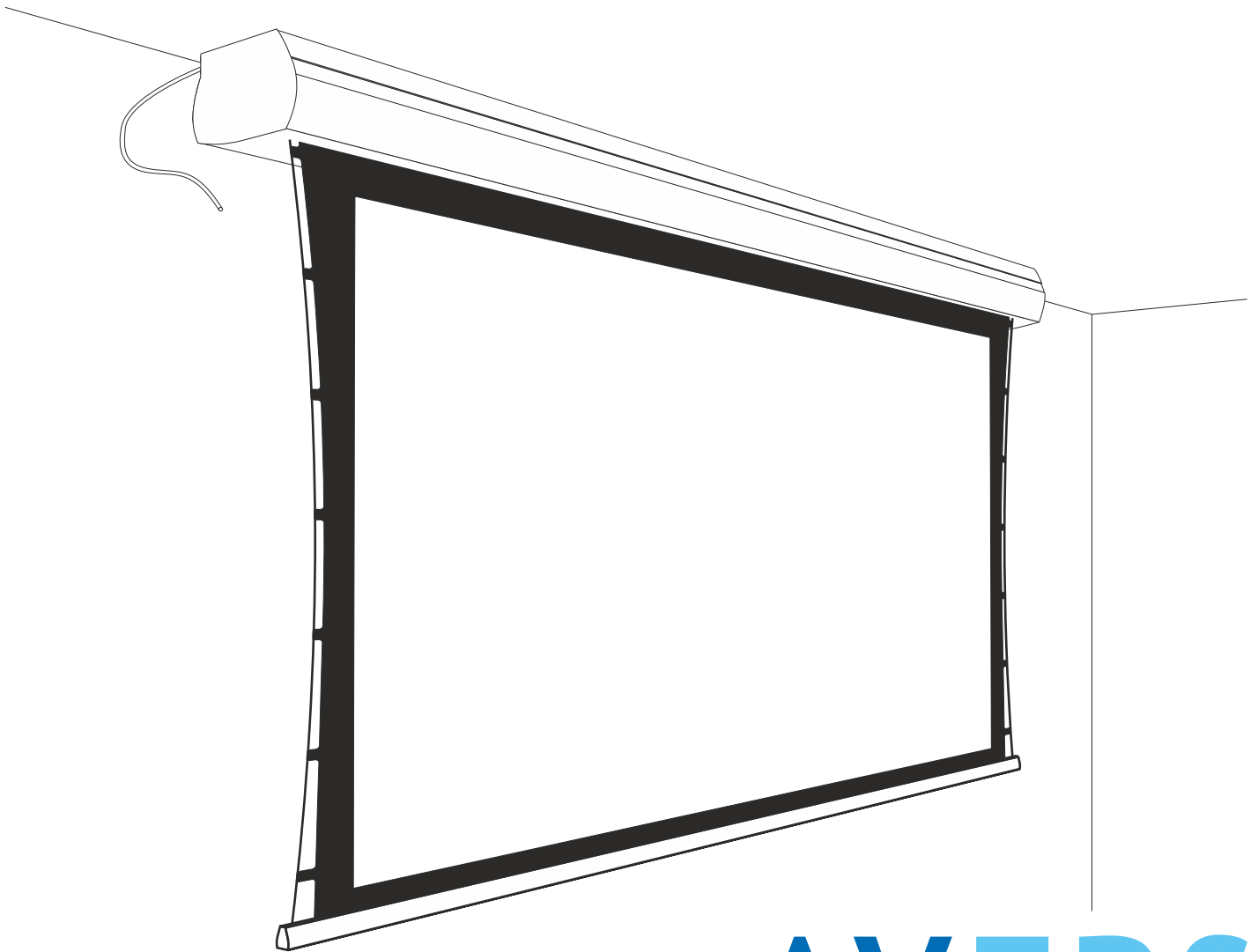


Electric projection screen
Avers Solaris Tension



AVERS
SCREENS

User's manual



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. Enjoytime with the **AversScreens** 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
 - 1.1. Declaration of Conformity CE
2. Product specification
 - 2.1. Contents of package
 - 2.2. Technical data
3. Screen installation
 - 3.1. Installation directions
 - 3.2. Ceiling installation
 - 3.3. Wall installation
 - 3.4. Electric installation
 - 3.5. Screen programming
 - 3.6. +DELTA remote control system programming
4. Screen operation
 - 4.1 Automatic operation
 - 4.2 Manual operation
 - 4.3 Screen maintenance
 - 4.4 Before asking for service
5. Warranty conditions




