

# product overview - with technical data-sheets

(Version 01/2020)

- Isolation Amplifier (active)** - for DC-signal ▶

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- Supply Isolation Amplifier** - with integrated transmitter supply ▶

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- AC-Isolation Amplifier (active)** - for AC signals ▶

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- Isolation Transducer (passive)** - for DC signals, without power-supply ▶


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- AC-Isolation Transducer (passive)** - for AC signals, without power-supply ▶

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- Transmitter, Isolation Transmitter** - for AC/DC and Pt100 signals ▶

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-  **Ex-Components** - for signals out of hazardous areas ▶

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- Measuring Value Converter** - for Pt100, AC/DC signals, resistance ▶

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- Limit Switch, Limit Monitor and Monitoring** - for limiting value capturing ▶

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- “VarioControl” compatible devices** - programmable signal converter with detachable LCD ▶

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- “VarioCheck” Multi-Function-Converter** - programmable devices ▶

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- Display, operate and log** - VarioShow, VarioLog, VarioControl etc. for display, operate, configure or log data ▶

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- Power Measuring** - for effective and reactive power, phase angle etc. ▶

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- Device Communication and Configuration** - Interface converter/-adapter, configuration software ▶

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- Fieldbus devices** - with analog-, temperature-signal inputs and bus interface ▶

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- Frequency Processing** - for initiators according to NAMUR and others ▶

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- Pulse Processing** - Pulse-Summator, Pulse-Scaler, Contact Protection ▶

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- Indicator Lights/Fault Indicator** - LED signal transmitter for errors or operation conditions ▶

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- Excess Voltage Protection** - for measuring and mains supply lines ▶

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- Coupling Relay** - coupling relay, contact protection relays, switching amplifiers ▶

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- Set point Devices and Voltage Supply Devices** - for Set point and 24V device power-supply ▶

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- Special Functions** - Summator, Electrode relays, min- and maximum Evaluators ▶

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- Photovoltaic (PV)** - for distribution, optimization and monitoring of photovoltaic energy ▶

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- Special Development / Fabrication** - Information for customer-specific products ▶

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## Isolation Amplifier for DC signals

Standard-Isolation-Amplifier, Vario-Isolation-Amplifier, Isolation-Amplifier with setpoint selector, Signal- Multiplier, Bipolar-Isolation-Amplifier, High-Current-Isolation-Amplifier

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-TV 1 GX</b> 6,2 mm Isolation Amplifier	0...10V	1:1 input/output	20...30VDC	GX	<a href="#">tv1gx.pdf</a>
<b>AD-TV 2 GX</b> 6,2 mm Isolation Amplifier	0...20mA, 4...20mA	1:1 input/output	20...30VDC	GX	<a href="#">tv2gx.pdf</a>
<b>AD-TV 3 GX</b> 6,2 mm Vario-Isolation-Amplifier signal selectable/adjustable	0...20mA, 4...20mA, 0...5V, 0...10V	0...20mA, 4...20mA, 0...10V	20...30VDC	GX	<a href="#">tv3gx.pdf</a>
<b>AD-TV 12 GX</b> 6,2 mm Multiplier Isolation Amplifier signal selectable	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA	20...30VDC	GX	<a href="#">tv12gx.pdf</a>
<b>AD-TV 10 GVB</b> Isolation-Amplifier	0...10VDC (max. 300 VDC)	0...10VDC	11...30VDC	GVB	<a href="#">tv10gvb.pdf</a>
<b>AD-TV 24 GVB</b> Isolation-Amplifier	0...20mA, 4...20mA	1:1 input/output	11...30VDC	GVB	<a href="#">tv24gvb.pdf</a>
<b>AD-TV 24 GL</b> Isolation-Amplifier	0...20mA, 4...20mA	1:1 input/output	20...30VDC	GL	<a href="#">tv24gl.pdf</a>
<b>AD-TV 22 GVB</b> Isolation-Amplifier	0...20mA, 4...20mA	1:1 input/output	20...253VDC, 50...253VAC wide range power supply	GVB	<a href="#">tv22gvb.pdf</a>
<b>AD-TV 22 GL</b> Isolation-Amplifier	0...20mA, 4...20mA	1:1 input/output	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">tv22gl.pdf</a>
<b>AD-TV 40 GVC</b> Vario Isolation Amplifier all standard-signals selectable optional <a href="#">AD-Studio</a> configurable	0...20mA, 4...20mA, 0...10V (max. 20mA, 10V)	0...20mA, 4...20mA, 0...10V (max. 20mA, 10V)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv40gvc.pdf</a>
<b>AD-TV 30 GL</b> Vario-Isolation-Amplifier (adjustable)	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">tv30gl.pdf</a>
<b>AD-TV 33 GL</b> Vario-Isolation-Amplifier (switchable)	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">tv33gl.pdf</a>
<b>AD-TV 400 GVD</b> Isolation Amplifier <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	max. ±50 mA max. ±100 VDC	1x max. 20 mA or 10V 1x current sink max. 20 mA	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv400gvd.pdf</a>
<b>AD-TV 420 GVD</b> Isolation Amplifier <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	max. ±50 mA max. ±100 VDC	2x max. 20 mA or 10V	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv420gvd.pdf</a>

## Isolation Amplifier for DC signals

Standard-Isolation-Amplifier, Vario-Isolation-Amplifier, Isolation-Amplifier with setpoint selector, Signal- Multiplier, Bipolar-Isolation-Amplifier, High-Current-Isolation-Amplifier

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-TV 452 GVC</b> Signal Multiplier (1 input/2 outputs)	1x 0...20mA, 4...20mA, 0...10V	2x 0...20mA, 4...20mA, 0...10V	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv452gvc.pdf</a>
<b>AD-TV 454 GVF</b> Signal Multiplier (1 input/4 outputs)	1x 0...20mA, 4...20mA, 0...10V	4x 0...20mA, 4...20mA, 0...10V	20...253VDC, 50...253VAC wide range power supply	GVF	<a href="#">tv454gvf.pdf</a>
<b>AD-TV 300 GS</b> Universal-Isolation-Amplifier (all signals free selectable over terminal)	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv300gs.pdf</a>
<b>AD-TV 412 GS</b> Isolation-Amplifier (2-channel)	0...20mA, 4...20mA	1:1 to input	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv412gs.pdf</a>
<b>AD-TV 32 GL</b> Isolation-Amplifier with integrated setpoint generator (switchable)	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V (1:1 to input or as setpoint)	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">tv32gl.pdf</a>
<b>AD-TV 320 GS</b> Setpoint-Isolation-Amplifier with remote activation, call back contact and transmitter supply	0...20mA, 4...20mA, 0...10V with optional transmitter supply	0...20mA, 4...20mA, 0...10V (1:1 to input or as setpoint)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv320gs.pdf</a>
<b>AD-TV 310</b> Special Signal-Isolation-Amplifier	0...0,1mA up to 20mA 0...100mV up to 250V (to specify by order)	0...0,1mA up to 20mA 0...100mV up to 10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv310.pdf</a>
<b>AD-TV 200</b> Isolation-Amplifier (1-channel)	0...20mA, 4...20mA, 0...10V (to specify by order)	0...20mA, 4...20mA, 0...10V (to specify by order)	20...253VDC, 50...253VAC (only housing GS) 20...30VDC (only ST)	GS, ST	<a href="#">tv200gs.pdf</a> <a href="#">tv200st.pdf</a>
<b>AD-TV 201-204</b> Multi Channel Isolation-Amplifier, up to 4 independent channel (adjustable and switchable)	0...20mA, 4...20mA, 0...10V (1-4 channel)	0...20mA, 4...20mA, 0...10V (1-4 channel)	230VAC or 20...30VDC (to specify by order)	EV	<a href="#">tv200ev.pdf</a>
<b>AD-TV 350 GVF</b> High-Current-Isolation-Amplifier	max.-20..0..+20mA or max.-10..0..+10V (to specify by order)	max.-200..0..+200mA (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GVF	<a href="#">tv350gvf.pdf</a>
<b>AD-TV 810 GS</b> Bipolar-isolation-Amplifier (<20 kHz)	-20..0..+20mA or -10..0..+10V (to specify by order)	-20..0..+20mA or -10..0..+10V (acc. to customer data)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv810gs.pdf</a>

