

# Planning aid for electrical installation

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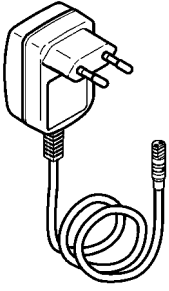
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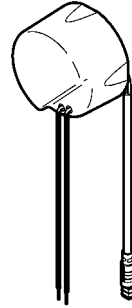
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# 1. Single power supply unit

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2030039823  
ACEX9002



2030039825  
ACEX9003

## I General information

### ⚠ Warning!

- Protect the power supply with a residual current device (RCD).

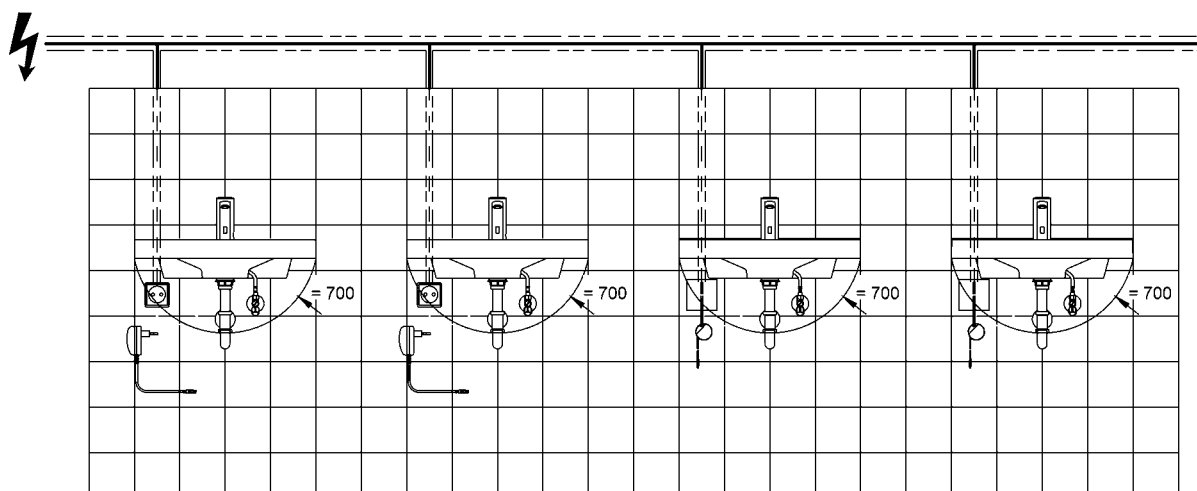
Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- 👉 Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- 👉 All technical connection regulations specified by the local water and electricity supply companies must be observed.
- 👉 The power supply should be switched off before any work is carried out.
- 👉 Lay all cables in an empty conduit.

Number of taps per power supply unit:	1
Operating voltage:	110-240 V AC
Output voltage:	7 V DC
Power:	
ACEX9002	0.3 VA
ACEX9003	0.12 VA

## II Connection example – standard taps

110-240 V AC



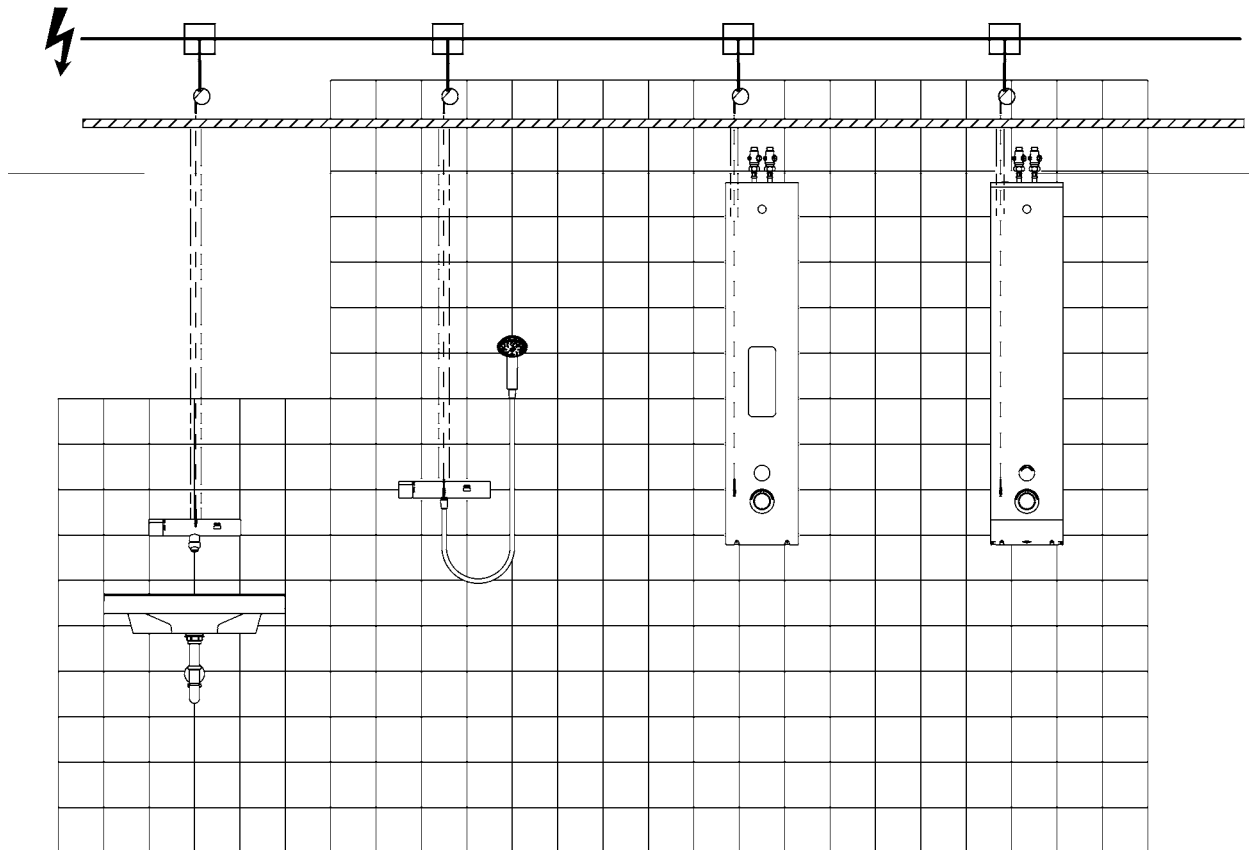
### Required materials

Provide on site:

- Wet-room junction box/socket
- Residual current device (RCD)
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

## III Connection example – wall taps, surface-mounted

110-240 V AC



### ⚠ Warning!

- Place the power supply unit outside the wet area.

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- 👉 Lay all cables in an empty conduit.

### Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

### Accessories

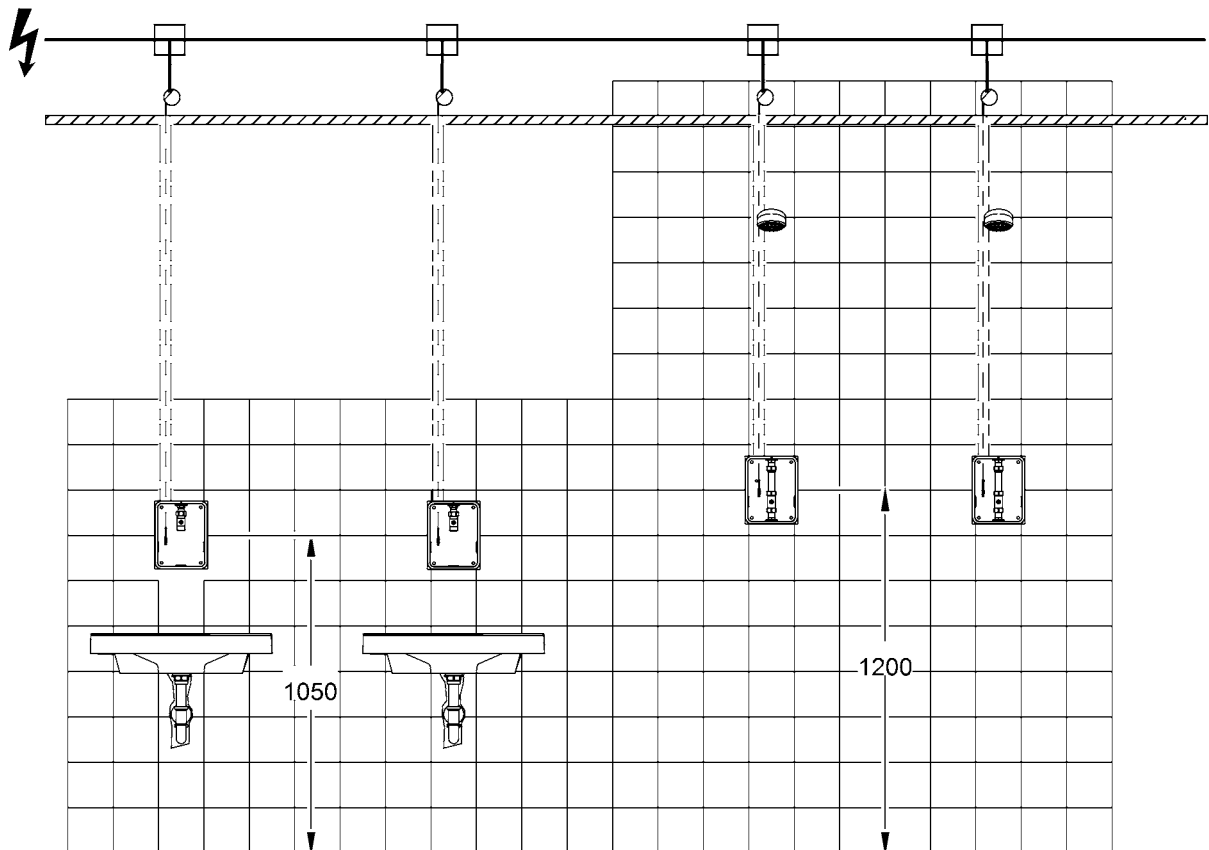
Extension cable 5 m ..... 2030043814  
(Per tap) ACEX9010

Wall-mounted power  
supply unit (7 W) ..... 2030039825  
ACEX9003

Wire assignment	
Red (RD)	+
Black (BK)	-

## IV Connection example – wall taps, flush-mounted

110-240 V AC



### ⚠ Warning!

- Place the power supply unit outside the wet area.

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

### Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

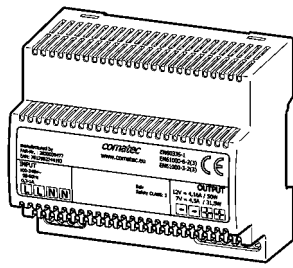
### Accessories

Extension cable 5 m ..... 2030043814  
(Per tap) ACEX9010

Wall-mounted power  
supply unit (7 W) ..... 2030039825  
ACEX9003

Wire assignment	
Red (RD)	+
Black (BK)	-

## 2. Multiple power supply unit



2030039477  
ACEX9001

Can be switched  
between 7 V and

### I General information

#### ⚠ Warning!

- Place the power supply unit outside the wet area.
- Protect the power supply with a residual current device (RCD).

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- 👉 Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- 👉 All technical connection regulations specified by the local water and electricity supply companies must be observed.
- 👉 Lay the cable (to be provided by the customer) from the power supply unit to the taps and loop it through.
- 👉 The power supply should be switched off before any work is carried out.
- 👉 Lay all cables in an empty conduit.

Cable length per power  
supply unit:

Depending on installation type and  
cable cross-section  
(see connection examples)

Number of taps per power  
supply unit:

Max. 16

Operating voltage:

110-240 V AC

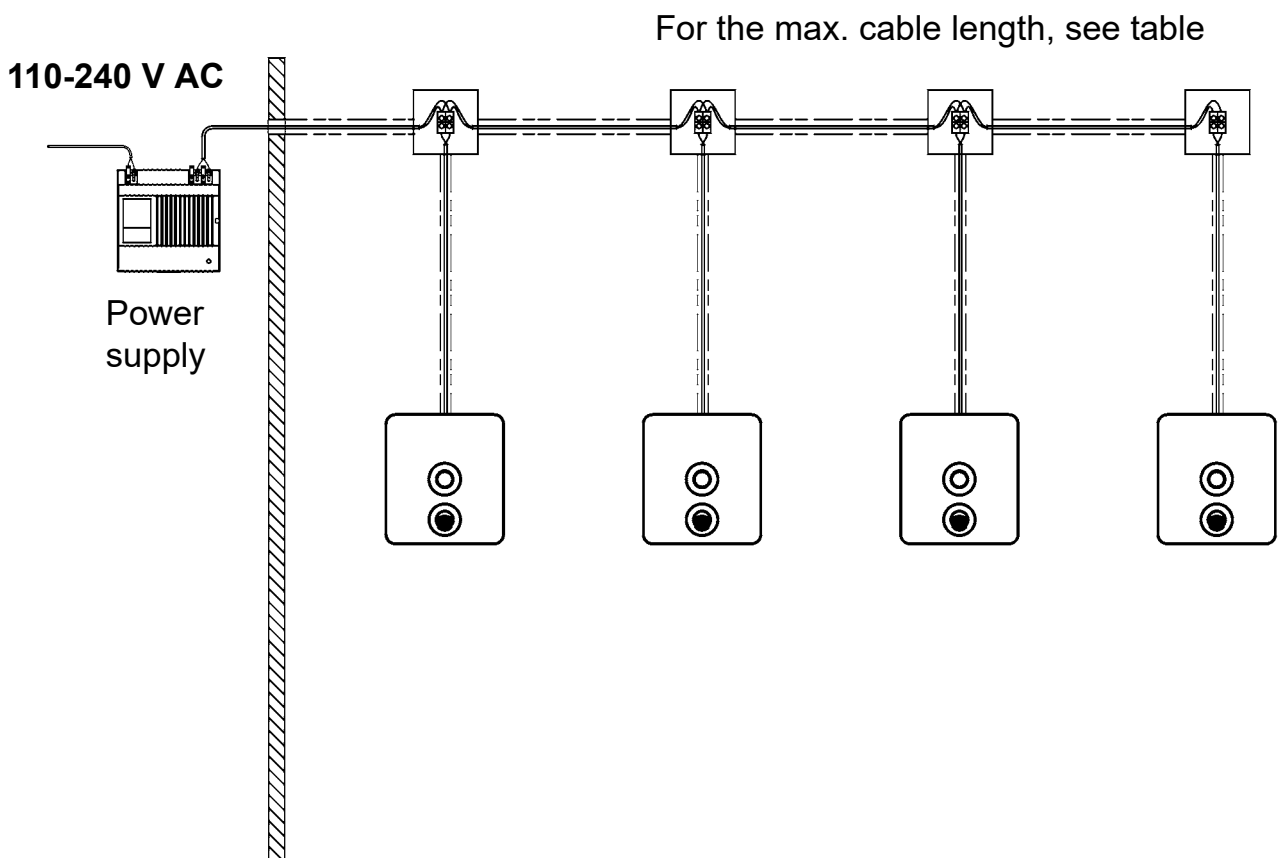
Output voltage:

7/12 V DC

Power:

31.5 W (7 VDC)  
50 W (12 VDC)

## II Connection example – line structure



### Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

### Accessories

Extension cable 5 m ..... 2030043814  
(Per tap) ACEX9010

Power pack ..... 2030039477  
ACEX9001

Wire assignment	
Red (RD)	+
Black (BK)	-

## Output voltage 12 V



### Caution!

Only for taps of lines F3 and F5.