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

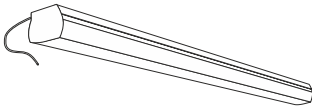
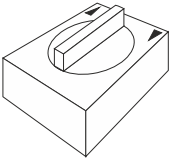
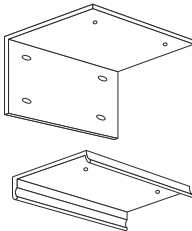
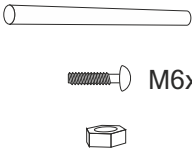
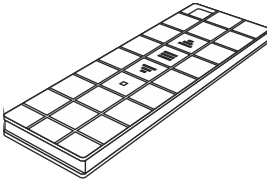
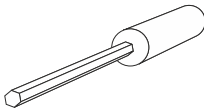
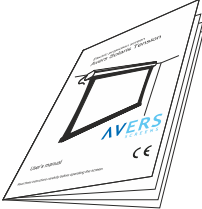
Avers Screens Sp. z o.o. Al. Jerozolimskie 424A 05-800 Pruszków, Poland	
Manufacturer's Declaration of Conformity CE No. 1E/2017	
Under it's own responsibility declares:	
All screens and accessories mentioned below are manufactured in Poland according to the essential safety requirements of the Council Directives: Safety Directive 2001/95/WE with further updates, EMC Directive 214/35/EC and LVD Directive 2014/30/EC	
Projection screens series : Stratus 2, Stratus 2 Tension, Akustratus 2, Akustratus 2 Tension, Cumulus X, Cumulus X Tension, Solar, Solaris, Solaris Tension, Contour, Contour Tension, Cirrus X, Nimbus Projector brackets: Alumount, Promount, SimpleMount, Shortmount, Simlift Projector lifts: Simlift, Simlift XL, Simlift HC Remote control system series: ALFA (IR, Radio, Trigger i Trigger Wireless), BETA, +DELTA	
The above mentioned products are in conformity with the following norms harmonized with the directives:	
	PN-EN 55014-1:2012 PN-EN 60335-1:2015 PN-EN 61000-3-2:2014 PN-EN 61000-3-3:2013 PN-EN 60335-2-97:2007
Paweł Zieliński Pruszków 2017.01.05	
	

2. 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. 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 planned 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:

 <p>Screen x 1</p>	 <p>Wall control switch x 1¹⁾</p>	 <p>Installation brackets</p>	 <p>Installation accessories</p>
 <p>Radio Frequency remote transmitter²⁾ x 1</p>		 <p>Regulation wrench x 1</p>	 <p>Operation manual x 1</p>

¹⁾ standard equipment for the screens without built-in control system
²⁾ standard equipment for the screens with built-in +DELTA control system

2.2 Technical Data

- Projection fabrics characteristics:
- Matt White (MW) - 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: 0,35 mm.
 - Matt Grey (MG) - a special screen dedicated polyester fabric double side covered with vinyl, black back surface and grey front (projection) surface, recommended for application with high brightness DLP and LCD multimedia projectors. The surface offers deeper level of black and more realistic rich dark colors recognized as a feeling of higher image contrast. Recommended for home cinema applications. Gain: 0,8. viewing angle: 150 degrees, thickness: 0,35 mm.

