



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)
- External Reset Input available
- Various mounting options
- Compact solid aluminium housing (IP62)

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

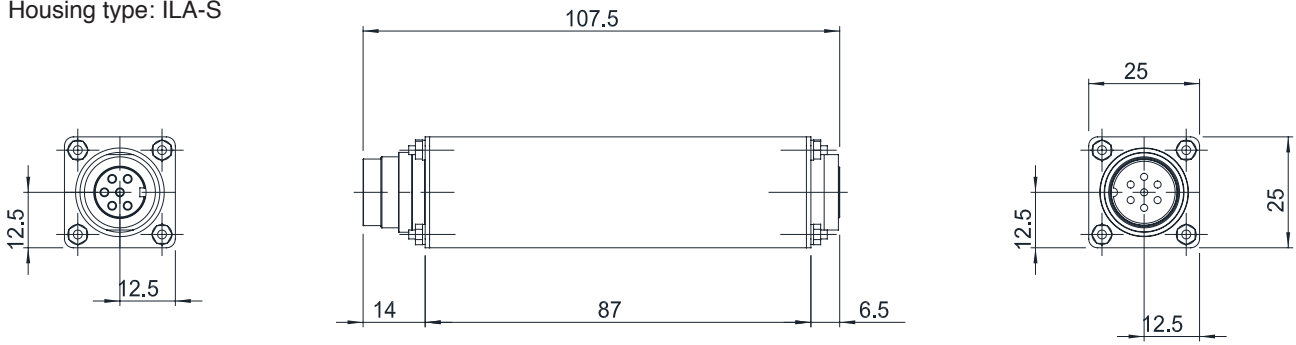
This gives a stable signal output with high accuracy and reproducibility. The digitalised signal can be transformed into various outputs.

TECHNICAL DATA

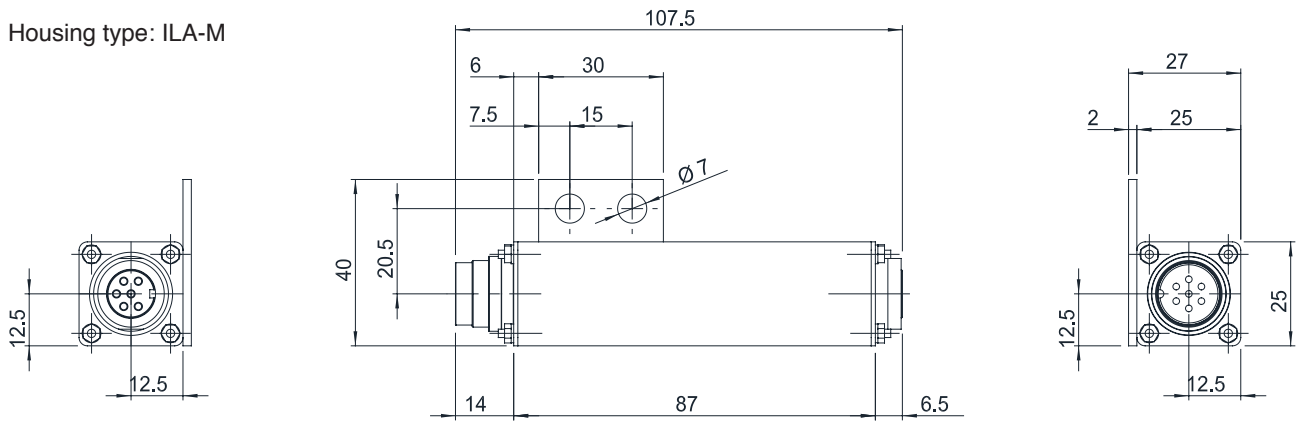
Input Bridge resistance	120...1000Ω
Signal input range (FS)	0.1...3mV/V
Span adjustment	±200% FS
Zero adjustment	±500% FS
Resolution ADC	24-Bit
Resolution DAC	16-Bit
Sampling rate	8kHz
Output rate	800Hz
Low-pass filter	100Hz
Output signal	0...±10VDC
Noise	< 10mV
Accuracy	< ± 0.2% FS
Accuracy of zero 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	70g

