

SCREEN GW

1. MEASURE-TAKING

The SCREEN GW roller blinds can be placed into an opening or in front of it, and attached to the ceiling or wall.

The screen roller blind width and height shall be measured as follows:

W (width)

a) attachment into an opening:

Measure the actual opening width in three points, indicate the lowest dimension measured in the order form.

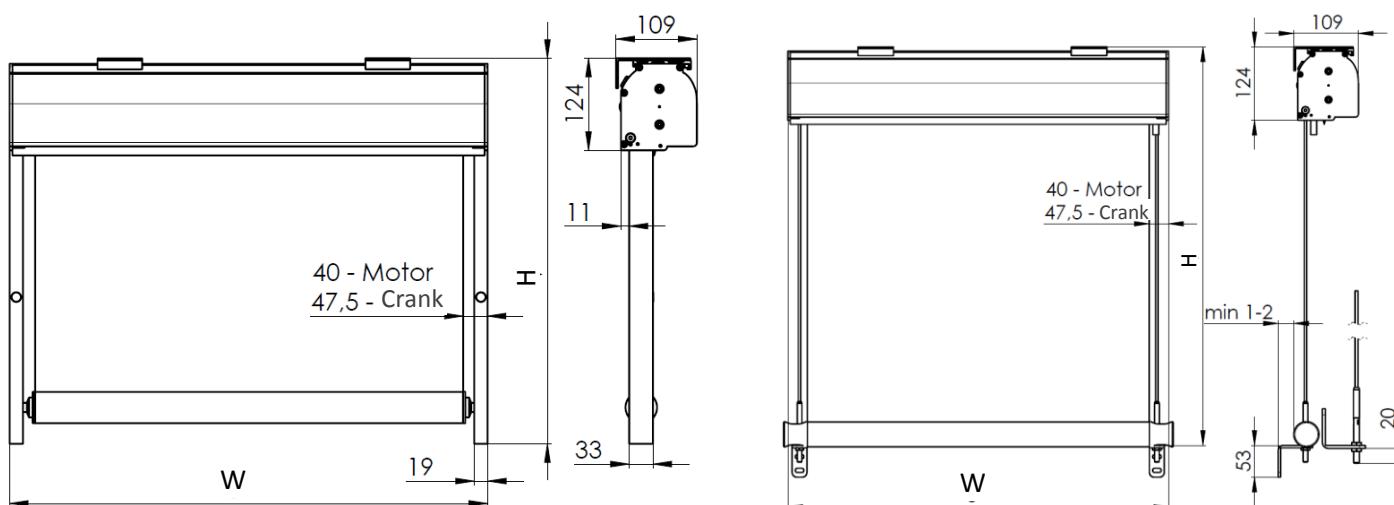
b) attachment in front of an opening:

As a rule, indicate the width of the opening which is to be shaded in the order form.

Dimensions outside the stipulated limits must be consulted with the manufacturer.

H (height)

Measure the overall height including the roller blind upper section and holder.



Dimensions outside the stipulated limits must also be consulted with the manufacturer.

COLOUR:

Box and guide bars:

- Standard version: RAL 9006 (light silver), RAL 9007 (dark silver), RAL 7016 (anthracite grey);
- Other colours can be selected from the RAL colour chart.

Plastic components cannot be painted.

Instruction validity: as of 1 August 2013

1

2. SCOPE OF USE

The installation should be carried out in accordance with this manual in order to avoid unnecessary errors or other related troubles.

The roller blind was designed for use in both internal and external installations. The motor is moisture-proof, with IP44 protection rating. The roller blind is not intended for use in explosive environments. The service switch should be installed indoors. It is possible to install the switch outdoors but only with corresponding protection preventing the penetration of water and protecting all electrical components.

Power supply:

- Electric power mains 230 V AC;
- Frequency 50–60 Hz;
- Voltage fluctuation tolerance $\pm 10\%$;
- Interference level below 70 dB.

Operating conditions:

- Ambient temperature $-5\text{ }^{\circ}\text{C}$ through $+50\text{ }^{\circ}\text{C}$;
- Relative humidity up to 5 g/m^3 and 75% (class I2);
- Atmospheric conditions E11, E12, E14, E15 as per EN 13561;
- Wind resistance *
- Motorised version – Class 3 Beaufort scale 6 (max. 49 km/h);
- Crank version – Class 0–2 (depends of the model).