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 weight ^{**)}
300	300 x 169	16:9	361 x 14,5 x 16	241,5	35	BT	65,0
	300 x 188	16:10		272,5	35	BT	65,0
	300 x 169	16:9		207	8	BB	65,0
	300 x 188	16:10		207	8	BB	65,0

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 fabrics}

Motor:

Electric tubular engine AC:

Voltage: 220-240V AC 50 Hz, 170 W

Power consumption: 0,77A

Rotation speed: 26 obr./min

Torque: 20 Nm

Max. operation time^{*)}: 4 min ^{*)Engine single cycle operation time, operation cycle can be repeated in 20 minutes intervals.}

RF remote controller:

Dimensions: 110 x 58 x 20 mm

Power supply: 1 x battery 12V typ 23A

3. Screen installation

3.1. Installation precautions

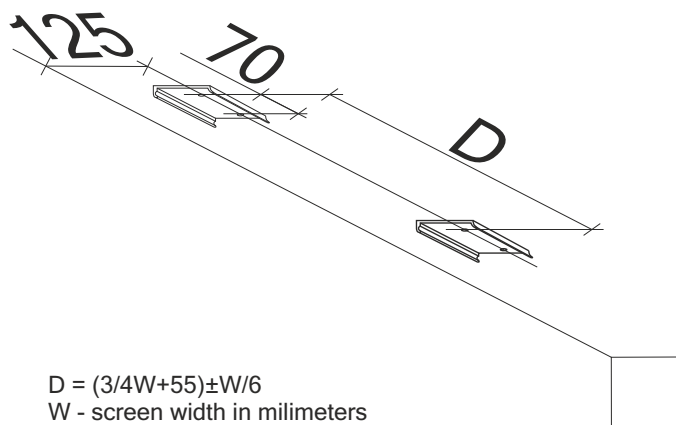
- Installation work should be carried out by a qualified technician in accordance with the instructions described below.
- Fixed installation of the screen should be done with use of the screws and anchors suitable for the walls/ceilings materials at the installation place and the genuine installation 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

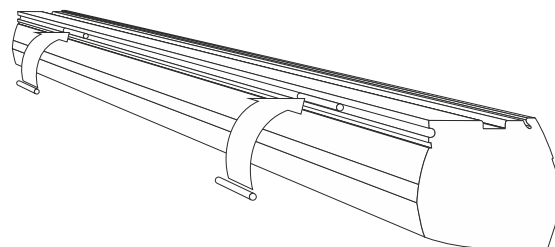
- Appoint the location of the ceiling mount brackets fixing points.
- Drill holes for anchors fixing the screen brackets to the ceiling.
- Fix the ceiling brackets with anchors (see picture 1).

The mounting screws diameter should be $\varnothing 6$ mm. In case of the cartboard-plaster ceiling installation, use cartboard-plaster dedicated steel anchors with $\varnothing 6$ mm diameter screws.

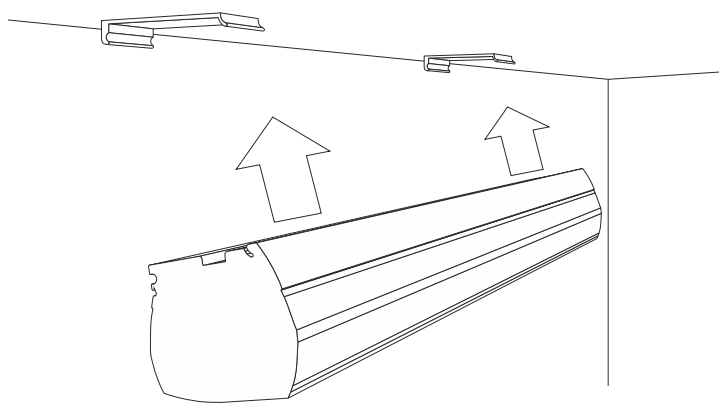
- Slide screen fixing bolts into the cassette chanel (see Picture 2).
- Twist the screen cassette and slide the chanel onto the ceiling brackets front hinge (see Picture 3).
- Twist the screen cassette back to the horizontal position (see Picture 4)
- Slide locking bolts to the lock position (see Picture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



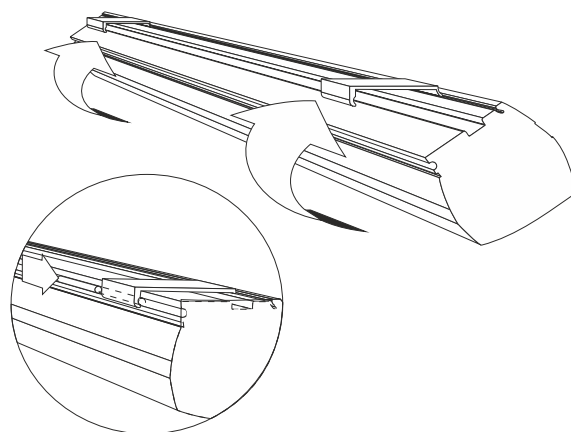
Picture 1 Fixing screen ceiling brackets



