



Main features:

- Amplifier with fast digital output
- For dynamic and static applications
- Very high strain gauge bridge offset range
- Compact solid aluminium housing (IP65)

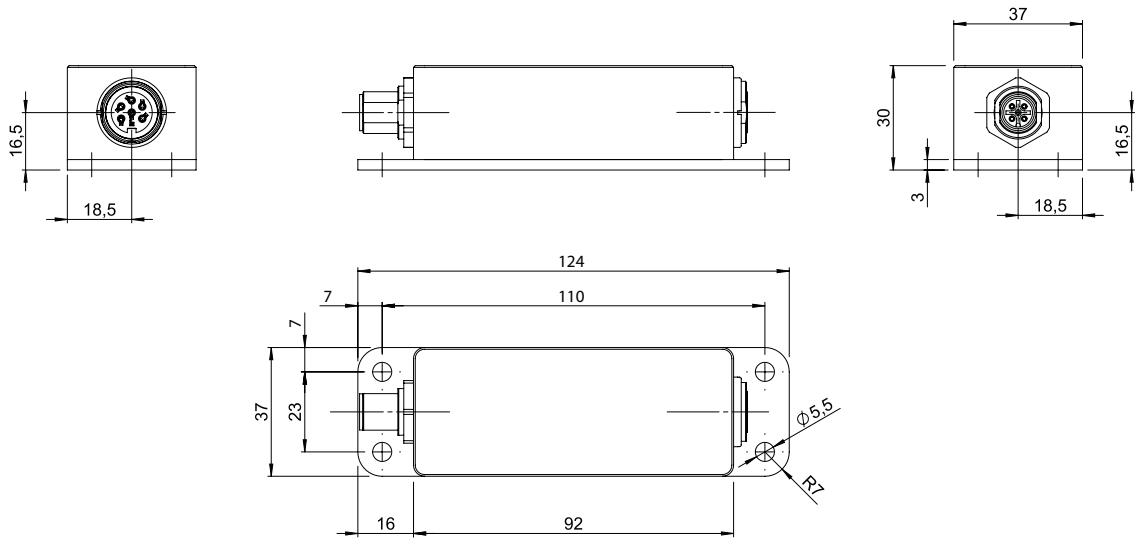
The variable digital inline amplifier VDA-I converts the signal from strain sensors and load cells into a current or voltage output signal. The VDA-I amplifier can be used in dynamic and static applications.

TECHNICAL DATA

Output signal	VOLTAGE	CURRENT
Linearity	< ± 0.02% FS	
Zero accuracy	< ± 0.1% FS	
FS accuracy	< ± 0.1% FS	
Accuracy at room temperature (1)	< ± 0.2% FS	
Input bridge resistance	120...1000 Ω	
Signal input range (FS)	0.1...3mV/V; 100µε...3000µε (@ with GF=2.00)	
Output resolution	16-Bit	
Sampling rate	5 kHz	
Low-pass filter	1 kHz	
Case material	Aluminum anodized	
Reset time	> 25 ms	
Reset voltage	12...36 VDC,	
Supply voltage	12...36 VDC	
Power consumption	0.5 W	1W
Zero output signal	0 V (N)	4 mA (E)
Full scale output signal	+ 10 V (N) stretching	20 mA (E) stretching
	- 10 V (N) compression	-
Allowed load	≥ 5 kΩ	0..500 Ω
Operating temperature range	-40...+85°C	
Storage temperature range	-40...+100°C	
Temperature effects (zero)	± 0,01% FS/°C	
Temperature effects (span)	± 0,01% FS/°C	
Weight	~150 g	
Protection class	IP65	
Output short circuit protection	Yes	
Reverse polarity protection	Yes	
Dielectric strenght (2)	250V	
EC Conformity	According to Directive 2014/30/EU	
(1) incl. Non-linearity, Hysteresis, Repeatability, Zero-offset and Span-offset		
(2) Uses 50V 2J Voltage suppressor		

