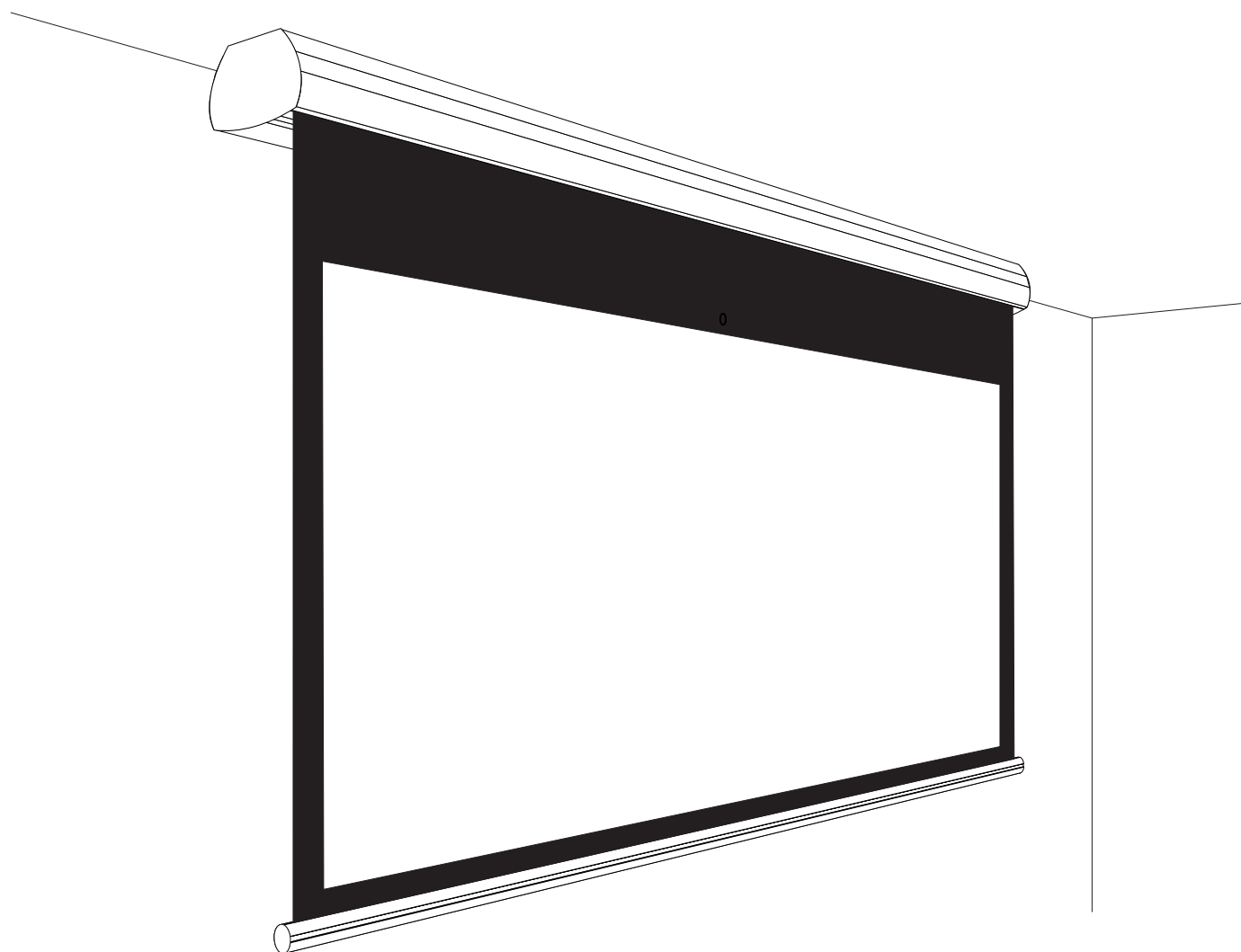Electric projection screen
Avers Solar

AVERS
S C R E E N S

User's manual

C E

Read these instructions carefully before operating the screen.

Dear Customer,

Thank you very much for the purchase of our product. The manual booklet contains all operation information you may require to install properly and operate the screen. We hope it will help you to get the most performance and enjoyment of your new screen. Enjoy time with the **Avers Screens** product.

SAFETY INFORMATION

NOTICE: Important safety information.

Follow the instructions described in the operating manual for safety reasons. After reading the manual, please store it in a safe place just in case you need it in the future.