		Cross-section in mm <sup>2</sup>				
		0.5	0.75	1	1.5	2.5
Number of taps	1	232m	348m	465m	697m	4462m
	2	116m	174m	232m	348m	581m
	3	77m	116m	155m	232m	387m
	4	58m	87m	116m	174m	290m
	5	46m	69m	93m	139m	232m
	6	38m	58m	77m	116m	193m
	7	33m	49m	66m	99m	166m
	8	29m	43m	58m	87m	145m
	9	25m	38m	51m	77m	129m
	10	23m	34m	46m	69m	116m
	11	21m	31m	42m	63m	105m
	12	19m	29m	38m	58m	96m
	13	17m	26m	35m	53m	89m
	14	16m	24m	33m	49m	83m
	15	15m	23m	31m	46m	77m
	16	14m	21m	29m	43m	72m

Max. cable length

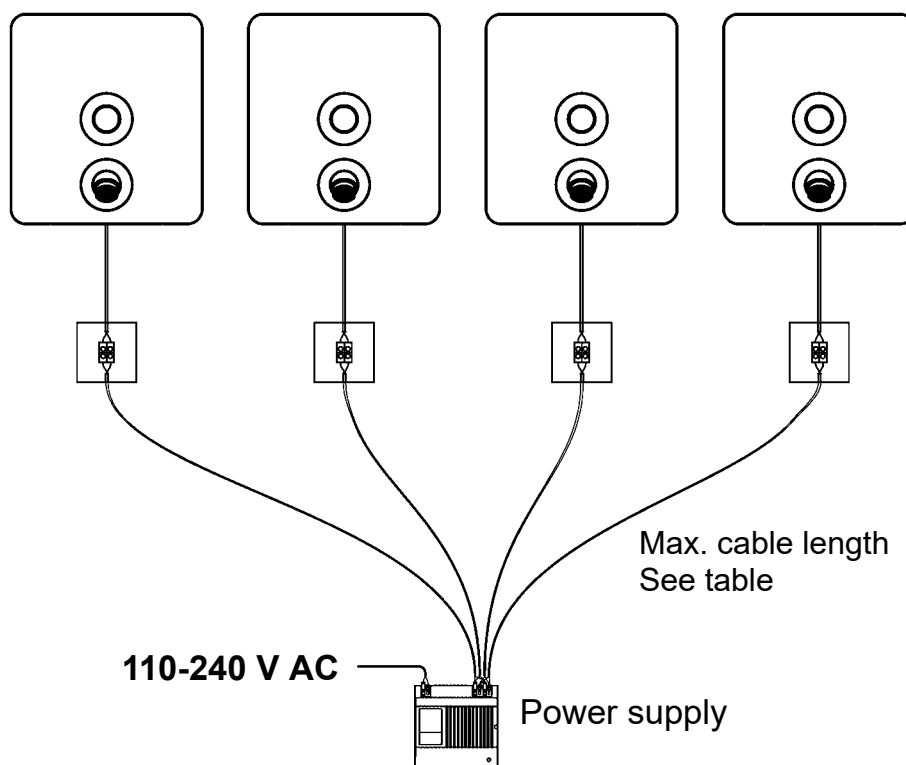


## Output voltage 7 V

		Cross-section in mm <sup>2</sup>				
		0.5	0.75	1	1.5	2.5
Number of taps	1	40m	60m	80m	120m	200m
	2	20m	30m	40m	60m	100m
	3	14m	20m	25m	40m	70m
	4	10m	15m	20m	30m	50m
	5	8m	12m	15m	25m	40m
	6	7m	10m	14m	22m	35m
	7	5m	8m	12m	19m	31m
	8	5m	8m	11m	16m	27m
	9	5m	7m	10m	12m	20m
	10	4m	6m	8m	12m	20m
	11	4m	6m	8m	12m	20m
	12	4m	5m	7m	11m	18m
	13	3m	5m	7m	10m	17m
	14	3m	5m	6m	9m	16m
	15	3m	4m	6m	9m	15m
	16	2m	4m	5m	8m	14m

Max. cable length

## III Connection example – star shape



		U: Output voltage	
		7V	12V
Q: Cross-section in mm <sup>2</sup>	0.25	20m	110m
	0.5	40m	230m
	0.75	60m	340m
	1	80m	460m
	1.5	120m	690m
	2.5	200m	1100m

**⚠ Caution!**  
12 V only  
for taps of  
lines F3  
and F5.

### Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

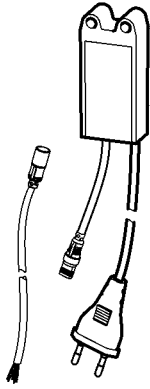
### Accessories

Extension cable 5 m ..... 2030043814  
(Per tap) ACEX9010

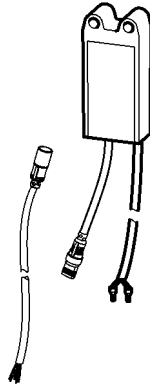
Power pack ..... 2030039477  
ACEX9001

Wire assignment	
Red (RD)	+
Black (BK)	-

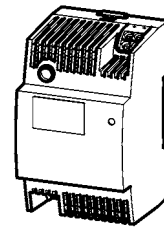
### 3. Connection of A3000open – without ECC function controller



2000100375  
ZAQUA007



2000102691  
ZAQUA094



2030068573  
ASEX1031

#### I General information

##### ⚠ Warning!

- Place the power supply outside the wet area in a separate room.
- Protect the power supply with a residual current device (RCD).

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- ☞ Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- ☞ All technical connection regulations specified by the local water and electricity supply companies must be observed.
- ☞ Lay the system cable (not included in delivery; see accessories) from the power supply to the taps and loop through.
- ☞ The power supply should be switched off before any work is carried out.
- ☞ Lay all cables in an empty conduit.