Picture 2 Screen ceiling installation - phase 1



Picture 3 Screen ceiling installation - phase 2



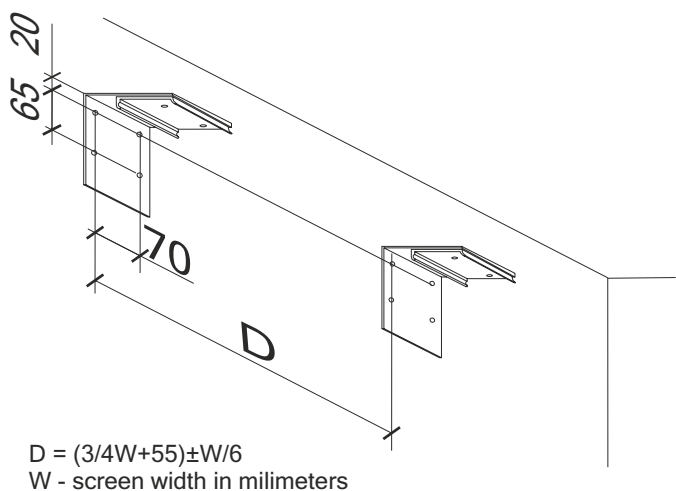
Picture 4 Screen ceiling installation - phase 3

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

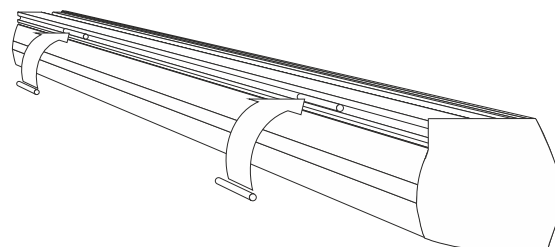
3.3. Wall installation

- 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).

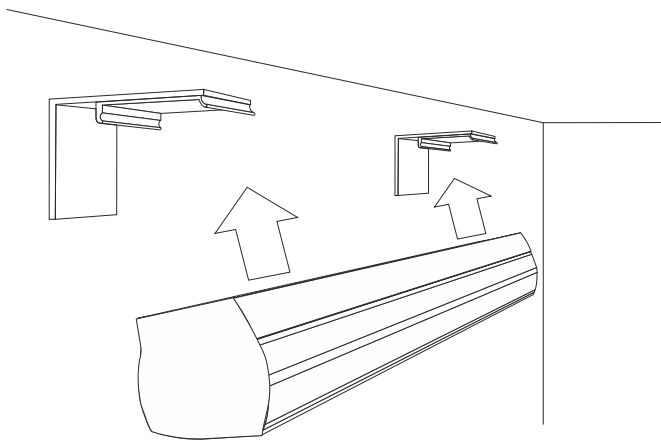
The mounting screws diameter should be $\varnothing 6$ mm. In case of the cartboard-plaster walls installation, use cartboard-plaster dedicated steel anchors with $\varnothing 6$ mm diameter screws.