NOTICE: THE DEVICE HAVE TO BE EARTHED.

WARNING:
1) Disconnect the device from the power supply if it will not be used within longer period of time.
2) Do not open the casing of the device in order to avoid possible electric shock. There are not any user operated parts inside the case of the screen. All service work can be done by Avers Authorized Service Center personnel only.
3) Do not remove the Ground pin from the power outlet neither connect the device to the socket without the Ground pin. If you can't put the plug to the power outlet, please ask electrician for assistance.

Table of contents:

1. SAFETY RULES

SAFETY INFORMATION

**NOTICE: Important safety information. It is important for the safety of persons to follow these instructions.
After reading the manual, please save it just in case of need in the future**

- Do not allow children to play with the fixed controls (remote control).
- Keep the remote control unit out of reach of children.
- Frequently examine the screen installation for imbalance and signs of wear or damage to cables. Do not use if repair or adjustment is necessary.
- Watch the moving screen and keep the people away until the screen is completely rolled in/out. It will help to avoid injuries caused with moving screen.
- Do not attach any objects to the screen's bottom bar. Screen damage and/or person injury danger.
- All installation work should be carried out by the qualified technician.
- Improper installation of the screen can cause device damage or health breakdown.
- Ceiling/wall installation can be done with the originally supplied mounting brackets dedicated for this model only.
- Do not do anything that may damage the power cable or power plug.
- Do not damage the power cable: make any modifications by your own, put it near the hot objects, bend it strongly, twist it, pull out the power cable, put the heavy objects on the cable, wrap it into the bundle.
- Operation of the screen with damaged power cord can result with electric shock, electric short circuit and fire.
- Do not touch the power cable and the power plug with wet hands.
- Always follow the instructions described in the operating manual.

1.1. Declaration of Conformity CE

AVERS
SCREENS

Manufacturer's Dedlaration of ConformityCE

AVERS Screens Sp. z o.o.
Under it's own responsibility declares:

All screensand accessories mentioned below are manufactured in Polandaccording to the essential safety requirements of Council Directive 98/79/WE

Projection screens: Stratus, AkuStratus, Focus, Cumulus X, Solar, Solaris, Contour, Altus, Cirrus CL, Cirrus X, Cirrus X crank
Projector mount brackets: Alumount, Promount, SimpleMount, Prolift

The above mentioned products are in conformity with the European Directives and especially with the norms:

PN-EN 55014-1:2007(U)
PN-EN 50082-1:1997
PN-EN 60335-1:2004
PN-EN 61000-3-2:2007
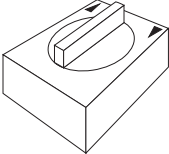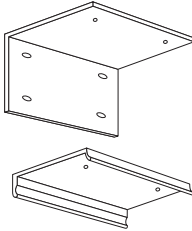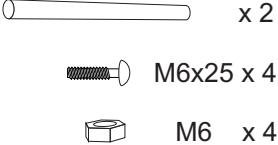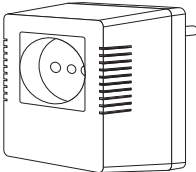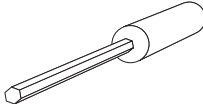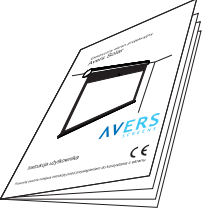PN-EN 61000-3-3:1997
IEC 60335-2-97:2007

CE

2. Product specification

Electrically rolled projection screen designed for fixed installation at projection systems for business presentations and/or home cinema applications. Screen case made with aluminium alloy, decorative element at the bottom bar available optionally in colors: white, yellow, blue, green, brown, grey or black. Best picture quality can be reached when the selection of the type of projection surface and size will be optimal for the, projection device (projector) and projection conditions at the planed installation place. Built-in radio frequency remote or triggered control systems (factory installable options) allows comfortable automatic operation.

