

NORDcanopy

HM 1.1 Control Unit and Water Supply Unit
Installation Guide

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1. General

This guide contains information for the safe installation of ETS NORD HM 1.1 Control Unit and Water Supply Unit. **Read the guide carefully before installing or setting up any of the devices!**

All activities described in the installation guide must be carried out in accordance with HM 1.1 Pre-commissioning checklist before ETS NORD technician comes to the site to carry out system commissioning. ETS NORD AS reserves the right to issue an additional invoice if the confirmed tasks have not been completed.

2. Checking the product

Check that the packaged products do not have visible damage. Immediately notify the supplier and manufacturer of the products of damage or missing components.

Make sure that all components are received, matching both the order and delivery confirmation letters. Incorrect delivery and transport damage must be immediately reported to both the cargo carrier and ETS NORD Customer Service.

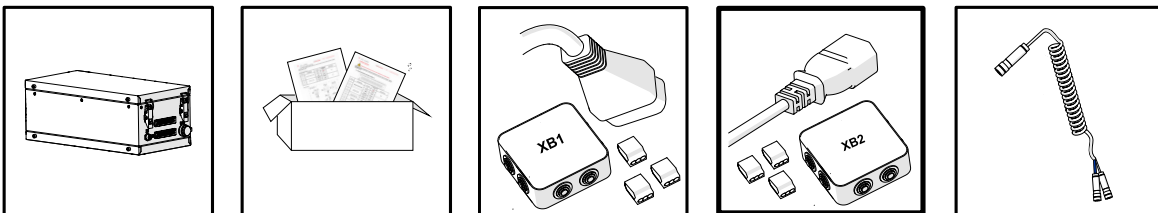
The time for filing a complaint or shipment discrepancy is 5 days after delivery. ETS NORD is not responsible for defects that have occurred after goods have been handed over to the buyer.

If goods purchased from ETS NORD have defects for which ETS NORD is responsible, ETS NORD will repair or replace the defective goods. If the goods cannot be repaired or replaced, ETS NORD will refund to the buyer all fees for such items resulting from the sales contract.

If you have any problems, please contact ETS NORD Customer Service!

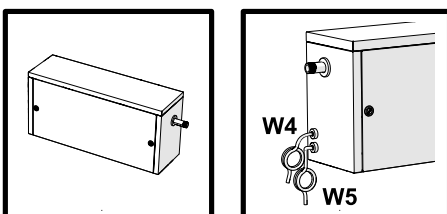
HM 1.1 Control unit package contains:

- Control unit
- Connection diagrams
- Control unit power cable W1 with junction box XB1
- Lighting power cable W2 with junction box XB2
- Spiral cable W



HM 1.1 Water supply unit package contains:

- Water supply unit
- Connection cable for connecting the W4 solenoid valve
- Connection cable for connecting W5 pressure and flow switch



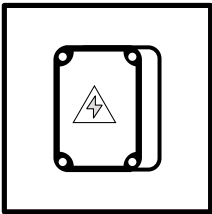
LED notification panel package contains:

- LED notification panel



Optional accessories:

- Relay box – for BMS connection



WARNINGS!



Risk of falling!

Make sure installation and service personnel have stable work platforms when installing the device.



Risk of electric shock!

Electrical connections to the system may only be made by an authorized electrician.

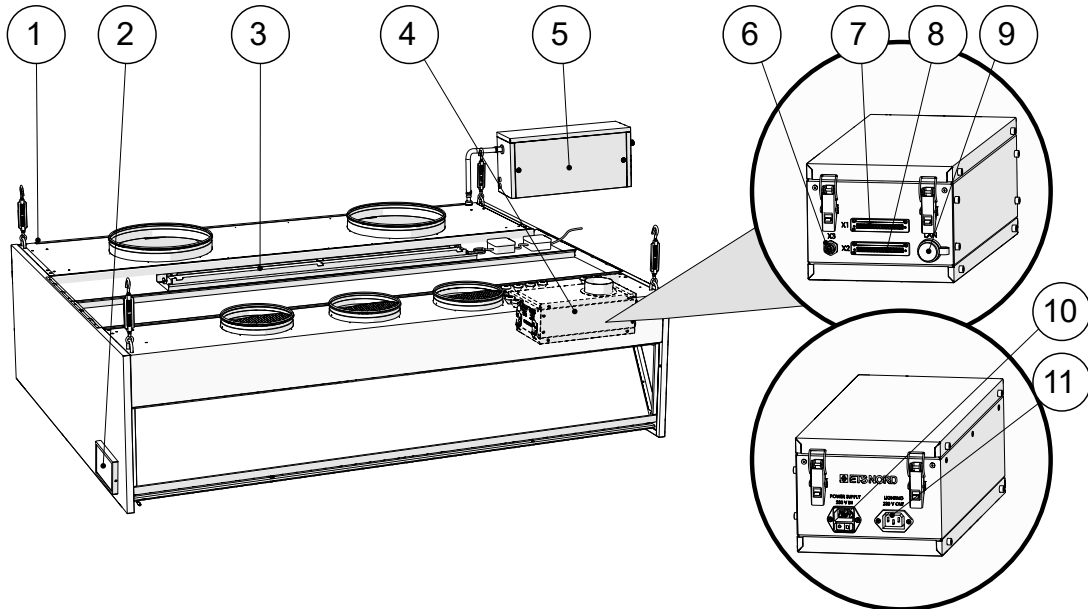


Always power off the system and disconnect (by the plug) from the mains before any maintenance work!

3. System overview

One HM 1.1 Control unit allows to control one HM 1.1 Water supply unit. One HM Water supply unit can direct water into a maximum 5-meter canopy.

Each control unit comes with a LED notification panel that displays information about the system status to the user.

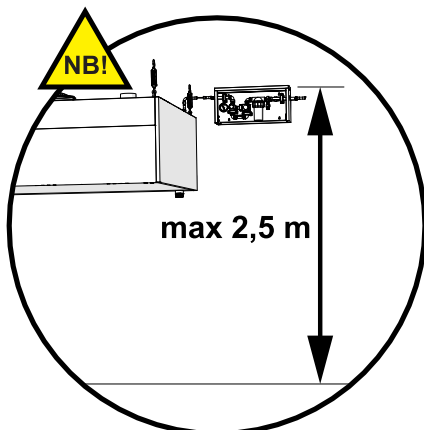


- | | |
|---------------------------------|---|
| 1 – HM Watermist canopy | 7 – Connector X1 |
| 2 – LED notification panel | 8 – Connector X2 |
| 3 – LED luminaire | 9 – LAN socket |
| 4 – HM 1.1 Control unit | 10 – Control unit power socket 230 V IN |
| 5 – HM 1.1 Water supply unit | 11 – Lighting power socket 230 V OUT |
| 6 – Canopy buttons connector X3 | |

4. HM 1.1 Water supply unit installation

The water supply unit must be installed near the HM canopy, where it is easily accessible to personnel and maintenance technicians. It can be installed on the wall or attached to the canopy.

