



Main features

- Dynamic and static applications
- Used for any kind of strain gage sensors
- Digital amplified output from 0...±10VDC
- High resolutions (24-Bit ADC, 16-Bit DAC)
- Quick plug-in sensor and measure
- Fast and easy self-calibration
- Very rugged aluminium housing (IP62)

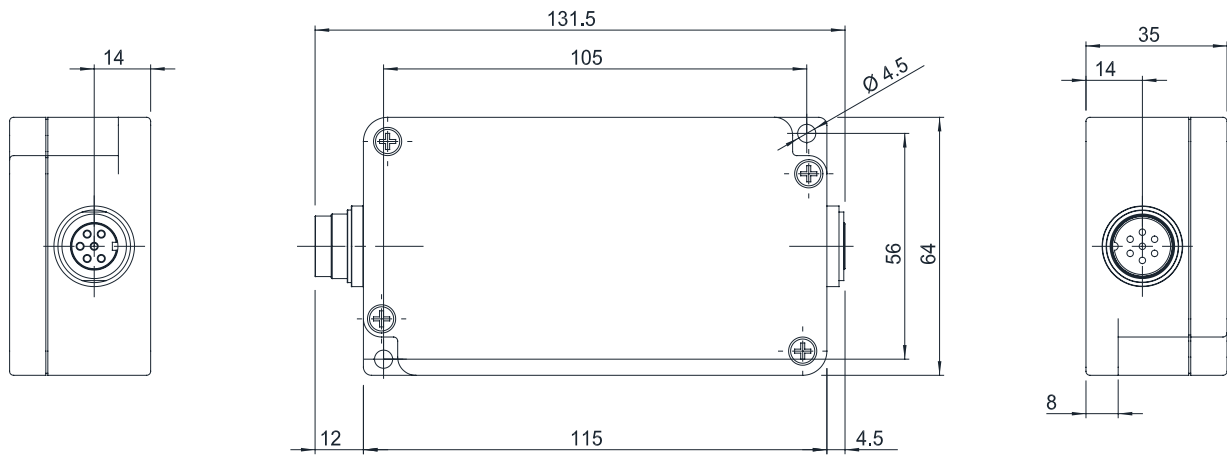
This digital amplifier measures at the strain gage bridge eight times per millisecond which gives a high oversampling range.

This gives a stable signal output with high accuracy and reproducibility. The digitalised signal can be transformed into various outputs

TECHNICAL DATA

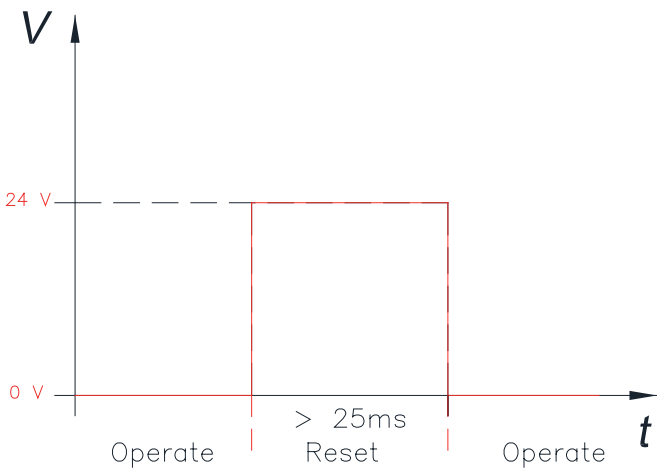
Input Bridge resistance	120...1000Ω
Signal input range (FS)	0.1...3mV/V
Span adjustment	±200% FS
Zero adjustment	±500% FS
Resolution ADC	24-Bit
Resolution DAC	16-Bit
Sampling rate	8kHz
Output rate	800Hz
Low-pass filter	100Hz
Output signal	0...±10VDC, 4...20mA
Noise	< 10mV
Accuracy	< ± 0.2% FS
Accuracy of zero point	< ± 0.1% FS
Linearity	< ± 0.02% FS
Output resistance	10Ω
Reset time	> 25ms
Reset voltage	15...28VDC, 0VDC
Supply voltage	20...28VDC
Supply current	< 60mA
Inverse polarity protection	Yes
Accidental short-circuit protection	Yes
Operating temperatur range	-10...+70°C
Storage temperatur range	-10...+70°C
Temperature coefficient at 10°C	< 0.1 (0.05 typical)
Protection class	IP62
EMC	2014/30/EU
Case material	Aluminium
Weight	260g

