

Installation and service manual

IP66 Weatherproof housing SMD-WH

Please read this manual **before** storing, handling,
installing, mount or power the unit.



GANZ

This installation and service manual (edition 01 - 10/2000) applies to weatherproof housing SMD-WH,
power supply unit SMD-WH-PS, mounts SMD-WH-CM and SMD-WH-WM,
and sunshield SMD-WH-SS (valid from 2000)

Contents

Introduction

Intended use	4		
Electromagnetic compatibility	4	Final assembly	11
Identification plate	4	Installing the power supply unit	12
Safety instructions		Preparing the connections	12
Danger of electric shock	5	Connectors in the power supply unit	13
Installation and maintenance	5	Operation without protocol converter	14
Symbols used in this manual	5	Operation with protocol converter	15
Product description		Finishing off the installation	16
List of parts supplied	6	Operation and maintenance	
Accessories	6	Trouble shooting	17
Function overview	6	Disassembly	18
Components	7	Replacing the fuse	18
Installation		Cleaning	19
Preparations	8	Proper disposal	19
Attaching the mount	9	Technical specifications	20
Dismantling the housing	9	Dimensions	22
Mounting the base plate	10		
Operating the fan	10		
Installing the camera	11		

Introduction

This installation and service manual is intended for persons (electricians and service personnel) responsible for installing and maintaining the housing and the dome camera system. These persons must be acquainted with the electro-technics regulations and follow them at all times. This manual is not suitable for persons who lack proper specialist knowledge.

Intended use

The weatherproof housing SMD-WH is designed to receive a dome camera system from the Computar SMD series. It is intended for outdoor mounting and protects the installed dome camera system from water, dirt, moisture and damage. Other uses are not permissible.

Please contact us if you have any questions about the housing or camera that are not answered in this manual.

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Electromagnetic compatibility

The weatherproof housing SMD-WH have been tested and marked in compliance with European directive 89/336.

Identification plate

For the SMD-WH housing you will find the type number on the box. For the SMD-WH-PS you will find the identification number both on the box and on a label on the main board. These numbers permit precise identification. Make a note of them for quoting when you have questions or want to order spare parts.

Safety instructions

Danger of electric shock

- Only install the camera, power supply unit and ancillary devices to the correct mains supply.
- Only use the SMD-WH-PS power supply unit.
- Disconnect the power supply unit from the mains and from all other devices in the event of a malfunction.
- Ensure that only qualified personnel (electricians) are assigned to the installation and maintenance of the device.
- Only store the devices in places that are free of damp and are protected from the weather.
- If the safe operation of a device can no longer be guaranteed, it must be stopped and secured against accidental restart.

Safe operation is no longer possible if, for example:

- the device, power supply unit or cables bear visible signs of damage
- the device, power supply unit or cables no longer function properly
- the device has been penetrated by objects or moisture
- the device was stored inappropriately for a long time, or subjected to stress during transport.

If so, have CBC's technical department check the unit.

Installation and maintenance

- The installation procedure described in this manual may only be performed by experienced and qualified personnel. The relevant electro-technical regulations are to be observed and met at all times.
- During installation of the housing, follow the reference material that comes with those devices that operate in conjunction with it, e.g. monitor screens or control units. Here you will find important safety instructions and information on approved uses of the device.
- Carry out all the maintenance tasks described in this manual. Performing work not described in the manual could result in personal injury, or damage to the device or material assets.
- Ensure that a safe foothold is available during work under ceilings, up masts or in other high places. Only use safety ladders. Use safety belts if necessary.

Symbols used in this manual

Safety instructions in this manual are twofold:



Danger of electric shock

Failure to observe safety instructions marked with this symbol could result in electric shock. This symbol denotes immediate danger.



Warning

This symbol warns you of possible damage to the device or other objects.

You will also be given tips that make operation easier.



Note

This symbol denotes a special tip on how to handle the device.

Product description

List of parts supplied

- 1 Weatherproof housing SMD-WH with heater, fan and quick-mounting plate, fully wired
- 1 Packet of silica gel
- 1 Installation and service manual

Accessories

- 1 Power supply unit SMD-WH-PS
- 1 Set of mounting components, consisting of:
 - 4 Fixing brackets with screws
 - 1 Seal for the cover of the power supply unit
- 1 Ceiling mount SMD-WH-CM with prefabricated connecting cable
- 1 Wall mount SMD-WH-WM with prefabricated connecting cable and stopper
- 1 Sunshield SMD-WH-SS
- 1 Computar SMD dome camera:
 - SMD 08P-II
 - SMD 12P-II
 - SMD 20P
 - SMD 16C

Function overview

The IP66 weatherproof housing SMD-WH and mounts are made of high-quality, non-corroding aluminium. The power-supply housing is composed of aluminium and protected by a thick coat of paint.

SMD-WH is specially designed for the quick and easy installation of the SMD dome camera system. The device comes completely prewired. The dome camera system itself can be located on the quick-mounting plate in a few simple steps.

The housing is fitted with a controlled heater and a fan. The heater and fan switch on automatically at low temperatures to guarantee top performance of the camera at all times.

The two different mounts allow the housing to be fixed to ceilings or walls and poles respectively. The entire cable harness is routed within the mount and housing. A rigid casing also protects it.

The optional sunshield offers additional cooling.