Cable length and number of taps per power supply unit:

Depending on the total power of the components to be connected

Operating voltage:

110-240 V AC

Output voltage:

24 V DC

Power:

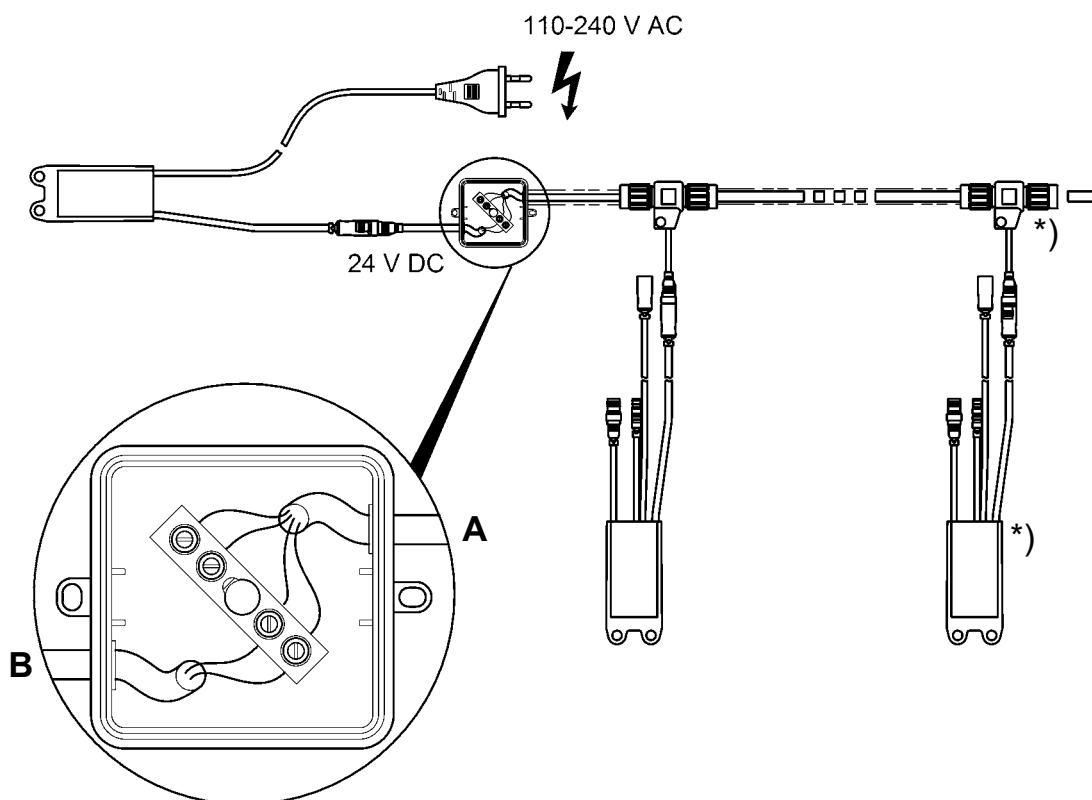
ZAQUA007, ZAQUA094

12 W

ZA3OP0025

60 W

## II Connection example – power supply unit 12 W



A	B
Red (RD)	Red (RD)
Blue (BU)	White (WH)
White (WH)	–
Black (BK)	–

\*) The placement of the A3000open components depends on the available installation space of the respective tap.

### Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for system cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

### Accessories

### Order No.

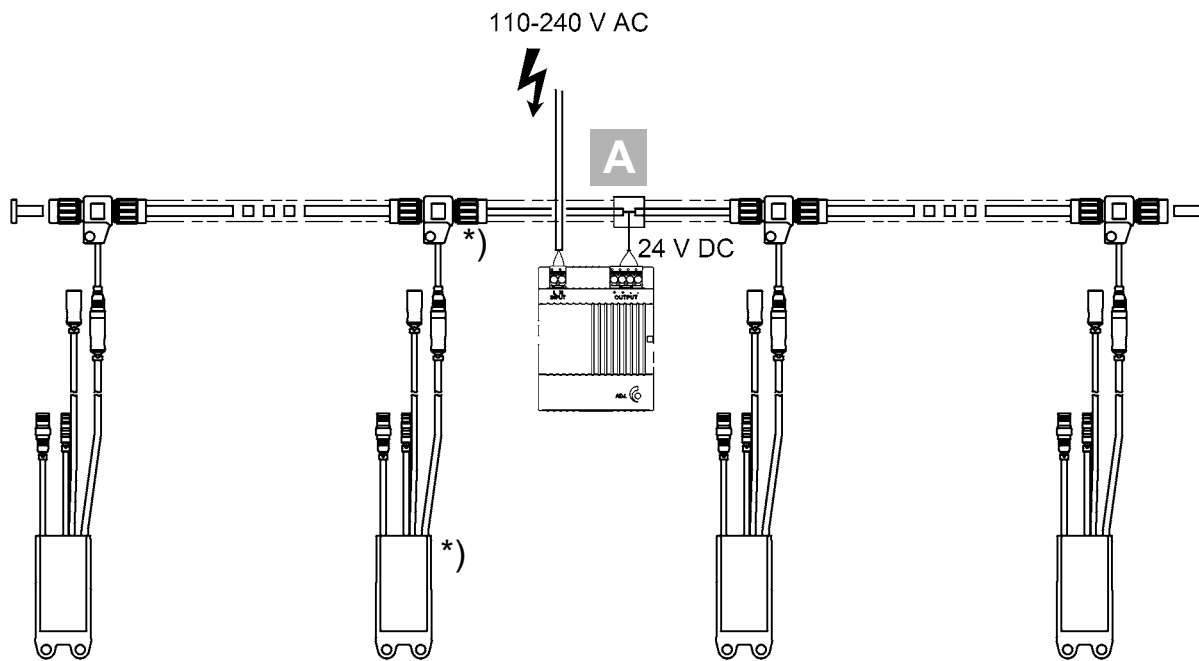
Extension cable 5 m . . . . .	2000101055
(Per tap if required)	ZAQUA073
Electronic T-distributor . . . . .	2000100853
(Per tap)	ZAQUA075
System cable	
Halogen-free 100 m . . . . .	2000104272
	ZAQUA011
Halogen-free 25 m . . . . .	2000104274
	ZAQUA012

System cable,

not halogen-free 100 m . . . . . 2000100801  
ZAQUA077

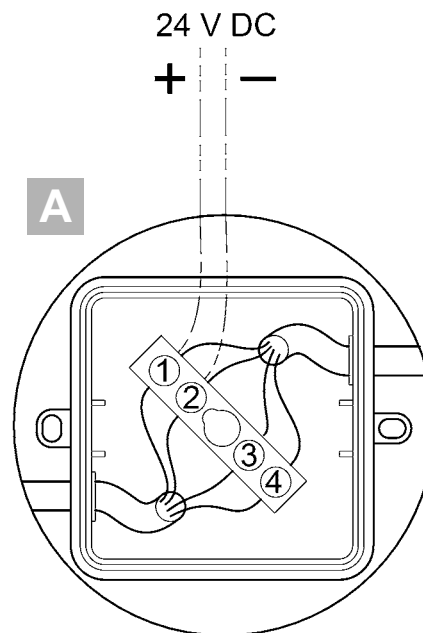
Not halogen-free 25 m . . . . . 2000100852  
ZAQUA078

### III Connection example – power supply unit 60 W



\*) The placement of the A3000open components depends on the available installation space of the respective tap.

