



Manual SVS-EF-Adapter

1 Company information

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1.1 Standards

This manual is based on the following standards:

- DIN EN 62079
- DIN EN ISO 12100
- ISO Guide 37
- DIN ISO 3864-2
- DIN ISO 3864-4
- DIN ISO 16016:2002-5

1.2 Disclaimer

This manual contains important instructions for safe and efficient handling of SVCam products. This manual is part of the product and must be kept accessible in the immediate vicinity of the product for any person working on or with this product .

Read carefully and make sure you understand this manual prior to starting any work with this product . The basic prerequisite for safe work is compliant with all specified safety and handling instructions.

Accident prevention guidelines and general safety regulations should be applied.

Illustrations in this manual are provided for basic understanding and can vary from the actual model of this product . No claims can be derived from the illustrations in this manual.

The product in your possession has been produced with great care and has been thoroughly tested. Nonetheless, in case of any complaint, please contact your local SVS-VISTEK distributor. You will find a list of distributors in your area on www.svs-vistek.com

1.3 Copyright notice

Forwarding and duplicating of this document, as well as using or revealing its contents are prohibited without written approval. All rights reserved with regard to patent claims or submission of design or utility patent.

2 Legal information

Errors and omissions excepted.

These products are designed for industrial applications only. Cameras from SVS-Vistek are not designed for life support systems where malfunction of the products might result in any risk of personal harm or injury. Customers, integrators and end users of SVS-Vistek products might sell these products and agree to do so at their own risk, as SVS-Vistek will not take any liability for any damage from improper use or sale.

2.1 USA and Canada



This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTICE This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules.

It is necessary to use a shielded power supply cable. You can then use the “shield contact” on the connector which has GND contact to the device housing. This is essential for any use. If not done and the device is destroyed due to Radio Magnetic Interference (RMI) WARRANTY is void!

- Power: US/UK and European line adapter can be delivered. Otherwise use filtered and stabilized DC power supply.
- Shock & vibration resistance is tested. For detailed specifications refer to the section on specifications ("[Specifications](#)").

2.2 Europe



This device is CE tested, rules of EN 55022:2010+AC2011 and EN61000-6-2:2005 apply.

The product is in compliance with the requirements of the following European directives:

- 2014/30/EU Electromagnetic compatibility (EMC)
- 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

All SVS-VISTEK products comply with the recommendation of the European Union concerning RoHS Rules.

3 Getting started

This adapter is designed as an add-on to SVCam cameras, manufactured by SVS-Vistek GmbH. The SVCam-EF lens adapter connects industrial vision cameras from SVS-Vistek with a motorized lens from the Canon EF and EF-S series. The camera should run the latest firmware (>2951), it can be downloaded here:

<https://www.svs-vistek.com/en/support/svs-support-download-center.php>

3.1 Power supply

The adapter is supplied by the camera's power supply.

NOTICE The SVS-EF-Adapter is specified for an operating voltage of 12V. Higher voltages will destroy the adapter. The camera must not be powered with higher voltage than 12V max.

The adapter comes with a Y-form cable, with one male and one female Hirose plug. Connect the female plug to the camera, the male plug to the 12V power supply. There is no need for a separate external power supply.

NOTICE Always connect first adapter, camera and lens before powering up the camera.

3.2 Select lens driver

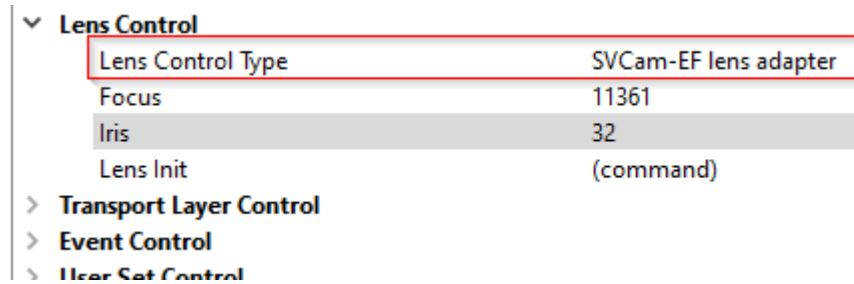
The camera cannot detect the lens protocol on its own. Cameras from SVS-Vistek support several protocols to control adjustable lenses (Varioptic, Canon EF). Open your GenIcam-compliant software (e.g. SVCapture2 from SVCam Kit) select "SVCam-EF lens adapter" in the camera's GenIcam tree when the camera is connected and switched on. It is recommended to save this setting in user set.

3.3 Init lens

A lens init can be performed in the GenIcam tree. Iris and Focus are returned to default values. The camera and lens are synchronized with this command.

4 Lens usage

The lens is controlled via the lens control feature in the GenICam tree of the camera. When activating the power supply or attaching a new lens, a lens init should be performed automatically. You might use the init command any time, be aware of initialization time.