*In case of outdoor installation: if adverse weather conditions arise, it is strongly recommended to draw the roller blind up to the box. For motorised roller blinds, it is recommended to use a wind sensor for the automatic roller drawing to the box.

2.1 REQUIREMENTS FOR OPERATION

All activities described for the installation, maintenance and control of the motor end switches should be carried out by qualified personnel. Regular roller blind operation can be carried out by anybody.

3. TECHNICAL DESCRIPTION

The SCREEN GW system is available in a motorised or a cranked version. The design parts of the roller blind can be defined as follows:

- The mechanical part consists of an extruded aluminium (winding) drum, which has a driving motor on one end (left or right) and axial cap on the other. Both the motor and the cap are installed on the side mounts (i.e. brackets in case of roller blinds without boxes, or side boards in case of roller blinds with boxes). The fabric is attached to the drum by a plastic bar inserted in a pocket made in the fabric and then inserted in a slot in the drum. The motor runs co-axially and produces power necessary for the fabric drawing. The motor is activated by a suitable switch,

remote controller or by an electrical control system interface. The suitable motor torque is selected according to the type of fabric and its relative weight.

- **Cord guiding:** Cord guides for a 19-strand cord, Ø 4 mm, made from stainless steel (AISI 316), together with a pressed-in tightening stainless steel end piece and AISI 316 stainless steel bracket for wall mounting. End pieces of the lower weighting section are attached to the cord to reduce the roller blind movement (the fabric is not guided).
- **GC20 guide bar:** Extruded aluminium guide bars, which guide only the lower weighting section to reduce the roller blind movement (the fabric is not guided).
- M50 tubular motor 230 V/50 Hz with an upper/lower end switch and a supply cable, thermal disconnection and IP44 protection rating. The switch is not part of the supply.
- Or a clutch with a crank attached allowing function under various angles thanks to a Cardan clutch.
- Extruded aluminium drum with a fabric-attachment slot.
- Upper extruded-aluminium box with a removable cover and aluminium side boards.
- Lower extruded-aluminium section with a weight and PVC terminal covers.
- Fabric – the fabric used is coated or laminated for greater stiffness, facilitation of installation to the winding drum and provision of proper winding, as well as for better fabric flatness.

4. GENERAL SAFETY REQUIREMENTS

The installation and wiring of the roller blind may only be carried out by qualified and authorised personnel. Any intervention, however small, in the power supply requires a qualified electrician. Faulty wiring, faulty installation and any repairs, adjustments or alterations made by any unauthorised personnel shall result in the loss of guarantee. We recommend using solely original accessories and spare parts. Our roller blinds are intended only for the use of original accessories.

DURING INSTALLATION

- Installation may be carried out solely by qualified personnel while observing these rules.
- Prior to installation, it is necessary to check the workplace for the presence of any electric wiring and stipulate necessary safety measures to prevent both direct and indirect contact with live components.
- If the installation requires that the mechanic work at heights exceeding 2 metres above the ground, it is necessary to prevent losing the mechanic's balance by safety measures, usually safety railing attached to all open sides of the workplace (beam structures, platforms, terraces, scaffolding, balconies, etc.) or elevated bridges. If the use of such measures is not possible, suitable individual protection equipment must be used. The installation of scaffolding, platforms and elevated working areas must be carried out solely by qualified personnel (specialised contractors) in accordance with valid regulations. Always use safety belts at scaffolding without railing or in other dangerous situations.
- In case of outdoor installations, power input of portable equipment must not exceed 230 V, and for the use in wet or very wet environment or if in contact with large metallic objects, the power input must not exceed 50 V. Safe voltage must be attained by using transformers corresponding to the European Norm IEC 14-6.

- Take special precautions if using drills, where the component being drilled must be held by a hand. To attain higher output and lower drill bit break rate in portable drills, it is necessary to hold the tool while positioning your arm in a line with the tool axis.

DURING USE

NOTE: Do not block the roller blind when moving. Put your hands outside the box vicinity before operating the roller blind.