- 1 Red (RD)
- 2 Blue (BU)
- 3 White (WH)
- 4 Black (BK)



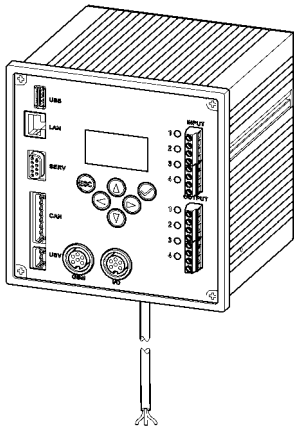
#### Required materials

Provide on site:

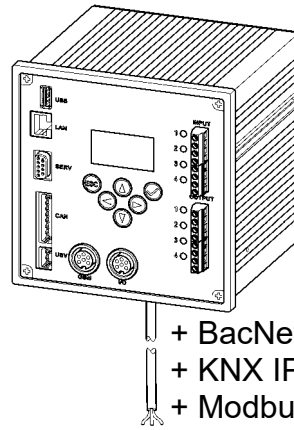
- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for system cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

<b>Zubehör</b>	<b>Best.-Nr.</b>
Extension cable 5 m . . . . .	2000101055
(Per tap if required)	ZAQUA073
Electronic T-distributor . . . . .	2000100853
(Per tap)	ZAQUA075
<b>System cable</b>	
Halogen-free 100 m . . . . .	2000104272
	ZAQUA011
Halogen-free 25 m . . . . .	2000104274
	ZAQUA012
Not halogen-free 100 m . . . . .	2000100801
	ZAQUA077
Not halogen-free 25 m . . . . .	2000100852
	ZAQUA078

## 4. Connection of A3000open – with ECC function controller



2000108123  
ZA3OP0011



2030016282  
ZA3OP0022

+ BacNet IP  
+ KNX IP  
+ Modbus IP

### I General information

#### ⚠ Warning!

- Place the ECC function controller outside the wet area in a separate room.
- Protect the power supply with a residual current device (RCD).

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- 👉 Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- 👉 All technical connection regulations specified by the local water and electricity supply companies must be observed.
- 👉 Lay the system cable (not included in delivery; see accessories) from the ECC function controller to the taps and loop through.
- 👉 The power supply should be switched off before any work is carried out.
- 👉 Lay all cables in an empty conduit.

Cable length and number of taps per ECC function controller:

Depending on the total power of the components to be connected:  
Max. 32 taps  
Max. 100 m per strand  
Max. 2 strands

Operating voltage:

110-240 V AC

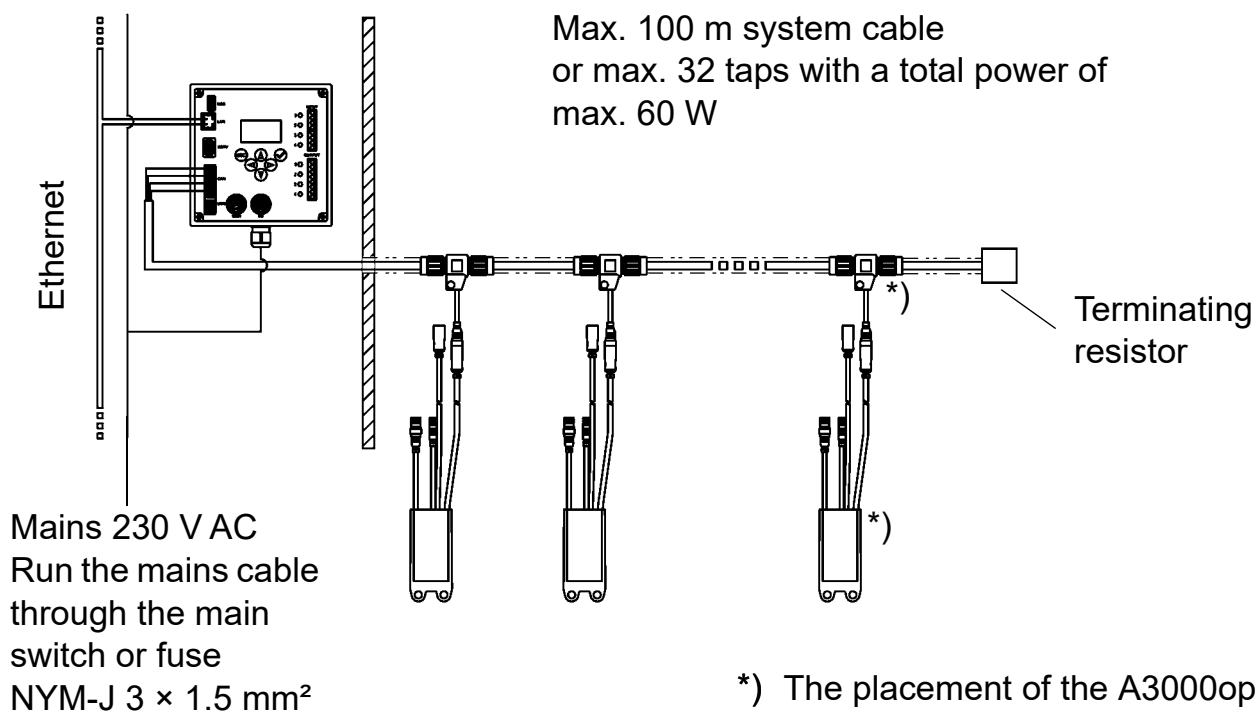
Output voltage:

24 V DC

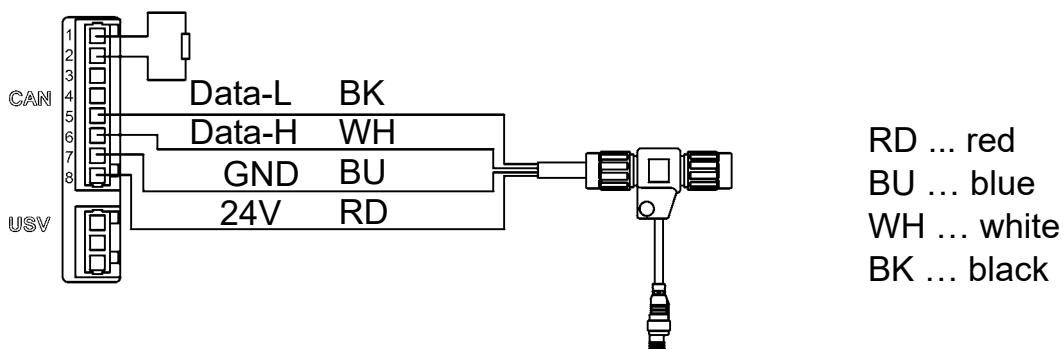
Power:

60 W

## II Connection example: 1 strand



\*) The placement of the A3000open components depends on the available installation space of the respective tap.



### Required materials

Provide on site:

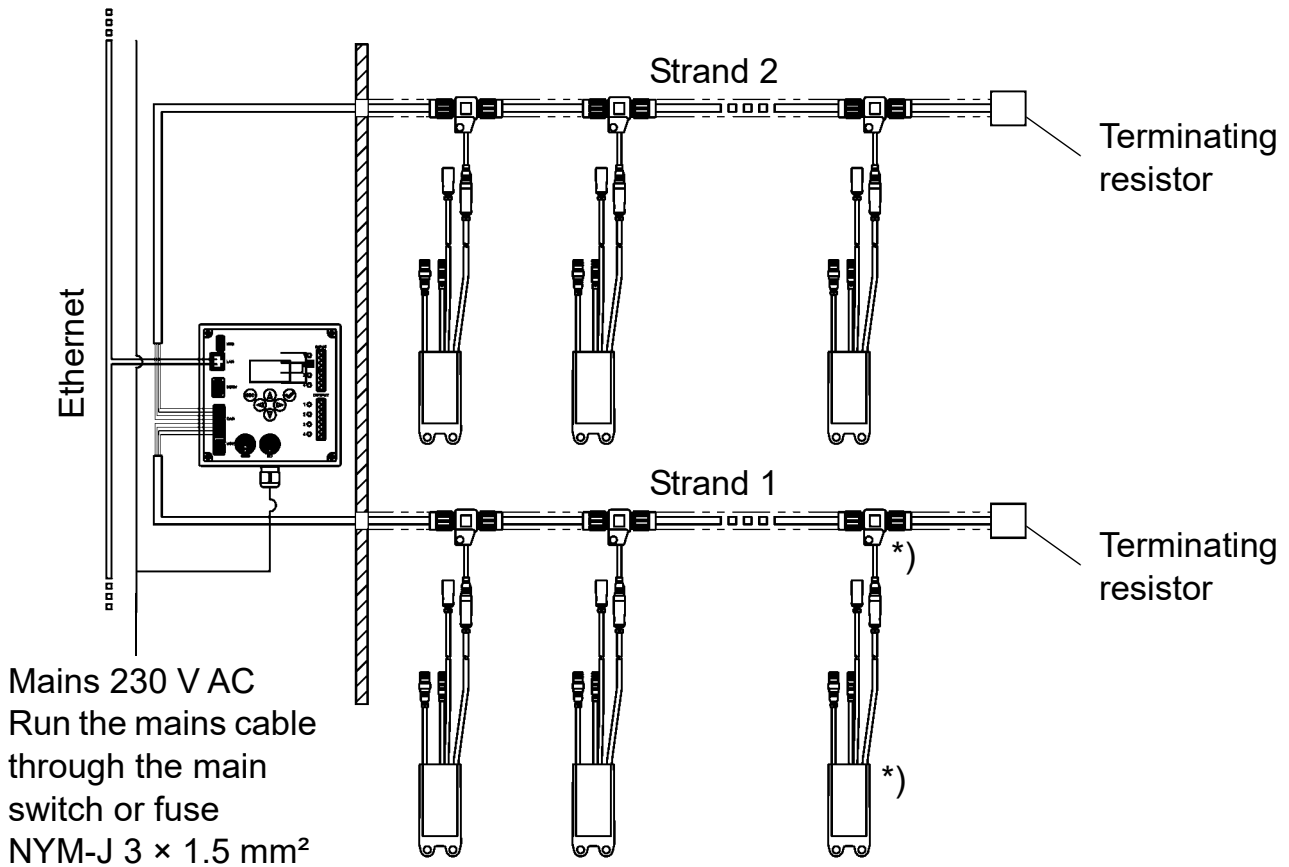
- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for system cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )



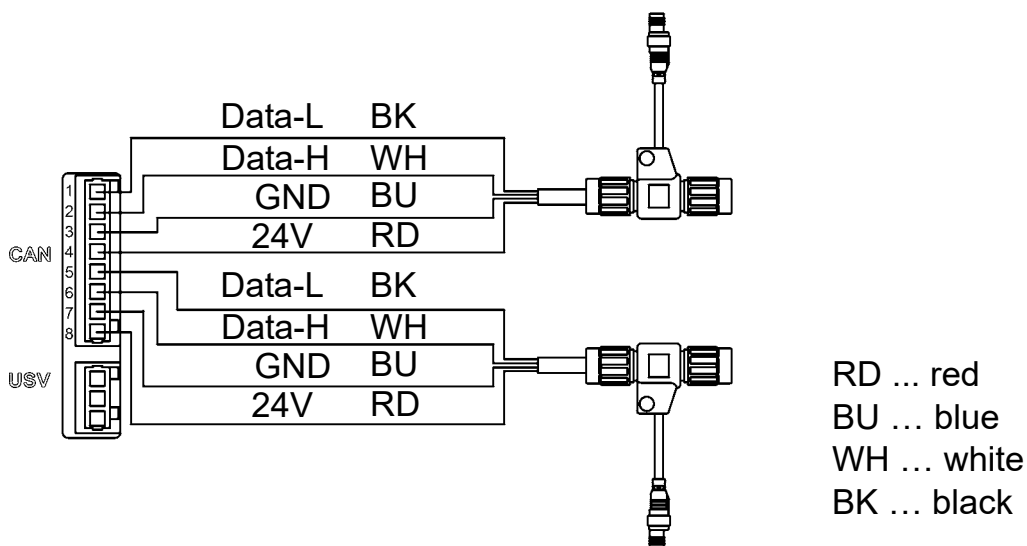
<b>Accessories</b>	<b>Order No.</b>
Extension cable 5 m . . . . .	2000101055
(Per tap if required)	ZAQUA073
Terminating resistor . . . . .	2000100847
	ZAQUA014
Electronics module . . . . .	Order number
with electronic T-distributor	depends on the ID
Screw-in temperature sensor	
Red . . . . .	2000100972
	ZAQUA017
Contact temperature sensor	
Red . . . . .	2000100975
	ZAQUA020
Blue . . . . .	2000100976
	ZAQUA021
Plug-in temperature sensor	
Red . . . . .	2000100973
	ZAQUA018
Blue . . . . .	2000100974
	ZAQUA019
 System cable	
Halogen-free 100 m . . . . .	2000104272
	ZAQUA011
Halogen-free 25 m . . . . .	2000104274
	ZAQUA012
Not halogen-free 100 m . . . . .	2000100801
	ZAQUA077
Not halogen-free 25 m . . . . .	2000100852
	ZAQUA078
 Control cabinet ECC2	
Fully wired	
Main switch included . . . . .	2030069338
	ZA3OP0035

## III Connection example 2 strands

Max. 100 m system cable per string or  
max. 32 taps with a total power of max. 60 W

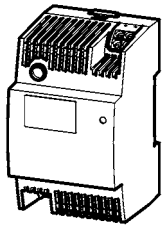


\*) The placement of the A3000open components depends on the available installation space of the respective tap.

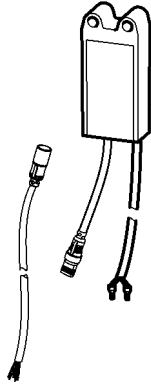


**Required materials and accessories**  
See connection example for 1 strand

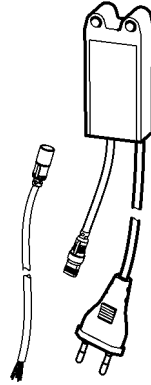
## 5. Thermal disinfection option – hydraulic taps



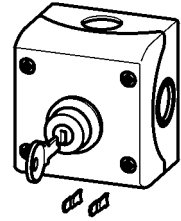
2030068573  
ASEX1031



2000102691  
ZAQUA094



2000100375  
ZAQUA007



2000102675  
ZAQUA022

### I General information

#### ⚠ Warning!

- Operate the taps only with safety extra low voltage (SELV). The components must not be earthed.
- Place the key switch outside the wet area.
- Protect the power supply with a residual current device (RCD).