DIMENSION

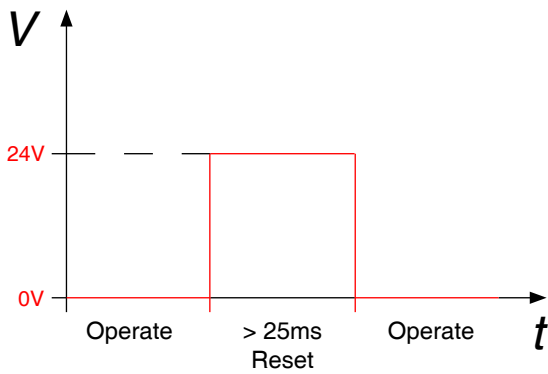
VDA-I



Dimensions in mm

RESET FUNCTION

24V - TYPE

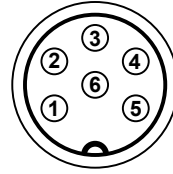
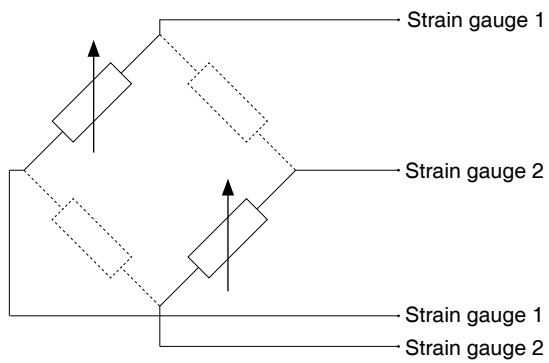


Reset control input	Reset	12...36V
	Operate	0V / open
Minimum reset pulse duration	>25ms	

With the power-on reset function the amplifier generates a reset signal when power is applied to device.

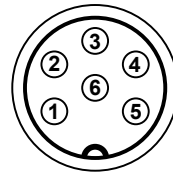
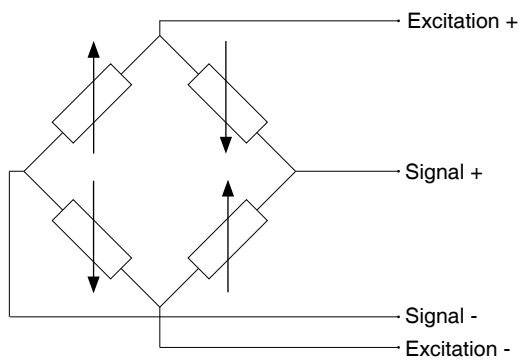
ELECTRICAL CONNECTION SENSOR SIDE

Sensor 2/4 bridge M16 6-pin



Connector PIN	Function
1	Strain gauge 1
2	Strain gauge 1
3	n.a.
4	Strain gauge 2
5	Strain gauge 2
6	n.a.

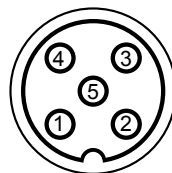
Sensor 4/4 bridge M16 6-pin



Connector PIN	Function
1	Excitation +
2	Excitation +
3	Excitation -
4	Signal +
5	Signal -
6	Excitation -

ELECTRICAL CONNECTION CONTROLLER SIDE

Controller M12 5-pin



Connector PIN	Function
1	Power 12...36VDC
2	Signal -
3	Power GND
4	Signal +
5	Reset

Stretching (positive strain) gives positive signal.
 Compression (negative strain) gives negative signal.

ORDER CODE

Variable digital
inline amplifier

VDA-I -

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Electrical connection sensor side	
M16 6-pin	H

Electrical connection controller side	
M12 5-pin	A

Output signal	
4...20 mA	E
0...±10 VDC	N

Bridge	
4/4 bridge	4
2/4 bridge (350 Ω)	2

Output range of used sensor		
2/4 bridge version	250 µε	0250
	500 µε	0500
	1000 µε	1000
4/4 bridge version	0,5 mV/V	0500
	1,0 mV/V	1000
	2,0 mV/V	2000
	3,0 mV/V	3000

Reset type	
External high-reset (24V), without power-on reset, zero stored (2·10 ⁶ reset cycles allowed)	HO11
External high-reset (24V), with power-on reset (infinite reset cycles allowed)	HR11

Peak feature	
no peak-hold	O

Example: VDA-I - H - A - E - 2 - 1000 - 00 - HR11 - O

Variable digital inline amplifier, Electrical connection sensor side = M16 6-pin half bridge,
Electrical connection controller side = M12 5-pin, Output signal = 4...20mA, Bridge = 2/4 (half bridge),
Output range of used sensor = 1000µε, Reset type = external high-reset 24V with power-on reset, no peak-hold

ACCESSORIES

Description	Code	
Cable with female connector M12 5-pin	2 m	CAV011
	5 m	CAV012
	10 m	CAV013
	15 m	CAV015
Female connector M12 5-pin	TE-E-0103_00	