- Prevent children from playing with the control devices. Any remote controllers should be kept out of the reach of children.
- Check the roller blind regularly for deformation, excessive wear or other damage.
- Do not operate the roller blind during maintenance works (for instance, window cleaning).
- When using automatic control systems (for instance, sun/wind sensors), unplug the power cord before executing any activities or maintenance on the roller blind.
- Forced operation can cause damage to the roller blind.
- Check proper roller blind function regularly.
- Do not use the roller blind, if maintenance is necessary.

5. UNPACKING

The SCREEN GW system is supplied partially assembled, only the guide bars or cord, accessories and ceiling brackets are packed separately. After removing the packaging material, check the roller blind for completeness and eventual visible damage to the components (upper box, guide bars, etc.). If unsure, **do not use the roller blind** and contact the seller.

NOTE: The packaging contains a box with accessories. All packaging materials (plastic sacks, polystyrene foam, nails, screws, wooden elements, etc.) are potentially dangerous, and therefore must be kept out of the reach of children.

6. INSTALLATION

Installation works must be carried out solely by qualified personnel capable of adhering to all instructions stated below with full consideration of their safety and that of all other persons.

The main activities include:

- 1) preparation of walls, ceilings, windows or other structures for the installation of roller blinds while using portable drills and screwdrivers;
- 2) roller blind installation to a wall or ceiling;
- 3) connection to power mains;
- 4) adjustment (of end stops / end switches, etc.) and testing of the roller blind.

6.1 PREPARATION OF ROLLER BLIND INSTALLATION

Prior to installing the roller blind, check whether the surface of the installation place is not damaged and if it is suitable for installation. Select suitable attachment screws (type and dimensions) corresponding to the type of structure onto which the

roller blind is to be installed (wood, cement, brick).

NOTE: Faulty installation can lead to accidents. Observe instructions for the proper roller blind installation to prevent the risk of separation of the roller blind from a wall or window. ISOTRA a. s. shall not be held responsible for defects caused by faulty installation.

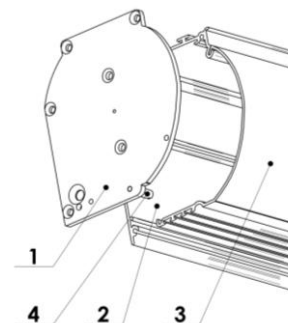
6.2 ROLLER BLIND INSTALLATION

The method of installation depends on the type of the roller blind:

- a) Solid box with cords: first attach the box to a wall or ceiling, then tighten and fix the cords.
 - b) Solid box with the GC20 guide bar: first attach the box to a wall or ceiling, then attach the guide bars.
- Boxes with roller blinds can be installed to a ceiling or front surfaces using special attachment brackets.

6.2.1 UPPER BOX INSTALLATION

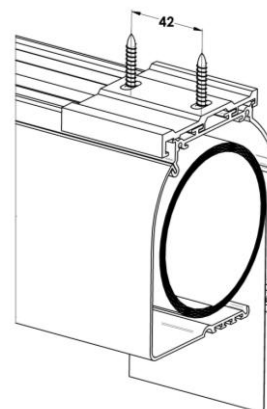
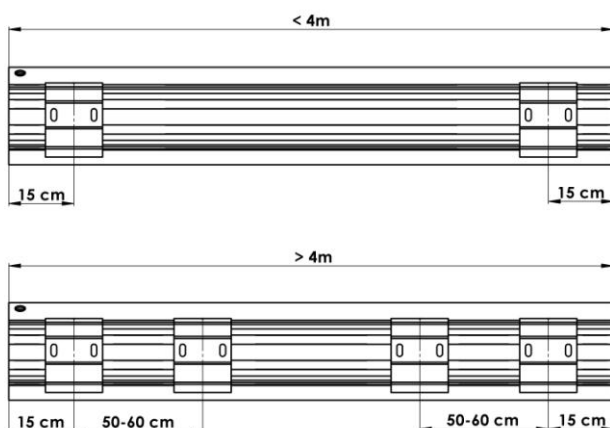
The upper box consists of three parts: side board (1), fixed part (2) and removable part (3). If it is necessary to remove the winding drum, the access to the upper box is possible after removing two screws (4) – one on each side – and removing the removable part of the box.