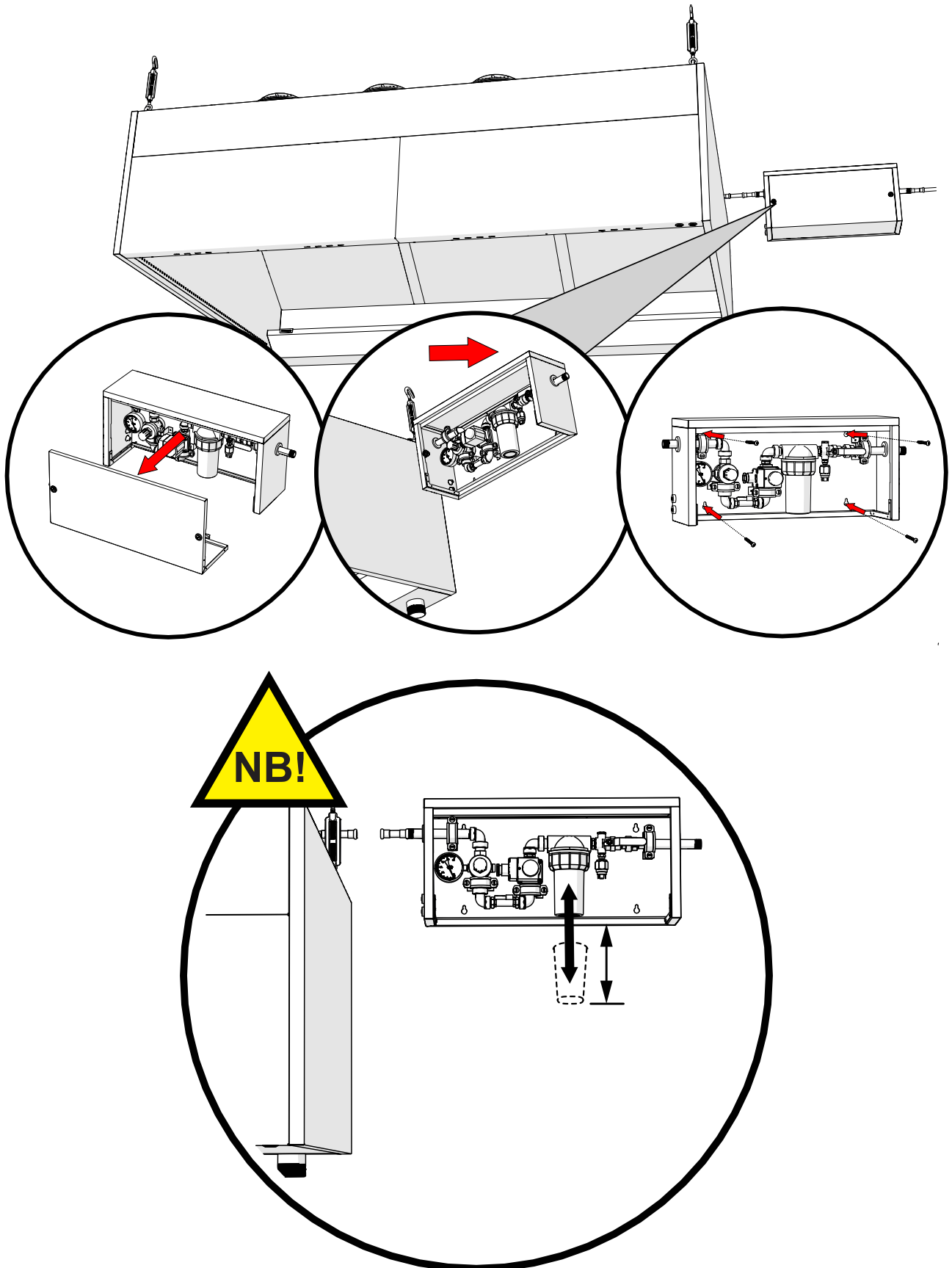
NB! The maximum installation height of the water supply unit is 2.5 meters. Personnel must have direct access to the water supply unit at all times.



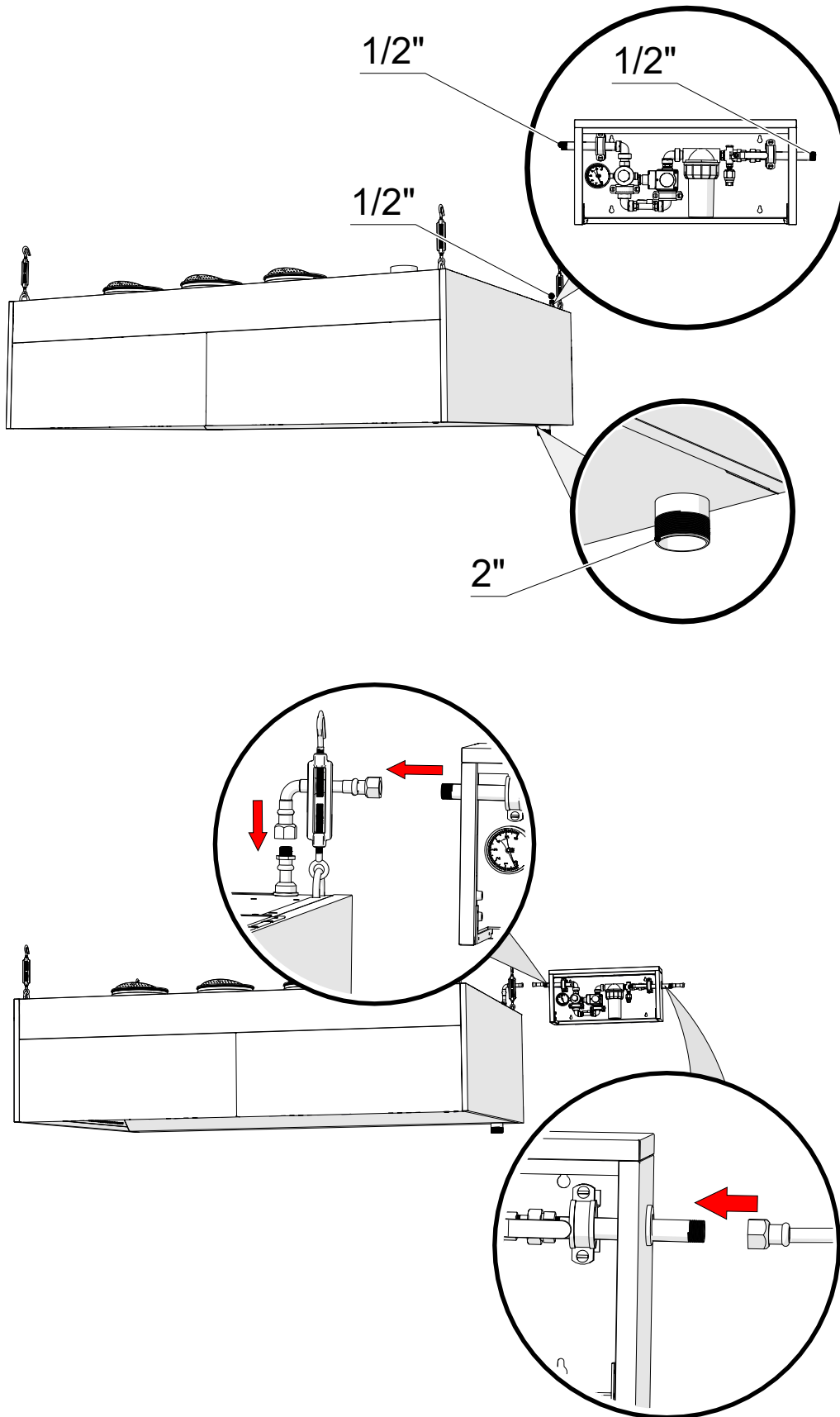
The water supply unit wound filter must be exchanged every 3-6 months. A visual inspection of the wound filter must be carried out at least once a month.

4.1 Water supply unit installation

The water supply unit must be installed in an upright position on the wall or on the side of the canopy. Access to the filter found inside of the water supply unit must be guaranteed when opening the front panel of the unit, to be able to change the filter when the need calls for it.



