

# LABOTRON

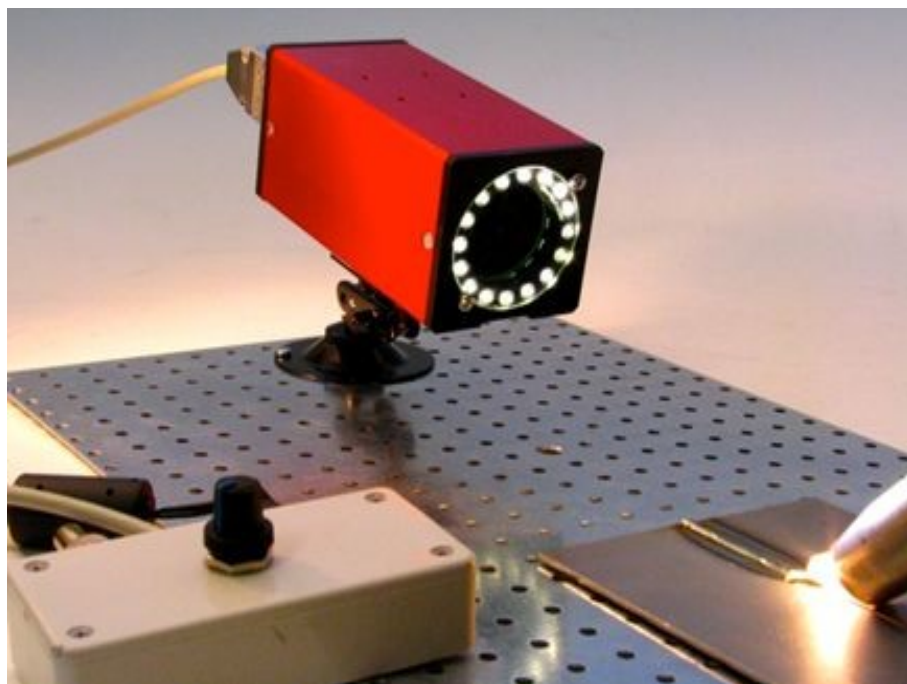
## Welding camera system WVS-21

By semi-automatic or automatic welding equipment the service and control of the welding torch mostly occurs from a control station. To set the position of the welding torch and the parameters for the welding process optimally, however, a visual inspection from the control station is required.

The welding camera WVS-21 provides a sharp colour picture and allows therefore an optimal observation of welding torch, filler wire and work piece as well as welding arc and melting area. Brightness can be fast and simply adjusted via a small operating panel - **before, during** and **after** the welding process. This can help you e.g., to shorten the set-up time substantially or faster recognition of possible welding mistakes.

The camera is in a protective case (60 x 60 x 120mm) and thereby can be inserted also in cramped arrangements with heat and dust load. A protective glass on the front side protects the optics of the camera and can be changed easily.

The camera cable can be ordered up to 50 m length. With it, e.g., the camera can be controlled by a remote control station or a complex cable transfer in the machine can be carried out.



Version 1.1

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## Reference

Unfortunately there is no guarantee, that this manual is without lacking.  
Changes could be made without announcements.

Note the scope of delivery and check if all ordered parts are delivered

Due to customers order, additional components can be delivered.

If components are missing please contact your dealer.

Never try to repair a broken system by yourself, contact your dealer.

Warranty will lost by inappropriate use of the system!

## **Safety instructions**

Please read this manual carefully and check for the instruction before operating the WVS-21 welding vision system.

Keep these instructions at a safe place.

Use the system only in the specified temperature and air humidity area.

Use only original power supplies for operating the system.

Do not open the case of the camera. Parts inside can be damaged or de-adjusted.

Get sure, that the power supply is disconnected, when system will be installed and cables will be connected.

Connection cables should be moved in such a way that no one can step on it or that they can be damaged by falling down objects.

Never pour liquids about the camera or the operating device.

Never put objects by openings of the machine. You can touch voltage-carrying shares and receive an electric blow.

Before cleaning the system has to go is switched off and is separated from the operating voltage. Use to the cleaning a humid cloth.

Use no sharp cleaning agents or spray cans.

With operational disturbances switch off the system and separate it from the main power. To leave servicing works or repair work exclusively to the manufacturer.

The installation of the system may be carried out only by certified staff and must correspond to the local regulations.

## **The welding vision system consists of**

- CCD - colour video camera with lens in a protection housing
- remote panel for adjusting the brightness
- Trigger plug
- camera cable, depending on the order, up to 50 m long
- power supply

## Front and backside of the camera

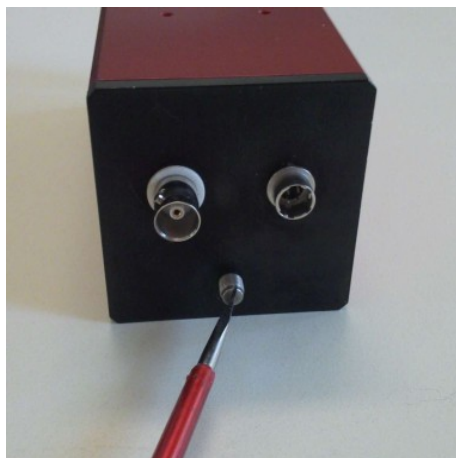


At the front of the camera a protective glass is inserted which is easy to change after turn of both knurled-head screws.