2.1. Contents of packaging

Please, check carefully if any physical damage of the screen has not happen during transportation.
Inspect the package for all accessories presented below:

 Screen x 1	 Wall control switch x 1^{*)}	x 2 x 2 Installation brackets	x 2 M6x25 x 4 M6 x 4 Installation accessories
 Radio Frequency remote transmitter **) x 1	 Trigger transmitter***) x 1	 Regulation wrench x 1	 Operation manual x 1

*) standard equipment for the screens without built-in control system
**) standard equipment for the screens with built-in +RCX control system
***) standard equipment for the screens with built-in C12VRC+ control system

2.2 Technical Data

Projection fabrics characteristics:
- Matt White P (MWP) – a special screen dedicated polyester fabric double side covered with vinyl, black back surface and white front (projection) surface, recommended for application with DLP and LCD multimedia projectors. Neutral color of the surface enables projection from any directions. Gain: 1.0, viewing angle: 150 degrees, thickness: 0,7 mm.
- White Ice (WI) – White color vinyl mono foil, matt front size (projection), gloss rear side, dedicated for projection with LCD and DLP projectors. Fabrics with slightly directional characteristics dedicated for business presentations. Fabrics of screens bigger than 200cm in height is welded with 2 parts, welding line remains invisible during projection. Gain 1,2 , viewing angle 120 degrees, thickness 0,4mm.
- New Coral (NC) – Rear projection white vinyl mono foil, gloss front side (projection), matt rear side, dedicated for rear projection with LCD and DLP projectors. Recommended for business presentations due to directional optical characteristics of the fabrics. Fabrics of screens bigger than 200cm in height is welded with 2 parts, welding line remains invisible during projection. Gain 3,2 , viewing angle 90 degrees, thickness 0,6mm.

Dimensions of projection screens.

Screen width [cm]	Viewing area size [cm]	Screen aspect ratio	Screen case size W x H x D [cm]	Projection fabrics max. length [cm]	Top belt width [cm]	Version [*]	Net weigth[**]
450	440 x 247,5	16:9	461 x 19,5 x 20,2	332,5	35	BT	80
	440 x 330	4:3		370	8	BB	
	-440 x 247,5	16:9		290	8	BB	
	450 x 253	16:9		285	-	-	
	450 x 338	4:3		370	-	-	
500	490 x 275,6	16:9	511 x 19,5 x 20,2	350	35	BT	90
	490 x 367,5	4:3		410	8	BB	
	490 x 275,6	16:9		320	8	BB	
	500 x 281	16:9		316	-	-	
	500 x 375	4:3		410	-	-	
550	540 x 303,8	16:9	561 x 19,5 x 20,2	380	35	BT	97
	540 x 405	4:3		450	8	BB	
	540 x 303,8	16:9		350	8	BB	
	550 x 309	16:9		343	-	-	
	550 x 413	4:3		450	-	-	
600	590 x 332	16:9	611 x 19,5 x 20,2	415	35	BT	106
	590 x 442,5	4:3		485	8	BB	
	590 x 332	16:9		385	8	BB	
	600 x 338	16:9		385	-	-	
	600 x 450	4:3		485	-	-	

[*] BT and BB versions are available with MWP fabrics
Version BB – 5 cm width black border surrounding the viewing area
Version BT – 5 cm width black border surrounding the viewing area and additional black top 30 cm above the top black border.
[**] approximate value for the screen with Matt White P... fabrics

Motor:
Electric tubular engine AC:
Voltage: 220-240V AC 50 Hz, 292 W
Power consumption: 1,29A
Rotation speed: 15 rot./min
Torque: 40 Nm
Max. operation time[*]: 4 min   [*]Engine single cycle operation time, operation cycle can be repeated in 20 minutes intervals.

RF remote controller: Triggered transmitter:
Dimensions: 110 x 58 x 20 mm   Dimensions: 90 x 58 x 65 mm
Power supply: 1 x 12V battery type 23A   Power supply: AC220-240V, 50Hz

3. Screen installation

## 3.1. Installation precautions

- Installation work should be carried out by a qualified technician in accordance with the instructions described below.
- Fixed installation of the screen should be done with use of the screws and anchors suitable for the walls/ceilings materials at the installation place and the genuine installation brackets delivered with the screen.
- Check carefully after installation if the screen is perfectly leveled. Do not roll out the screen not installed in horizontal position. In case the screen leveling is not perfect correct the installation.

3.2. Ceiling installation

- Appoint the location of the ceiling mount brackets fixing points.
- Drill holes for anchors fixing the screen brackets to the ceiling.
- Fix the ceiling brackets with anchors (see picture 1).