# Isolation Amplifier with transmitter supply

Isolation Amplifier with integrated 2/3-wire transmitter supply

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-STV 2 GX</b> 6,2 mm Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	1:1 to input	18...30 VDC optionally also via <a href="#">DIN Rail connector</a>	GX	<a href="#">stv2gx.pdf</a>
<b>AD-STV 24 GVB</b> Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	1:1 to input	11...30VDC	GVB	<a href="#">stv24gyb.pdf</a>
<b>AD-STV 24 GL</b> Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	1:1 to input	11...30VDC	GL	<a href="#">stv24gl.pdf</a>
<b>AD-STV 22 GVB</b> Standard-Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	1:1 to input	20...253VDC, 50...253VAC wide range power supply	GVB	<a href="#">stv22gyb.pdf</a>
<b>AD-STV 22 GL</b> Standard-Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	1:1 to input	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">stv22gl.pdf</a>
<b>AD-STV 40 GVC</b> Supply Isolation Amplifier standard-signals selectable optional <a href="#">AD-Studio</a> configurable	2-/3-wire-transmitter 0...20mA, 4...20mA	0...20mA, 4...20mA, 0...10V (freely selectable)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">stv40gvc.pdf</a>
<b>AD-STH 40 GVC</b> (FSK-compatible) HART-Supply Isolation Amplifier with frequenz shift keying (like HART-Protocol) optional <a href="#">AD-Studio</a> configurable	2-/3-wire-transmitter 0...20mA, 4...20mA	0...20mA, 4...20mA, 0...10V (freely selectable)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">sth40gvc.pdf</a>
<b>AD-TV 400 GVD</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	2-/3-wire-transmitter max. ±50 mA max. ±100 VDC	1x max. 20 mA or 10V 1x current sink max. 20 mA	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv400gvd.pdf</a>
<b>AD-TV 420 GVD</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	2-/3-wire-transmitter max. ±50 mA max. ±100 VDC	2x max. 20 mA or 10V	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv420gvd.pdf</a>
<b>AD-STV 300 GS</b> Universal-Supply-Isolation-Amplifier	2-/3-wire-transmitter 0...20mA, 4...20mA	0...20mA, 4...20mA, 0...10V (selectable)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">stv300gs.pdf</a>
<b>AD-TV 320 GS</b> Setpoint-Isolation-Amplifier with remote activation, call back contact and transmitter supply	2-/3-wire-transmitter 0...20mA, 4...20mA	0...20mA, 4...20mA, 0...10V (1:1 to input or as setpoint)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv320gs.pdf</a>
<b>AD-STV 810 GS</b> Fast- Supply-Isolation-Amplifier (> 20kHz)	2-/3-wire-transmitter 0...20mA, 4...20mA	±20mA or ±10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">stv810gs.pdf</a>

# AC-Isolation Amplifier

for AC signals

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-SWT 50</b> <b>AD-SWT 100</b> <b>AD-SWT 200</b> Current-Transformer-Transmitter	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink)	transmitter supply 10...30VDC (on output)		<a href="#">swt.pdf</a>
<b>AD-SWT 50 TRMS</b> true-RMS <b>AD-SWT 100 TRMS</b> true-RMS <b>AD-SWT 200 TRMS</b> true-RMS Current-Transformer-Transmitter rms-measurement	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink) (rms-measurement)	transmitter supply 10...30VDC (on output)		<a href="#">swt_trms.pdf</a>
<b>AD-TV 515 GS</b> (analogue) AC-Isolation-Amplifier	0...1A, 0...5A (50Hz) selectable over terminal	0...20mA, 4...20mA 0...10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv515gs.pdf</a>
<b>AD-TV 561 GS</b> (analogue) AC-Isolation-Amplifier	max. 0...600VAC (to specify by order)	0...20mA, 4...20mA 0...10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv561gs.pdf</a>
<b>AD-TV 581 GS</b> (digital) Vario AC-Isolation-Amplifier <a href="#">AD-Studio</a> configurable	0...1A, 0...5A (50Hz) selectable over terminal	0...20mA, 4...20mA 0...10V selectable (rms-measurement)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv581gs.pdf</a>
<b>AD-TV 591 GS</b> (digital) Vario AC-Isolation-Amplifier <a href="#">AD-Studio</a> configurable	0...250VAC, 0...450VAC selectable	0...20mA, 4...20mA 0...10V selectable (rms-measurement)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv591gs.pdf</a>
<b>AD-TV 588 GVD</b> (digital) AC-Isolation-Amplifier <a href="#">VarioControl/Connect</a> compatible <a href="#">AD-Studio</a> configurable	Split Core Transformer up to 600A ( <a href="#">AD-KSW</a> ) or 0...1AAC, 0...5AAC	0...20mA, 4...20mA 0...10V, relay (N/O) for limit values	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">tv588gvd.pdf</a>
Optional external hinged current transformer for AD-TV 588 GVD: <b>AD-KSW50</b> (0...50 A) <b>AD-KSW100</b> (0...100 A) <b>AD-KSW200</b> (0...200 A) <b>AD-KSW400</b> (0...400 A)					<a href="#">ksw.pdf</a>
<b>AD-SW 3 GL</b> Current Transformer	3x current AC (max. 10A) push-through	3x 0-10V, common mass input following or RMS	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">sw3gl.pdf</a>
<b>AD-SWK 3</b> Current Transformer in clamp-on current transformer technique	3x 0...5A AC (max. 0...10 AAC)	0...7,07VAC (10V amplitude)	20...253VDC, 50...253VAC wide range power supply	SO	<a href="#">swk3.pdf</a>



# Isolation Transducer for DC-signals

without power-supply

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-TW 41GM or ST</b> (1-channel) Isolation Converter	0...20mA, 4...20mA	0...20mA, 4...20mA (1:1 to input)	not required	GM ST	<a href="#">tw41gm.pdf</a> <a href="#">tw41st.pdf</a>
<b>AD-TW 42 GS</b> (2-channel) Isolation Converter	0...20mA, 4...20mA	0...20mA, 4...20mA (1:1 to input)	not required	GS	<a href="#">tw42gs.pdf</a>
<b>AD-TW 201 GS/ST/MO</b> (1-channel) <b>AD-TW 202 GS</b> (2-channel) Isolation Converter	4...20mA	4...20mA (1:1 to input) (max 500 Ohm load)	not required	GS ST MO	<a href="#">tw201st.pdf</a> <a href="#">tw201gs.pdf</a> <a href="#">tw202gs.pdf</a> <a href="#">tw201mo.pdf</a>
<b>AD-TWH 41</b> 1-channel Isolation Converter fsk-able (e.g. HARD)	0...20mA, 4...20mA	0...20mA, 4...20mA (1:1 to input)	not required	GM ST	<a href="#">twh41gm.pdf</a>
<b>AD-TWH 42 GS</b> 1-channel Isolation Converter fsk-able (e.g. HARD)	0...20mA, 4...20mA	0...20mA, 4...20mA (1:1 to input)	not required	GS	<a href="#">twh42gs.pdf</a>

# AC-Isolation Transducer

without power-supply

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-SWT 50</b> <b>AD-SWT 100</b> <b>AD-SWT 200</b> Current-Transformer-Transmitter	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink)	transmitter supply 10...30VDC (on output)		<a href="#">swt.pdf</a>
<b>AD-SWT 50 true-RMS</b> <b>AD-SWT 100 true-RMS</b> <b>AD-SWT 200 true-RMS</b> Current-Transformer-Transmitter true-RMS-measurment	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink) true-RMS-measurment	transmitter supply 10...30VDC (on output)		<a href="#">swt_trms.pdf</a>
<b>AD-TW 21 GVD</b> (1-channel) Standard AC-Isolating Converter	0...1A, 50Hz (sinus)	0...20mA	not required	GVD	<a href="#">tw21gvd.pdf</a>
<b>AD-TW 25 GVD</b> (1-channel) Standard AC-Isolating Converter	0...5A, 50Hz (sinus)	0...20mA	not required	GVD	<a href="#">tw25gvd.pdf</a>





## Transmitter and Isolation Transmitter (2-wire)

for AC/DC and PT-100 signals

Transmitter	Input	Output	Power supply	Design	Data sheet
<b>AD-MWT 21 ST</b> Measuring-Transmitter	0...10VDC	4...20mA from 2-wire Transmitter (passiv)	8...32VDC (with output signal)	ST	<a href="#">mwt21st.pdf</a>
<b>AD-MWT 22 ST</b> Measuring-Transmitter	0...20mA	4...20mA from 2-wire Transmitter (passiv)	8...32VDC (with output signal)	ST	<a href="#">mwt22st.pdf</a>
<b>AD-MWT 24 ST</b> Measuring-Transmitter	4...20mA	4...20mA from 2-wire Transmitter (passiv)	8...32VDC (with output signal)	ST	<a href="#">mwt24st.pdf</a>
<b>AD-MWT 50 ST</b> Measuring-Transmitter	Pt-100 (3-wire) (to specify by order)	4...20mA from 2-wire Transmitter (passiv)	8...32VDC (with output signal)	ST	<a href="#">mwt50st.pdf</a>

Isolation Transmitter	Input	Output	Power supply	Design	Data sheet
<b>AD-SWT 50</b> <b>AD-SWT 100</b> <b>AD-SWT 200</b> Current-Transformer-Transmitter	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink)	transmitter supply 10...30VDC (on output)		<a href="#">swt.pdf</a>
<b>AD-SWT 50</b> true-RMS <b>AD-SWT 100</b> true-RMS <b>AD-SWT 200</b> true-RMS Current-Transformer-Transmitter true-RMS-measurment	50 A AC 100 A AC 200 A AC hinged transformer	2-wire transmitter 4...20 mA (current sink) true-RMS-measurment	transmitter supply 10...30VDC (on output)		<a href="#">swt_trms.pdf</a>
<b>AD-TV 400 GVD</b> Isolation Amplifier <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	max. ±50 mA max. ±100 VDC	1x max. 20 mA or 10V 1x 4...20mA from 2-wire Transmitter (passiv)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">tv400gvd.pdf</a>
<b>TWT 24 GM</b> Isolation-Transmitter	4...20mA (active)	4...20mA from 2-wire Transmitter (passiv)	8...32VDC (with output signal)	GM	<a href="#">twt24gm.pdf</a>