6.2.2 INSTALLATION TO CEILING

Mark the position of holes to be drilled, considering the following factors:

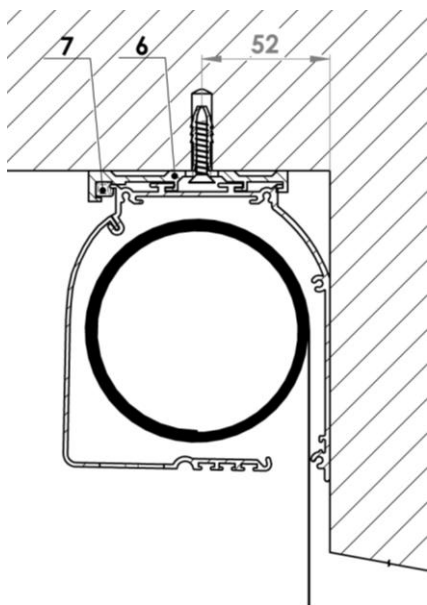
- for upper boxes having the width of max. 4.0 m, two brackets (6) are sufficient which must be installed in a distance of approximately 15–20 cm from each end;
- for wider roller blinds, four brackets (two pairs) are necessary, one in a distance of 15–20 cm from each end and the second in a distance of 20–60 cm from the first one;



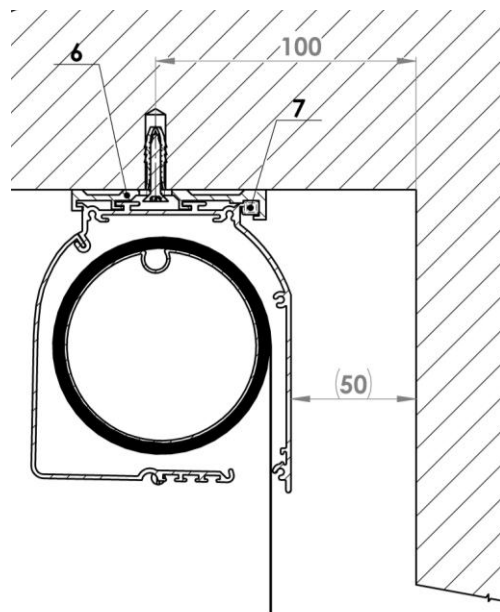
- if possible, the distance from the wall depends on the bracket attachment method, i.e. the position of wedges (7):
 - front wedge: 52 mm;
 - rear wedge: 100 mm.

The following facts must be kept in mind:

- installation of a bracket with attachment screws / wedges pointing toward the room minimises the distance between the upper box and the rear wall, but the bracket is visible and not visually attractive;
- installation of a bracket with attachment screws / wedges in the back is more aesthetically desirable, but requires at least 5 cm of space between the back wall and the upper box.



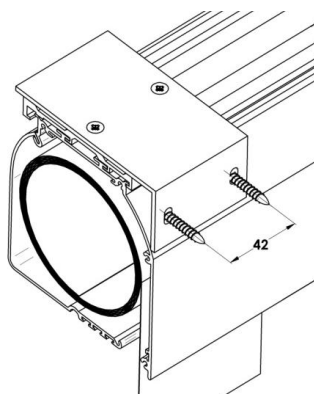
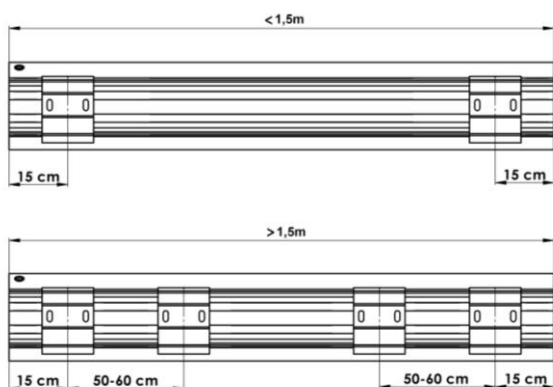
Attach brackets (6) using screws and components suitable for the type of structure onto which they are to be attached (metallic structure, window frame, wall, other material). If four brackets are used, ensure that the brackets are perfectly aligned ± 1 mm; this can be checked by sliding the box along the cut-outs before tightening the attachment screws.