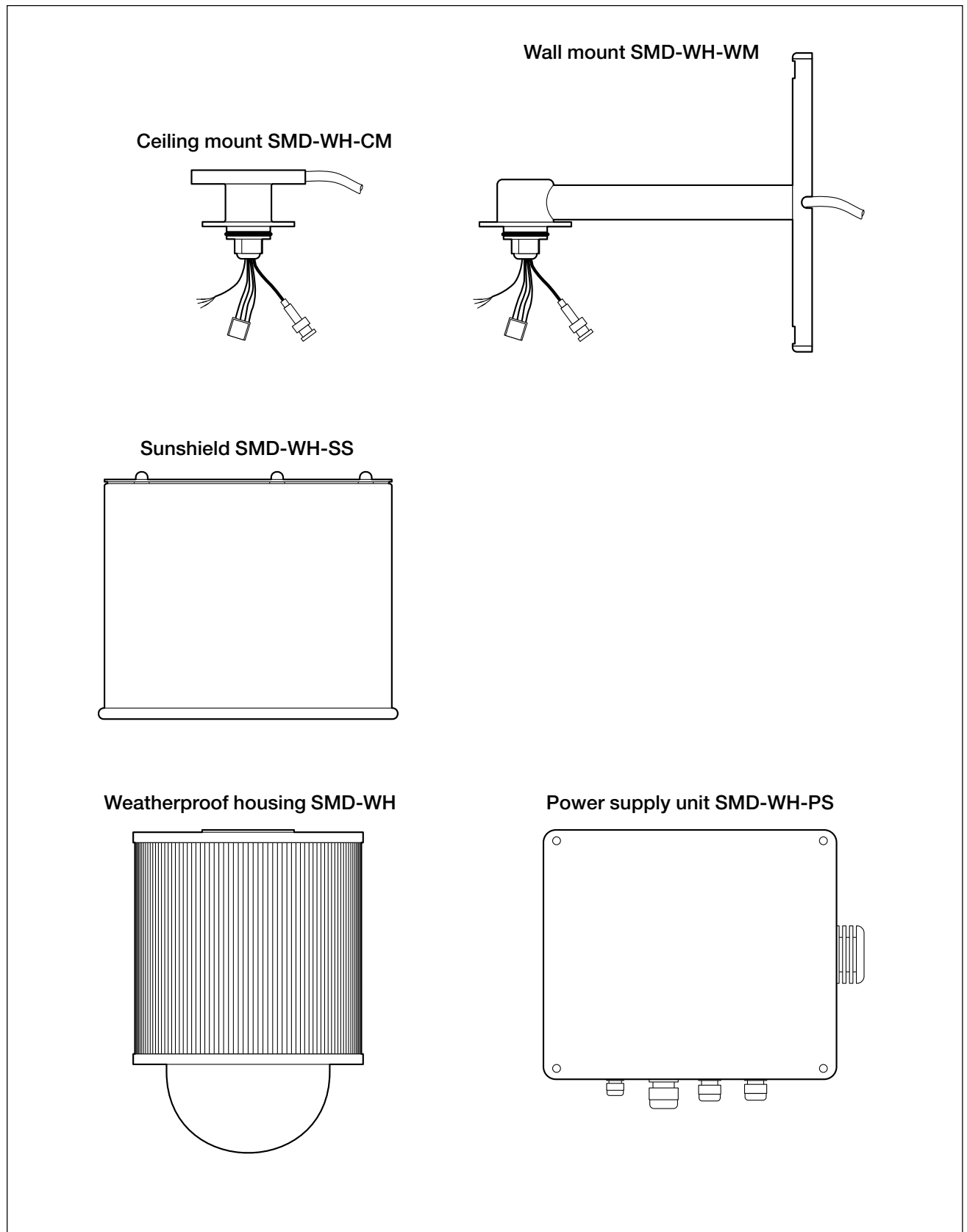


Warning

Owing to the dissipation effects of strong winds and high humidity, the ambient temperature of the installation site can fall well below the temperature measured in a shielded place. Be sure to allow for this possibility if the weatherproof housing is to be used in extreme conditions (e.g. on bridge piers or high-rise buildings).

Components

The system consists of the following parts:



Installation

Preparations

The device can be mounted in various ways depending on the customer's requirements. The details of each case cannot be given here. The following points do however apply universally. Be sure to observe them.

**Danger of electric shock**

Only use the power supply unit provided, i.e. SMD-WH-PS.

**Danger of falling**

Ensure that a safe foothold is available during installation work in high places. Only use safety ladders. Use safety belts if necessary.

**Warning**

Choose the installation site so that the power supply unit will not be exposed to extreme temperatures.

The ambient temperature must lie between -20 °C and +40 °C.

- Do not place the power supply unit next to radiators or other heat sources. Avoid locations that are exposed to direct sunlight.
- z Ensure that the load bearing force of ceilings, walls and attached structures can safely support the weight of the whole system. Also allow for movement and vibration of the camera.
- Install the power supply unit where it can be easily accessed at all times.
- Ensure that enough space is available for laying the cables.
- Ensure that the heat sink located on the outside of the power supply can dissipate heat freely.

Attaching the mount

Mount SMD-WH-CM is for attaching the housing to solid ceilings. Mount SMD-WH-WM is for attaching the device to walls.

- Using three screws, fix ceiling mount SMD-WH-CM to a ceiling with adequate load bearing capacity, or
alternatively, slide on the supplied end caps, and fix wall mount SMD-WH-WM to a wall using two screws.
- Use the appropriate fittings to ensure secure mounting, e.g. wall plugs, underlay washers, split washers, self-locking bolts and screws.
- Route the cable harness out of the mount either towards the back or to the side.
- If necessary make an additional seal around the cable harness where it passes through the mount or other surfaces (e.g. brick-work) with a suitable filler (e.g. silicon).
- Finally, check that the mount has been securely fastened.

