

Installation and Operating Instructions

Sequential Switchers AVU-8/2 EC and AVU-8/2 AL-2



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Betriebsanleitung
Installation and Operating Instructions ⇒ www.eneo-security.com
Mode d'emploi
Instrucciones de manejo

1. Safety instructions

- Before connecting the device and putting it into operation, please read the safety notes and the operating instructions.
- Keep the operating instructions in a safe place for later use.
- Never cover the ventilation slits of the device.
- The device is only intended for use in enclosed spaces and is to be protected from penetration by water and moisture.
- If water or moisture has nevertheless got in, do not switch the device on in these circumstances.
Send to a qualified service centre for checking.
- The casing may only be opened by authorised persons. Repair only by qualified service staff.
- Before opening the unit disconnect from mains voltage.
- Never push metallic or other objects through the ventilation slits. This could permanently damage the device.
- The device is to be protected from excessive heat, dust, moisture and vibration.
- Do not place heavy objects on the casing.
- Pay attention when laying the connection cable and observe that the cable is not subject to heavy loads, kinks, or damage and that no moisture can get in.
- Only use a mild domestic cleaner for cleaning the casing. Never use thinners or petrol. This can damage the surface permanently.

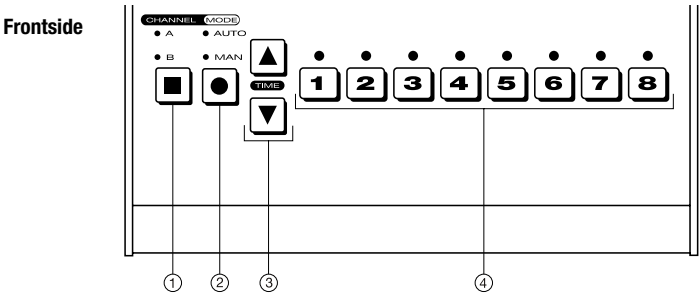
Note: This is a class A digital device. This digital device can cause harmful interference in a residential area; in this case the user may be required to take appropriate corrective action at his/her own expense.

2. AVU-8/2EC

2.1 General description

- Sequential switcher with 8 inputs/2 outputs in desktop casing
- 8 video inputs
- 2 outputs (A: monitor and B: VCR)
- Outputs can be programmed manual or as sequential output
- Vertical interval switching
- Dwell time can be set
- Bypass function
- Operating voltage AVU-8/2EC: 15VAC, 300mA, 4.5VA

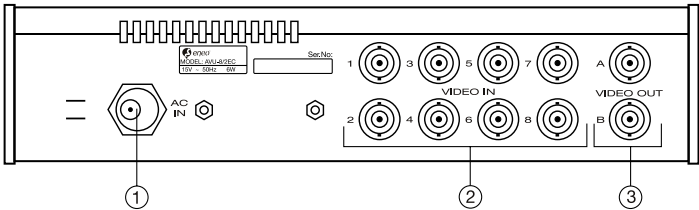
2.2 Description of functions



1	CHANNEL	Key for selecting CHANNEL A or B, for operating with the keys TIME, MODE or 1-8.
2	MODE	Key for selecting the "Auto" (sequence) or "Manual" mode. In "Manual" mode, the LEDs 1-8 show the selected input which is switched to CHANNEL A or B. In "Auto" mode, the LEDs 1-8 show the current input of the selected CHANNEL A or B. By pressing one of the keys 1-8, the LEDs show the active inputs. The inputs are switched off by pressing the selected keys from 1-8. After this procedure, the device reverts to normal operation. If all inputs are switched off, the switcher automatically switches to the first input.
3	TIME	Key for selecting the dwell time. If the selector key UP or DOWN is pressed the LEDs 1-4 show the selected dwell time. Every time the TIME key is pressed, the dwell time is increased or decreased by 1 second.
4	VIDEO INPUTS 1-8	Keys for selecting the input in "Manual" mode operation or for switching the inputs off in "Auto" mode.