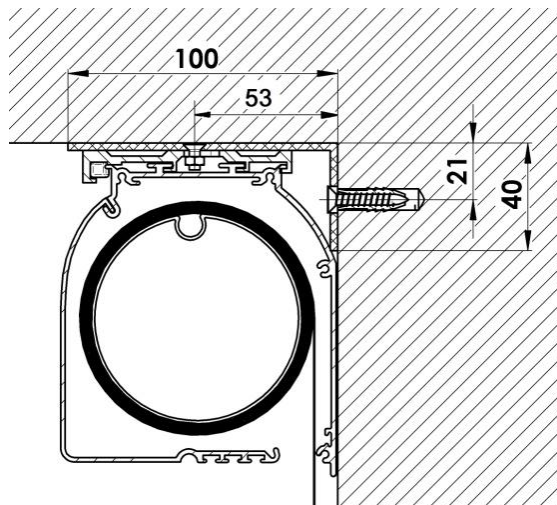
Insert the upper box to brackets (6) and slide it lengthwise until it is centred within the window wing, and secure with wedges (7).

6.2.3 INSTALLATION TO WALL USING ANGLE-SECTION BRACKETS, BOX – CT105

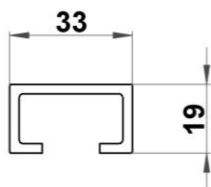
Mark the position of angle-section brackets and holes to be drilled. For upper boxes having the width of max. 1.5 m, two brackets are sufficient, which must be installed in a distance of approximately 15–20 cm from each end. For wider roller blinds, four brackets (two pairs) are necessary, one in a distance of 15–20 cm from each end and the second in a distance of 20–60 cm from the first one.



Attach brackets using screws and components suitable for the type of structure onto which they are to be attached (metallic structure, window frame, wall, other material). If four brackets are used, ensure that the brackets are perfectly aligned ± 1 mm; this can be checked by sliding the box along the cut-outs before tightening the attachment screws. Insert the box to brackets and slide it lengthwise until it is centred within the window wing, and secure with wedges.



6.2.4 INSTALLATION OF GUIDE BARS



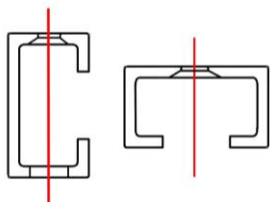
First, attach the box to the ceiling/wall, then install the guide bars.

For model GW, only one type of guide bars is available – GC20.

The bar is supplied with pre-drilled holes, as per order, from the front or from the side.

Placement of holes:

- outer holes are placed approx. 10 cm from the bar edge;
- intermediate holes are placed at approx. each 50–80 cm evenly along the guide bar.

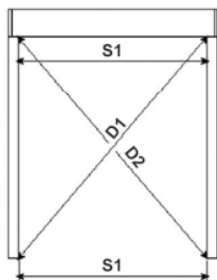


The red line indicates the vertical axis for attachment screws. Use the drilled guide bars as a template for transferring the hole positions to the window wing wall.

Attach the guide bars to the wall using screws and components suitable for the type of structure onto which they are to be attached (metallic structure, cement, brick, etc.).

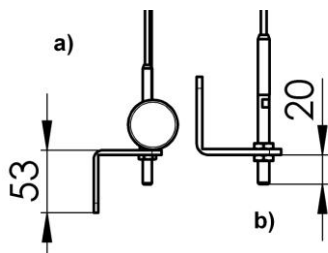
Once the installation is finished, check parallelism and rectangularity of the guide bars. This can be done by measuring two distances “S1” and “S2” or diagonals “D1” and “D2”. The dimensions must be the same ± 2 mm. Proper guide bar placement is vital, otherwise the function of the roller blind can be impaired.

For front guide bar installation, self-adhesive covers are supplied to cover the attachment screw holes.



6.2.5 INSTALLATION OF CORDS IN ROLLER BLINDS WITH BOXES

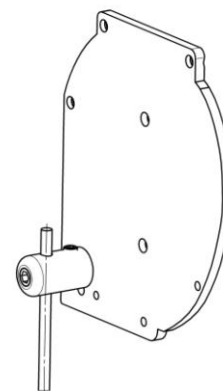
Steel cords \varnothing 4 mm are supplied cut to length with a pre-pressed threaded end piece. The exact cord configuration may vary per specific projects. After attaching the upper box, pass the cord through the attachment roller on the side board and secure with a bolt.



Lower brackets can be installed on the side or front, while the angle section aims down (a) or up (b).

Note: The places for the installation of the brackets must be selected before ordering the roller blinds, as this position determines the cord length.