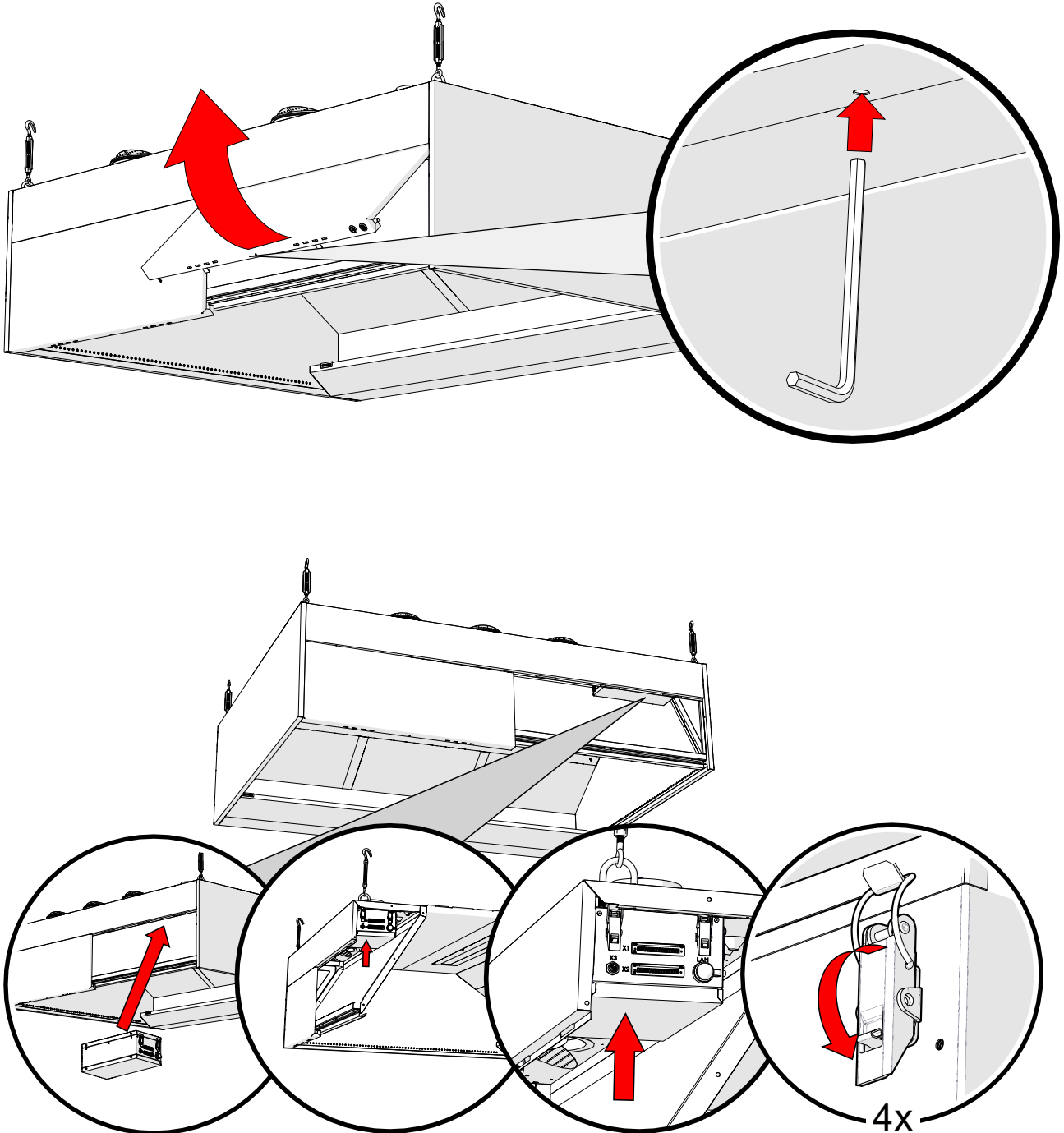
4.2 Water supply unit's water pipe connections



5. HM 1.1 Control unit installation into HM canopy



Risk of falling! Make sure installation and service personnel have stable work platforms when installing the device.



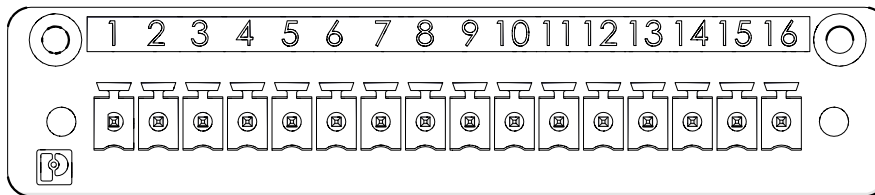
6. Electrical installation



Risk of electric shock! Electrical connections to the system may only be made by a qualified and authorized electrician.

All the cablings and electrical installations indicated in the following chapters must be compiled by an electrician of the site.

6.1 External connections to the control unit X1 connector

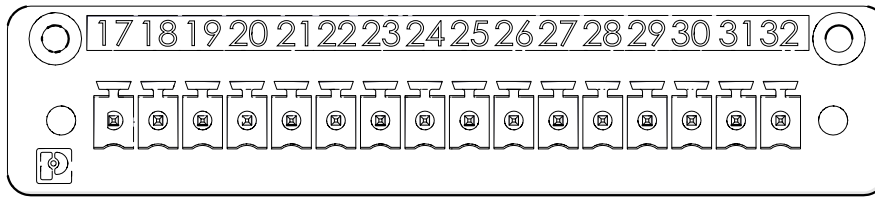


Connector X1	I/O grouping	I/O name	Cable core colors	Cable marking
1	Water supply unit solenoid valve	PE	Yellow+Green	W4 *
2		24 V/DC	Brown	
3		GND	Blue	
4	Water supply unit sensors	Pressure switch	Green	W5 *
5		Water flow switch	White	
6		24 V/DC	Brown	
7	Extract air damper actuator	24 V/DC	Brown	W6
8		GND	Blue	
9	Work permission	Work permission +	Brown	W7
10		Work permission -	Blue	
11	Status signals for LED notification panel	Working status	White	W8
12		Critical error	Brown	
13		Maintenance	Green	
14		COM	Red	Bridged together with a wire
15	24 V/DC	24 V/DC		
16	0 V/DC	GND	Yellow	W8

* Cable is supplied by ETS NORD and already connected to the water supply unit.

NB! The maximum cable cross-section for connector X1 is 1,5 mm² for solid cable core. For cable with flexible cores (ferrule) 1,0 mm².

6.2 External connections to the control unit X2 connector

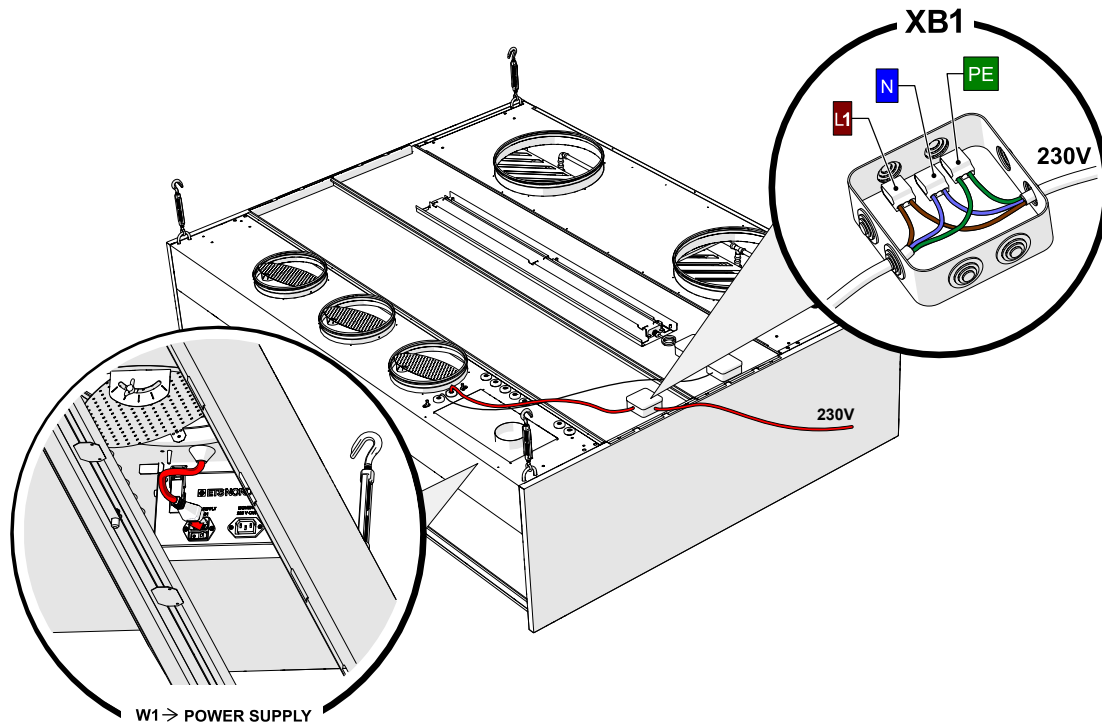


Connector X2	I/O grouping	I/O name	Cable core colors	Cable marking
17	Control unit synchronization „Handshake“	Lighting	White	W9
18		Watermist	Brown	
19		GND	Green	
20	Reserve input	Input	-	-
21		24 V/DC	-	
22	Reserve input	Input	-	-
23		24 V/DC	-	
24	Reserve input	Input	-	-
25		24 V/DC	-	
...	-	-	-	-
32	-	-	-	-

NB! The maximum cable cross-section for connector X1 is 1,5 mm² for solid cable core. For cable with flexible cores (ferrule) 1,0 mm².