TIME (sec)	LED1	LED2	LED3	LED4
1-7	OFF	OFF	OFF	OFF
8-15	ON	OFF	OFF	OFF
16-23	OFF	ON	OFF	OFF
...	...	...	...	...
120	ON	ON	ON	ON

Rear side

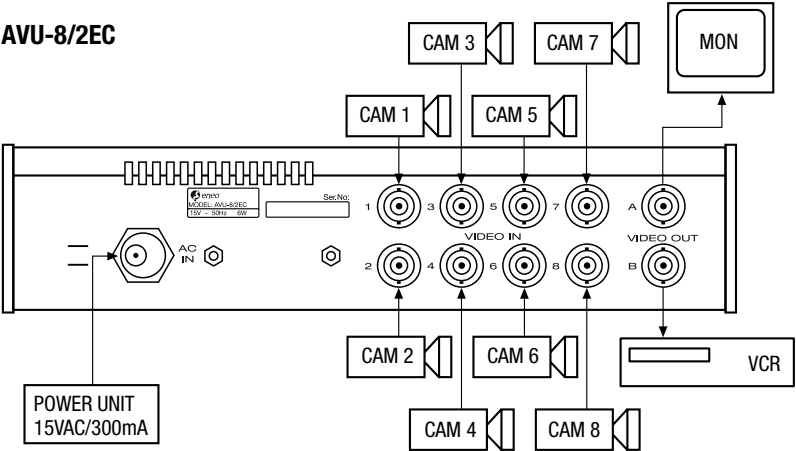


1	AC IN	Standard connection socket for connecting to the power unit supplied.
2	Video IN	BNC video input sockets. Up to 8 video cameras or other video sources may be connected here.
3	Video OUT	BNC video output sockets for channels A and B.

2.3 Connections

Note:
Take care that the mains plug is withdrawn before you connect other apparatus or open the device.

AVU-8/2EC



2.4 Settings

STANDARD SETTINGS	Hold the "CHANNEL" and "MODE" keys down together for at least 3 seconds. All settings revert to the following values:
CHANNEL A	"Auto" (sequence) mode, 8 inputs, dwell time 1 sec.
CHANNEL B	"Auto" (sequence) mode, 8 inputs, dwell time 1 sec.
SYNCHRONISATION	PAL

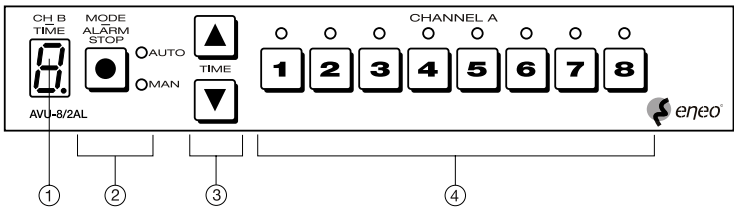
3. AVU-8/2AL-2

3.1 General description

- Video switcher with 8 inputs/2 outputs in desktop casing
- 8 video inputs
- 2 outputs (A: monitor and B: VCR)
- Outputs can be programmed manual or as sequential output
- Vertical interval switching
- Dwell time can be set
- Bypass function
- Operating voltage AVU-8/2AL-2: 230VAC
- A 19" fitting kit is available as an option
- Eight alarm inputs (9-pole sub D plug)
- Programmable through the monitor menu