MECHANICAL DIMENSIONS

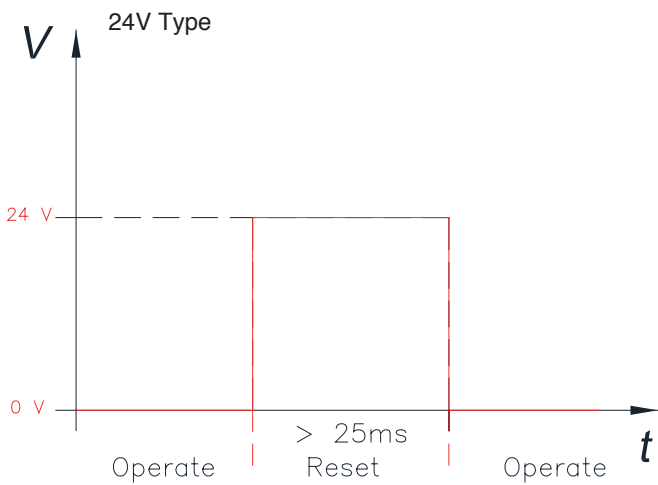
Housing type: ILA-S



Housing type: ILA-M

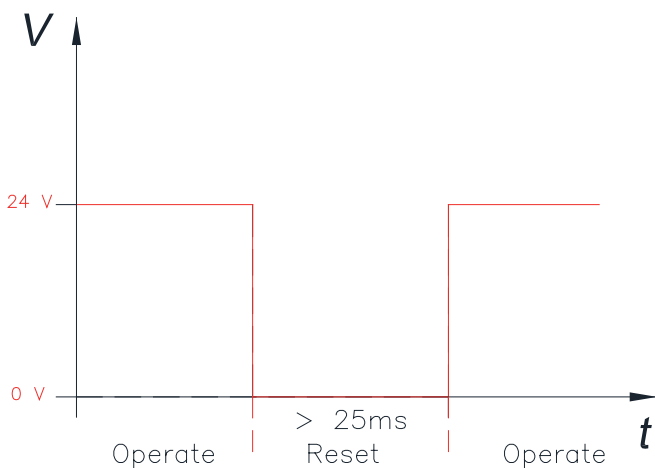


RESET FUNCTIONS



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

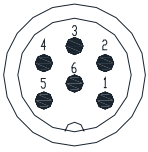
0V Type



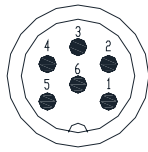
Reset control input	Reset	0V
	Operate	5...28V/ pen
Minimum reset pulse duration	>25ms	

ELECTRICAL CONNECTIONS

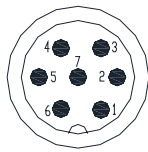
SENSOR: half bridge



full bridge



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 - ILA**

Housing type	
Without mounting flange	S
With mounting flange	M

Output range of used sensor		
Full bridge version	0.5 mV/V	0005
	1.0 mV/V	0010
	2.0 mV/V	0020
2/4 bridge version	500 $\mu\epsilon$	0500
	1000 $\mu\epsilon$	1000
define your range (100 $\mu\epsilon$ up to 1000 $\mu\epsilon$; 0.5 mV/V up to 3 mV/V)		XXX

Bridge	
Full Bridge	4
2/4 bridge	2

Feature	
N	peak-hold negative
P	peak-hold positive
O	no features

Reset	
HO	External reset (24V), without power-on reset (5·10 ⁵ reset cycles allowed)
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 - ILAS - 0020 - 4 - HR - P**

is a VDA168-ILA strain-gauge amplifier for four strain gauges, with a 3m cable, with an output signal of 0...10V (with sensitivity sensor 2mV/V), 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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