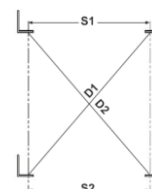
If brackets are installed upwards (b), leave at least 20 mm of space between the bracket and the floor or window sill.



Attach the brackets to the wall using screws and components suitable for the type of structure onto which they are to be attached (metallic structure, cement, brick, etc.). If necessary, increase the bracket distance from the wall by washers. Always tighten the cord and hold it to prevent twisting.

NOTE

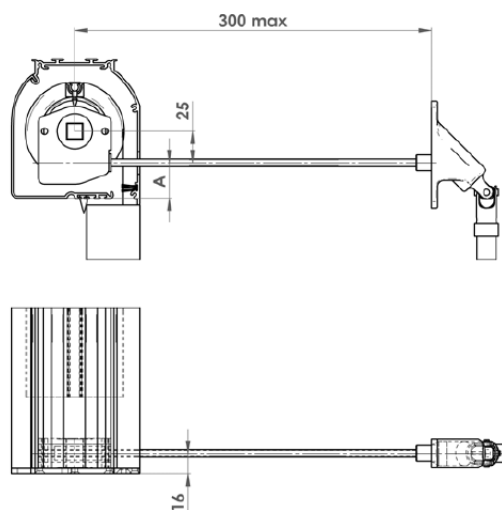
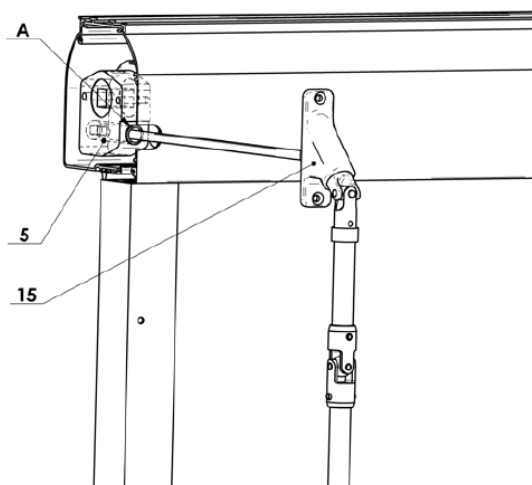
Check parallelism and rectangularity of the four attachment points. This can be done by measuring two distances "S1" and "S2" or diagonals "D1" and "D2". The dimensions must be the same ± 1 mm.



6.2.6 EXTERIOR INSTALLATION WITH SLEEVE PASSING THROUGH WALL

For exterior roller blinds installed with a sleeve passing through a wall and with a crank rod in the interior, it is necessary to calculate the exact position of the hole for a 30-cm angular rod (15).

- Attach the brackets to a wall or ceiling and install the roller blind in its place. Use a pencil to mark the position of the box lower corner on the wall or window frame. Remove the roller blind from the brackets and measure the distance from the box lower corner to the centre of the hole (A) in the rear part of the box (which serves for inserting the angular rod to control the transmission system). Mark the same distance on the wall, thus marking the centre of the hole to be drilled.



- Carefully drill a hole through the wall using an 8-mm drill bit. The hole must be as level as possible.
- Install the roller blind back and insert a sleeve from the interior to check accuracy of the hole position. Then cut the angular rod to size using a hack-saw. The rod size depends on the wall thickness.

7. WIRING OF SCREEN GW ROLLER BLIND

Observe instructions indicated in the installation instructions for the motor supplied with this manual.

- All wiring must be made in accordance with valid IEC standards. Use impulse switches together with the control unit in all situations where there is more than one device to control the same roller blind. The control unit will store the provided impulse for approx. 3 minutes or until receiving another command.

NOTE: In order to have the installation correspond to international standards, a safety cut-off device having the contact opening distance of at least 3 mm must be installed in front of the circuit.

In case of installation of several roller blinds with group controls, where the user cannot see all the windows, adopt all measures to prevent that any persons or objects impede the movement of the roller blinds.