Dismantling the housing

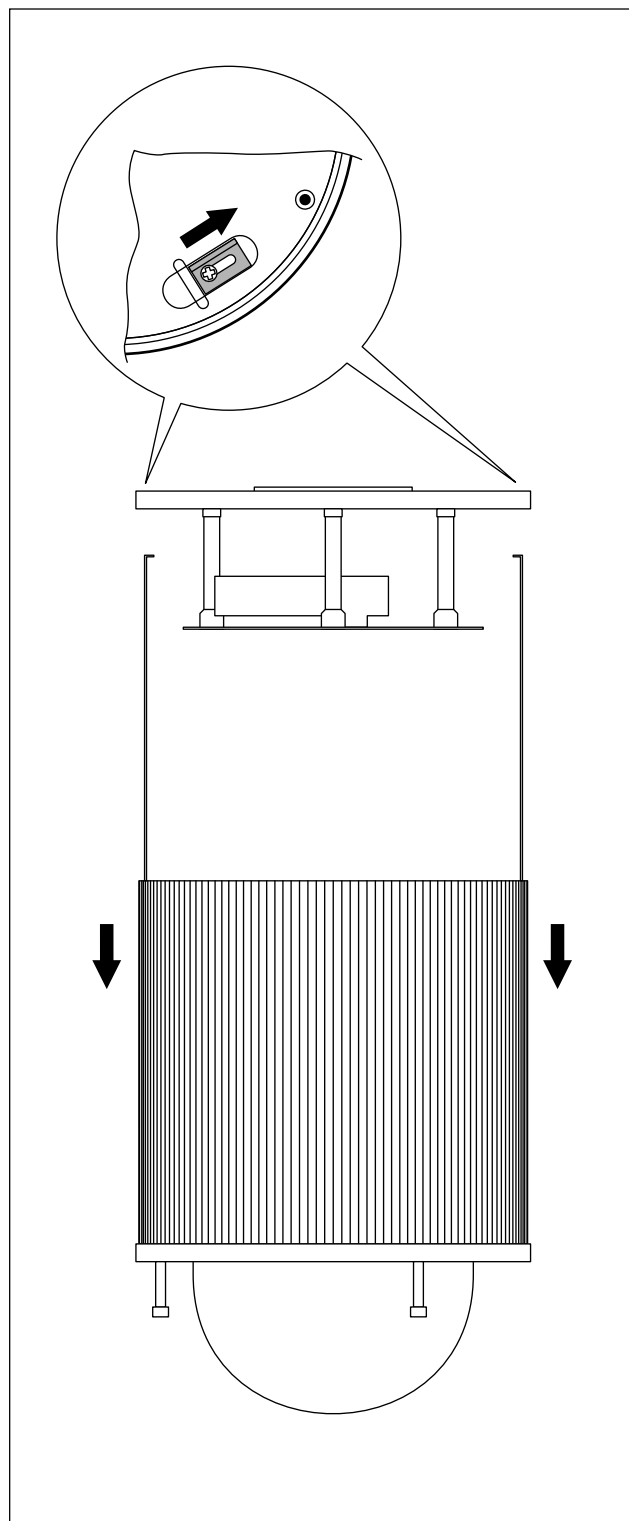
- By way of preparation, place the housing on a level surface from which it cannot roll off.
- Loosen the three Allen screws on the lower part of the housing and separate the housing itself from the base plate. This allows the lower part to be separated of about 150 mm.
- Loosen the two red safety fastenings on the base plate and unhook both safety rods.



Warning

The base plate is now completely detached from the rest of the housing.

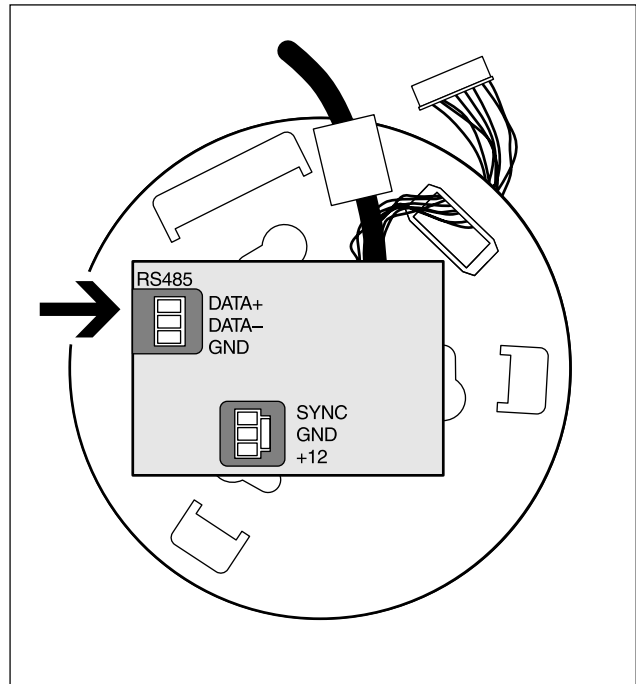
- If the optional sunshield is being used, completely unscrew the three Allen screws in the cover of the sunshield and detach the upper disk from the cylinder.



Mounting the base plate

The base plate of the housing contains the heater and fan as well as the quick-mounting plate for installing the camera. The quick-mounting plate has a free 3-pole connector for the data lines (RS485).

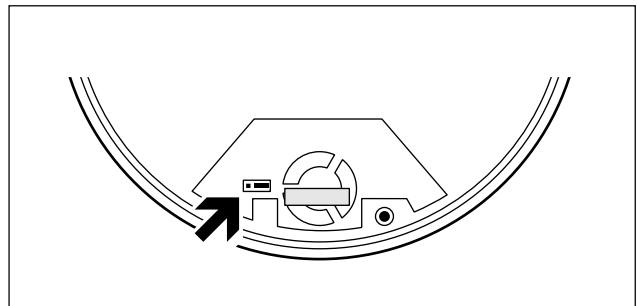
- Remove the nuts and split washers from the base plate.
- If necessary, position the cover of the sunshield on the base plate and align using the grub screw.
- Pass the mount wires through the opening in the base plate, align the base plate (the grub screw must be level with the borehole in the mount), and position the base plate squarely on the mount. Ensure that the packing rings are positioned correctly.
- Attach the split rings and nuts, and tighten them uniformly. Ensure that the base plate – and the sunshield if it is being used – does not tilt.
- Remove the plug from connector RS485. Insert the three unattached cables from the mount into the terminal screws of the plug as follows:
Green = DATA +
Orange = DATA –
White = GND
- Push the plug firmly onto connector RS485.
- Push the green plug firmly onto connector XP1 on the heater circuit board.
- Connect the BNC plug to the BNC connector of the quick-mounting plate.



Operating the fan

The ventilator on the heater circuit board can be started automatically or manually. In automatic mode the ventilator always switches on together with the heater. In manual mode the ventilator runs continuously. You can select the operating mode using the jumper on the heater circuit board.

- Push the jumper onto the two right-hand contacts (position JB) to select automatic ventilator mode (factory setting).
- Push the jumper onto the two left-hand contacts (position JA) to make the ventilator run continuously. The ventilator will start as soon as power is supplied the heater circuit board.