- Slide screen fixing bolts into the casette chanels (see Picture 2).
- Twist the screen casette and slide the chanel onto the ceiling brackets front hinge (see Picture 3).
- Twist the screen casette back to the horizontal position (see Picture 4)
- Slide locking bolts to the lock position (see Picture 4).

$$D = (3/4W+55)\pm W/6$$
W - screen width in milimeters
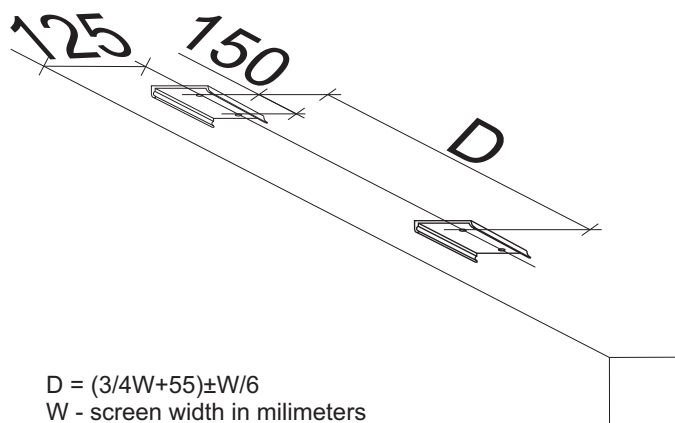
Picture 1 Fixing screen ceiling brackets

Picture 2 Screen ceiling installation - phase 1

Picture 3 Screen ceiling installation - phase 2

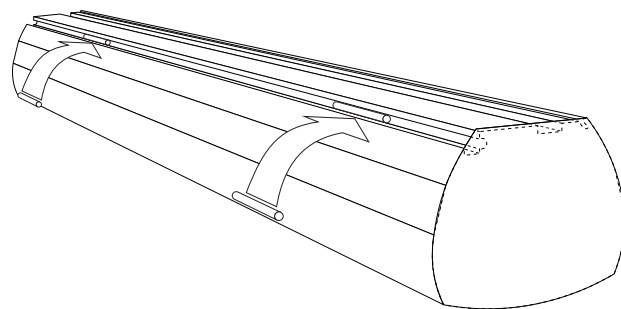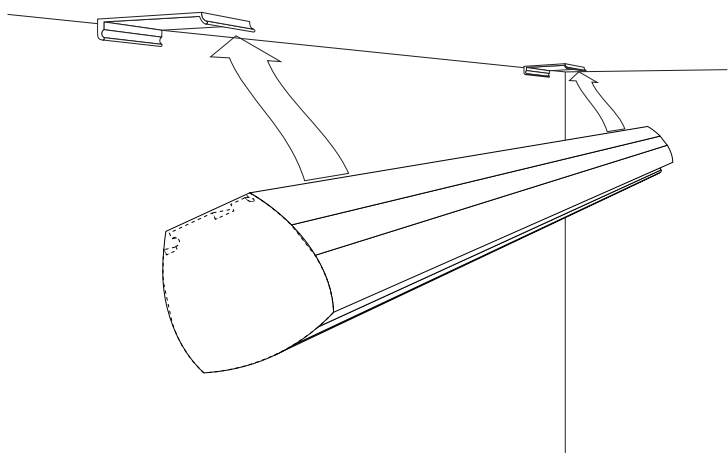Picture 4 Screen ceiling installation - phase 3

3.3. Wall installation

- Appoint the location of the ceiling mount brackets fixing points.
- Drill holes for anchors fixing the screen brackets to the ceiling.
- Fix the screen wall brackets to the wall with anchors (see Picture 5).

- Fix the ceiling brackets and the wall brackets with the screws supplied with the screen.
- Slide screen fixing bolts into the casette chanels (see Picture 6).