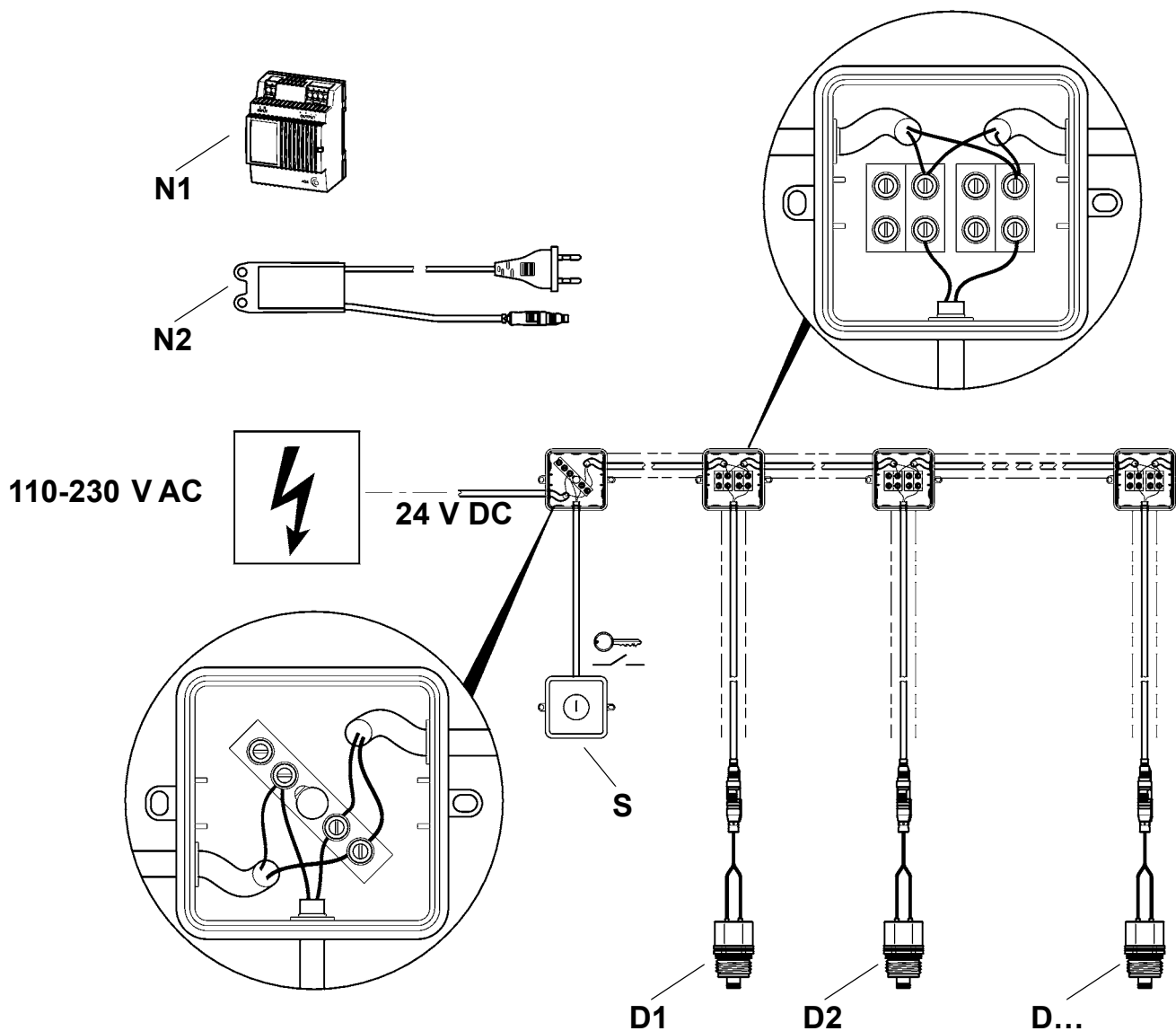
Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

- ☞ Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- ☞ All technical connection regulations specified by the local water and electricity supply companies must be observed.
- ☞ Lay the cable (not included in the scope of delivery) from the key switch to the taps and loop it through.
- ☞ The power supply should be switched off before any work is carried out.
- ☞ Lay all cables in an empty conduit.

Cable length and number of taps per power supply unit:	Max. 26 taps on max. 100 m length
Operating voltage:	110-240 V AC
Output voltage:	24 V DC
Power:	
ZA3OP0025	60 W
ZAQUA007, ZAQUA094	12 W

## II Connection example

Thermal disinfection is started manually for a group of taps via an external key switch.



No.	Name
N1	Power supply unit 60 W; Max. 26 taps
N2	Power supply unit 12 W; Max. 6 taps
S	Key switch
D1	Shower 1
D2	Shower 2
D...	Shower ...

## Required materials

Provide on site:

- Wet-room junction box
- Residual current device (RCD)
- Empty conduit for connection cable bypass solenoid valve ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )
- Empty conduit for cable ( $\varnothing_{\text{inside}} = \text{min. } 20 \text{ mm}$ )

## Accessories

## Order No.

Power supply unit (230 V AC/24 V DC)

Plug power supply unit (12 W) . . . . . 2000100375  
ZAQUA007

Power supply unit (12 W)

with wire end ferrules . . . . . 2000102691  
ZAQUA094

Power pack (60 W) . . . . . 2030068573  
ASEX1031

Bypass solenoid valve cartridge

(SMARTWAVE, F5LM and F5ST wall-mounted taps)

for screwing in . . . . . 2000111145  
ZCTRL0001

Connection cable 5 m (2-pole) . . . . . 2030043814  
ACEX9010

Wire assignment	
Red (RD)	+
Black (BK)	-

Bypass solenoid valve cartridge


(AQUALINE-THERM)

for plugging in . . . . . 2000100431  
ZAQUA015

Connection cable 5 m (3-pole) . . . . . 2000100432  
ZAQUA016

Wire assignment	
Yellow (YE)	+
Green (GN)	-

Thermal disinfection set for shower panels F5ST

 in conjunction with optional hygiene unit and without external control with key switch

Bistable (6 V) . . . . . 2030057940  
ACXT2001

 External control with key switch

### **Warning!**

No automatic thermal disinfection process. Manual sequence control required.

Monostable (24 V) . . . . . 2030057958  
ACXT2002

Connection cable 5 m (2-pole) . . . . . 2030043814  
ACEX9010


Wire assignment	
Red (RD)	+
Black (BK)	-

## Performing thermal disinfection

### **Warning!**

- The power source consisting of the residual current device (RCD), power supply unit and key switch must be located outside the wet area in a separate room.
- When using timers, suitable measures must be taken so that thermal disinfection is not triggered in an uncontrolled manner and persons are not harmed.
- Observe the local accident prevention regulations (UVV).

Failure to observe this instruction can result in injuries due to scalding.

 The tap-related setting of the scald protection before and after the flushing process is not necessary.

### **5.1** Operate the key switch.

- The bypass solenoid valve cartridges of the taps open.
- Unmixed hot water flows into the shower room via the shower head (volume flow = 0.06 l/s). The flushing temperature corresponds to the temperature in the circulation pipe. The purging duration corresponds to the actuation duration of the key switch.

### **5.2** Manually log room, tap, date, time, temperature and duration of thermal disinfection.

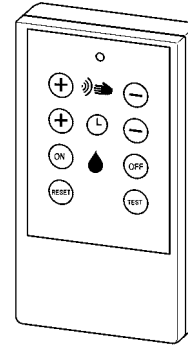
### **5.3** After thermal disinfection, manually empty the remaining hot water (> 45°C) at each shower tap. To do this, turn on each tap.

## 6. Optional thermal disinfection – electronic taps 1

with remote control



**F3/F5**  
2030036654  
ACEX9005



**Protronic/AQUACONTACT**  
2000101087  
ZAQUA091

### I General information

#### ⚠ Warning!

- Operate the taps only with safety extra low voltage (SELV). The components must not be earthed.
- Protect the power supply with a residual current device (RCD).

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

#### ⚠ Warning!

- Observe the local accident prevention regulations (UVV).

Failure to observe this instruction can result in injuries due to scalding.

☞ Thermal disinfection of each tap is triggered using the remote control. The thermal disinfection process is controlled by the sensor.

☞ All times are adjustable with the remote control.


☞ Thermal disinfection is logged for the F3 and F5 tap lines.

