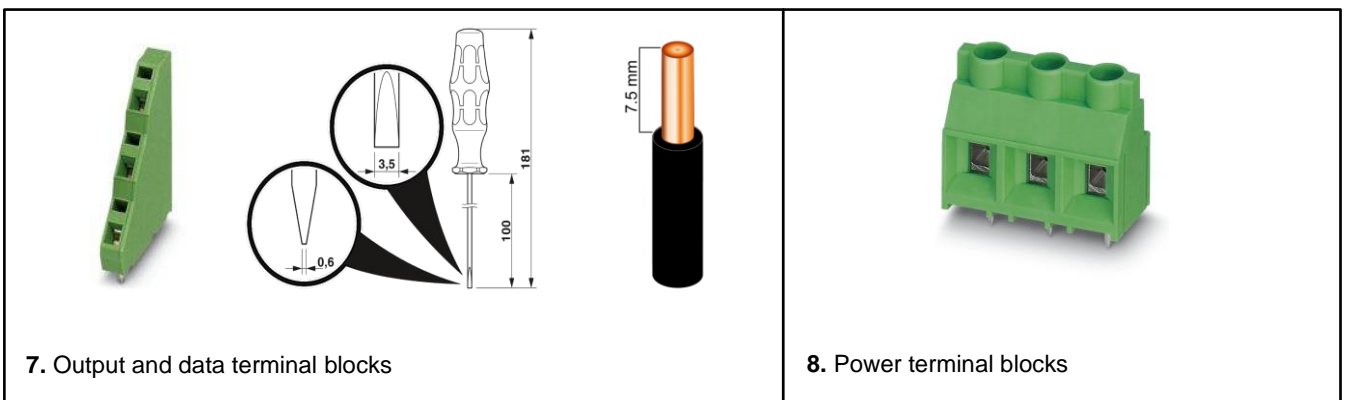
Mount the device to the selected mounting point using quality made fasteners. When the cover door is open, check that there is no inflow of water (incl. hail and snow) into the enclosure.

Remove the sealing pieces from the needed cable glands and route the cables through them. Leave sealing pieces in the unused glands and tighten them properly.

Make sure that the circuit breaker is in OFF position before connecting the cable wires securely to appropriate terminal block connectors. Below is a typical cable configuration.



Output and data terminal blocks are Phoenix Contact ZFK3DSA spring cage type. Use bladed screwdriver with tip width of max 3,5 mm for operation. Recommended wire stripping length is approx. 7,5 mm. Power terminal blocks are screw connection and can be tightened with bladed screwdriver.



Unused terminals can be left as they are. For example, in a case where some of the outputs or power / data OUT are not needed.

Switch the circuit breaker to ON position and place the cover properly on its place and securely tighten all four screws on all corners of the cover.

Optional RS-485 shield grounding

RS-485 shield grounding inside the Junction Box is typically not needed but, when necessary, it can be achieved by changing the position of one PE wire on the circuit board.