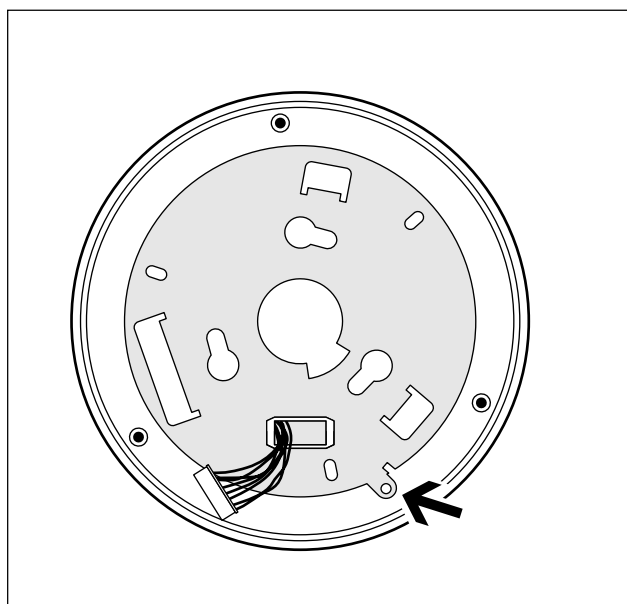
Installing the camera



Warning

Before installation read the installation manual that comes with the SMD camera.

- Lift the camera under the quick-mounting plate and open the side flap in the camera housing.
- Push the 9-pole plug from the quick-mounting plate firmly onto the connector in the camera housing. If necessary, switch over the switch next to the connector and close the side flap again.
- Position the camera in the bore holes on the quick-mounting plate using the three clamps, press down slightly and turn clockwise until the clamps engage.
- Turn the safety lever on the camera housing and secure on the quick-mounting plate with a screw. Finally, check once again that the camera is securely fastened on the base plate.



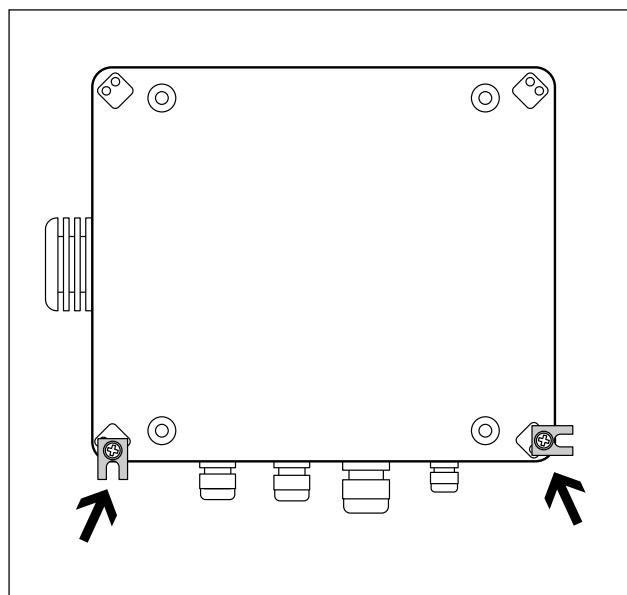
Final assembly

- Tearing its plastic enclosure, place the supplied silica gel packet on the quick-mounting plate and fix it down (with scotch tape or cable ties).
- Lift the housing under the base plate and hook in both safety rods.
- Secure the safety rods using the red fastenings.
- Carefully slide the housing onto the base plate. Be careful not to squash or damage any cables. Ensure that the packing rings on the base plate are positioned correctly.
- Tighten the three Allen screws on the dome uniformly.
- If the optional sunshield is being used, slide the cylinder over the weatherproof housing and fasten it to the cover using the three Allen screws.
- Finally, check once again that the whole structure is secure.

Installing the power supply unit

The power supply unit comes with four fixing brackets and screws. The clips can be attached to the bottom of the power supply unit for external mounting on a suitable surface.

- Arrange the clips as desired and secure them using the self-tapping cross-recessed screws.
- Mount the power supply near the weatherproof housing using a suitable screw in each of the four fixing brackets.
- Use the appropriate fittings to ensure secure mounting, e.g. wall plugs, underlay washers, split washers, self-locking bolts and screws.
- Finally, check once again that all screws are secure.



Preparing the connections



Danger of electric shock

Do not connect the power supply unit to the mains until all other cables have been connected and checked.



Warning

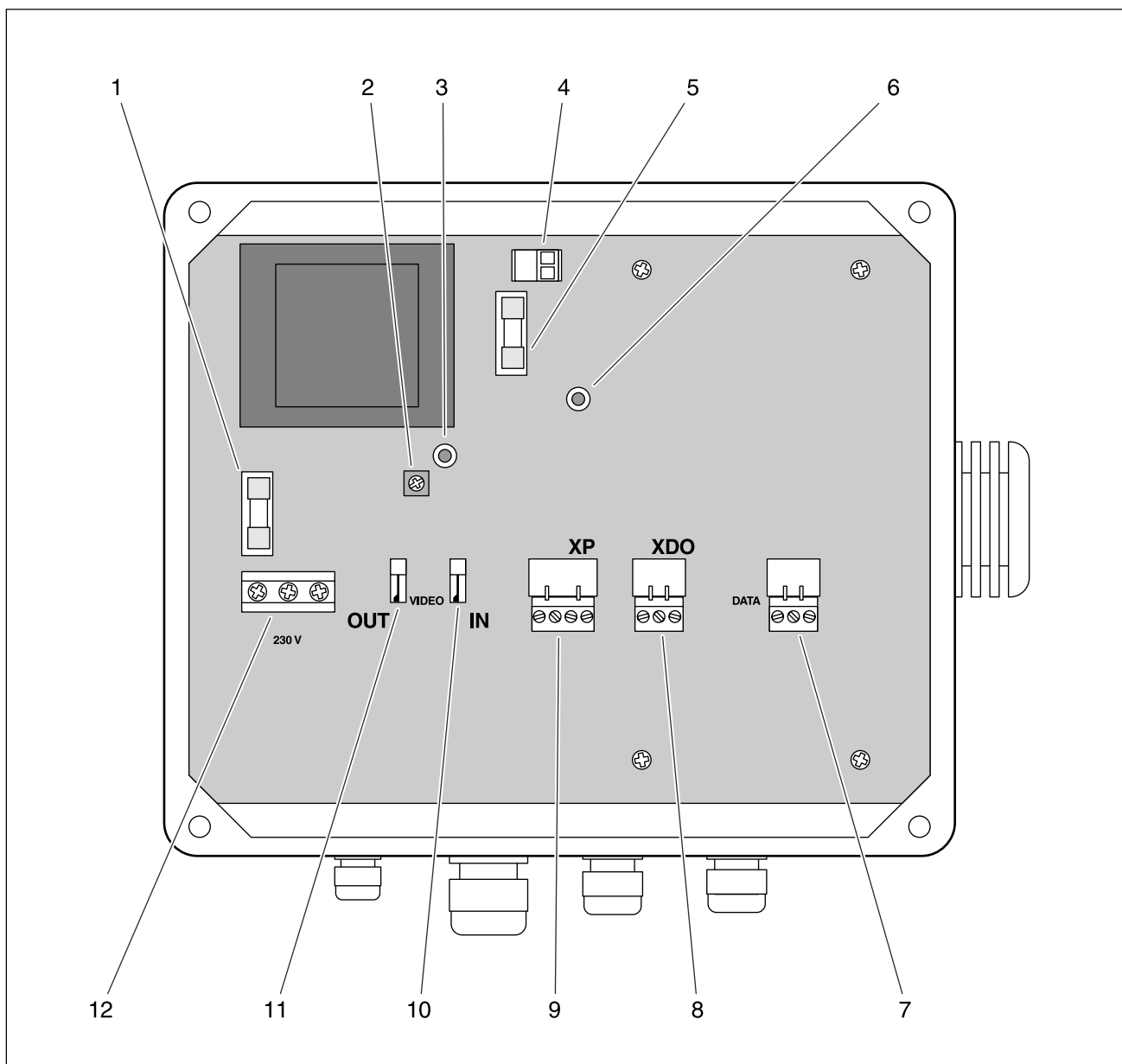
Read the manuals that come with the SMD camera, the control keypad and, if applicable, the Computar CS PCD-II protocol converter. Here you will find important information and safety instructions.