## Ex-Components

for operation of an intrinsically safe signals installed in the hazardous area / potentially explosive atmosphere



Version	Input	Output	Power supply	Design	Data sheet
Ex-(Supply) Isolation Amplifier <b>AD-STVEX 710 GVC</b> II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC <a href="#">AD-Studio</a> configurable	2-wire-transmitter or activ 0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V freely selectable (max. 20mA, 10V)	broad-range 20...120VDC, 50...253VAC	GVD	<a href="#">stvex710.pdf</a> <a href="#">operating instr.</a>
<b>Option:</b> with low-lying Ex-input terminal (order version S-388)					
Ex-Contct Amplifier <b>AD-KVEX 100 GVD</b> (1-channel) <b>AD-KVEX 200 GVC</b> (2-channel) II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC	contact / NAMUR sensor	relay contract or optionally also as semi-conductor relay	broad-range 20...120VDC, 50...253VAC	GVD	<a href="#">kvex.pdf</a> <a href="#">operating instr.</a>
<b>Option:</b> with low-lying Ex-input terminal (order version S-488)					

# Measuring Value Converter

for Potentiometer-, Pt100 - or DC-signals

Measuring Value-Converter	Input	Output	Power supply	Design	Data sheet
<b>AD-MV 110</b> Potentiometer Signal Converter	0...100 / 0...5000 Ohm from Potentiometer	0...20mA, 4...20mA, 0...10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS, EV	<a href="#">mv110.pdf</a>
<b>AD-MV 50/54 GX</b> Pt-100 Transducer (2/3-wire or 4-wire)	Pt-100 (temp. range is to specify by order)	0...20mA, 4...20mA, 0...10V (to specify by order)	18...30VDC	GX	<a href="#">mv50gx.pdf</a> <a href="#">mv54gx.pdf</a>
<b>AD-MV 50/54 GL</b> Pt-100 Transducer (2/3-wire or 4-wire)	Pt-100 (temp. range is to specify by order)	0...20mA, 4...20mA, 0...10V (to specify by order)	wide range power supply 20...350VDC, 50...253VAC	GL	<a href="#">mv50gl.pdf</a> <a href="#">mv54gl.pdf</a>
<b>MV 55 GX</b> (1-channel) Temperature input-Bus Converter <a href="#">AD-Studio</a> configurable	1x - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - 144 mV	RS485 Modbus-RTU interface	20...253VDC, 50...253VAC wide range power supply	GX	<a href="#">mv55gx.pdf</a>
<b>MV 554 GT</b> (4-channel) Temperature input-Bus Converter <a href="#">AD-Studio</a> configurable	4x - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - 144 mV	RS485 Modbus-RTU interface	20...253VDC, 50...253VAC wide range power supply	GT	available from IV/2018 <a href="#">mv554gs.pdf</a>
<b>AD-MV 500 GL</b> galvanically isolated Pt-100 Transducer (2/3/4-wire via DIP-switch selectable)	Pt-100 (temp. range is to specify by order)	0...20mA, 4...20mA, 0...10V (to specify by order)	wide range power supply 20...350VDC, 50...253VAC	GL	<a href="#">mv500gl.pdf</a>
<b>AD-MV 550 GVD</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	- RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - 144 mV	1x max. $\pm 20\text{mA}/\pm 10\text{V}$ 1x current-sink 4...20mA	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">mv550gvd.pdf</a>
<b>AD-VC1GVD-R0</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	- max. $\pm 24\text{ mA}/\pm 12\text{ V}$ - transmitter supply - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - potentiometer	2x max. 20 mA, 10 V	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">vc1gvd-r0.pdf</a>
<b>AD-VC1GVD-R2</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	- max. $\pm 24\text{ mA}/\pm 12\text{ V}$ - transmitter supply - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - potentiometer	2x analog: max. 20 mA, 10 V 2x digital: relay contacts (change over)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">vc1gvd-r2.pdf</a>
<b>AD-MW 200 ST</b> Signal Transducer not galvanically isolated	0...20 mA, 4...20mA, 0...10V (to specify by order)	0...20mA, 4...20mA, 0...10V (to specify by order)	20...30VDC	ST	<a href="#">mw200st.pdf</a>



## Limit-Switch, Limit-Monitor and Monitoring (also with transmitter supply)

for limiting value capturing and monitoring

Limit-Switch, Lmit-Monitoring	Input	Output	Power supply	Design	Data sheet
<b>AD-MK 330 GS</b> Measuring Contact	0...20mA, 4...20mA; 0...10V free selectable	2 change-over contact	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">mk330gs.pdf</a>
<b>AD-MK 340 GVD</b> Measuring Contact	0...20mA, 4...20mA; 0...10V free selectable	2 change-over contact	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">mk340gvd.pdf</a>
<b>AD-SMK 330 GS</b> Supply-Measuring Contact	4...20mA with integrated 2/3-wire Transmitter supply	2 change-over contact	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">smk330gs.pdf</a>
<b>AD-SMK 340 GVD</b> Supply-Measuring Contact	4...20mA with integrated 2/3-wire Transmitter supply	2 change-over contact	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">smk340gvd</a>
Voltage-, Phase-, Load-Monitor	Input	Output	Power supply	Design	Data sheet
<b>AD-UW 60 GT</b> 3-phase voltage monitor	80...253VAC	1 change-over contact	via input	GT	<a href="#">uw60gt.pdf</a>
<b>AD-LW 110 GS</b> Load Monitoring for low-voltage und cos(phi)	3x 180...240 VAC 1x 0...1/5 A	1 NO contact for low-voltage 2 NO contact for cos(phi)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">lw110gs.pdf</a>
Limit-Switch, Lmit-Monitoring	Input	Output	Power supply	Design	Data sheet
<b>VarioControl compatible</b> <b>AD-MK 350 GVD</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	- max. ±50 mA - max. ±100VDC - transmitter supply - RTD: Pt, Ni	2x relay contacts (change over)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">mk350gvd.pdf</a>
<b>VarioControl compatible</b> <b>AD-VC1GVD-R2</b> <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	- max. ±24 mA/ ±12 V - transmitter supply - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - potentiometer	2x analog: max. 20 mA, 10 V 2x digital: relay contacts (change over)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">vc1gvd-r2.pdf</a>



# VarioControl, VarioConnect compatible device overview

Register of all current compatible devices



indication & operating	feature			design	info
<b>AD-VarioControl</b> <b>AD-VarioConnect</b> (with integrated RS485 interface)	- LCD for display of different operating modes, lit in several colours (R/YB) - to configure the device parameters - also for backup and restoration of device parameters - removeable (hot-plugged) - with integrated RS485 interface (Modbus-RTU) in the version VarioConnect				<a href="#">VarioControl</a> <a href="#">VarioConnect</a>
compatible basic devices	input	output	power-supply	design	info
<b>Isolation-Amplifier</b> <b>AD-TV 400 GVD</b> also <a href="#">AD-Studio</a> configurable	max. $\pm 50$ mA max. $\pm 100$ VDC transmitter supply	1 max. $\pm 20$ mA or $\pm 10$ V 1 current-sink max. 20mA	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">tv400gvd.pdf</a>
<b>Isolation-Amplifier</b> <b>AD-TV 420 GVD</b> <a href="#">AD-Studio</a> configurable	max. $\pm 50$ mA max. $\pm 100$ VDC transmitter supply	2x max. $\pm 20$ mA or $\pm 10$ V	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">tv420gvd.pdf</a>
<b>AC-Isolation Amplifier</b> <b>AD-TV 588 GVD</b> also <a href="#">AD-Studio</a> configurable	split-core transformer up to 600A ( <a href="#">AD-KSW</a> ) or directly connected 0...1A AC, 0...5A AC	1 max. 20mA 1 max. 10V 1 relay (N/O)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">tv588gvd.pdf</a>
<b>Temperature-Converter</b> <b>AD-MV 550 GVD</b> also <a href="#">AD-Studio</a> configurable	- RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - 144 mV	1 max. $\pm 20$ mA or $\pm 10$ V 1 current-sink max. 20mA	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">mv550gvd.pdf</a>
<b>Limit-Switch</b> <b>AD-MK 350 GVD</b> also <a href="#">AD-Studio</a> configurable	- max. $\pm 50$ mA - max. $\pm 100$ VDC - transmitter supply - RTD: Pt, Ni	2x relay contacts (change over)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">mk350gvd.pdf</a>
<b>Multifunction Transducer</b> <b>AD-VC1GVD-R0</b> (no relay) <b>AD-VC1GVD-R2</b> (with relay) also <a href="#">AD-Studio</a> configurable	- max. $\pm 24$ mA/ $\pm 12$ V - transmitter supply - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - potentiometer	2x analog: max. 20 mA, 10 V 2x digital: contact (C/O) (only version R-2)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">vc1gvd-r0.pdf</a> <a href="#">vc1gvd-r2.pdf</a>
<b>Frequency-Converter</b> <b>AD-FM 255 GVD</b> also <a href="#">AD-Studio</a> configurable	0...0,01Hz to 0...10kHz NAMUR, contact, open- collector, 24V-activ i.a.	1x current (max.20mA) 1x voltage (max.10V) 1x contact (C/O) (opt. as semiconductor)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">fm255gvd.pdf</a>
<b>Power-Meter</b> <b>AD-LU 320 GVD</b> (1-phase) <b>AD-LU 325 GVD</b> (1-phase) also <a href="#">AD-Studio</a> configurable <b>AD-LU 620 GVF</b> (3-phase) <b>AD-LU 625 GVF</b> (3-phase) also <a href="#">AD-Studio</a> configurable	1x 1/5A (253VAC) 1x max. 600 A via <a href="#">hinged transformer</a> 3x 1/5A (253VAC) 3x max. 600 A via <a href="#">hinged transformer</a>	1x current (max.20mA) 1x voltage (max.10V) 1x current (max.20mA) 1x voltage (max.10V) 1x contact (relay N/O) 1x Halbleiter	20...253VDC, 50...253VAC wide range power supply 20...253VDC, 50...253VAC wide range power supply	GVD GVD GVF	<a href="#">lu320gvd.pdf</a> <a href="#">lu325gvd.pdf</a> <a href="#">lu620gvf.pdf</a> <a href="#">lu625gvf.pdf</a>