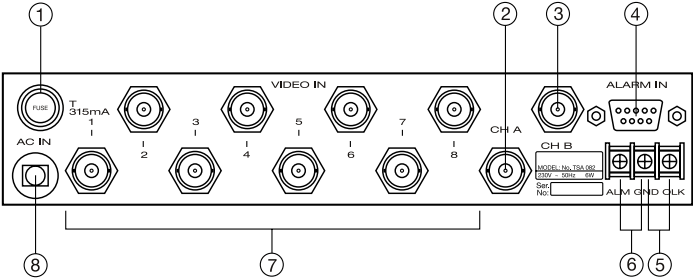
3.2 Descriptions of functions

Frontside



1	CH B – TIME CHANNEL A.	LCD indicator for showing the sequence (CH B) of CHANNEL B or the dwell time (TIME) of If the "VCR CLOCK" mode is selected, the display shows a "C". In the "Individual image" (frame by frame) mode, the display shows an "F". If the TIME key is pressed, a point lights up and the indicator shows the dwell time: 0 for 1 to 9 seconds, 1 for 10 – 19 seconds, etc.. If an alarm occurs and CHANNEL B is selected, the point at the bottom right in the LCD display blinks.
2	MODE - ALARM STOP	Key for selecting "sequential" (AUTO) or "manual" (MAN) mode or resetting the alarm if CHANNEL A is selected.
3	TIME	Keys for setting the dwell time from 1 to 90 seconds.
4	CHANNEL A	Keys for selecting the signal inputs in the "manual" mode or for switching off inputs in the "sequential" mode. In the "manual" mode, the red LED at the selected input lights up, in "sequential" mode the LED at the selected input lights up orange. If all inputs are switched off, the AVU-8/2AL-2 automatically switches to the first input.
DESK TOP RACK FITTING		The rubber feet on the base plate allow the device to be used on a desk top without slipping. The rubber feet must be removed when fitting in a 19" rack so that the switcher can be built into the optionally obtainable rack fitting kit.

Rear side



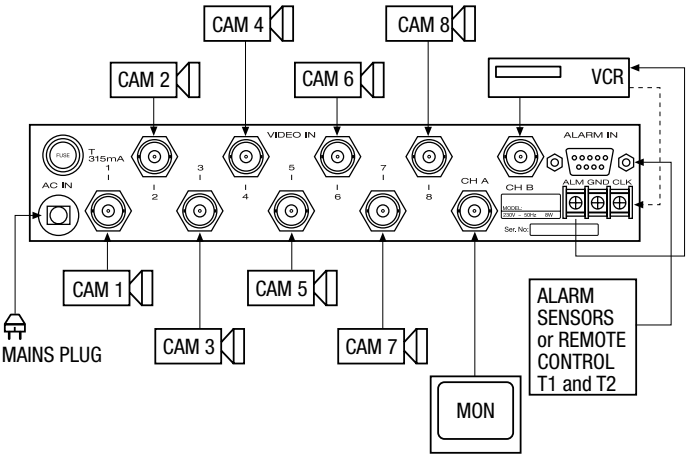
1	T315mA	Fuse holder for T 315mA fuse
2	CH A	BNC socket of the video output of CHANNEL A, for connecting to the main monitor
3	CH B	BNC socket of the video output of CHANNEL B, for connecting to a video recorder with an optional CLOCK output
4	ALARM IN	9 pin plug for alarm input or remote control. Connection of up to eight alarm sensors is possible. Either the alarm inputs or the remote control can be activated through the 9 pin plug. Setting in the menu. Remote control is effected through 2 keys which are attached to the alarm socket.
5	CLK/GND	Terminal socket for the VCR-CLOCK input. If a video recorder with a CLOCK output is used and connected to the VCR-CLK input, the sequence is switched from CHANNEL B by the clock impulse. The VCR-CLOCK input must be activated in the SETUP.
6	ALM/GND	Alarm output terminal socket (NO= output with open collector). It is suitable for connection to a video recorder with alarm input.
7	VIDEO IN	BNC sockets for video inputs. Up to eight video cameras or other video sources can be connected here.
8	AC IN	230VAC mains input

3.3 Possible connections

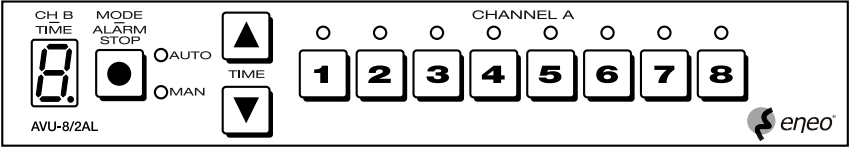
Note:

Take care that the mains plug is withdrawn before you connect other apparatus or open the device.