6.3 Control unit power supply

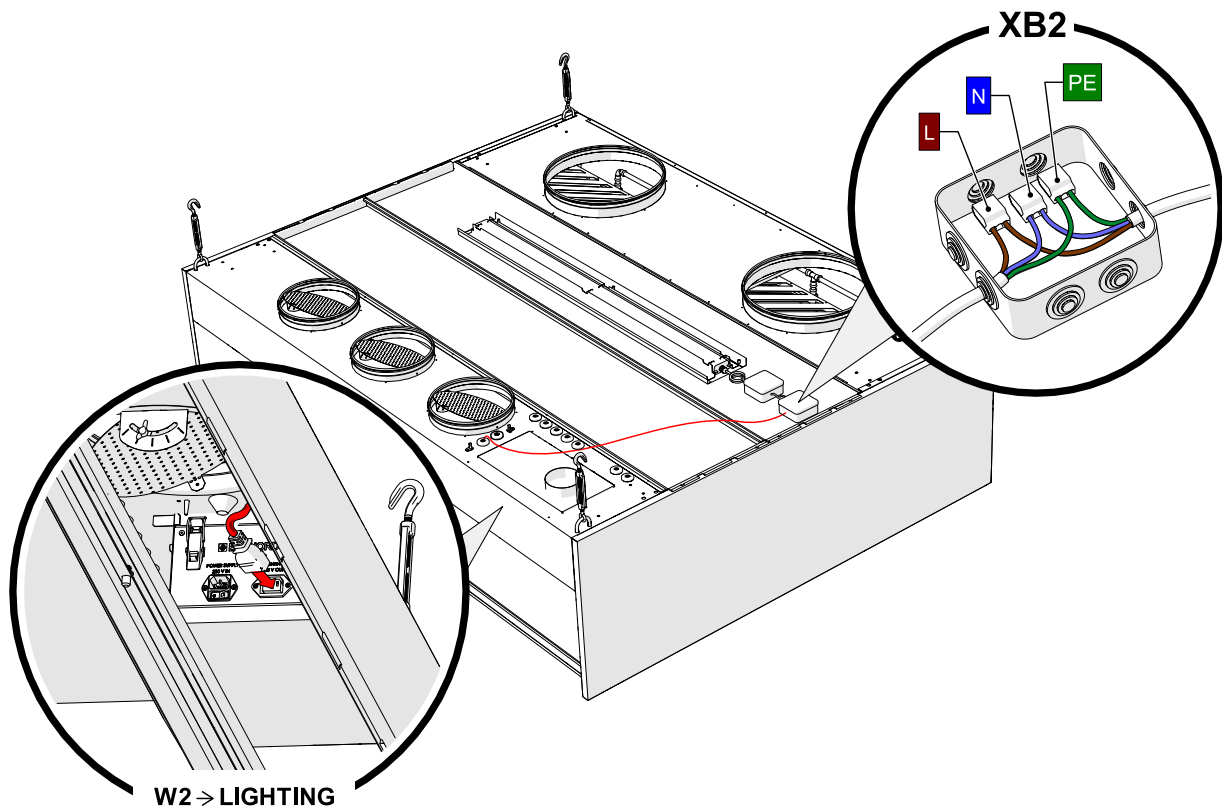
For power supply of the control unit use a circuit breaker with a minimum rating of C6 or maximum rating of C16.



Leave power switch of the power supply in the OFF position until the remaining connections are made!

6.4 Connecting canopy luminaire

Connect W2 cable into control unit LIGHTING socket. Connect the luminaire and the W2 cable using the XB2 junction box.



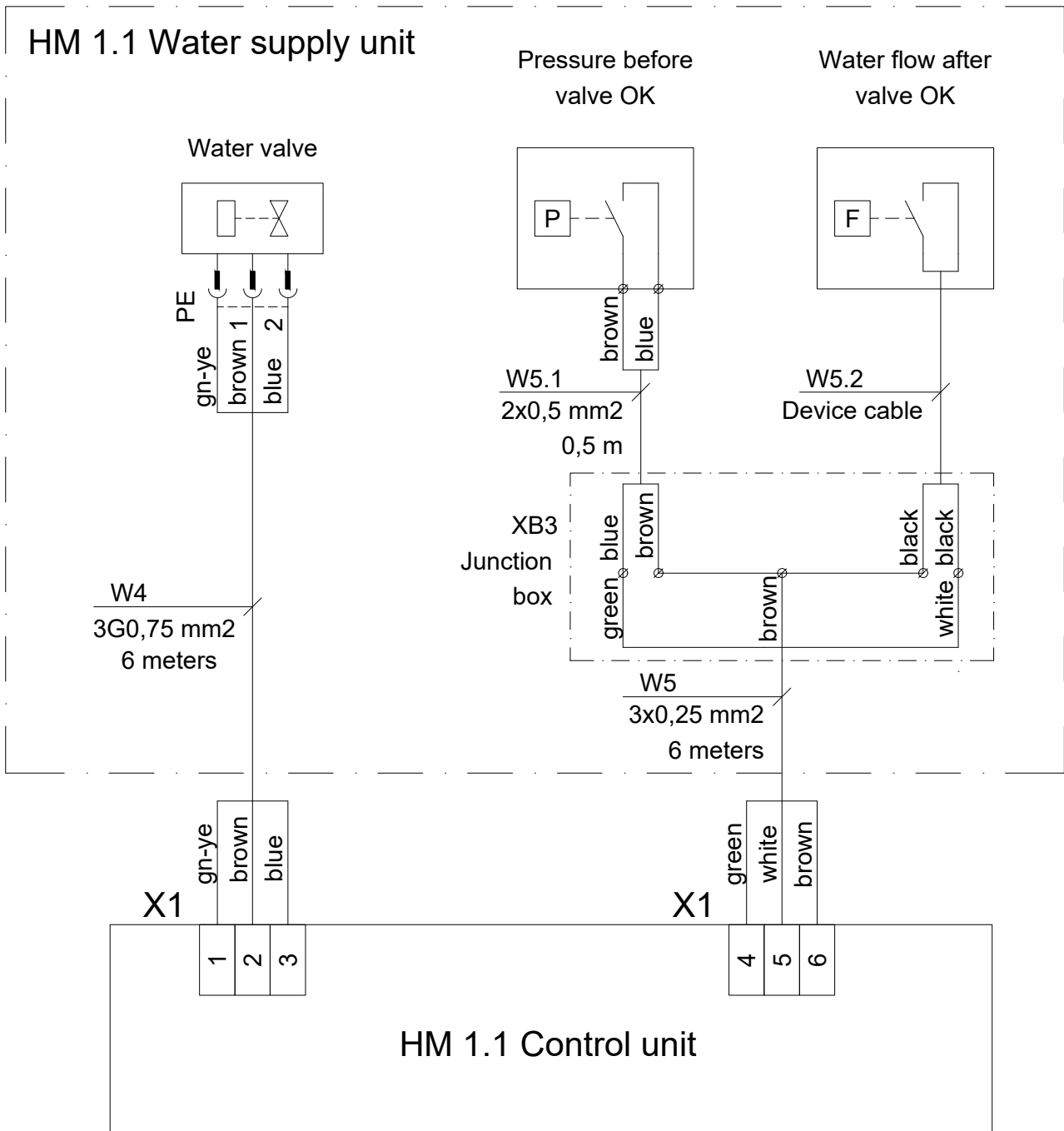
6.5 Connecting water supply unit cables

From the water supply unit you must connect the solenoid cable W4 and the sensor cable W5. These cables are located on the water supply unit with a length of 6 meters.

Connections to X1 connector:

Connector X1	I/O grouping	I/O name	Cable core colors	Cable marking
1	Water supply unit solenoid valve	PE	Yellow+Green	W4
2		24 V/DC	Brown	
3		GND	Blue	
4	Water supply unit sensors	Pressure switch	Green	W5
5		Water flow switch	White	
6		24 V/DC	Brown	

Connection diagram



6.6 Connecting extract air damper actuators

Spring-return or fail-safe valve actuators must be installed on each extract pipe of the HM canopy. The actuators must be connected in parallel and connected to the HM control unit.

Specified actuator characteristics:

- Supply voltage 24 V/DC;
- The total power of the actuators must not exceed 60 VA (voltampere).