- Pass all cables through the cable entry gland in the power supply housing.
- Then tighten the cable entry gland and seal any unused openings using suitable filler (e.g. silicon).

Connectors in the power supply unit

The power supply unit feeds the camera, heater and fan and, if used, the protocol converter CS PCD-II.

- | | | | |
|---|--|----|--|
| 1 | Main fuse 500mA, 250 V | 7 | Connector for data lines to control keypad |
| 2 | Potentiometer for amplifying the video signal (not applicable if CS PCD-II used) | 8 | Connector for camera data lines |
| 3 | Green LED (indicates unit is operational) | 9 | Camera and heater power supply connector |
| 4 | CS PCD-II power supply connector | 10 | Video input from camera |
| 5 | Secondary fuse 2 A, 250V | 11 | Video output |
| 6 | Red LED indicates malfunctions (short circuit) | 12 | Mains connection 230 V ac |



Operation without protocol converter

The CS PCD-II protocol converter does not have to be used if the Computar SCC-2 or SCC-3 control keypad is connected.

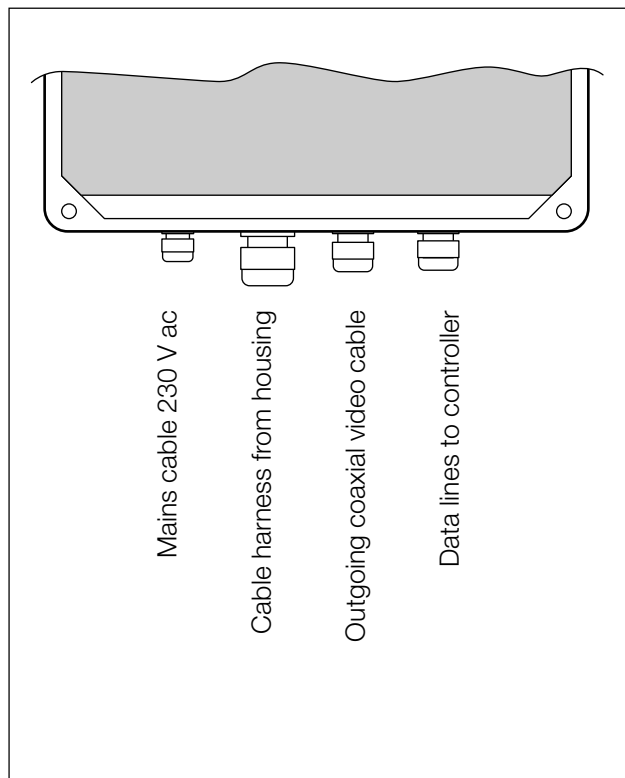
The video signal from the camera is fed through the amplifier. The gain can be varied from 0 to 12 dB. The amplifier permits a maximum range of approx. 700 m.



Warning

Only use type RG59/U coaxial cable (75 Ohms).

- Pass the weatherproof housing's cable harness through the large cable entry gland.
- Insert the video cable in the VIDEO IN binding post and check that it is secured.
- Pass the coaxial cable of the outgoing video cable through the cable gland on the right of the large one, insert the video cable in the VIDEO OUT binding post and check that it is properly secured.
- Slide back the shielding on both coaxial cables up to the opening in the housing. Cut the excess of the shielding and fix it to the housing using the earthing screws provided.
- Insert the data lines from weatherproof housing's cable harness into the XDO terminal screws as follows:
Green = DATA +
Orange = DATA –
White = GND
- Pass the data lines for the control keypad through one of the cable entry glands on the right and insert into the DATA terminal. Observe the marking of the terminals on the circuit board.
- Insert the camera and heater power supply cables from the weatherproof housing's cable harness into the XP terminals as follows:
Blue = S1
Brown = S2
Black = –
Red = +
- Pass the mains cable through the cable entry gland on the left and insert into the 230 V ac terminal. Observe the marking of the terminal on the circuit board.
- Finally, check that all cables are secure and tighten the cable entry glands.