6

D = (3/4W+55)±W/6
W - screen width in milimeters

Picture 5 Fixing screen wall brackets

Picture 6 Screen wall installation - phase 1

Picture 7 Screen wall installation - phase 2

Picture 8 Screen wall installation - phase 3

- Twist the screen casette and slide the chanel onto the ceiling brackets front hinge (see Picture 7).
- Twist the screen casette back to the horizontal position (see Picture 8).
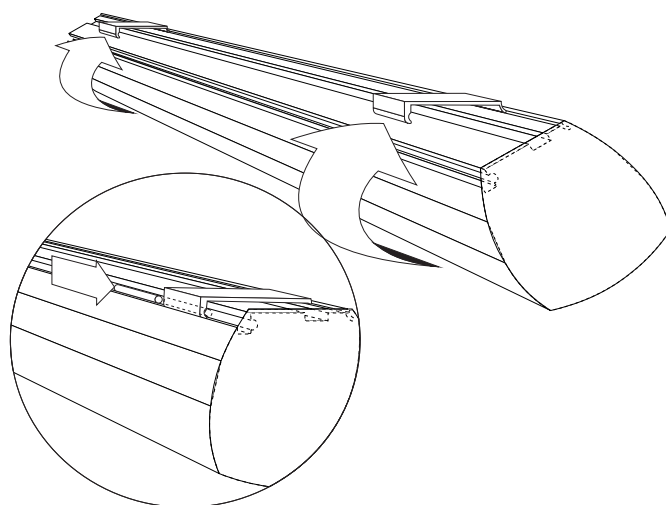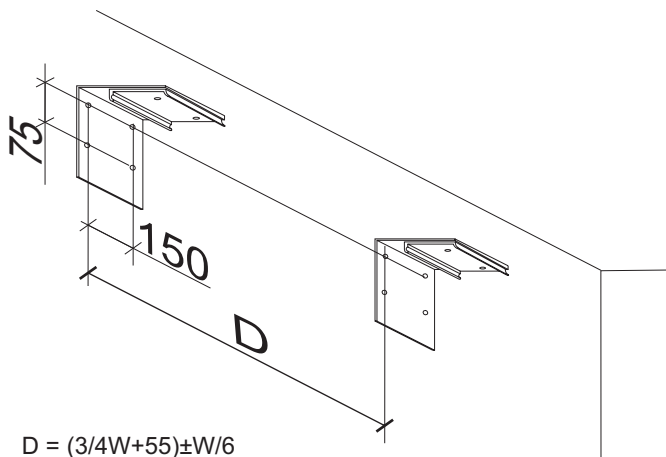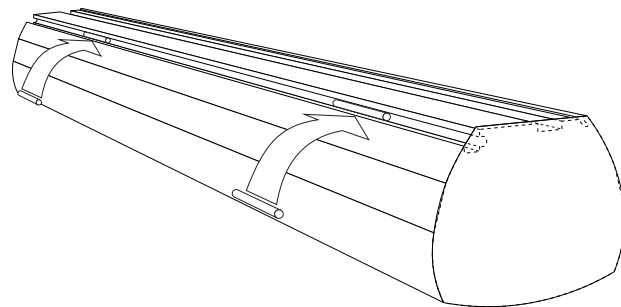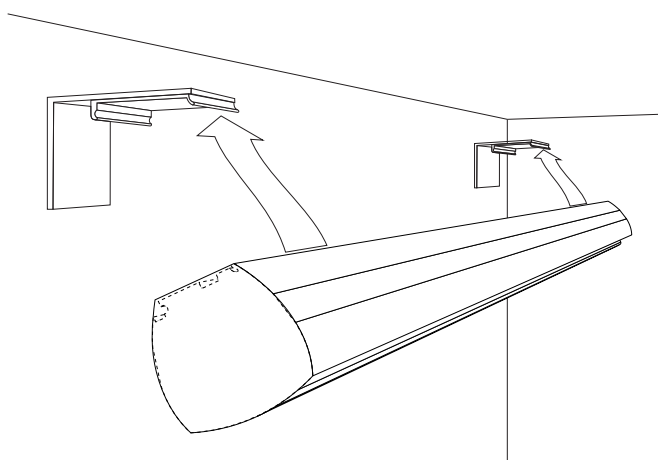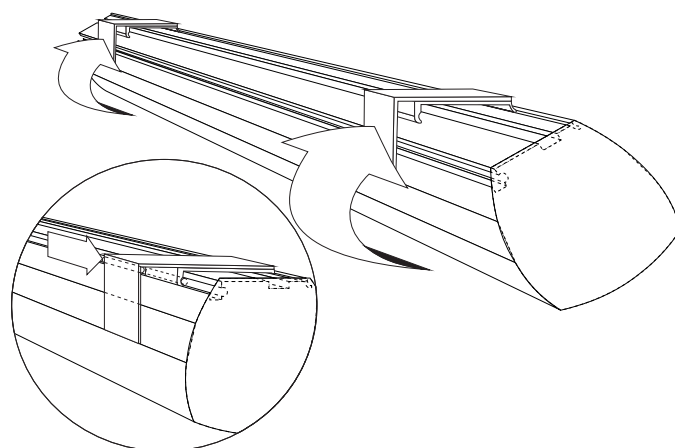- Slide locking bolts to the lock position (see Picture 8).