MECHANICAL DIMENSIONS



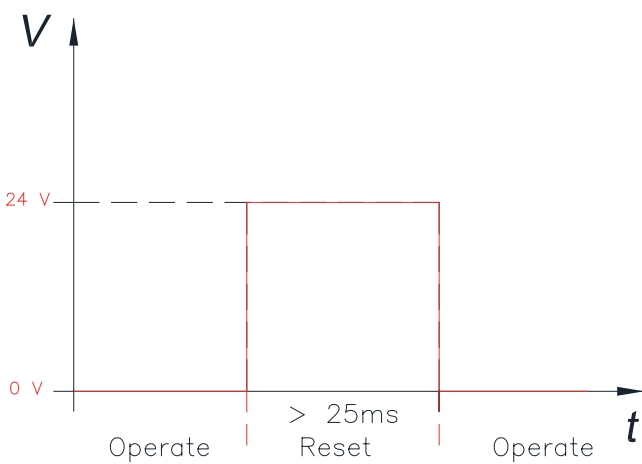
RESET FUNCTIONS

24V - TYPE



Reset control input	Reset	15...28 V
	Operate	0V/open
Minimum reset pulse duration	>25ms	

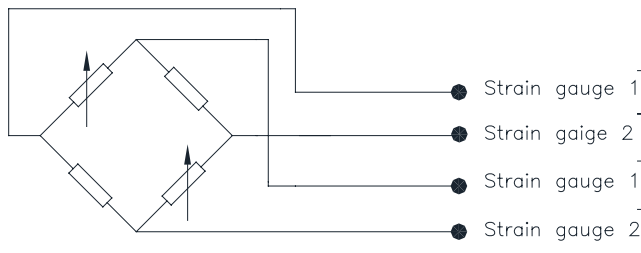
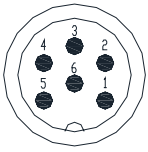
0V - TYPE



Reset control input	Reset	0V
	Operate	5...28V/open
Minimum reset pulse duration	>25ms	

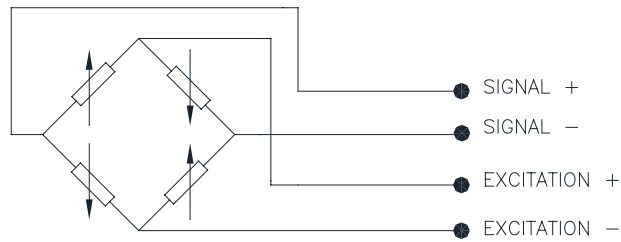
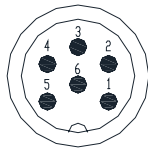
ELECTRICAL CONNECTIONS

SENSOR: half bridge



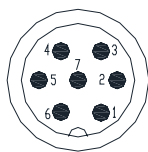
	CONNECTOR
● Strain gauge 1	1
● Strain gauge 2	4
● Strain gauge 1	2
● Strain gauge 2	5

full bridge



	CONNECTOR
● SIGNAL +	4
● SIGNAL -	5
● EXCITATION +	1-2
● EXCITATION -	3-6

CONTROLLER



CONNECTOR OUTPUT	FUNCTION
1	Power 20...28 Vdc
2	n.c.
3	Power ground
4	Reset
5	Signal output
6	Signal ground
7	Power ground

ORDER CODE

DIGITAL STRAIN-GAUGE

AMPLIFIER **VDA168 - H** - -

Output range of used sensor		Feature	
Full bridge version	0.5 mV/V	0005	N peak-hold negative
	1.0 mV/V	0010	P peak-hold positive
	2.0 mV/V	0020	I Output 4mA..20mA (instead of 0...±10V)
2/4 bridge version	500 µε	0500	E With EEPROM function (only for DLC)
	1000 µε	1000	O no features
define your range (100 µε up to 1000 µε; 0.5 mV/V up to 3 mV/V)		XXX	

Bridge		Reset	
Full Bridge	4	HO	External reset (24V), without power-on reset (5·10 ⁵ reset cycles allowed)
2/4 bridge	2	HR	External reset (24V), with power-on reset (infinite reset cycles allowed)
		LO	External reset (0V), without power-on reset (5·10 ⁵ reset cycles allowed)
		LR	External reset (0V), with power-on reset (infinite reset cycles allowed)
		ST	Static (no external reset)

Example: **VDA168 - H - 0020 - 4 - HR - P**

is a VDA168-H2 strain-gauge amplifier for four strain gauges, with an output signal of 0...10V (with sensitivity sensor 2mV/V), with a 3m cable, with power-on reset and with peak-hold positive.

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.



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