Operation with protocol converter

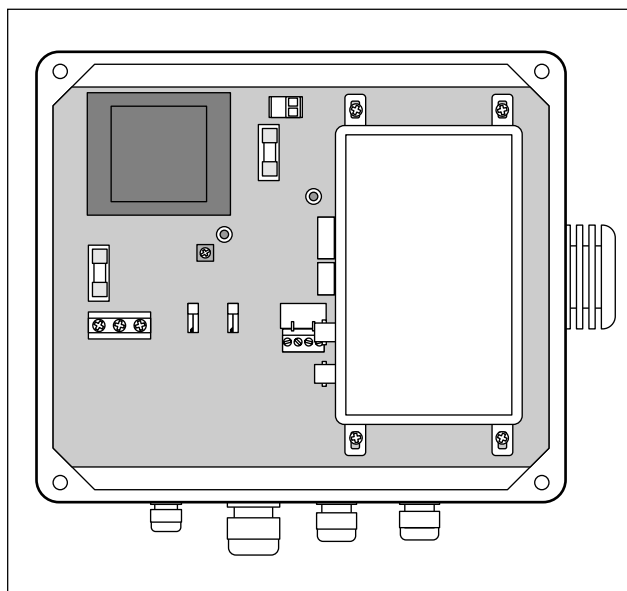
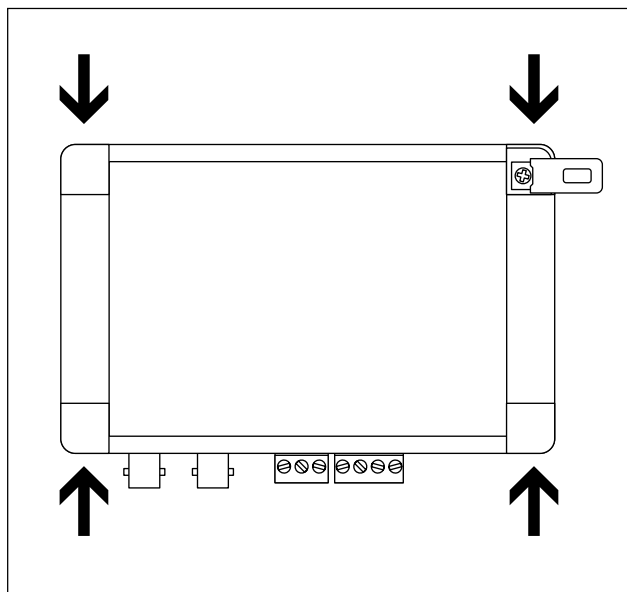
The CS PCD-II protocol converter must be installed first if a Computar CS series control system is being used.



Warning

Read the installation manual that comes with the protocol converter. There you will find important information and safety instructions.

- Remove the caps from the four corners of the protocol converter and unscrew the screws.
- Position the four fixing blocks in the recesses and secure using the four screws.
- On the power supply board, unscrew the four screws on top of the spacers.
- Turn over the protocol converter, align it on the spacers and secure it using the four screws.
- Pass the weatherproof housing's cable harness through the large cable entry gland.
- Connect a BNC plug to the video cable and mate it to the "CAMERA" equivalently marked BNC socket of the protocol converter. Be sure to connect the shielding in the BNC plug correctly.
- Pass the coaxial cable of the outgoing video cable through one of the two right-hand cable entry glands, connect a BNC plug to the video cable and mate it to the "CONTROLLER" equivalently marked BNC socket of the protocol converter.
- Insert the data lines from weatherproof housing's cable harness into the terminal screws of the protocol converter as follows:
Green = RS485 +
Orange = RS485 -
White = S
- Connect the XPCD binding posts to the CS PCD-II 24 V ac IN/OUT binding posts using two suitable pieces of cable.
- Insert the camera and heater power supply cables from the weatherproof housing's cable harness into the XP terminal screws as follows:
Blue = S1
Brown = S2
Black = -
Red = +



- Pass the mains cable through the cable entry gland on the left and insert into the 230 V ac terminal. Observe the marking of the terminal on the circuit board.
- Finally, check that all cables are secure and tighten the cable entry glands.

Finishing off the installation

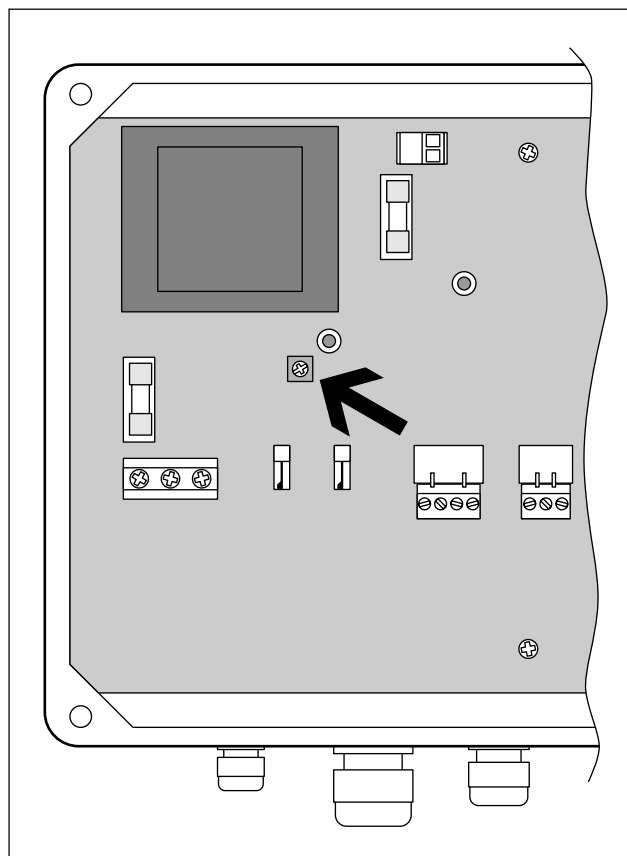


Danger of electric shock

After connection ensure that all cables have been laid in such a way that they cannot be kinked, squashed or otherwise damaged.

After all connections have been made ensure that the installation has been successful. Pay heed to the LEDs on the circuit board of the power supply unit. If necessary adjust the gain of the video signal (operation without protocol converter).

- Use a screw driver to adjust the gain of the video signal if necessary. Using an oscilloscope, measure the amplitude of the video signal at the end of the RG59/U cable run (near the Monitor or the vision device); rotate the trimmer to obtain a reading of 1V peak to peak.
- Seal any unused cable entry glands with a suitable filler (e.g. silicon).
- Screw down the green-yellow earth cable from the power supply under the screw in the cover.
- Place the seal supplied for the purpose in the cover recess. Ensure the seal has been laid evenly and is not twisted.
- Put the cover of the housing in place and secure it evenly using the four screws.