- Do not connect two or more motors to the same control unit without using a group control unit. Do not use light switches. Do not connect two or more switches to the same motor.
- Do not use switches with blocking without a control unit for group control, otherwise there is a risk of a duplicate command with consequent motor short-circuiting.
- Any damage caused by failure to comply with the above instructions shall not be attributed to the manufacturer and **shall lead to a loss of guarantee.**

8. ROLLER BLIND ADJUSTMENT AND TESTING

8.1 ADJUSTING MOTOR SWITCH LIMITS

NOTE: Wiring, installation and maintenance must be carried solely by qualified personnel, authorised and competent for said operations. The roller blind can be supplied either with a standard motor, or with a RTS motor with an integrated remote control receiver.

STANDARD MOTOR:

The motor cable has 4 conductors:

- blue = neutral conductor,
- brown = opening/closing,
- black = opening/closing,
- yellow-green = ground.

When connecting the conductors to a terminal block inside the main switch, check which brown and black conductor corresponds to opening and which to closing of the roller blind (this depends on which side of the drum the motor is to be installed).

RTS MOTOR:

The motor cable has 3 conductors:

- blue = phase/neutral conductor,
- brown = phase/neutral conductor,
- yellow-green = ground.

End switches for a motor installed in the winding drum are not pre-set, therefore the roller blind opening/closing positions are completely random. Motor end switches can be set up in various methods, according to the type and mark of the motor used. Instructions for the end switch programming and setting are specified in a separate manual.

To set up the end positions, first turn on the motor to roll the roller blind down, set the required locking position. Then set the upper position (full draw). In both cases, the adjustment of both the open and closed positions of the roller blind must not cause loading of the lower rail or fabric.

Prior to final connection and operation, check if the system works properly. Operate the roller blind for at least two consecutive cycles and check the function of thermal disconnection after 4 minutes of continuous operation. To provide for proper function of the roller blind, check if the winding drum is perfectly level after installation. Following the roller blind installation, check if the end user understands the method of operation of the roller blind, and give this manual to the user for future reference.

NOTE: There is a risk of compression in case a hand is trapped between the fabric and the upper box during the roller blind updrawing. Before operating the roller blind, move your hands outside of the movement range to prevent compression. Vibrations or excessive noise indicate damage or faulty installation of the roller blind.

8.2 TESTING

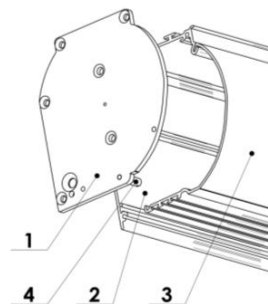
To provide for proper function of the roller blind, check if the winding drum is perfectly level after installation.

Following the roller blind installation, check if the end user understands the method of operation of the roller blind, and give this manual to the user for future reference.

8.3 REMOVAL OF WINDING DRUM FOR MAINTENANCE

Removal of the winding drum and motor from the upper box is necessary only if the upper box is installed at the front. Suspended roller blinds are supplied disassembled.

NOTE: Prior to commencing the steps described below, disconnect the motor cables from the main switch to prevent inadvertent motor actuating. On both sides, the box consists of side board (1), fixed part (2) and removable cover (3). If it is necessary to remove the drum, first remove two screws (4) – one on each side – and remove the removable part of the box (3).



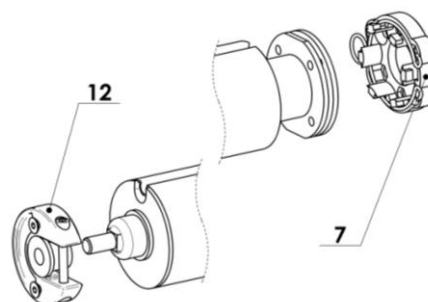
The roller blind components may vary in accordance with the roller blind dimensions and the motor type. The winding drum is attached to the side boards as follows:

Motor side:

- directly using HiPro (7).

Opposite side:

- using a cylindrical pin inserted in double plastic strut (12).



When removing the winding drum with inserted motor, be careful and do not cut off or otherwise damage the electrical cables and **never leave the drum hanging on the motor cables**. For reinstallation of the winding drum, follow the above instructions in reverse order and close the box again. Then connect the motor and check if the opening and closing of the roller blind corresponds to the direction indicated on the main switch or remote controller.