AVU-8/2AL-2



3.4 Menu settings

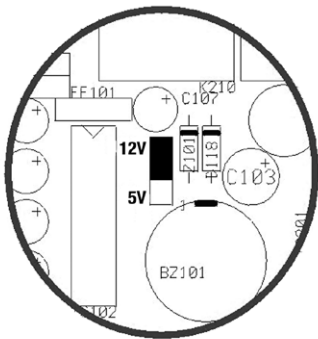
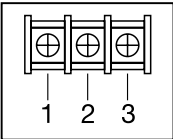


Set-up		To enter the Setup menu, first press the key "v" and then "8" and hold both for at least 3 sec. Note: To superimpose the menu, a video image must previously be connected to channel 1
	Hinweis English Italiano Deutsch	The language menu appears on the screen
Operation	^, v • X	Select menu point Confirm, select Activate (in sub-menu)
Settings in main menu	CHANNEL B ALARM REMOTE CONTROL LINE SYNCHRONISATION SCREEN DISPLAY CLOSE	
CHANNEL B	MODE DWELL TIME INPUTS FRAMES CLOSE	Sequential image display; single image display Duration of individual sequence images Number of connected inputs Number of full images at output B Leave the menu
ALARM	ACTIVATION DWELL TIME ALARM DURATION ALARM-FRAME DWELL ALARM SWITCH-ON CLOSE	Channel A, channel B or no alarm switch-on Duration of alarm display, where there are several alarms Duration of alarm tone in sec (buzzer) ON/OFF of full image display Type of alarm contact: positive (normally closed), negative (normally open) Leave the menu
REMOTE CONTROL	ON OFF CLOSE	Remote control function is activated (9 pin socket). The alarm function must be switched off in the alarm menu! Remote control function is deactivated (9 pin socket) Leave the menu
LINE SYNCHRONISATION	Close NUMBER	Optimising possible in +/- 127 steps
SCREEN DISPLAY	NUMBER DISPLAY TIME DISPLAY CLOSE	ON/OFF of individual signal inputs Sequence duration, only possible in "AUTO" setting Leave the menu

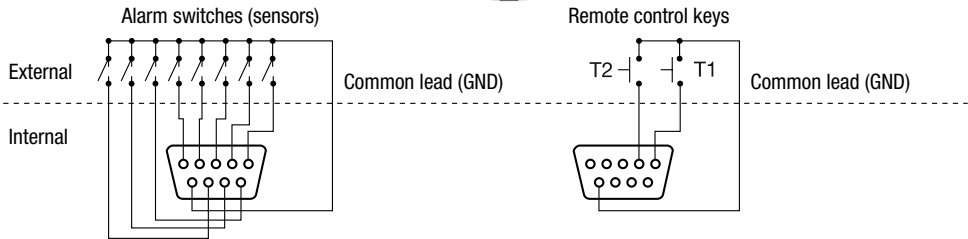
CLOSE	SAVE	YES, NO Reset: back to the main menu without saving
STANDARD SETTINGS		To set the standard settings, press the "v" and "2" keys simultaneously (Factory setting).
	CHANNEL A	"AUTO" mode (sequential), 8 inputs (LEDs light up). Interval time 1 sec.
	CHANNEL B	"AUTO" mode (sequential). In the LCD display, the channels 1-8 are switched through, interval time 1s, full image.
	ALARM	Deactivated, interval time 1s, duration 20sec, Full image switch-over switched off Configuration NC = Normal Closed
	REMOTE CONTROL	Switched off
	MAINS PHASE RELATION	Phase 0
	SCREEN DISPLAY	Display of input number: of Display of interval time: on
SELF TEST		Hardware check: to activate the self test, press keys "v" and "5" simultaneously.