# Multi-Function-Converter “VarioCheck”

programmable measuring transducer with LCD-indication

VarioCheck for DIN rail	Input	Output	Power supply	Design	Data sheet
<b>AD-VC1GF-R0</b> (0 contact output) <b>AD-VC1GF-R2</b> (2 contact output) Multi-funktion Transformer VarioControl/-Connect compatible AD-Studio configurable	- max. $\pm 24$ mA/ $\pm 12$ V - transmitter supply - RTD: Pt, Ni - TC: J,T,K,E,N,S,R,B,C - potentiometer	2x analog: max. 20 mA, 10 V max. 2x digital: relay contacts (change over)	broad range 20...350VDC and 50...253VAC	GVD	<a href="#">vc1gf.pdf</a>
<b>AD-VC3GF-R0</b> (0 contact output) <b>AD-VC3GF-R2</b> (2 contact output) <b>AD-VC3GF-R4</b> (4 contact output) Multi-funktion Transformer AD-Studio configurable	- current (max. $\pm 20$ mA) - voltage (max. $\pm 10$ V) - potentiometer - 2/3-wire transmitter	2x analog outputs: - current (max. 20mA) - voltage (max. 10V)	broad range 20...350VDC and 50...253VAC	GF	<a href="#">vc3gf.pdf manual</a>
<b>AD-VC3GVF-R0</b> (0 contact output) <b>AD-VC3GVF-R2</b> (2 contact output) <b>AD-VC3GVF-R4</b> (4 contact output) Multi-funktion Transformer AD-Studio configurable	- current (max. $\pm 20$ mA) - voltage (max. $\pm 10$ V) - potentiometer - 2/3-wire transmitter	2x analog outputs: - current (max. 20mA) - voltage (max. 10V)	broad range 20...350VDC and 50...253VAC	GVF	<a href="#">vc3gvf.pdf manual</a>
<b>AD-VC3B GVF-R0</b> (0 contact output) <b>AD-VC3B GVF-R2</b> (2 contact output) <b>AD-VC3B GVF-R4</b> (4 contact output) Multi-funktion Transformer	Device design as previously, but <b>without</b> display and configuration keys Configuration only via AD-Studio and optional USB-adaptor set <a href="#">VarioPass</a>			GVC GVF	<a href="#">vc3b.pdf manual</a>
<b>AD-VC5GVF-R0</b> (0 contact output) <b>AD-VC5GVF-R2</b> (2 contact output) <b>AD-VC5GVF-R4</b> (4 contact output) Multi-funktion Transformer AD-Studio configurable	resistance thermometer: - Pt100, 500, 1000 - Ni100, 500, 1000 thermocouples: - type: J,T,K,E,N,S,R,B	2x analog outputs: - current (max. 20mA) - voltage (max. 10V)	broad range 20...350VDC and 50...253VAC	GVF	<a href="#">vc5gvf.pdf manual</a>
<b>AD-VC5B GVF-R0</b> (0 contact output) <b>AD-VC5B GVF-R2</b> (2 contact output) <b>AD-VC5B GVF-R4</b> (4 contact output) Multi-funktion Transformer	Device design as previously, but <b>without</b> display and configuration keys Configuration only via AD-Studio and optional USB-adaptor set <a href="#">VarioPass</a>			GVC GVF	<a href="#">vc5b.pdf manual</a>
VarioCheck front-panel mounting	Input	Output	Power supply	Design	Data sheet
<b>AD-VC4S-R0</b> (0 contact output) <b>AD-VC4S-R2</b> (2 contact output) <b>AD-VC4S-R4</b> (4 contact output) Multi-funktion Transformer AD-Studio configurable	- current (max. $\pm 20$ mA) - voltage (max. $\pm 10$ V) - potentiometer - 2/3-wire transmitter	2x analog outputs: - current (max. 20mA) -* voltage (max. 10V) (*only version R2 and R4)	broad range 20...350VDC and 50...253VAC	FE	<a href="#">vc4s.pdf manual</a>

## Programming Accessory

AD-Studio - configuration software and optional interface adapter set VarioPass

[variopass.pdf](#)

## Mounting accessories for panel mounting devices:

AD-FEAUFHUT - Mounting kit for mounting front panel devices on DIN Rail


AD-REDUZIERBL96 - Reduction adapter for mounting 96x48mm devices into a 96x96mm hole


AD-REDUZIERBL144 - Reduction adapter for mounting 96x48mm devices into a 144x144mm hole

## Indicating & Operating (VarioShow, VarioLog, VarioControl, Monitor Modul)

display, operate, configure or log data

Version	Input	Output	Power supply	Design	Data sheet
<b>VarioShow AD-VS8</b> Indicator <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	1-channel (AD-VS8 A1) 4-channel (AD-VS8 A4) 8-channel (AD-VS8 A8)	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vs8.pdf</a> <a href="#">manual</a>
<b>VarioShow AD-VS8-G</b> Indicator with galvanic isolated current input <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	only 4-channel	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vs8a4g.pdf</a> <a href="#">manual</a>
<b>VarioShow AD-VS8-S</b> Indicator with integrated transmitter supply <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	only 4-channel	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vs8a4s.pdf</a> <a href="#">manual</a>
<b>VarioLog AD-VL8</b> Indicator and data logger <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	1-channel (AD-VL8 A1) 4-channel (AD-VL8 A4) 8-channel (AD-VL8 A8)	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vl8.pdf</a> <a href="#">manual</a>
<b>VarioLog AD-VL8-G</b> Indicator and data logger with galvanic isolated current input <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	only 4-channel	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vl8a4g.pdf</a> <a href="#">manual</a>
<b>VarioLog AD-VL8-S</b> Indicator and data logger with integrated transmitter supply <a href="#">AD-Studio</a> configurable	current (max. 20mA) voltage (max. 10V)	only 4-channel	20...253VDC, 50...253VAC wide range power supply	FE	<a href="#">vl8a4s.pdf</a> <a href="#">manual</a>

Monitor Modul	Interface	Display	Power supply	Design	Data sheet
<b>AD-MM 400</b> 96x96mm front panel mounting <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU- protocol	3,5" TFT (320x240 pixel)	20...253 V AC/DC wide range power supply		<a href="#">mm400.pdf</a>

Indicating & Operating Module	Feature	Design	Data sheet
<b>AD-VarioControl:</b>	<ul style="list-style-type: none"> <li>- LCD display of different operating modes, lit in several colours (R/Y/B)</li> <li>- to configure the device parameters</li> <li>- also for backup and restoration of device parameters</li> <li>- removeable (hot-plugged)</li> </ul>		<a href="#">variocontrol</a>

### Mounting accessories for panel mounting devices:

**AD-FEAUFHUT** - Mounting kit for mounting 96x48mm front panel devices on DIN Rail

**AD-REDUZIERBL96** - Reduction adapter for mounting 96x48mm devices into a 96x96mm hole

**AD-REDUZIERBL144** - Reduction adapter for mounting 96x48mm devices into a 144x144mm hole



# Power Measuring

Effective-, Reactive- or Apparent-Power, Power-Factor (cos-phi), Power-Load-Monitor