Operation and maintenance

Trouble shooting

The following table is to help you identify the causes of malfunctions and help you rectify them.

Problem	Likely cause	Suggested remedy
Camera faults	Incorrect connections.	Check connections to wiring harness.
	Poor connections.	Check connections in the housing and in the power supply unit.
No picture	Incorrect connections.	Check BNC connection in the housing.
		Check connection of the coaxial cable in the power supply unit.
No camera function	No power.	Check power supply unit and lines.
Condensation in the housing	Fan/heater assembly out of function.	Check fan/heater unit and thermostat in the housing.
		Check fan/heater power in the power supply unit.

Disassembly

Several tasks may require the disassembly of the camera.



Danger of electric shock

First of all, disconnect the power supply unit from the mains and from all other devices.

- Ensure that the camera has been switched off.
- If the optional sunshield is being used, completely unscrew the three Allen screws in the cover of the sunshield and detach the cover from the cylinder.
- Loosen the 3 Allen screws in the dome of the weatherproof housing and slowly pull the housing down away from the base plate until the safety rods hold it.
- Hold the housing firmly, loosen the two red safety fastenings on the base plate and unhook both safety rods. The housing is now completely detached from the base plate.
- Open the side flap in the camera housing and pull out the 9-pole plug from the connector in the camera housing.
- Unscrew the screws on the safety lever and turn the safety lever on the camera housing.
- Turn the camera anticlockwise and detach the quick-mounting plate from the 3 clamps of the quick-mounting plate.

Replacing the fuse

There are two safety fuses in the power supply unit. These must be replaced by an expert if defective.



Danger of electric shock

Firstly, disconnect all devices from the mains.



Warning

Before fitting a new fuse check what might have caused the fault. Only use a new fuse with the following ratings.

Primary fuse: 250 V, 500 mA,

Secondary fuse: 250 V, 2 A.

- Open the housing of the power supply unit.
- Remove the safety cover and take out the fuse from the holder.
- Insert the new fuse and replace the cover.
- Replace the cover of the housing and secure with the four screws, ensuring an even fit. Make sure that the seal has been evenly laid and that it is not twisted.

Cleaning



Danger of electric shock

Ensure that no fluids pass into the interior of the power supply unit during cleaning.



Warning

Never use alcohol, thinners or an abrasive or corrosive cleaning agent to clean the device. These could damage plastic components or damage the paintwork. Only use water and a mild household cleaning agent in small quantities.

Ensure that a safe foothold is available. Only use safety ladders.

Do not clean the mechanism itself. Do not clean any part of the camera.

Only clean the outside of the dome, using a soft cloth to do so.

Proper disposal

The housing and other system components (power supply unit, cables, camera) contain substances that could damage the environment. These must be disposed of professionally. Devices that are no longer required are to be disposed of by a professional reprocessing service or taken to a local waste reprocessing plant.

Technical specifications

Power supply unit SMD-WH-PS

Material	Aluminium
Protection class	IP66
Video amplifier	0 ... 12 dB
Operating voltage	230 V ac, 50 Hz
Secondary camera voltage	12 V dc
Secondary voltage for heater/fan	18 V ac, 50 Hz

Dimensions (w × h × d)	254 × 219 × 102 mm
Weight	approx. 3.6 kg

Weatherproof housing SMD-WH

Material	Anti-corodal aluminium
Protection class	IP66
Current consumption of heater	9 W
Fan switching	automatic/manual (continuous operation)
Operating conditions	Temperature: -20 ... +40 °C Rel. humidity: 90% not condensing
Storage conditions	Temperature: -20 ... +60 °C For storage periods of longer than one month protect housing from damp by storing in a sealed container
Dimensions (h × Ø)	268 × 200 mm
Weight	approx. 3.1 kg