> Check the screen case leveling before first unrolling the screen.
> Do not use the screen if it is not properly installed (leveled).

3.4. Electric installation

> ATTENTION: Electric installation work should be carried out by a certified electrician.

- Lead out the power cables to:
   a) the place of screen installation (screens with built-in remote control system),
   b) the place of installation of the wall switch and between wall switch and screen (screenss without built--in control systems).
- Screen power line should be fused with 1A fuse.
- Switch off the screen power line during installation work.
- Manual wall steering switch should be installed at the place meeting the following conditions:
   a) installation150-180 cm above the floor level,
   b) the screen should be visible by the wall switch operator during the screen operation,
   c) wall switch operator cannot stay in reach of any of the screen's moving parts during the screen operation .
   d) the wall switch must be visible from the each part of the room irrespective of the screen position.
- Connect trigger signal transmitter to the wall outlet you plan to connect projector power cord.
- Apply projector power cord wall plug to the power outlet located at the trigger signal transmitter.

Screen
bl - blue (common)
br - brown (rolling down)
yg - yellow-green (protective)
bk - black (rolling up)

Power line
L1 - brown (live)
N - blue (neutral)
G - yellow-green (protective)
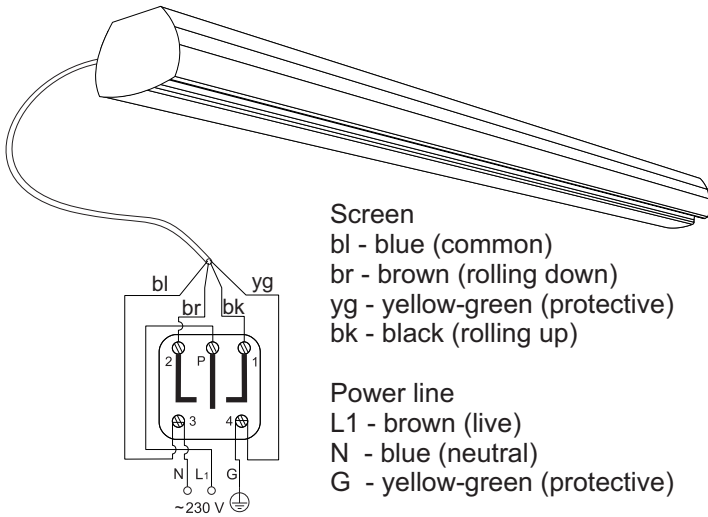
Picture 9 Screen without remote control system
electric installation

Screen
bl - blue (common)
br - brown (live)
yg - yellow-green (protective)

Power line
L1 - brown (live)
N - blue (neutral)
G - yellow-green (protective)
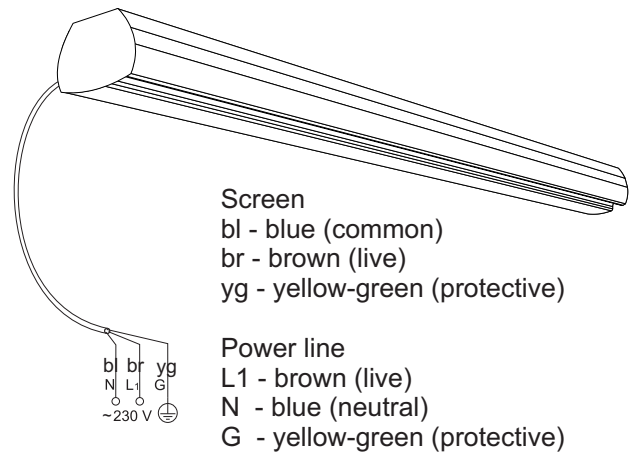
Picture 10 Screen with built-in +RCX control system
electric installation

Screen
bl - blue (common)
br - brown (live)
yg - yellow-green (protective)
bk - black (manual control)

