AST Gruppe
Angewandte System Technik

BA 627
Strain Gauge Measuring Amplifier

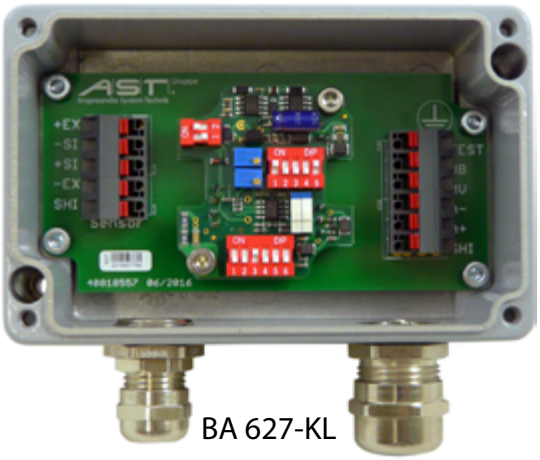
Applications

- Detection of tensile and compressive forces

BA 627-ST

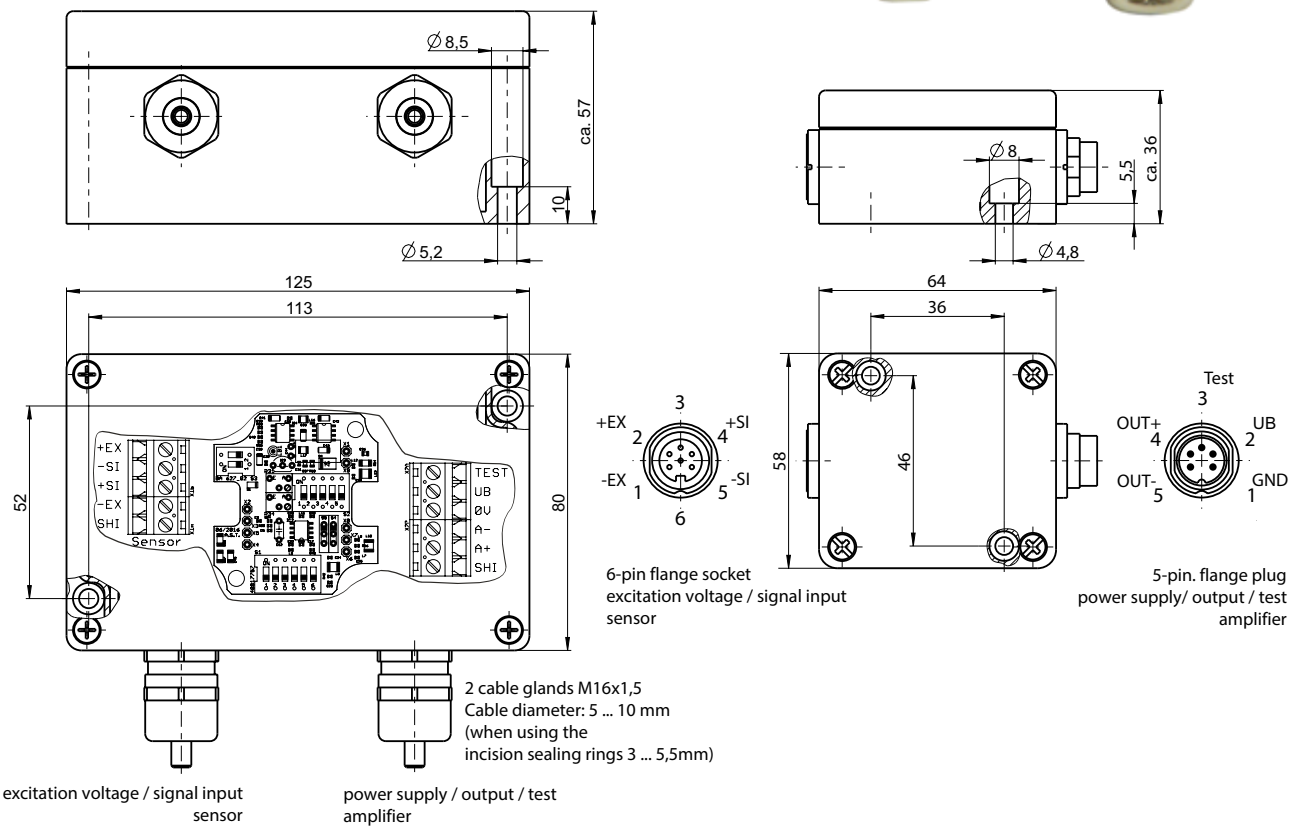
Features

- Input signal range 0.28mV/V ... 3.6 mV/V
- Power supply 24V
- Environmental protection IP65
- Rugged die cast chassis
- Highly flexible
- Easy set up



BA 627-KL

Dimensions / Connections



6-pin flange socket
excitation voltage / signal input
sensor

5-pin. flange plug
power supply/ output / test
amplifier

2 cable glands M16x1,5
Cable diameter: 5 ... 10 mm
(when using the
incision sealing rings 3 ... 5,5mm)

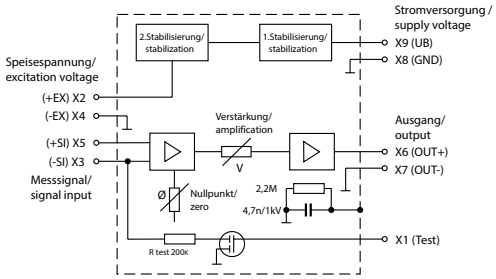
excitation voltage / signal input
sensor

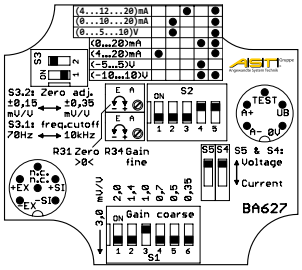
power supply / output / test
amplifier

BA 627-KL

BA 627-ST

Principle Overview





Specifications

Accuracy Class	%	0.2
Input signal range (+Si/-Si)	mV/V	0.28 ... 3.6 (4-wire technology)
Bridge resistance of the strain gauge bridge	Ω	350 ... 1000
Excitation voltage (+Ex/-Ex)	VDC	10
Fine adjustment (input signal range)	%	approx. ± 25
Output Signal		
Current output/ burden	mA	0/4 ... +20 ; 10 ±10; 12 ±8 for RL ≤ 250Ω
Voltage output/ burden	V	-10 ... +10; -5 ... +5; 5 ±5 for RL ≥ 10kΩ