Multifunctional configurable	Input	Output	Power supply	Design	Data sheet
<b>AD-LU 10 GT</b> (1-phase) Power-Meter with analog output <a href="#">AD-Studio</a> configurable	1x max. 20A ring-type transducer 1x max. 253VAC	1x 0...20 mA, 4...20 mA 1x opto couplers	via measuring input L1	GT	<a href="#">lu10gt.pdf</a>
<b>AD-LU 20 GT</b> (3-phase) → <b>AD-LU 25 GT</b> (3-phase) → Powermeter with Ethernet-interface	3x max. 20A via push-through transf. 3x max. 600A via <a href="#">hinged transformer</a>	1x Ethernet-interface Modbus-TCP protokol 1x RS485-interface Modbus-RTU protokol	via measuring input L1	GT	<a href="#">lu20gt.pdf</a> <a href="#">lu25gt.pdf</a>
<b>AD-LU 30 GT</b> (3-phase) → <b>AD-LU 35 GT</b> (3-phase) → Powermeter with RS485-interface	3x max. 20A via push-through transf. 3x max. 600A via <a href="#">hinged transformer</a>	RS485 interface Modbus-RTU protokol	via measuring input L1	GT	<a href="#">lu30gt.pdf</a> <a href="#">lu35gt.pdf</a>
<b>AD-LU 40 GT</b> (3-phase) → <b>AD-LU 45 GT</b> (3-phase) → Powermeter with Profibus (-PB) or Profinet (-PN)	3x max. 20A via push-through transf. 3x max. 600A via <a href="#">hinged transformer</a>	Ethernet interface PROFIBUS or PROFINET	via measuring input L1	GT	<a href="#">lu40gt.pdf</a> <a href="#">lu45gt.pdf</a>
<b>AD-LU 50 GT</b> (3-phase) → <b>AD-LU 55 GT</b> (3-phase) → Powermeter with analog output	3x max. 20A via push-through transf. 3x max. 600A via <a href="#">hinged transformer</a>	2x 0...20 mA, 4...20 mA, 0...10VDC	via measuring input L1	GT	<a href="#">lu50gt.pdf</a> <a href="#">lu55gt.pdf</a>
<b>AD-LU 610 GT</b> (3-phase) Powermeter with analog- and contact output	3x max. 20A push-through transformer	2x analog (max.20mA/10V) 1x contact (max.250VAC/2A) RS485 (modbus-RTU)	via measuring input L1	GT	<a href="#">lu610gt.pdf</a>
<b>Powermeter Indicator (96x96mm front panel mounting)</b>					
Input: 3x max. 20A via push-through current transformer mounted on the rear					
Overview of types:					
<b>AD-LU 60 FE</b> only Display			via measuring input L		<a href="#">lu60fe.pdf</a>
<b>AD-LU 60 FE-D</b> incl. digital output (2x opto couplers)					<a href="#">lu70fe.pdf</a>
<b>AD-LU 60 FE-B</b> incl. RS485 Modbus-RTU interface					
<b>AD-LU 60 FE-DB</b> incl. digital output (2x opto couplers), RS485 Modbus-RTU interface					
<b>AD-LU 70 FE-PB</b> incl. Ethernet interface PROFIBUS					
<b>AD-LU 70 FE-PN</b> incl. Ethernet interface PROFINET					
<b>VarioControl Powermeter</b>					
<b>AD-LU 320 GVD</b> (1-phase) <b>AD-LU 325 GVD</b> (1-phase) <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	1x 1/5A (253VAC) 1x max. 600 A via <a href="#">hinged transformer</a>	1x current (max.20mA) 1x voltage (max.10V)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">lu320gvd.pdf</a> <a href="#">lu325gvd.pdf</a>
<b>AD-LU 620 GVF</b> (3-phase) <b>AD-LU 625 GVF</b> (3-phase) <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	3x 1/5A (253VAC) 3x max. 600 A via <a href="#">hinged transformer</a>	1x current (max.20mA) 1x voltage (max.10V) 1x contact (relay N/O) 1x Halbleiter	20...253VDC, 50...253VAC wide range power supply	GVF	<a href="#">lu620gvf.pdf</a> <a href="#">lu625gvf.pdf</a>







# Power Measuring

Effective-, Reactive- or Apparent-Power, Power-Factor (cos-phi), Power-Load-Monitor

Multifunctional configurable	Input	Output	Power supply	Design	Data sheet
<b>AD-LU 310 GVC</b> (1-phase) Power Meter <a href="#">AD-Studio</a> configurable	max. 250VAC max. 5A	2x analog	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">lu310gvc.pdf</a> <a href="#">manual</a>
<b>AD-LU 650 GA</b> (3-phase) Power-Meter <a href="#">AD-Studio</a> configurable	3x max. 330VAC 3x max. 5 A	4x analog (max.20mA/10V) 2x contact (max.250VAC/2A) RS485-Modbus-RTU	20...253VDC, 50...253VAC wide range power supply	GA	<a href="#">lu650ga.pdf</a>
<b>AD-LU 680 GA</b> (3-phase) Power-Meter <a href="#">AD-Studio</a> configurable	3x max. 330VAC 3x max. 600A via <a href="#">clamp-on transformer</a> (see accessories)	4x analog (max.20mA/10V) 2x contact (max.250VAC/2A) RS485 Modbus-RTU	20...253VDC, 50...253VAC wide range power supply	GA	<a href="#">lu680ga.pdf</a>
Factory pre-set devices	Input	Output	Power supply	Design	Data sheet
<b>AD-LU 110 GA</b> (1-phase) Active-Power-Converter	1x 0...230 VAC 1x 0...1/5 A	0...20mA, 4...20mA, 0...10V also bipolar	20...253VDC, 50...253VAC wide range power supply	GA	<a href="#">lu110.pdf</a>
<b>AD-LU 410 GA</b> (3-phase) Active-Power-Converter	3x 0...230/400 VAC 3x 0...1/5 A	0...20mA, 4...20mA, 0...10V also bipolar	20...253VDC, 50...253VAC wide range power supply	GA	<a href="#">lu410.pdf</a>
Voltage-, Phase-, Load-Monitoring	Input	Output	Power supply	Design	Data sheet
<b>AD-UW 60 GT</b> 3-phase voltage monitor	80...253VAC	1 change-over contact	via input	GT	<a href="#">uw60gt.pdf</a>
<b>AD-LW 110 GS</b> Load Monitoring for low-voltage und cos(phi)	3x 180...240 VAC 1x 0...1/5 A	1 NO contact for low-voltage 2 NO contact for cos(phi)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">lw110gs.pdf</a>

## Accessories

Monitor Modul	Interface	Display	Power supply	Design	Data sheet
<b>AD-MM 400</b> 96x96mm front panel mounting <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU- protocol	3,5" TFT (320x240 pixel)	20...253 V AC/DC wide range power supply		<a href="#">mm400.pdf</a>
<b>Optional external push-through current transformer</b>					<a href="#">ksw.pdf</a>
<b>AD-KSW50</b> (0...50 A)	<b>AD-KSW100</b> (0...100 A)	<b>AD-KSW200</b> (0...200 A)	<b>AD-KSW400</b> (0...400 A)		

# Device Communication and -Configuration

Tools for device communication technology, -programming and -configuration

Device Configuration	Function	Datasheet
<p><b>AD-Studio</b></p>	<p><b>Configuration software</b> for a PC configuration of all Adamczewski device parameters via programming interface AD-UART. The parameter can be read, written, printed and saved. <u>Note:</u> for a connection between PC and device is a USB Adapter set VarioPass required</p>	
<p>Accessories: <b>AD-VarioPass</b></p>	<p><b>Interface-Adapter-Set VarioPass</b> consisting of: AD-VarioPass USB-adapter, AD-UART+ ribbon wire, AD-UART Link-wire, USB-wire, RS485 plug-in terminal [S], CD-ROM configuration software AD-Studio</p>	<p><a href="#">VarioPass.pdf</a></p>
Indication & Operating	Function	Datasheet
<p><b>AD-VarioControl</b></p>	<ul style="list-style-type: none"> <li>- for displaying measured values with integrated illuminated LCD display</li> <li>- for configuration of the device parameters</li> <li>- backup and restore of device parameters</li> <li>- attachable or removable even during operation (hot-plugged)</li> </ul>	 <p><a href="#">VarioControl</a></p>
Device Communication	Function	Datasheet
<p><b>AD-VarioConnect</b> (with integr. RS485 interface)</p>	<ul style="list-style-type: none"> <li>- for displaying measured values with integrated illuminated LCD display</li> <li>- for configuration of the device parameters</li> <li>- backup and restore of device parameters</li> <li>- attachable or removable even during operation (hot-plugged)</li> <li>- with integrated RS485-interface (Modbus-RTU)</li> </ul>	 <p><a href="#">VarioConnect</a></p>
<p><b>AD-NetGw 100 GT</b></p>	<p><b>Network-Interface-Converter</b> Enables a connection to devices with serial interface via IP-based networks (LAN) Interfaces: LAN (10/100 Mbit), RS-485, AD-UART Protocol conversion: Modbus TCP/RTU Power-supply: broad range 20...253VDC / 50...253VAC (50...60Hz) AD-Studio programmable</p>	<p><a href="#">netgw100gt</a></p>
<p>Accessories: <b>AD-NetGw-connect</b></p>	<p><b>Interface-Adapter-Cable</b> for a connection between Adamczewski devices (AD-UART Interface) and AD network Interface converter AD-NetGw 100 GT (6-pole, 1m)</p>	