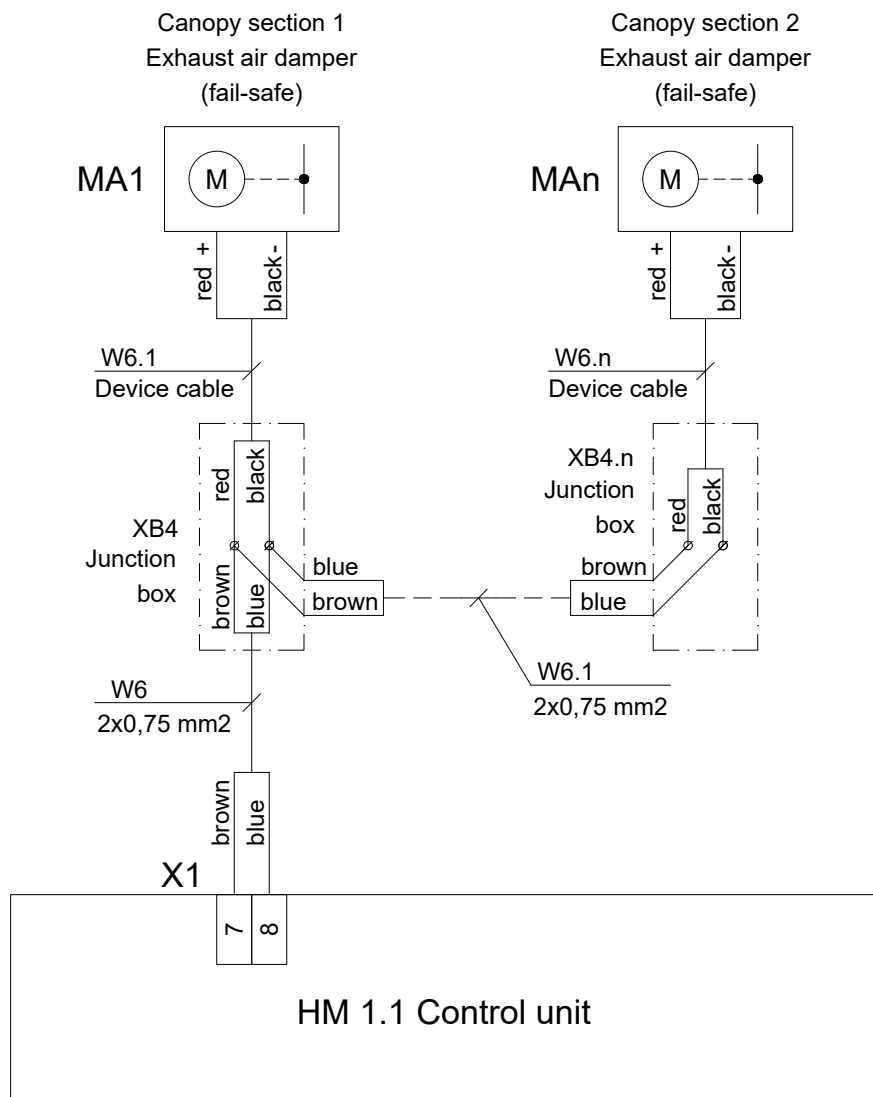
Choice of actuators on Belimo example:

Belimo actuator (fail-safe)	Torque (Nm)	Power consumption (VA)	Max. nr. for HM control unit (pcs.)
TF24	2,5	5	12
LF24	4	7	8
NF24A	10	8,5	7

Connections to X1 connector

Connector X1	I/O grouping	I/O name	Cable core colors	Cable marking
7	Extract air damper actuator	24 V/DC	Brown	W6
8		GND	Blue	

Connection diagram



6.7 Control unit synchronization (Handshake)

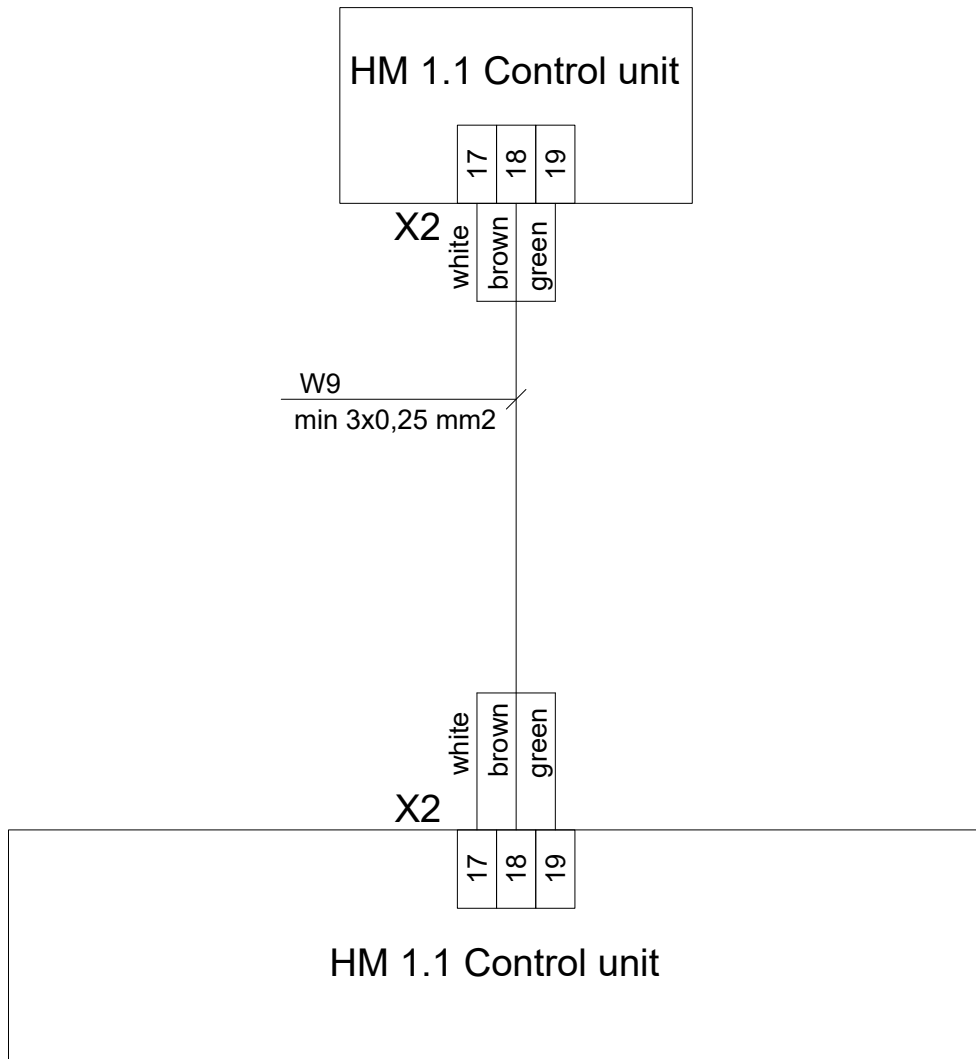
HM 1.1 control units can be synchronized so that from one HM canopy buttons it is possible to turn on the other HM canopy lightning and watermist, the other HM canopy contains a separate HM 1.1 control unit.

Connections between control units:

Control unit 1 connector X2	Control unit 2 connector X2	I/O grouping	I/O name	Cable core colors	Cable marking
17	17	Control unit synchronization „Handshake“	Lighting	White	W9
18	18		Watermist	Brown	
19	19		GND	Green	

Connection diagram

PLC synchronization ("handshake")



7. LED notification panel installation

NB! To install the LED notification panel, choose a location in the kitchen that is highly visible to the staff. Avoid placing the LED panel above kitchen appliances.