The screenshot shows a tree view of camera controls. The 'Lens Control' section is expanded, showing a table of properties. The 'Lens Control Type' property is highlighted with a red box and has the value 'SVCam-EF lens adapter'. Other properties include 'Focus' (11361), 'Iris' (32), and 'Lens Init' ((command)). Below 'Lens Control' are other sections: 'Transport Layer Control', 'Event Control', and 'User Set Control'.

Property	Value
Lens Control Type	SVCam-EF lens adapter
Focus	11361
Iris	32
Lens Init	(command)

Lens control display in the GenICam of SVCapture

4.1 Limitations

- > Zoom function is not supported
- > Focus and iris do not support feedback control. If focus or iris is altered by external effects, the lens/camera will not correct this automatically. A lens init is required to restore the synchronization of camera and lens
- > GenICam numbers for adjusting focus and iris do not show calibrated values (in units like m or f-stop numbers)

4.2 API-calls

The adapter can be accessed through the camera's GenICam properties, the adapter has no API on its own. The SVCam Kit provides software access to the GenICam properties of the camera and thus to the properties of the adapter as well (see [Lens usage](#) [Lens usage](#)). Only SVCam cameras with matching firmware support provide access to the lens in its GenICam tree.

The camera provides following lens properties:

GenICam property	usage
LensControlLensInit	Command to init lens
LensControlType	Needs to be set to "SVCam-EF lens adapter"
LensControlFocus	Adjust focus. Values depend on lens
LensControlIris	Adjust iris. Values depend on lens

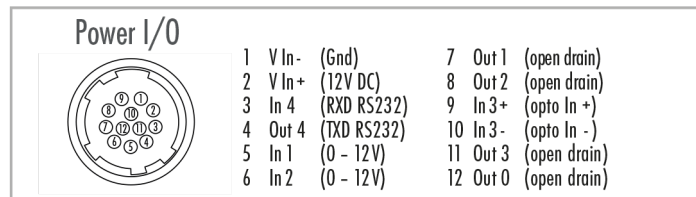
5 Specifications

	C mount	M42	M58
Power supply [V]	12	12	12
weight [g]	156	150	156
size [mm]	Ø67 x 30.4	Ø67 x 36.5	Ø67 x 36.5
Supported lens types	Canon EF and Canon EF-S		
Camera mount	C mount	M42	M58
Camera threading	-	x 1	x 0.75
Backfocal distance [mm]	44	44	44

5.1 Drawings

5.1.1 Connector

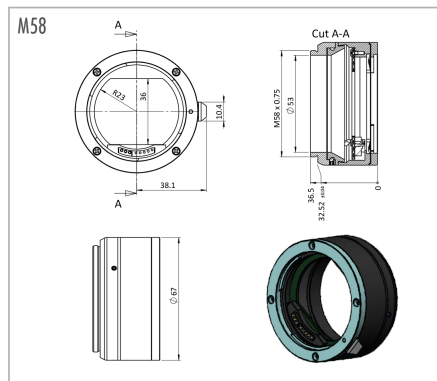
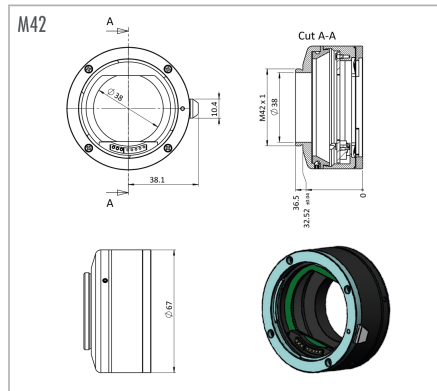
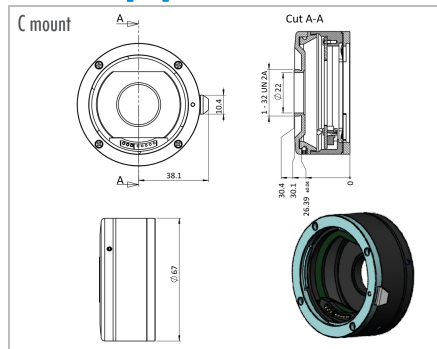
Pinout



11/2021

5.1.2 Mechanical layout

Dimensions [mm]



6 Troubleshooting

Q: SVCapture does not show movable/adjustable value sliders

A: Select as lens driver none, wait for 15 seconds, then select Canon EF and wait for 15 seconds. Waiting is essential for the lens to inform the camera about its capabilities.

Q: Lens values (e.g. focus) can be adjusted in SVCapture, but lens/camera does not react

A: Adjust the lens manually to a focus value in the middle of the focus range. As above do the procedure for selecting lens driver. Do a lens init in SVCapture. Verify the changing focus of the lens, driving to min and max of the focus range. Some lenses provide the possibility to switch to manual focus. Make sure automatic focusing is enabled (switch in "AF" position)

Q: My lens is covering only part of the focus range

A: Some Canon lenses come with the possibilities to select AF range with a physical switch at the lens. After putting this in the correct position (maybe "FULL"), do a lens init to verify full focus range coverage.

Q: I changed the lens. It does not adjust correctly.

A: Always power up the camera with the correct lens already mounted. If lens is changed while camera is powered on, the camera loses lens information.