3.5 Synchronising the video signal

Contact	
1	ALARM OUTPUT
2	GROUND
3	VCR CLOCK



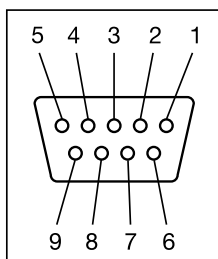
If the VCR CLOCK impulses have an amplitude of 5V, insert the plug bridge J102 into position 5V (ex-works setting is at 12V)



Notes	Negative alarm impulse: All alarm switches must normally be open and close on alarm. Positive trigger impulse: All alarm switches must normally be closed and open on alarm.
VCR-CLOCK connection	The VCR-CLK connection is for synchronising the video signal and is a negatively triggered standard TTL input (12V to 0V, can be changed to 5V)
Line synchronisation	No rolling or flickering of the picture, by synchronising the mains phase relation of the camera and the switcher. The synchronisation phase can be set in the menu in ± 127 steps ($\pm 2.2\text{ms}$)

3.6 Connection and pinout of the alarm input/remote control D-9F

PIN No.	ALARM	REMOTE CONTROL
1	ALARM 1	T1
2	ALARM 2	T2
3	ALARM 3	n.c.
4	ALARM 4	n.c.
5	ALARM 5	n.c.
6	ALARM 6	n.c.
7	ALARM 7	n.c.
8	ALARM 8	n.c.
9	MASSE	MASSE



Alarm specification

If only one input is activated, that input is switched to CHANNEL A or CHANNEL B and the buzzer is activated. In CHANNEL A, the "AUTO" and "MAN" LEDs flash. The activated alarm input appears in CHANNEL A. If there is more than one alarm, the display alternates between the alarm inputs. If CHANNEL B is selected, the point in the LCD display blinks. The alarm output is activated (switched to GND).

If more than one signal input is activated the alarmed inputs appear sequentially in CHANNEL A or CHANNEL B.

CHANNEL B is automatically switched from "sequence" mode to "single frame" mode if the ALARM-SINGLE FRAME SWITCHING (FRAMES) is activated in the menu.

This function is deactivated if VCR CLOCK is connected.

The alarm dwell time and alarm duration are set in the SET-UP menu. When the ALARM STOP key is pressed, the alarm of CHANNEL A is manually reset.

If CHANNEL B is set, the alarm automatically resets after a certain time. The LCD display shows the No. of the alarm input. If there are several alarms the LCD display switches over.

Remote control

Remote control of CHANNEL A is possible if the "AUTO" (sequential) mode is set. The automatic sequence is stopped and re-started using key T1. If stopped, T2 is used for changing the channels manually. The input REMOTE CONTROL must be selected in the SETUP menu and the alarm must be switched out.

Monitor display

The AVU-8/2AL-2 has a multilingual menu display (English, Italian and German).

The language is set using the menu. The number of the signal input which appears on the monitor, is shown in the lower right corner of the monitor. When setting, the interval time is shown in the bottom left corner.

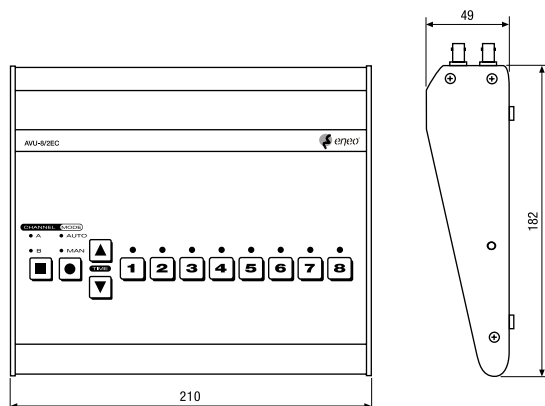
Trouble shooting

If problems occur through earth loops between different video sources and the switcher, the lid of the device must be removed and GND on K403 (earth lead connection from casing to base plate) is to be separated from the main plate. The electrical earth of the plate is thus separated from casing and earth.