Power line
L1 - brown (live)
N - blue (neutral)
G - yellow-green (protective)

optional wall switch WS-C12VRC+
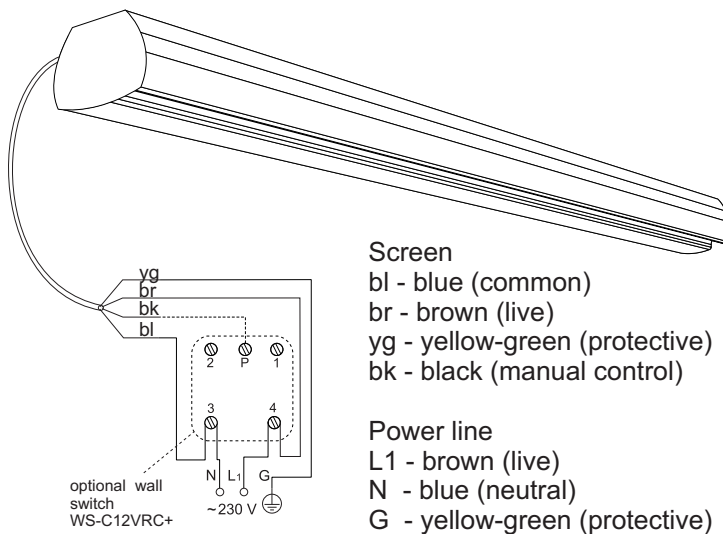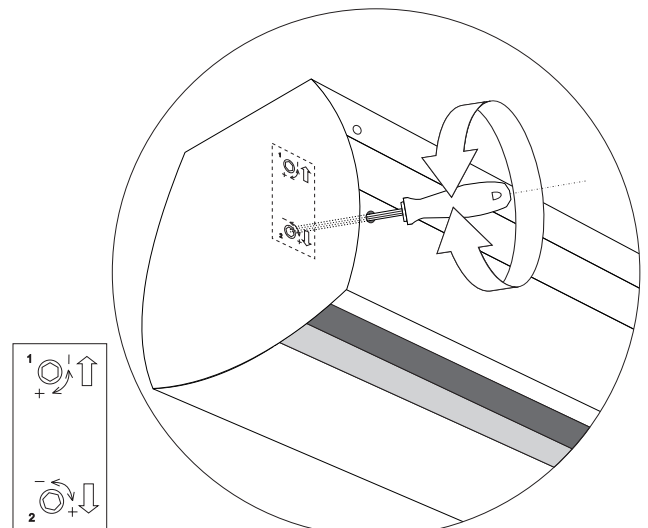
Picture 11   Screen with built-in C12VRC+ triggered
control system electric installation

Picture 12 Lower bar fine tuning

!!! NOTICE !!!
Do not connect any any electric devices except multimedia projector to the power outlet located at the trigger transmitter.
Maximum projector power consumption 600W.

3.5. Screen programming.

!!! NOTICE !!!
The screen was programmed properly at the factory and there is no need to reprogram it without any important reason. Setting of screen extreme positions was made by manufacturer.
If you need to change the screen extreme position follow the instructions described below.

Programing the length of the rolled out screen (screen bottom bar position).
- Roll up the screen until it will stop automatically in the upper position.
- Insert regulation wrench included in the screen set into the regulation slot (see picture. 6) located in the left bottom part of the screen .

Regulation knob "2" (bottom) enables setting of the lower extreme position of the screen bottom bar:
„+" - means increasing the lenght of the fabrics is rolled down when the screen is rolled out,
„–" - means decreasing the length of the fabrics is rolled down when the screen is rolled out.
Regulation knob "1" (upper) enables setting of the upper extreme position of the screen bottom bar:
"-" - means increasing the lenght of the fabrics is rolled down when the screen is rolled in,
"+" - means decreasing the length of the fabrics is rolled down when the screen is rolled in.

> **IMPORTANT!**
> Do not decrease (tuning knob 1+) the range of the rolled down surface. It can damage the screen.
> Do not increase (regulation 2+) the range of the surface which was rolled down behind the STOP mark, placed in the upper right corner of the screen. Rolling down the screen behind the mark can damage the screen.

3.6. +RCX remote control system programing

Parallel operation of a few screens with built-in +RCX installed in the same room is possible; in such case control systems of each screen must be programmed with dedicated control code. The screen with +RCX remote control system is supplied with single remote transmitter, it is possible to purchase optional transmitters. The optional transmitters must be programmed at the controller.

A) Setting of the new transmitter

Controller can memorize 10 individual control codes of remote transmitters.
*   Connect power supply to the screen.
*   Press 3 times P2 button of the remote transmitter within 12 seconds after the screen's sound signal.
*   Transmitter is not set to the control system with individual code (random generated code).