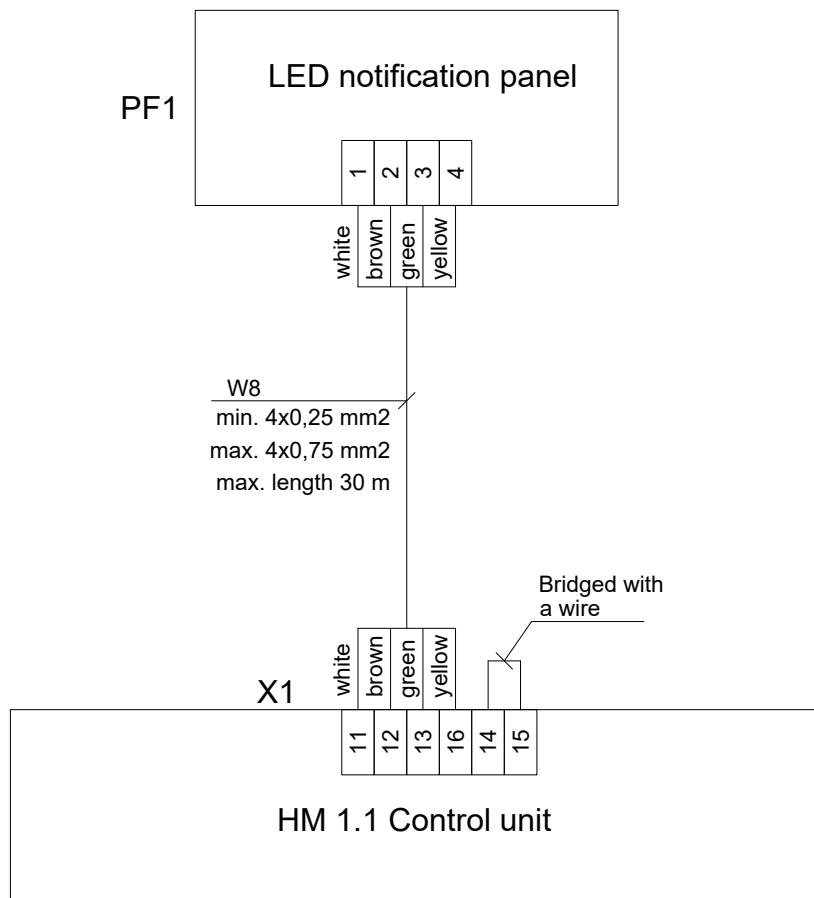
Each HM 1.1 control unit comes with a LED notification panel which displays simplified information about the system states to the user.

The device can be installed in the kitchen either on the wall or on the canopy if the walls of the canopy allow it. For wall mounting you will need to use a 68 mm junction box. For the connection between the LED notification panel and the control unit, it is necessary to use a cable min. 4x0.25mm².

Connection between HM control unit X1 connector and LED notification panel:

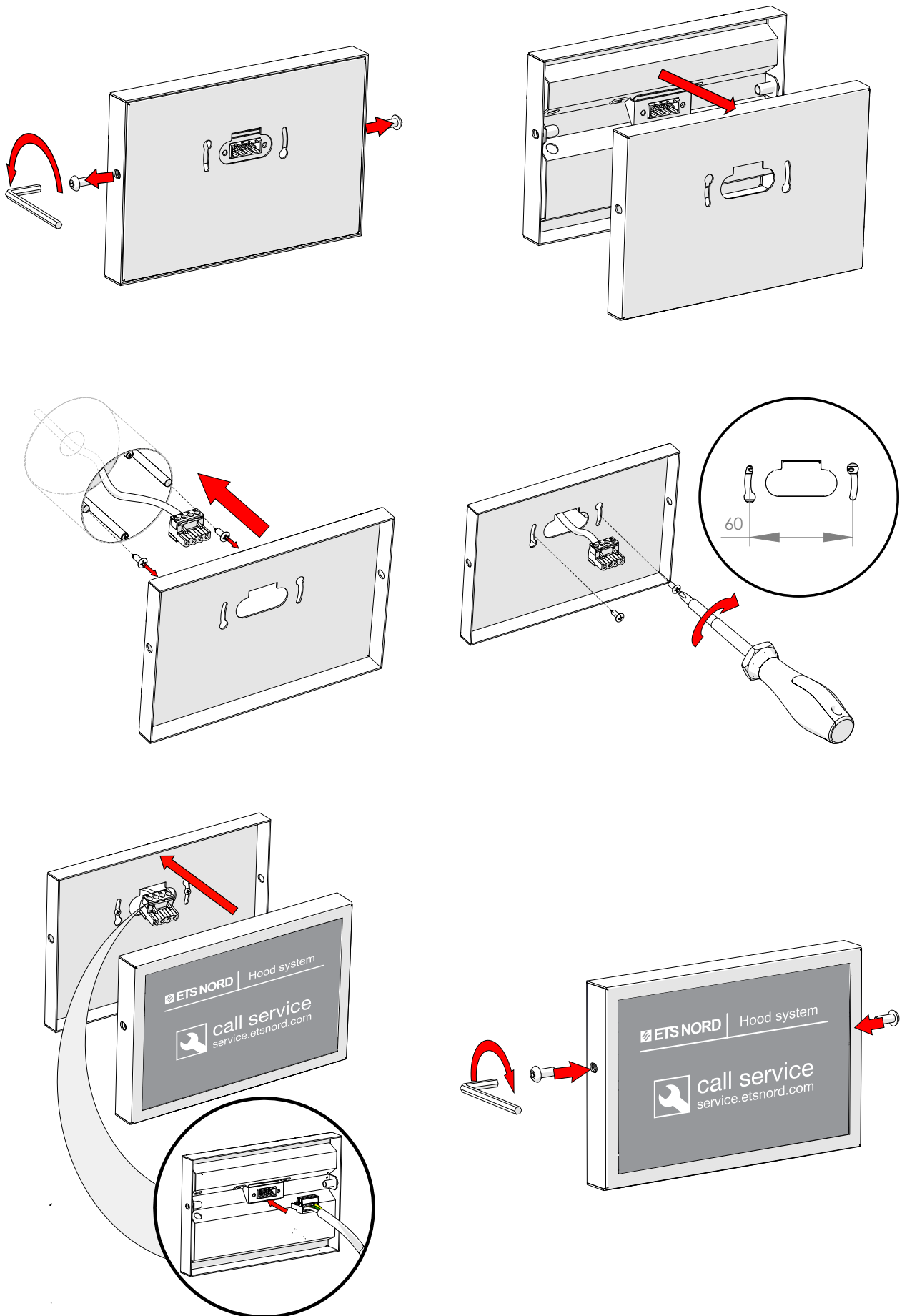
LED notification panel connector	Control unit X1 connector	I/O name	
1	11	Working status	
2	12	Critical error	
3	13	Maintenance	
	14	COM	Bridged together with a wire
	15	24 V/DC	
4	16	GND	