## Fieldbus devices

with analog-, temperatur signal inputs and bus interface

BUS Converter	Input	Output	Power supply	Design	Data sheet
<b>AEB 20 GX</b> (2-channel) Analog input-Bus Converter <a href="#">AD-Studio</a> configurable	current or voltage (max. 20 mA, 10 VDC)	RS485 Modbus-RTU interface <a href="#">connector</a> compatible	18..30VDC <a href="#">connector</a> compatible	GX	<a href="#">aeb20gx.pdf</a>
<b>AEB 40 GT</b> (4-channel) Analog input-Bus Converter <a href="#">AD-Studio</a> configurable	current or voltage (max. 20 mA, 10 VDC)	RS485 Modbus-RTU interface	20...253VDC, 50...253VAC wide range power supply	GT	<a href="#">aeb40gt.pdf</a>
<b>AAB 20 GX</b> (2-channel) Analog output-Bus-Converter <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU interface <a href="#">connector</a> compatible	current or voltage (max. 20 mA, 10 VDC)	18..30VDC <a href="#">connector</a> compatible	GX	<a href="#">aab20gx.pdf</a>
<b>KEB 20 GX</b> (2-channel) Digital input-Bus Converter <a href="#">AD-Studio</a> configurable	digital signals contact or active 24V	RS485 Modbus-RTU interface <a href="#">connector</a> compatible	18..30VDC <a href="#">connector</a> compatible	GX	<a href="#">keb20gx.pdf</a>
<b>KAB 10 GX</b> (1-relays) Relay output-Bus Converter <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU interface <a href="#">connector</a> compatible	potential-free change-over contact	18..30VDC <a href="#">connector</a> compatible	GX	<a href="#">kab10gx.pdf</a>
<b>KAB 40 GT</b> (4-relays) Relay output-Bus Converter <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU interface	potential-free NO contacts	20...253VDC, 50...253VAC wide range power supply	GT	<a href="#">kab40gt.pdf</a>
<b>KAB 80 GT</b> (8-relays) Relay output-Bus Converter <a href="#">AD-Studio</a> configurable	RS485 Modbus-RTU interface	potential-free NO contacts	20...253VDC, 50...253VAC wide range power supply	GT	<a href="#">kab80gt.pdf</a>
<b>MV 55 GX</b> (1-channel) Temperature input-Bus Converter <a href="#">AD-Studio</a> configurable	- RTD: Pt, Ni - TC: J, T, K, E, N, S, R, B, C - 144 mV	RS485 Modbus-RTU interface	20...253VDC, 50...253VAC wide range power supply	GX	<a href="#">mv55gx.pdf</a>
<b>MV 554 GT</b> (4-channel) Temperature input-Bus Converter <a href="#">AD-Studio</a> configurable	- RTD: Pt, Ni - TC: J, T, K, E, N, S, R, B, C - 144 mV	RS485 Modbus-RTU interface	20...253VDC, 50...253VAC wide range power supply	GT	available from IV/2019 <a href="#">mv554gs.pdf</a>

Zubehör	Funktion	Datenblatt
<b>AD-NetGw 100 GT</b> Modbus RTU/TCP Converter <a href="#">AD-Studio</a> configurable	Enables a connection to Adamczewski fieldbus devices via IP-based networks Interfaces: LAN (10/100 Mbit), RS-485, AD-UART Protocol conversion: Modbus TCP/RTU	<a href="#">netgw100gt</a>

# Frequency Processing

Analog-Frequency-Converter and Frequency-Analog-Converter

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-AI 200 GVC</b> Analog-Pulse-Converter optional <a href="#">AD-Studio</a> configurable	0...20mA, 4...20mA; 0...10V	quantity impulses via relay or opto couplers (e.g. 0...120 imp/m <sup>3</sup> )	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">ai200gvc.pdf</a> <a href="#">operation</a> <a href="#">ordering aid</a>
<b>AD-FM 250 GVC</b> Frequency-Analog-Converter (with factory setting or via optional software <a href="#">AD-Studio</a> )	Initiator e.g. by NAMUR, contact etc. 0...0,01Hz to 10kHz	1 current (max. 20mA) 1 voltage (max. 10V)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">fm250gvc</a>
<b>AD-FM 255 GVD</b> Frequency-Converter <a href="#">VarioControl/-Connect</a> compatible <a href="#">AD-Studio</a> configurable	0...0,01Hz to 10kHz NAMUR, contact, opto couplers, 24V-activ i.a.	1 current (max.20mA) 1 voltage (max.10V) 1 contact (C/O) (opt. as semiconductor)	20...253VDC, 50...253VAC wide range power supply	GVD	<a href="#">fm255gvd.pdf</a>
<b>AD-FM 210 GS</b> Frequency-Analog-Converter	Initiator frequency >100Hz (max. 50kHz) (e.g. NAMUR)	0...20mA, 4...20mA, 0...10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">fm210.pdf</a>
<b>AD-FM 300 FE</b> (front-panel) <b>AD-FM 300 GA</b> (DIN-rail) 1-channel Analog-Frequency-Converter optional <a href="#">AD-Studio</a> configurable	1x frequency (each channel)	analog: 1x current (max.20mA) 1x voltage (max.10V) digital: 2x relay (opt. opto couplers)	20...253VDC, 50...253VAC wide range power supply	FE, GA	<a href="#">fm300.pdf</a> <a href="#">manual</a>
<b>AD-FM 600 FE</b> (front-panel) <b>AD-FM 600 GA</b> (DIN-rail) 2-channel Analog-Frequency-Converter optional <a href="#">AD-Studio</a> configurable	2x frequency (each channel)	analog: 1x current (max.20mA) 1x voltage (max.10V) digital: 2x relay (opt. opto couplers)	20...253VDC, 50...253VAC wide range power supply	FE, GA	<a href="#">fm600.pdf</a> <a href="#">manual</a>

# Pulse Processing

Pulse-Summmator, Pulse-Scaler, Contact-Protection

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-AI 200 GVC</b> Analog-Pulse-Converter optional <a href="#">AD-Studio</a> configurable	0...20mA, 4...20mA; 0...10V	quantity impulses via relay or opto couplers (e.g. 0...120 imp/m <sup>3</sup> )	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">ai200gvc.pdf</a> <a href="#">operating</a> <a href="#">ordering aid</a>
<b>AD-IS 102 GVC</b> (2 inputs) Pulse-Summmator optional <a href="#">AD-Studio</a> configurable	2 pulse inputs	change-over contact optional opto couplers	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">is102gvc.pdf</a>
<b>AD-IS 106 GVF</b> (6 inputs) Pulse-Summmator optional <a href="#">AD-Studio</a> configurable	6 pulse inputs	change-over contact optional opto couplers	20...253VDC, 50...253VAC wide range power supply	GVF	<a href="#">is106gvf.pdf</a>
<b>AD-IU 214 GVC</b> Pulse-Divider optional <a href="#">AD-Studio</a> configurable	INAMUR-transmitter, mechanical contact, active voltage, optocouplers	change-over contact optional opto couplers	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">iu214gvc.pdf</a>
<b>AD-KI 10 GX</b> Contact-Protection-Relay	1x normally open contact	1x normally open contact	20...30VDC	GX	<a href="#">ki10gx.pdf</a>
<b>AD-KI 100 GS</b> Contact-Protection-Relay	1x normally open contact	2x change-over contact optional opto couplers	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">ki100gs.pdf</a>
<b>AD-KV 100 GS</b> Contact-Amplifier	1x normally open contact	2x change-over contact optional opto couplers output follows input 1:1	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">kv100gs.pdf</a>

**Indicator lights/Fault Indicator**

Informs about errors or operation conditions via LED signal transmitter

type	construction	LED	power supply	data sheet
<b>AD-LM 6</b> (for 6 messages) LED fault indicator	panel mounting 72x72 mm	exchangeable according to order data signalling input: 10...30 VDC	20...30 VDC (only for lamp test)	<a href="#">lm6.pdf</a> <a href="#">label-template</a>
<b>AD-LM 8</b> (for 8 messages) LED fault indicator	panel mounting 72x72 mm	exchangeable according to order data signalling input: 10...30 VDC	20...30 VDC (only for lamp test)	<a href="#">lm8.pdf</a> <a href="#">label-template</a>
<b>AD-LM 12</b> (for 12 messages) LED fault indicator	panel mounting 72x144 mm	exchangeable according to order data signalling input: 10...30 VDC	20...30 VDC (only for lamp test)	<a href="#">lm12.pdf</a> <a href="#">label-template</a>
<b>AD-LM 16</b> (for 16 messages) LED fault indicator	panel mounting 96x96 mm	exchangeable according to order data signalling input: 10...30 VDC	20...30 VDC (only for lamp test)	<a href="#">lm16.pdf</a> <a href="#">label-template</a>

**Vario Indicator lights/Fault Indicator (configurable)**

Multicolour glowing or blinking leds and up to 32 independent, freely assignable inputs

<b>AD-LM 6 vario</b> LED fault indicator 6 messages / 12 inputs	panel mounting 72x72 mm	<a href="#">AD-Studio</a> configurable in color and function Signalling input: 5-30 VDC	20...253V AC/DC	<a href="#">lm6vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LM 8 vario</b> LED fault indicator 8 messages / 16 inputs	panel mounting 72x72 mm	<a href="#">AD-Studio</a> configurable in color and function Signalling input: 5-30 VDC	20...253V AC/DC	<a href="#">lm8vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LM 12 vario</b> LED fault indicator 12 messages / 24 inputs	panel mounting 72x144 mm	<a href="#">AD-Studio</a> configurable in color and function Signalling input: 5-30 VDC	20...253V AC/DC	<a href="#">lm12vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LM 16 vario</b> LED fault indicator 16 messages / 32 inputs	panel mounting 96x96 mm	<a href="#">AD-Studio</a> configurable in color and function Signalling input: 5-30 VDC	20...253V AC/DC	<a href="#">lm16vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>