Sunshield SMD-WH-SS

Material	Aluminium
Dimensions (h × Ø)	205 × 250 mm
Weight	approx. 0.6 kg

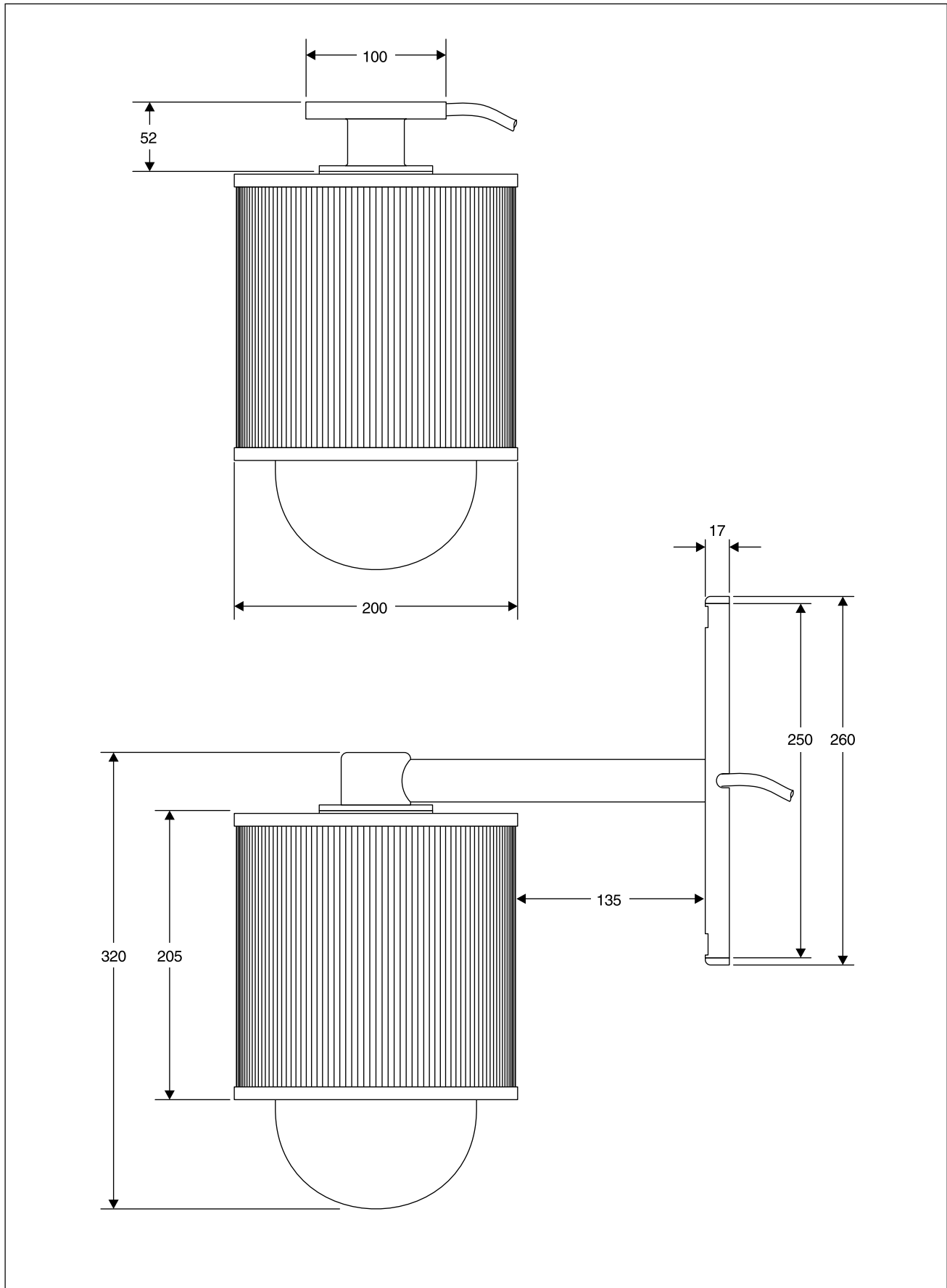
Ceiling mount SMD-WH-CM

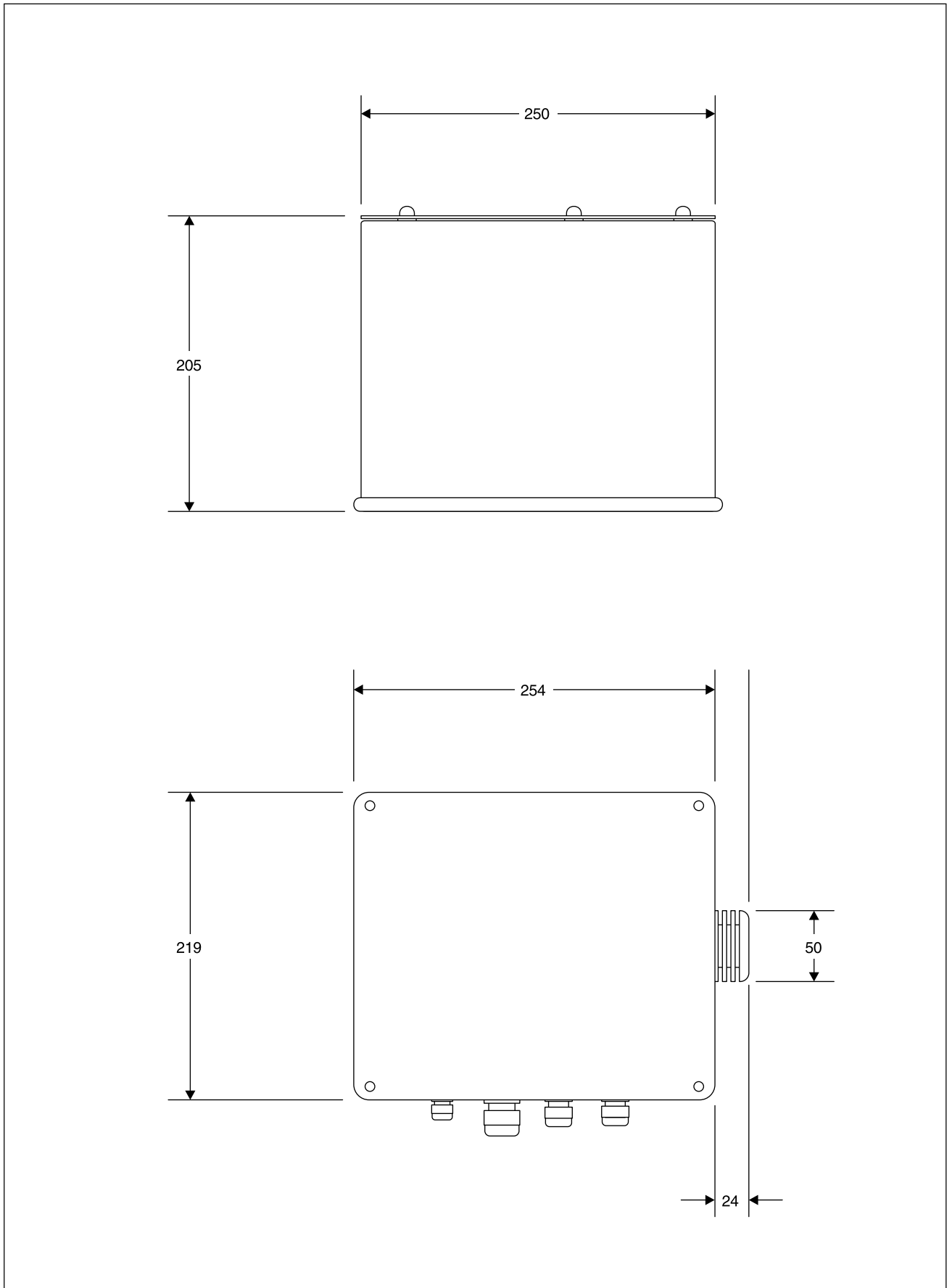
Material	Anti-corodal aluminium
Cable harness	1 × mini-coaxial cable, 3 × data lines, 4 × power cables Length approx. 2.5 m
Dimensions (w × h × d)	100 × 60 × 100 mm
Weight	approx. 0.64 kg

Wall mount SMD-WH-WM

Material	Anti-corodal aluminium
Cable harness	1 × mini-coaxial cable, 3 × data lines, 4 × power cables Length approx. 2.5 m
Dimensions (w × h × d)	80 × 260 × 290 mm
Weight	approx. 0.94 kg

Dimensions







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