## II Thermal Disinfection Cycle

- Start Thermal Disinfection
- Start delay  
The solenoid valve does not open until after the pre-set start delay.  
Hot water flows 10 s after start of the thermal disinfection at the earliest.
- Application time  
Hot water flows for 2 min.  
After 2 min, the water flows intermittently for the rest of the pre-set time (application phase).
- Safety window  
The water in the circulation line will be cooled to the pre-set temperature during this time.
- Cooling phase  
The remaining hot water is flushed out of the tap.

### Accessories

### Order No.


 No external control with key switch. The thermal disinfection process is automatic.

Bypass solenoid valve cartridge

Not for shower panels F5ET . . . . . 2030003033  
EAQFU0001

Thermal disinfection set for shower panels F5ET

Bistable (6 V) . . . . . 2030057940  
ACXT2001

 External control with key switch  
(See connection example on page 20)

### **Warning!**

No automatic thermal disinfection process. Manual sequence control required.

Bypass solenoid valve cartridge

Not for shower panels F5ET  
for screwing in . . . . . 2000111145  
ZCTRL0001

Connection cable 5 m (2-pole). . . . . 2030043814  
ACEX9010

Thermal disinfection set for shower panels F5ET

Monostable (24 V) . . . . . 2030057958  
ACXT2002

Connection cable 5 m (2-pole). . . . . 2030043814  
ACEX9010

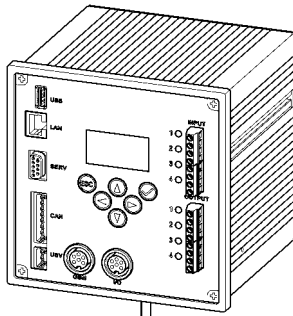
Wire assignment	
Red (RD)	+
Black (BK)	-

Wire assignment	
Red (RD)	+
Black (BK)	-



## 7. Optional thermal disinfection – electronic taps 2

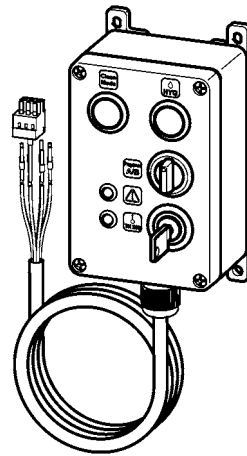
with ECC function controller



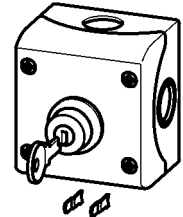
2000108123  
ZA3OP0011

+ BacNet IP  
+ KNX IP  
+ Modbus IP

2030016282  
ZA3OP0022



2030068513  
ZA3OP0034



2000102675  
ZAQUA0022

### General information

#### ⚠ Warning!

- Operate the taps only with safety extra low voltage (SELV). The components must not be earthed.
- Protect the power supply with a residual current device (RCD).
- Place the control box outside the wet area in a separate room.

Failure to observe these instructions can result in death or material damage due to electric shock or fire, for example.

#### ⚠ Warning!

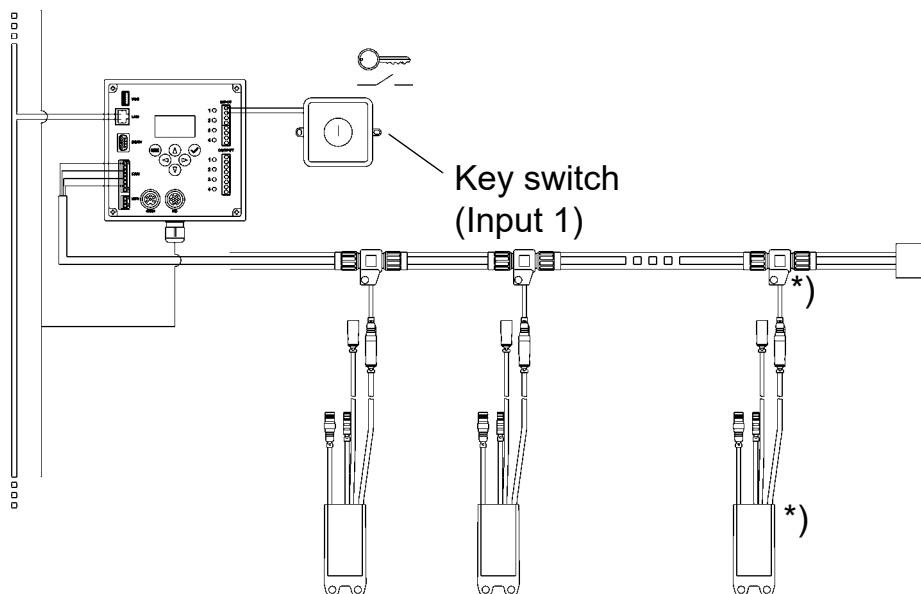
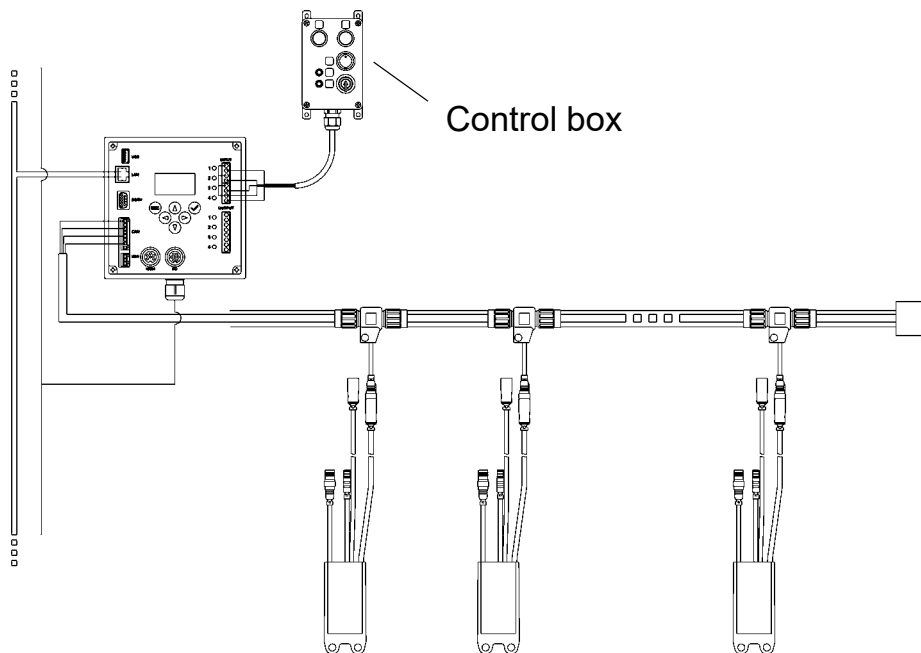
- When using an automatic start, suitable measures must be taken so that thermal disinfection is not triggered in an uncontrolled manner and persons are not harmed.
- Observe the local accident prevention regulations (UVV).

Failure to observe this instruction can result in injuries due to scalding.

- 👉 Planning and installation must be performed only by a qualified expert in accordance with legal requirements and recognised engineering standards.
- 👉 All technical connection regulations specified by the local water and electricity supply companies must be observed.
- 👉 The power supply should be switched off before any work is carried out.
- 👉 Lay all cables in an empty conduit.

## II Connection example

- ☞ Manual thermal disinfection is triggered with the control box or a key switch. The thermal disinfection process is controlled and logged by the ECC function controller.
- ☞ Automatic thermal disinfection is started with the ECC function controller. The thermal disinfection process is controlled and logged by the ECC function controller.
- ☞ Connection of A3000open siehe [Kapitel 4](#).



\*) The placement of the A3000open components depends on the available installation space of the respective tap.



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