**Vario BUS Indicator lights/Fault Indicator with external terminal block or external master**

Multicolour glowing or blinking leds and up to 32 independent, freely assignable inputs

Connections and control: (RS485-BUS) is done by an external terminal block or external master

<b>AD-LMB 6 vario</b> 6 messages / 12 inputs connection: RS485-BUS	panel mounting 72x72mm	<a href="#">AD-Studio</a> configurable in color and function control by external terminal block/master	20...253V AC/DC	<a href="#">lmb6vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LMB 8 vario</b> 6 messages / 12 inputs connection: RS485-BUS	panel mounting 72x72mm	<a href="#">AD-Studio</a> configurable in color and function control by external terminal block/master	20...253V AC/DC	<a href="#">lmb8vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LMB 12 vario</b> 12 messages / 24 inputs connection: RS485-BUS	panel mounting 72x144mm	<a href="#">AD-Studio</a> configurable in color and function control by external terminal block/master	20...253V AC/DC	<a href="#">lmb12vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>
<b>AD-LMB 16 vario</b> 16 messages / 32 inputs connection: RS485-BUS	panel mounting 96x96mm	<a href="#">AD-Studio</a> configurable in color and function control by external terminal block/master	20...253V AC/DC	<a href="#">lmb16vario.pdf</a> <a href="#">label-template</a> <a href="#">set-up aid</a>

**External terminal block for AD-LMB**

AD-AB 12 (12 inputs) AD-AB 24 (24 inputs) AD-AB 32 (32 inputs)	DIN rail mounting (bxhxd) 113x82x54mm	signalling input: 5-30 VDC connection: RS485-BUS	20...253V AC/DC	<a href="#">ab12/24/32.pdf</a>
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## Excess Voltage Protection

for measuring- and mains supply lines for DIN-rail mounting or with IP-65-ALU-housing

Version (DIN rail mounting)	Protection Voltage	No. of wires	Options	Design	Data sheet
<b>AD-BS 1</b> Coarse Protection	90V	for 2 measuring lines		ST	<a href="#">bs1.pdf</a>
<b>AD-BS 2</b> Coarse- and surge-Protection	24V; 33V; 50V (to specify by order)	for 2 measuring lines		ST	<a href="#">bs2.pdf</a>
<b>AD-BS 3</b> Coarse- and surge-Protection with transverse voltage protection	24V; 33V; 50V (to specify by order)	for 2 measuring lines	with transverse voltage protection (wire to wire)	ST	<a href="#">bs3.pdf</a>
<b>AD-NS 230</b> Overload Protection for AC power	230VAC	for 2 AC power lines	with failure indication	GS	<a href="#">ns230.pdf</a>





## Relay-Cards and Coupling Relay

Relay-Cars with 2, 4 or 8 relays

Contact Protection Relay	Input	Output	Design	Data	sheet
<b>AD-KI 10 GX</b> Contact-Protection-Relay	impuls input	1x normally open contact	20...30VDC	GX	<a href="#">ki10gx.pdf</a>
<b>AD-KI 100 GS</b> Contact-Protection-Relay	impuls input	2x change-over contact optional opto couplers	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">ki100gs.pdf</a>
<b>AD-KV 100 GS</b> Contact-Amplifier	impuls input	2x change-over contact optional opto couplers output follows input 1:1	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">kv100gs.pdf</a>
Coupling Relay	Input	Output	Power supply	Design	Data sheet
<b>AD-KR 11 GX</b> Coupling Relay (1-channel)	20...30 VDC	1x change over contact	18...30VDC	GX	<a href="#">ki10gx.pdf</a>
<b>AD-KR 12 GX</b> Coupling Relay (1-channel)	20...30 VDC	1x normally open contact	18...30VDC	GX	<a href="#">ki12gx.pdf</a>
<b>AD-KR 22 GX</b> Coupling Relay (2-channel)	20...30 VDC	1x normally open contact per channel	18...30VDC	GX	<a href="#">ki22gx.pdf</a>

# Setpoint Devices and Voltage Supply Devices

## Setpoint Devices and 24VDC Power-Supply Devices

Setpoint Devices	Input	Output	Power supply	Design	Data sheet
<b>AD-TV 32 GL</b> Isolation-Amplifier with integrated setpoint generator (switchable)	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V (1:1 to input or as setpoint)	20...253VDC, 50...253VAC wide range power supply	GL	<a href="#">tv32gl.pdf</a>
<b>AD-TV 320 GS</b> Setpoint-Isolation-Amplifier with remote activation, call back contact and transmitter supply	0...20mA, 4...20mA, 0...10V with optional transmitter supply 4...20mA	0...20mA, 4...20mA, 0...10V (1:1 to input or as setpoint)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">tv320gs.pdf</a>
<b>AD-SWG 211</b> Setpoint-Generator 0...99%	nonexistent	0...20, 4...20mA, 0...10V (to specify by order)	230VAC or 20...30VDC (to specify by order)	GS	<a href="#">swg211.pdf</a>
<b>AD-ISW 100 GS</b> incremental Setpoint-Generator	potential free contact or DC-voltage (5-30VDC)	0...20, 4...20mA, 0...10V (to specify by order)	20...253VDC; 50...253VAC wide range power supply	GS	<a href="#">isw100gs.pdf</a>
Device power supply	Input	Output	Power supply	Design	Data sheet
<b>AD-SV 20 GS</b> Power supply	nonexistent	24VDC, max. 50mA with adjustable current limiting	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">sv20gs.pdf</a>
<b>AD-SV 40 GS</b> Power supply 2-channel	nonexistent	each channel 24VDC, max. 50mA, galvanically isolated and with adjustable current limiting	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">sv40gs.pdf</a>
<b>AD-SV 1224 GL</b> Power Converter	nonexistent	20...30 VDC	11...15 VDC	GL	<a href="#">sv1224gl.pdf</a>

## Special Functions Devices

Measuring Signal Summator, Electrode Relays, min/ and maximum Evaluators etc.

Version	Input	Output	Power supply	Design	Data sheet
<b>AD-BV 20 GVC</b> Burden Amplifier	0...20mA, 4...20mA	1:1 to input output burden 1,3 kOhm	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">bv20gvc.pdf</a>
<b>AD-SMV 400 GVC</b> Sum-Data-Amplifier (summation, subtraction, average value) optional <a href="#">AD-Studio</a> configurable	max. 20mA/10V max. 4 inputs (freely configurable)	0...20mA, 4...20mA, 0...10V (freely configurable)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">smv400gvc</a>
<b>AD-MU 400 GVC</b> Analogue Calculator optional <a href="#">AD-Studio</a> configurable	max. 20mA/10V max. 2 inputs (freely configurable)	0...20mA, 4...20mA, 0...10V (freely configurable)	20...253VDC, 50...253VAC wide range power supply	GVC	<a href="#">mu400gvc</a>
<b>AD-AS 320 GS</b> Analogue Value Memory	0...20mA, 4...20mA, 0...10V	0...20mA, 4...20mA, 0...10V (to specify by order)	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">as320gs.pdf</a>
<b>AD-RA 300 GVF</b> Redundancy Evaluator optional <a href="#">AD-Studio</a> configurable	3x max. 20mA	max. 20mA, 10V 3 changeover contact (as fault indication)	20...253VDC, 50...253VAC wide range power supply	GVF	<a href="#">ra300gvf.pdf</a>
<b>AD-ER 01</b> Electrode Relay	3 electrode (ground, min, max)	1 change-over contact	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">er01gs.pdf</a>
<b>AD-MMA 400 GVC</b> Maximum-/Minimum Value Evaluator optional <a href="#">AD-Studio</a> configurable	up to 4 input current max. 20mA; voltage max. 10V	max. or min. input value 1:1	20...253VDC, 50...253VAC wide range power supply	GS	<a href="#">mma400gvc</a>

# Photovoltaic (PV)

for distribution, optimization and monitoring of photovoltaic energy

Photovoltaic Optimizer				
Type	Input	Output	Design	Data sheet
<b>AD-PVO 2000</b> Photovoltaic-optimizer VarioPass configurable	3x 230V AC 3x 0...100A AC via external current transformer (included in the set)	Load-relay: 1 normally open Error-relay: 1 change-over contact	housing for DIN-rail mounting 71x90x58mm (IP20)	<a href="#">pvo2000.pdf</a>
<b>AD-PVO 3000</b> Photovoltaic-optimizer VarioPass configurable	3x 230V AC 3x 0...100A AC via external current transformer (included in the set)	Analog: 0/4...20mA; 0/2...10V Error-relay: 1 change-over contact <i>(attention to region regulations)</i>	housing for DIN-rail mounting 71x90x58mm (IP20)	<a href="#">pvo3000.pdf</a>
<b>AD-PVO 4000</b> Photovoltaic-optimizer VarioPass configurable	3x 230V AC 3x 0...100A AC via external current transformer (included in the set)	Ttthernet inferrface for connection of the heating element AC-ELWA-E of myPV GmbH, Austria	housing for DIN-rail mounting 71x90x58mm (IP20)	<a href="#">pvo4000.pdf</a>
<b>AD-PVO 6000</b> Photovoltaic-optimizer VarioPass configurable	3x 230V AC 3x 0...100A AC via external current transformer (included in the set)	Load-relay: 3 normally open Error-relay: 1 change-over contact	housing for DIN-rail mounting 105x90x58mm (IP20)	<a href="#">pvo6000.pdf</a>

**Description:**

The Adamczewski Photovoltaic-Optimizer monitors the supply of solar energy to the main connection of a building. If the supply output exceeds a limiting value set by the customer, one or several internal output relay is triggered. With this switching relays, electric consumers (i.e. electric heating rod in the process water tank of the heating, air-conditioning device or heat pump) can now be triggered.