NOTE: **During this stage, it is important to hold the drum firmly – its weight depends on the roller blind width and on the drum diameter. Remember that after disconnecting the drum on one side, only a few millimetres of displacement are enough for its release on the other side.**

9. OPERATION

NOTE: **Prior to setting the roller blind in motion, check if no persons or objects impede its movement. Before operating the roller blind, move your hands outside of the movement range to prevent compression. Forced operation can cause damage to the roller blind.**

9.1 SAFETY DEVICES

The motor includes a disconnecting overheating protection. Thermal disconnection is activated after approx. 4–6 minutes of continuous operation. Before reactivating, let the roller blind motor cool out. Should you need assistance, contact your dealer and ask for original spare parts.

9.2 DISASSEMBLY / DISPOSAL

As regards Directive 2002/95/EC (RoHS) on the use of lead, chrome, cadmium and other substances hazardous to environment, the roller blind does not include any significant quantities of such substances. No special instructions have

been stipulated for the disassembly or disposal of the roller blind. However, ISOTRA seeks to eliminate, if practicable, the use of such materials so that all parts of the roller blind conform to the requirements of said Directive.

In accordance with Directive 2002/96/EC on waste electrical and electronic equipment (WEEE), the motor and any installed electrical control units should be removed from the roller blind before disposal. Do not dispose of the roller blind as current municipal waste. All parts of the roller blind must be handed over to a local collecting centre for disposal. In case of replacement of the roller blind, it is possible to send the used roller blind to ISOTRA for disposal after a new roller blind has been ordered.

10. MAINTENANCE

It is recommended to carry out regular maintenance of the roller blind every two years. No maintenance activities are expected to be done by the user, except for fabric cleaning, if necessary.

FABRIC CLEANING

Fabric	Cleaning
SATIN, SATINÉ BLACKOUT, SCREEN NATURE, SATINÉ METAL, SCR3005	Clean with a brush, or wipe with a cloth damped in a solution of water and a neutral detergent. Do not scrub by force.
SOLTIS 92	Wipe with a cloth damped in a solution of water and a neutral detergent. Do not use alcohol-based stain removers. Do not scrub by force.

SCREEN GW

DEFECT	POSSIBLE CAUSE	SOLUTION
Fabric does not roll properly; fabric side displacement	Uneven fabric thickness (manufacturing defect of the fabric).	Apply a distance layer (e.g. adhesive tape) directly onto the winding drum, on the side opposite to where the fabric is moving. Repeat applying further adhesive tape layers until the defect is completely removed.
	Roller blind is not rectangular.	Check if the roller blind structure is not subjected to deformation and if its installed in rectangular manner. Check any unevenness of walls or other supporting elements which can cause deformation between two sides of the structure. Use distancing elements if necessary.
Roller blind does not draw up fully	Winding drum axis is disconnected from the support.	Remove the box and check proper connection of the winding drum.

	Poor adjustment of end switches.	Adjust their position in accordance with instructions for the motor.
Roller blind is blocked half-way or does not draw down fully	Poor adjustment of end switches.	Adjust their position in accordance with instructions for the motor.
	Guide bars are not co-axial.	Check if the lower rail covers run smoothly along the cord or aluminium side bar, and repair eventual deformation caused by transport. Check if the side bars / cords are parallel and perpendicular to the drum.
Motor does not stop in end position	Two or more motors connected without the use of an electronic plate necessary for group operation.	Check wiring.
	Motor failure.	If the motor does not stop, even if the installation instructions for the end switch adjustment have been adhered to: check if the motor front is properly attached to the winding drum and if there is no slipping during operation. Otherwise contact technical support.
Increased noise	Motor failure.	Disconnect the motor, test it, and replace if necessary.
Motor blocks after a long period of service	The motor is in the thermal disconnection phase.	Wait for several minutes until the motor cools down. NOTE: Put the switch into neutral position to prevent its restart or uncontrolled operation.
Absolute absence of movement	Improper wiring.	Check power supply at the switch. Check power supply and integrity of a conductor between the motor and the switch.
	Motor failure.	Disconnect the motor, test it, and replace if necessary.
	Poor adjustment of end switches.	Check if the motor is not regulated by the same stopping position in both directions. Press the switch and one of the end switch buttons at once.

IMPORTANT: Do not disassemble the motor, otherwise the loss of guarantee shall arise. In case of any discrepancy in operation the user should contact the dealer or directly the manufacturer, ISOTRA a. s. Any and all maintenance must be carried out solely by qualified personnel. If the fabric or motor replacement is necessary, follow instructions given in the installation manual.