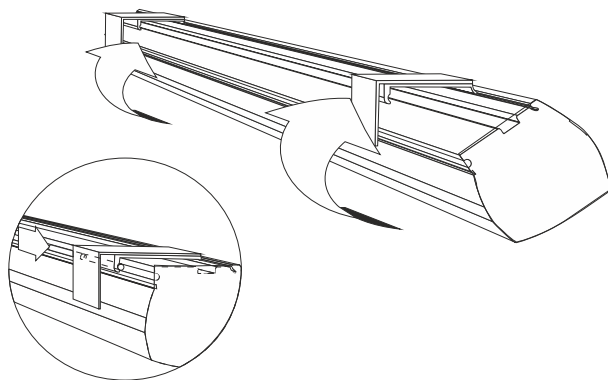
Picture 5 Fixing screen wall brackets



Picture 6 Screen wall installation - phase 1



Picture 7 Screen wall installation - phase 2



Picture 8 Screen wall installation - phase 3

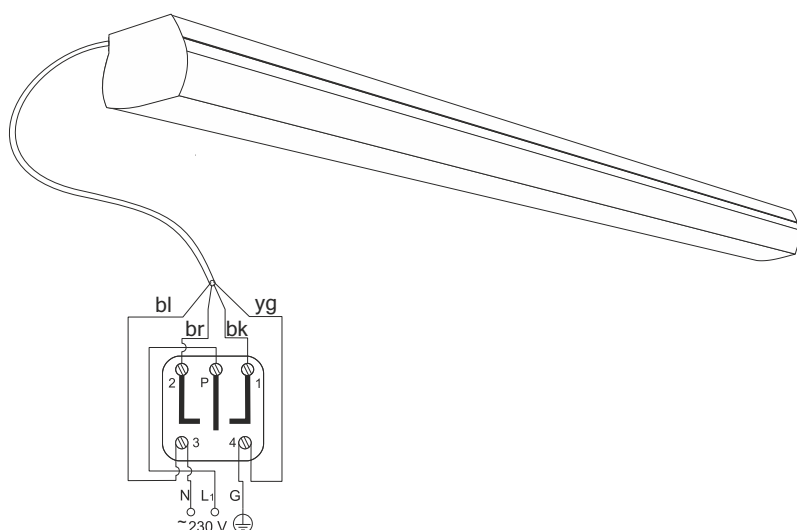
- Fix the ceiling brackets and the wall brackets with the screws supplied with the screen.
- Slide screen fixing bolts into the cassette chanel (see Picture 6).
- Twist the screen cassette and slide the chanel onto the ceiling brackets front hinge (see Picture 7).
- Twist the screen cassette back to 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 (screens 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) installation 150-180 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.

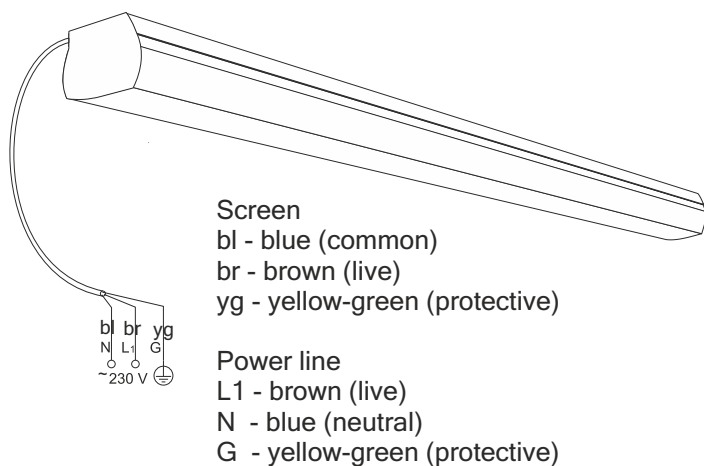


Screen
bl - blue (common)
br - brown (rolling up)
yg - yellow-green (protective)
bk - black (rolling down)

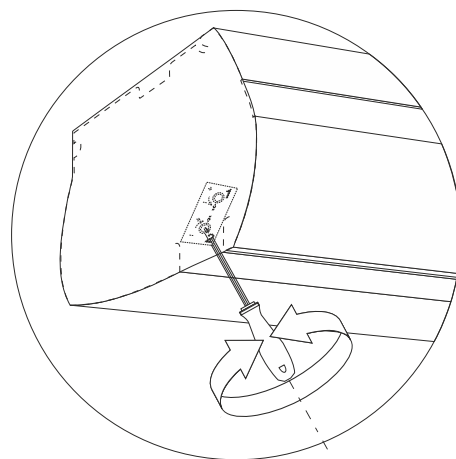
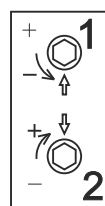
Power line
L1 - brown (live)
N - blue (neutral)
G - yellow-green (protective)

Picture 9 Screen without remote control system electric installation

- 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.