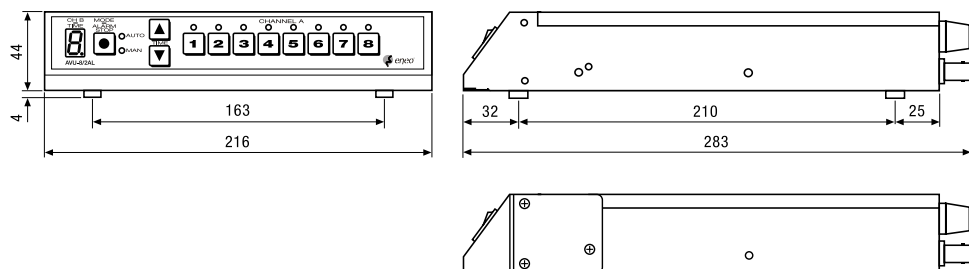
4. Specifications

Model	AVU-8/2 EC	AVU-8/2 AL2
Art. No.	76405	76406
Video inputs	8 x 1-1.5Vp-p, C(CVS), 75ohms, BNC	
Video outputs	2 x 1Vp-p, C(CVS), 75ohms, BNC (all manually programmable or as sequential output)	
Video band width	10MHz ($\pm$ 3dB)	
Signal/noise ratio	>60dB	
Cross talk	56dB at 4.5MHz	
Dwell time	1–120 sec, programmable for outputs A and B	1 – 90 sec/channel, can be set
VCR head switch impulse	–	TTL-signal, negative trigger pulse input
Frame by frame switching	–	1 – 99 images. Line locked synchronised cameras required
Line lock synchronisation	–	Can be set from –2.2ms to + 2.2ms ($\pm$ 127 steps). Line locked synchronised cameras required.
Vertical interval switching	Effective at same mains phase relation of camera and switcher	–
Alarm/remote control inputs	–	8 x (programmable for closing or opening contacts). Sequence start/stop, manual sequential remote selection of all inputs
Alarm output	–	1 x open collector
Alarm dwell time	–	1 – 90 sec/channel, can be set (or manual re-setting)
Bypass function	Manually programmable	
Menu languages	–	German, English, Italian
Monitor displays	– and menu	Camera No., sequence, alarm triggering
Operating voltage	15VAC / 50/60Hz (Power supply unit enclosed)	230VAC / 50Hz
Power consumption	Approx. 4.5W	Max. 8W
Casing	Sheet steel, Pantone Coolgray 1C	
Weight	1.5kg (with power unit)	2.5kg
Option		19" rack mounts: 76407 VDA/AVU-RMK1, 19" rack for 1 x VDA-8CA or AVU-8/2 AL2 76408 VDA/AVU-RMK2, 19" rack for 2 x VDA-8CA or AVU-8/2 AL2

5. Dimensional drawings

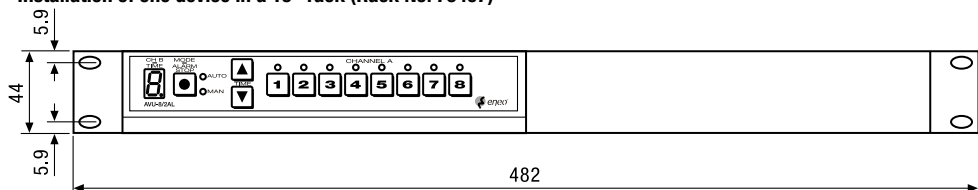


AVU-8/2 AL-2

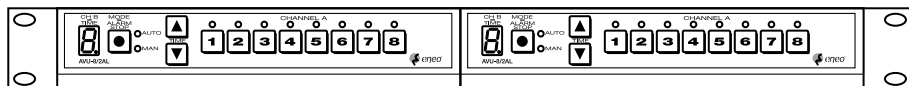


Dimensions in mm

Installation of one device in a 19" rack (Rack No. 76407)



Installation of two devices in a 19" rack (Rack No. 76408)



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