Connection diagram

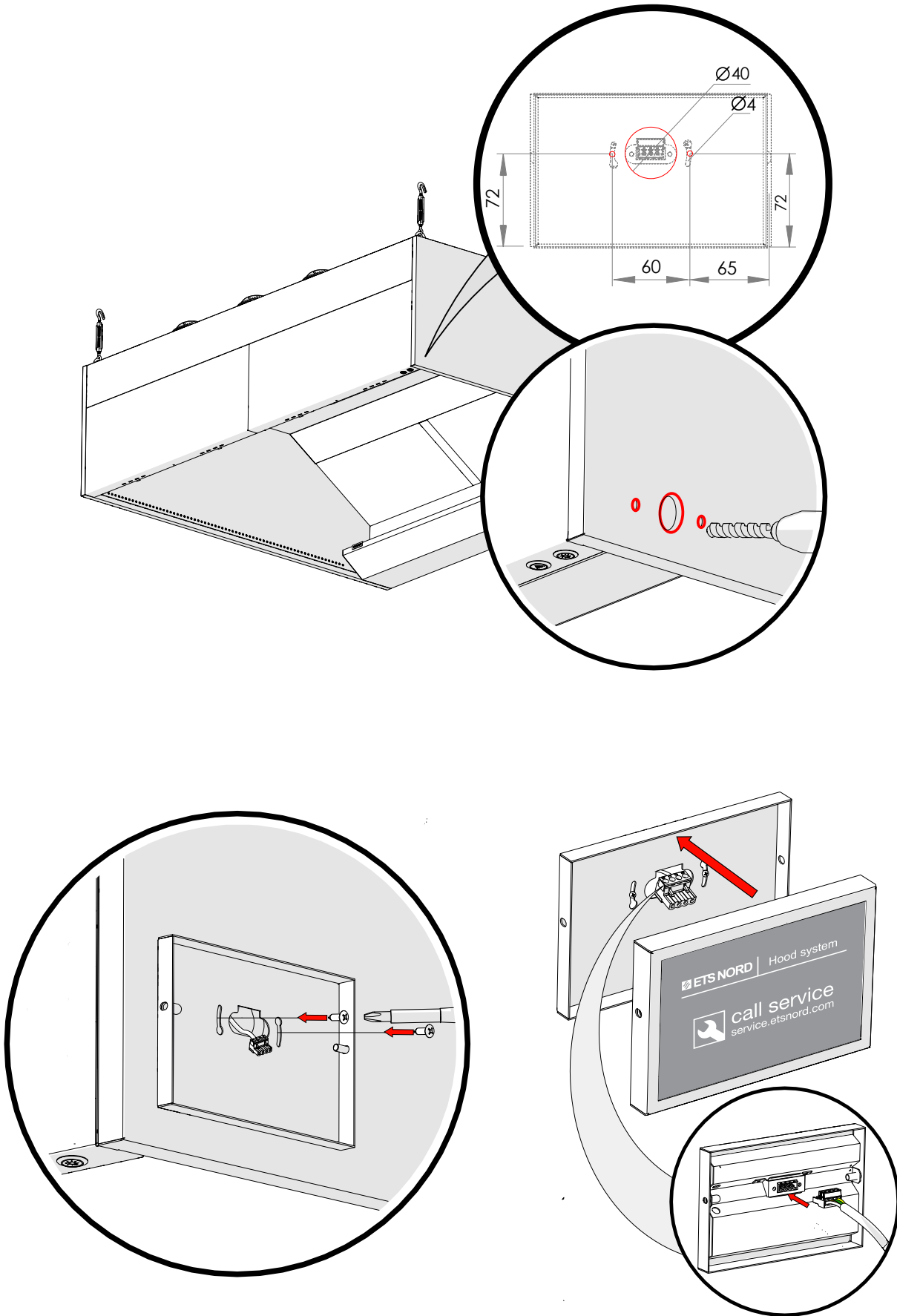


On the control unit X1 connector connect cable W8 with terminals 11, 12, 13 and 16. X1 connector terminals 14 and 15 are bridged with a wire.

Wall mounting



Canopy mounting



8. Building automation

HM 1.1 Control unit can be connected to building automation via I/O status signals and by granting work permission to the system through a potentially free NO contact from the building automation centre, ventilation unit or fire alarm system (FAS). The work permit determines the permission to use water mist.

8.1 Work permission connection

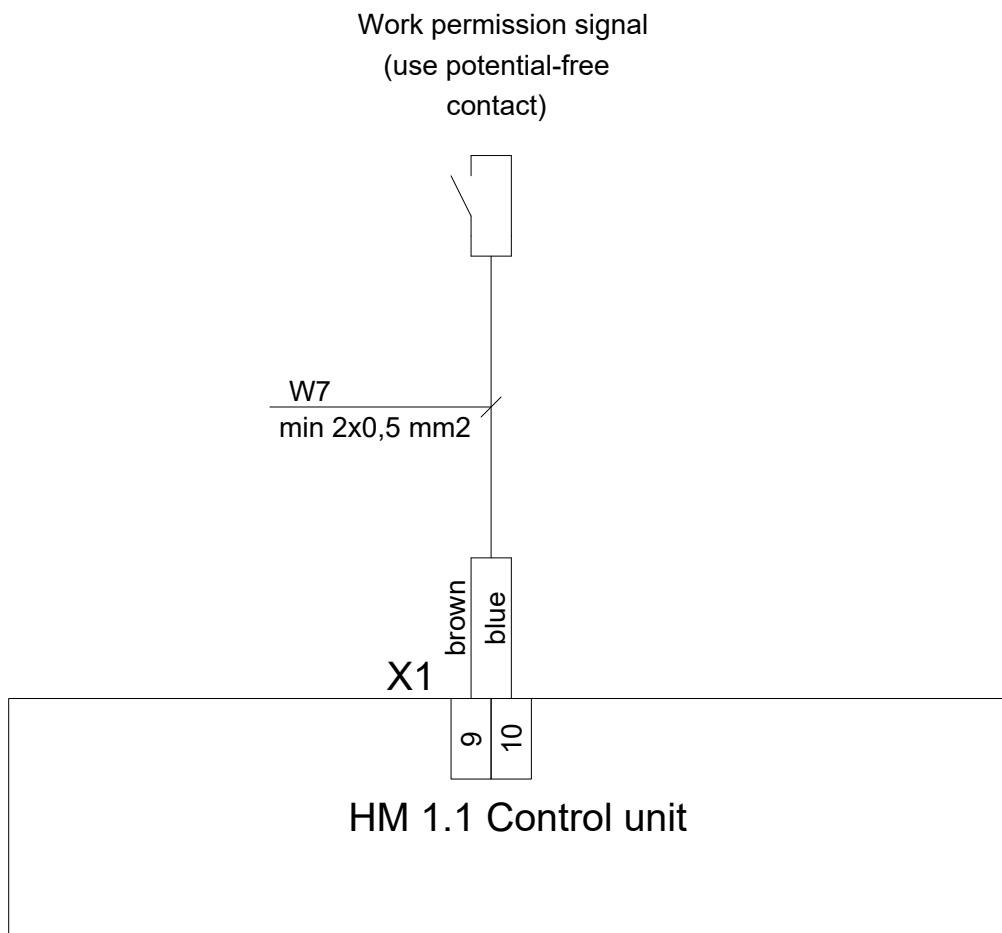
The work permission determines whether the HM canopy can use watermist or not. In factory by default a jumper is connected to the control unit X1 connector terminals 9 and 10. If you want to use the work permission input, the jumper must be removed.

Potential-free NO contact must be used.

X1 connector connections:

Control unit X1 connector	I/O name	I/O grouping
9	Work permission +	Work permission/FAS
108	Work permission -	Work permission/FAS

Connection diagram



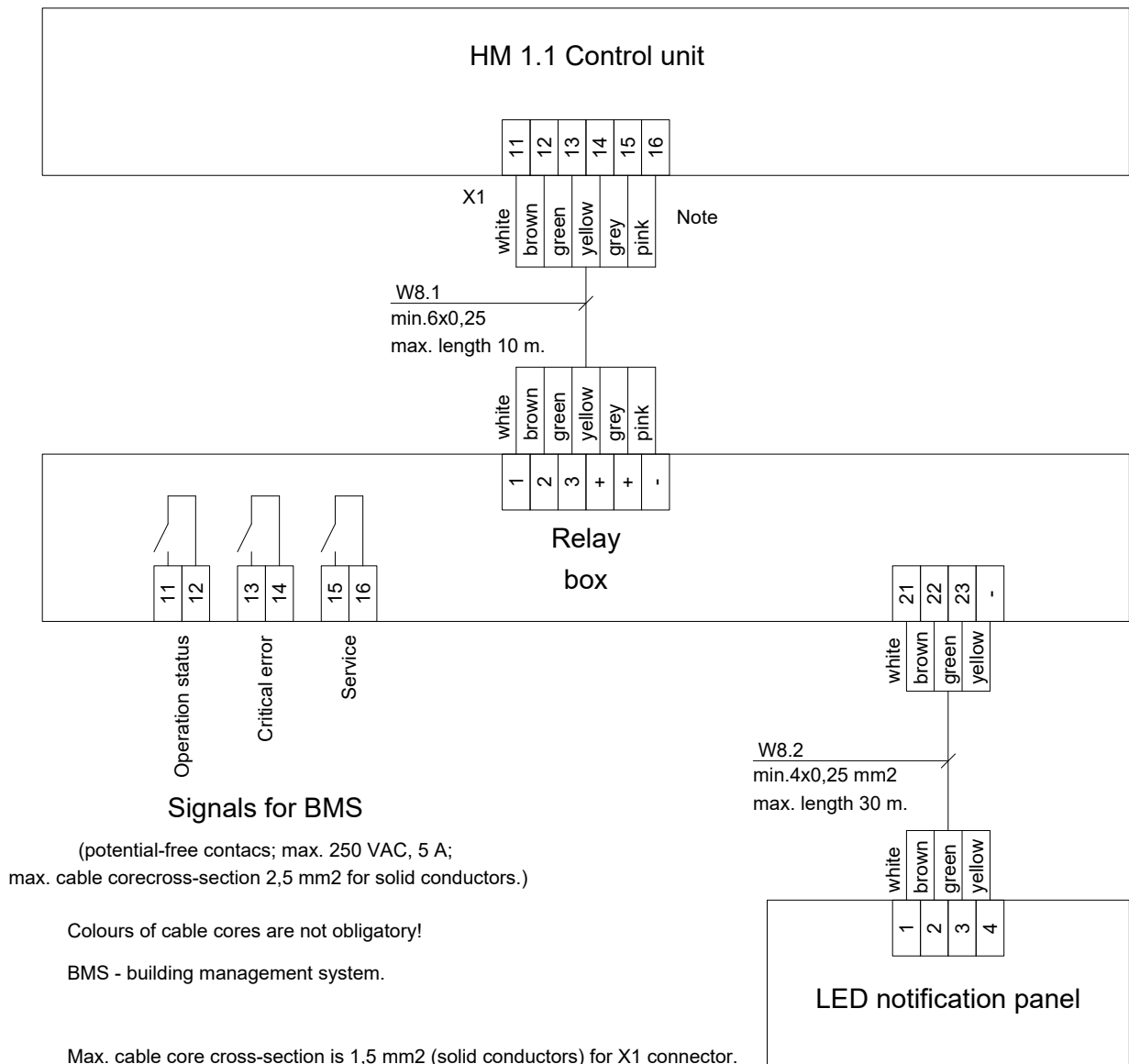
8.2 Building automation compatibility through status signals (Relay box)

To use status signals, a Relay Box must be used, which is an optional accessory. When using a relay box, the connection between the LED notification panel and the building must go through it.