Picture 10 Screen with built-in +DELTA control system electric installation



Picture 11 Lower bar fine tuning

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.

Programming 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. 11) located in the left bottom part of the screen .

Regulation knob "2" (back/lower) enables setting of the lower extreme position of the screen bottom bar:

- „+“ - increase the length of the fabrics is rolled down when the screen is rolled out,
- „-“ - decrease the length of the fabrics is rolled down when the screen is rolled out.

Regulation knob "1" (front/higher) enables setting of the upper extreme position of the screen bottom bar:

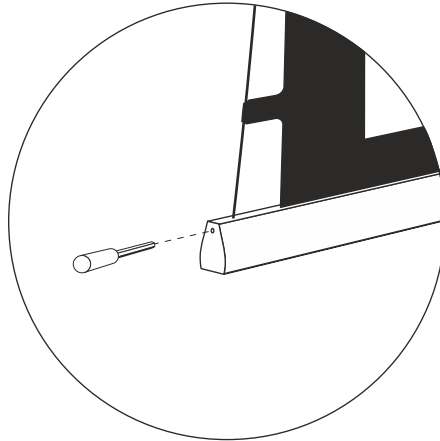
- “-“ - increase the length of the fabrics is rolled down when the screen is rolled in,
- “+“ - decrease the length of the fabrics is rolled down when the screen is rolled in.

!!! IMPORTANT !!!

Do not decrease (tuning knob 2+) the range of the rolled down surface. It can damage the screen. Do not increase (regulation 1+) 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.

The screen was manufactured so the surface flatness would be reached when it is rolled out completely (at it's construction height). Avers Screens do not guarantee surface flatness will remain same when the screen is not rolled out completely or bit is rolled beyond STOP mark.

Tensioning wires were setup during screen manufacturing optimally. It would be necessary to modify the power of the tensioning wires after few years of screen use. Finetuning could be performed with 2mm hexagonal wrench applied into the regulation holes located at bottom bar end caps. Deterioration of projection surface flatness will be affected as a result of improper finetuning of tensioning wires. Waves at the projection surface will cause problems with picture quality in case of geometry and sharpness.



Pic.12 Tensioning wire regulation screws location

3.6. +DELTA remote control system programing

Parallel operation of a few screens with built-in +DELTA 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 +DELTA 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
- Procedure described below should begin within 4 seconds from the sound signal.
- Press P2 button (located inside battery compartment) of the remote transmitter twice, sound signal will be heard after each P2 button operation.
- Press “▲” button of the remote transmitter once.
- 7 sound signals confirm new transmitter was setup succesfully.

B) Deleting of all transmitters from control system memory

- Connect power supply to the screen.
- Press P2 (located inside battery compartment) button of the remote transmitter once.
- Press the “Stop” button of the remote transmitter within 4 seconds from the sound signal.
- Press P2 button within 4 seconds from the sound signal again.
- 4 sound signals confirms all transmitters were deleted from control system memory.

C) Appending additional remote transmitter

Appending new transmitter procedure has 2 steps. First step the remote transmitter supplied with the screen must be set as the main remote transmiiter, in second step the optional new transmitter can be set up to operate with the screen. It is possible to append multiple transmitters to the screen with the procedure described below.

- Connect power supply to the screen.
- Press P2 (located inside battery compartment) button of the original remote transmitter twice, the screen will generate sound.
- Press “▲” button of the new remote transmitter once within the next 4 seconds.
- Setting up of the main remote transmitter will be confirmed with the sound signal.
We recommend to mark the main remote transmitter to identify it easily in the future.
- Press P2 button (located inside battery compartment) of the main remote transmitter twice), sound signal will be generated each time P2 button is operated.
- Press P2 button of the new remote transmitter once within 4 seconds from the last sound signal.
- 5 sound signals confirms additional remote transmitter was appended succesfully.

4. Screen operation

Projection screen AVERS can be operated manually or automatically (screens with built-in remote control system).

4.1 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 maintenance

Projection 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 damaged product.
- 6) Warranty claims should be passed to the screen supplier (dealer).



Manufactured after 13.08.2005

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.