Photovoltaic Optimizer Set		
Type	Description	Data sheet
Photovoltaic-Optimizer + scew-in heater <b>AD-PVO 2000S</b> <b>AD-PVO 6000S</b>	<b>Photovoltaic-Optimizer-Heater-Set</b> for direct use in the hot water tank, consisting of: 1 pcs. photovoltaic-optimizer AD-PVO 2000 or AD-PVO 6000 1 pcs. screw-in heater AD-HST (1,5" with temperature regulator and safety thermostat)	<a href="#">pvo2000.pdf</a> <a href="#">pvo6000.pdf</a> <a href="#">hst.pdf</a>
Photovoltaic-Optimizer + scew-in heater + continuous-flow heater <b>AD-PVO 2000S-DEL</b> <b>AD-PVO 6000S-DEL</b>	<b>Photovoltaic-Optimizer-Continuous-Flow-Heater-Set</b> with storage water charging system. For hot-water tanks without capability of connecting additional heater. Set consists of: 1 pcs. photovoltaic-optimizer AD-PVO 2000 or AD-PVO 6000 1 pcs. coninuous-flow heater AD-DLE (consisting of: continous-flow heater, insulated box, circulation pump and thermostat distribution beam)	<a href="#">pvo2000.pdf</a> <a href="#">pvo6000.pdf</a> <a href="#">hst.pdf</a> <a href="#">dle.pdf</a> <a href="#">thv10.pdf</a>

Accessory		
Type	Description	Data sheet
<b>AD-HST</b> screw-in heater	<b>Screw-in Heater</b> 1,5" with temperature regulator and safety thermostat mounting length: 300mm, unheated zone: 150mm, power: 500W/1000W/1500W	<a href="#">hst.pdf</a>
<b>AD-DLE</b> continuous-flow heater	<b>Continuous-flow Heater</b> consisting of: continous-flow heater, insulated box, circulation pump (DLE) and thermostat distribution beam (THV10)	<a href="#">dle.pdf</a> <a href="#">thv10.pdf</a>
<b>AD-VarioPass</b> configuration set	<b>USB-Configuration-Set</b> consisting of: AD-VarioPass USB-adapter, AD-UART+ rippon cable (8cm), USB-cablel (1,5m A/B) and configuration software AD-Studio	<a href="#">variopass.pdf</a>

## Customer Information

Special development and fabrication of customer-specific devices

For over 30 years the company Adamczewski has developed, fabricated and distributed a wide spectrum of electronic devices. The applications are spread over many branches in the measuring, control, regulation, process and automation technologies. Our strengths lie in a total solution of individual problems of our customers, which reaches from development to the later serial production. Due to exact analysis of the demand, combined with the application of the most modern development and production technology, a high degree of time and cost efficiency is achieved.

### Your advantages in an overview:

- 30-year experience as full service provider of development, material management, logistics and production
- Complete development and production site in Germany, therefore high flexibility of available capacities and low bureaucratic impediments and, at the same time, achievement of short implementation and turnaround times.
- Most modern production technology (i.e. lead-free shafting and reflow soldering, SMD-automatic apparatus equipping, automatic laser lettering device)
- Coverage of a lot size spectrum of small series to large series possible.
- High standard of quality (certified according to DIN ISO 9001, ATEX-approval). Fabrication since 01.04.2005 according to EU-guideline 2002/95/EG(RoHS) or limiting the usage of hazardous substances

### Development

#### **Concept phase:**

On the basis of the ideas or the specifications of the customer, the first considerations as to feasibility are started. If these have a positive result, first concepts can be worked out and possibly first pre-trials and calculations can be carried out. For this we have modern laboratory equipment with power packs, memory oscilloscopes, generators and measuring devices available. In any case, detailed specifications for the product will be drawn up.

#### **CAD-layout:**

The CAD-layout is carried out on our premises. Layout is manual. The experience of our development engineers over many years and the proximity to the fabrication have a very positive effect on the quality of the layout and therefore on the entire product. We execute our layouts in fine line print method with structure sizes of approx. 200µm. More complex layouts are also produced in multi-layer. We use the combined printed circuit/layout programme "EAGLE". Most of the printed circuit board manufacturers in the meantime accept layouts in EAGLE-format, which makes the error-prone converting of CAD-data unnecessary.

#### **Prototype/initial sample:**

The printed circuit boards for the prototype can be delivered via a printed circuit board quick service within a few days.

#### **Programming:**

If it concerns a digital device with micro controller, the device functions are mainly carried out by the device firmware. The development of this firmware is usually costlier than the hardware development and requires particularly careful planning in cooperation with the customer, to avoid unnecessary development costs. The micro controller programme in the programming language "C". Tools such as integral development environments with C-compiler, in-circuit-emulators and programming devices are available. There is the possibility to parameterized the devices with the PC. For this there exists a programme, which can easily be adapted to new devices and can be made available to the customer. Updating of the firmware by the customer via the PC is also possible. The PC programming languages used are Visual Basic or the new .NET languages such as C#.

#### **Certification:**

According to the CE conformity, the EMV guidelines or the low voltage guidelines must be deemed as minimum requirement. The checking of the EMV guidelines can be carried out on the premises to the greatest possible extent. Test generators for surge, burst or ESD are available as well as measuring receivers for checking the released line-conducted errors. The results can be summarised in a report and serve as base for the conformity declaration of the manufacturer or of the company which sells the devices.

#### **Fabrication:**

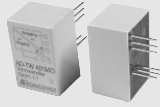
- Equipping: manual equipping, SMD semi automatic or fully automatic devices
- Soldering: wave soldering bath, reflow oven
- Automatic laser lettering device
- Test: 100%, PC-supported, permanently stored in data base
- Traceability: with the fabrication number, the entire life of the device can be comprehended, from fabrication through test, despatch and possible service procedures such as repair, recalibration etc.

# Housing and mounting form

Adamczewski housing list

**MO-print modul**

for soldering in and retrofitting  
printing circuit boards  
30 x 20 x 16,5 mm



**GT - switchboard housing**

for DIN rail mounting  
width / height / depth  
71 x 90 x 58 mm



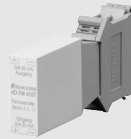
**GX - switchboard housing**

for DIN rail mounting  
width / height / depth  
6,2 x 92 101 mm



**ST - plug-in module**

for DIN rail mounting  
width / height / depth  
20,8 x 42,5 x 102 mm



**GM - switchboard housing**

for DIN rail mounting  
width / height / depth  
13 x 78 x 98 mm



**GB - switchboard housing**

for DIN rail mounting  
width / height / depth  
63 x 100 x 95 mm



**GL - switchboard housing**

for DIN rail mounting  
width / height / depth  
18 x 78 x 98 mm



**EV - 19"-euro-board format**

depth / height  
160 x 100 mm  
front panel: 3TE, 4TE, 6TE



**GS - switchboard housing**

for DIN rail mounting  
width / height / depth  
23 x 78 x 103 mm



**GA - switchboard housing**

for DIN rail mounting  
width / height / depth  
100 x 74 x 119 mm



**SF - switchboard housing**

for DIN rail mounting  
width / height / depth  
38 x 78 x 103 mm



**Outdoor housing IP 95 rating (ÜSE)**

surface mounting, cable bushing PG16  
Länge / Breite / Höhe  
125 x 80 x 57 mm



**FE - panel mount case**

for switchboard front mounting  
width / height / depth  
96 x 48 x 136 mm



**Outdoor housing IP 95 rating (ÜSK)**

surface mounting, cable bushing PG16  
Länge / Breite / Höhe  
175 x 80 x 57 mm



**GV - switchboard housing**

for DIN rail mounting und  
with pluggable terminal clamps

- GVB 13x110x134 mm (BxHxT)
- GVC 18x110x134 mm (BxHxT)
- GVD 23x110x134 mm (BxHxT)
- GVE 28x110x134 mm (BxHxT)
- GVF 33x110x134 mm (BxHxT)



**LM6 - panel mount case**

for switchboard front mounting  
width / height / depth  
72 x 72 x 71,5 mm



**LM12 - panel mount case**

for switchboard front mounting  
width / height / depth  
72 x 144 x 71,5 mm



## Impressum / Company Info

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ISO Zertifizierung / ISO certification

ISO 9001:2015 zertifiziert seit 11.07.2003  
(certificated since 11.07.2003)