Connections between HM control unit X1 connector and Relay box:

Control unit X1 connector	Relay box terminal block	IO name
11	1	Working status
12	2	Critical error
13	3	Maintenance
14	+	COM
15	+	24 V/DC
16	-	GND

Connection diagram



Status signals come from the controller relay output.

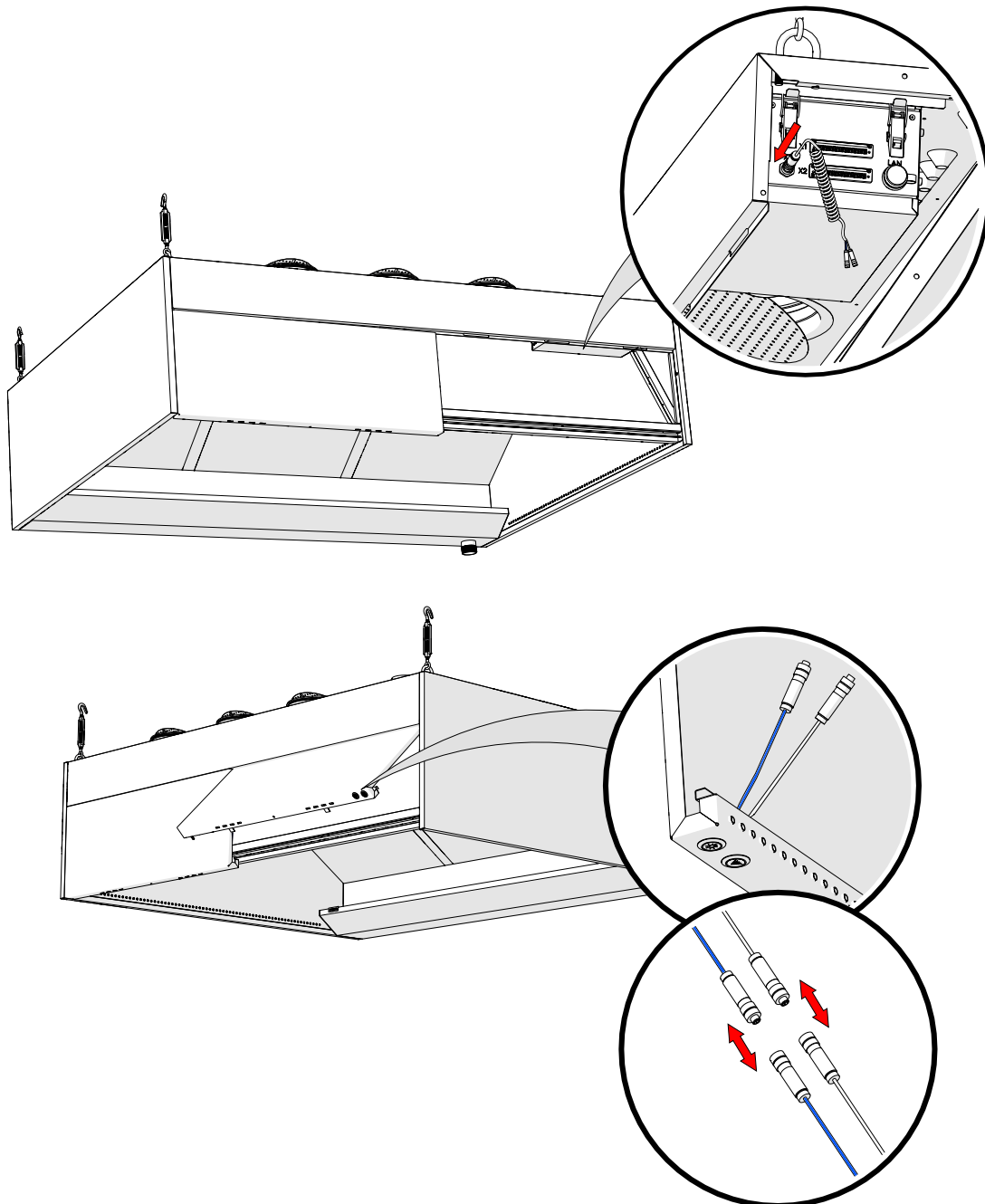
The status table is given in the table:

IO name	Value is 0	Value is 1
Working status	Status – OFF (Watermist is not working)	Status – ON (Watermist is working)
Critical error	Status – OFF (No fault in HM system)	Status – ON (Fault in HM system)
Maintenance	Status – OFF (HM system does not need maintenance)	Status – ON (HM system needs maintenance)

9. Closing the HM canopy front panel and connecting the buttons

Before closing the canopy front panel you must connect the front panel buttons with the HM control unit using the W3 spiral cable.

Connect the buttons located on the canopy front panel with the control unit only after all other connections have been completed and the the front panel can be closed.



10. Warranty information

The warranty of the HM control unit and water supply unit is subject to the following conditions:

- A two-year warranty is granted for the new product against possible defects or manufacturing defects, provided that:
 - The introduction of the HM Watermist canopy has been carried out by ETS NORD technician or authorized partners.
 - The annual maintenance of the device has been completed on time.
- HM control unit and water supply unit warranty covers the replacement and repair of the defective part.
- Replacement parts have a 90-day defect and manufacturing defect warranty from the date of original installation.
- The warranty takes effect from the date of commissioning.



ETS NORD AS

Address: Peterburi tee 53
11415 Tallinn
Estonia
Phone: +372 680 7360
info@etsnord.ee
www.etsnord.ee

ETS NORD Finland

Address: Pakkasraitti 4
04360 Tuusula
Finland
Phone: +358 401 842 842
info@etsnord.fi
www.etsnord.fi

ETS NORD Sweden

Address: Järsjögatan 7
69235 Kumla
Sweden
Phone: +46 19 554 20 50

Address: Pinjegatan 5
21363 Malmö
Sweden
Phone: +46 40-94 68 70

Address: Förrådsvägen 5
151 58 Södertälje
Sweden
Phone: +46 8 550 301 40

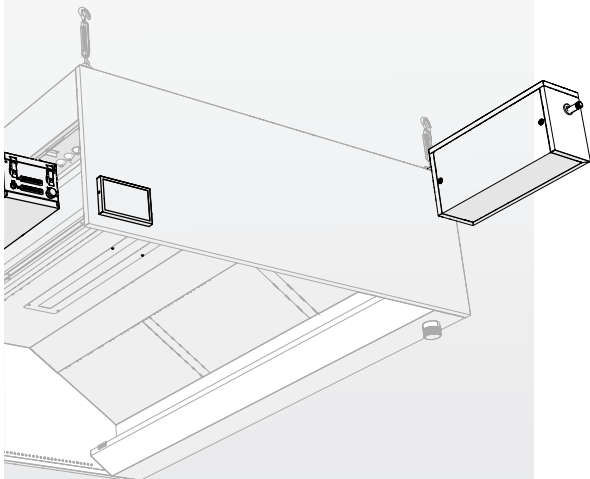
info@etsnord.se
www.etsnord.se

ETS NORD International

info@etsnord.com
www.etsnord.com

ETS NORD Ventilation Manufacturing LLC UAE

Sepin Rayo
sepin.rayo@etsnord.com
+971 5257 02916



Let's move the air together!