On the bottom of the camera an assembly adaptor with a M8 grub screw and 1/4 " tripod thread is screwed on. This assembly adaptor can be mounted, when required, also on the upper side of the camera. Use delivered screws only.

Note: If screws have to be replaced take care that the overall length is max. 6mm like M3x6-DIN 7985 or M3x6-DIN 912



At the back of the camera is the plug for the camera cable and the BNC socket for the video cable.

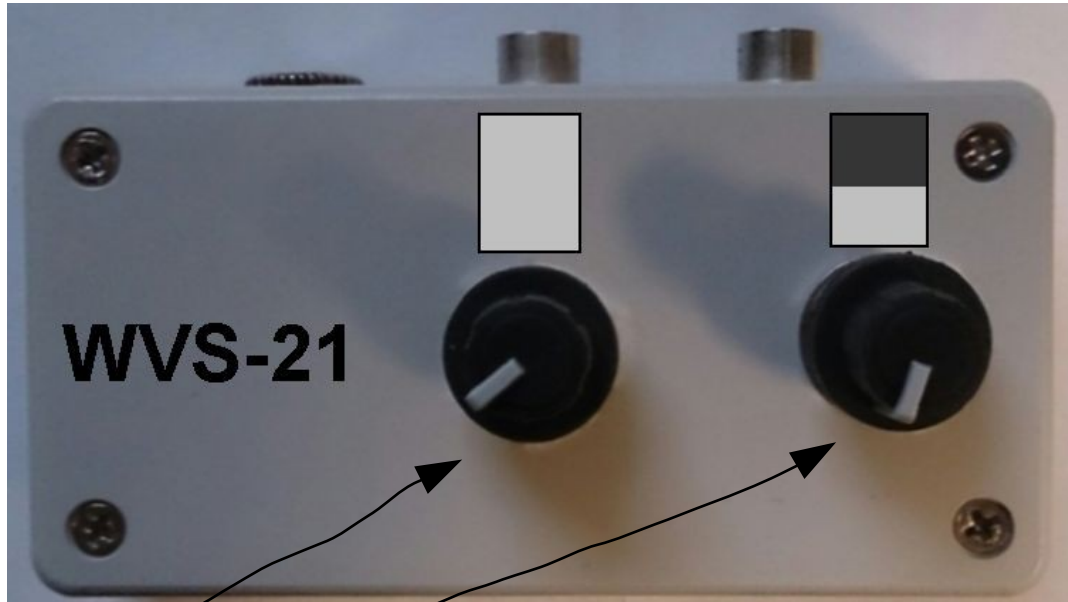
The screw enables the fine adjustment of the lens sharpnes,  
left turn for closer object,  
right turn if object is more far,

## Operation panel

Connector for ext.  
trigger of the  
welding machine

Camera  
Control  
Cable

Connector  
Power Supply



The potentiometers controls a grey filter, therefore the quantity of light for the camera is optimally adjustable at every time

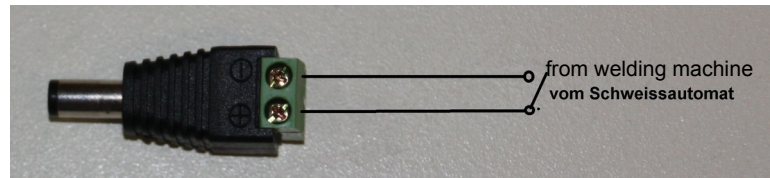
At the remote panel are the connection of the power supply, the socket for the connection of the camera cable, and a connection for a close contact (free of potential in Ext. Control). e.g., from a welding machine, enables automatic switching from welding set-up to welding process.

Contact open allows set-up of the welding process, the potentiometers for brightness control is without function.

If the welding arc starts, the contact will be closed (triggered by welding machine) and the potentiometers can be adjusted for optimal brightness.

After finishing the welding process (close contact of the welding machine is open) the panel switches automatically and the potentiometer is without function.

## Connection external trigger control



Please note, that the function of the potentiometers is only active, if the contact at the trigger plug is closed.

## Installation

- Connect all cables before connecting the main power supply.
- The assembly adaptor with a M8 grub screw and 1/4 " tripod thread is screwed on either upper or bottom side of the camera case. Take care that only delivered screws are used.
- At the assembly (mounting) of the camera is to be noted that the camera is set in correct distance to the melting area. This distance is to be kept - otherwise a sharp position adjustment of the object is not guaranteed. With the screw on the backside of the camera the sharpness can be adjusted exactly.
- Due to high temperatures near camera please take care for proper cooling.
- Additional cooling plates are available as option.



## Specification

Sensor:	1/4" CCD, 450 TV Lines, 752 x 582 pixels, 440k pixels	
Lens :	different, fixed focal lengths f= 35mm, viewing angle ~6° f= 50mm, viewing angle ~4°	
Shutter:	fixed at 1/50 sec.	
Aperture:	F=4	
Gain:	fixed	
Video output:	FBAS, 1 V p_p (Sync. negative)	
Automatic white balance	ATW	
Camera cable up to	50m	
Adjustable filter for optimal brightness control		
Power:	12 VDC, 220 mA , power input 100 – 240 VAC	
Operating temperature:	0...50 ° C	
Size:	Camera	60 x 60 x 140 mm,
	Panel	100 x 50 x 50 mm (W x D x H) incl. Pot. knob
Weight:	Camera only	appr. 600 g

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