B) Deleting of the transmitter
*   Connect power supply to the screen.
*   Press P2 button of the remote transmitter once.
*   Press the "Stop" button of the remote transmitter within the next 4 seconds.
*   Press P2 button within the next 4 seconds again.
*   The remote transmitter was deleted from the controller memory.

C) Appending new remote transmitter

New remote transmitter will obtain the same individual control code as the original one when appended, or new individual control code if set. We suggest appending new remote transmitters in case some screen with +RCX control systems (or controlled with DRC control systems) are installed in the near neighbourhood (transmitter operation range).
*   Connect power supply to the screen.
*   Press P2 button of the original remote transmitter twice.
*   Press P2 button of the new remote transmitter once within the next 4 seconds .
*   Appending of the new remote transmitter is done.

D) Converting direction

It is possible to convert direction of the operation of the remote transmitter buttons, i.e. the "▲" button will cause the screen to roll out instead of causing the screen to roll inn, and the "▼" button will cause the screen to roll inn instead of causing the screen to roll out.
*   Connect power supply to the screen.
*   Press P2 button of the remote transmitter once.
*   Press the "▼" button of the remote transmitter within the next 4 seconds once.
*   Press P2 button of the new remote transmitter once within the next 4 seconds once.
*   Converting direction is done.

3.7 C12VRC+ triggered control system programming

C12VRC+ triggered control systems radio frequency connection between transmitter and controller is coded with individual control code. Coding of the control system can be performed during screen production at the Avers factory only. You can find information about the individual number of control code of your screen at the transmitter enclosure. Parallel operation of a screens with built-in C12VRC+ control systems is possible without any problem, if the screen's control systems are programmed with different individual control codes (for individual screen control) or the screen's control systems are programmed with the same individual control code (for group screen control).

4. Screen operation

Projection screen AVERS can be operated manually or automatically (screens with built-in C12VRC+ triggered control system). Both operation methods can be used simultaneously if optional dedicated wall switch is installed.

4.1 Automatic operation (screens with C12VRC+ control system)

Automatic screen operation is provided with use of the triggered signal radio frequency transmitter.

- Press "POWER" button at the projector's remote control transmitter or at the projector itself. Projector lamp will light on, the screen will begin rolling out and it will stop automatically when the bottom bar will reach the bottom position.
- Press "POWER" button at the projector's remote control transmitter or at the projector itself. Projector lamp will light off, the screen will begin rolling in and will stop automatically when the bottom bar will reach the upper position.

4.2 Manual operation

Manual screen operation is possible with the wall control switch or by radio frequency transmitter of the optional remote control system.
- Push button „▾", the screen will begin to roll down and stop automatically at the bottom position after rolling down.
- Push "Stop" button of the remote transmitter, screen rolling operation will be stopped.
- Push button „▲", the screen will begin to roll up and stop automatically in the upper position after rolling up.

4.3. Screen maintenence

Pojection screen Avers do not require periodical service maintenance. Clean dust from the screen case and fabrics with dry soft cloths. If needed use moisturized cloth with soft detergent to remove stains. After stain removal dry the cleaned surface with cloth carefully.

4.4. Before calling the service

Symptoms	Reasons	Remedy
The screen fabrics does not roll down	Power failure	Check the screen's circuit fuse and the power cable
The screen fabrics does not roll down/up automatically	Projector power cord plug is not connected to the trigger transmitter outlet.	Connect projector power cord plug to the trigger transmitter outlet
The screen fabrics does not roll down smoothly	The screen was not installed properly in horizontal position.	Check if the screen case is properly leveled. Reinstall the screen correctly.
The screen stops in the middle position.	There are some objects on the bottom bar way.	Remove the objects which can block the proper work of the screen or are at the bottom bar way.
	Power failure	Check the propriety of electric installation and the state of the power wires.

At other cases please contact service.

5. Warranty conditions

1) Avers screens warranty period is 24 months from the date of purchase confirmed with the original purchase invoice.
2) Extended warranty period for electric engine is 60 month.
3) Surety commits to fix free of charge any failures (component or production defects) of the product which appear during warranty period.
4) Warranty exclusions :
   a) the failures caused by the usage of the screen against the rules described in operation manual,
   b) the failures caused by improper storage or transportation,
   c) mechanical defects of the screen other than mentioned at point 3),
   d) damages caused with overvoltage at power network,
   e) deinstallation and reinstallation of the screen.
5) Avers Screens Service department will remove all defects within 21 days after receiving the demaged product.
6) Warranty claims should be passed to the screen supplier (dealer).