Zero adjustment range	mV/V	±0.35 or ±0.15 (DIL-Switch)
Limiting frequency (-3dB)	Hz	10.000 or 70 (DIL-Switch)
Temperatur effect on zero at 2mV/V	%/10K	≤0.05
Temperatur effect on zero at 1mV/V	%/10K	0.1
Temperatur effect on amplification at 2mV/V	%/10K	≤0.07
Max. noise output: (-10 ... 0 ... +10V)	mV	≤10
Max. noise output: (0/4 ... 20)mA	µA	≤50
Test-signal input		
Bridge imbalance when UB = 24V	mV/V	approx. +0.5 (for 350 Ω full brigde)
Power supply (UB)		
Nominal voltage	VDC	24
Voltage range	VDC	19 ... 28
Current consumption (at 350Ω full bridge)	mA	ca. 44 (plus output current)
Environmental conditions		
Operating temperature range	°C	-25 ... +60
Strorage temperature range	°C	-40 ... +70
Construction		
Housing		Aluminium
Weight	kg	BA627-ST: approx. 0.2 / BA627-KL: approx. 0.5
Dimensions (W x H x T)	mm	BA627-ST: 64 x 58 x 34 / BA627-KL: 125 x 80 x 57
Terminal block, wire size (BA627-KL)	mm^2	0,14 … 1,5
Environmental protection (EN 60529/DIN 40050-9)		IP 65

Adjustment:

Factory settings: 1mV/V, (-10 ... +10)V; 10kHz, zero adjustment range ±0,15mV/V.
After changing the factory settings by the one of the switches (except for the cut off frequency), gain and zero need to be re-adjusted!
By connecting the test input with +24 V, a de-tuning of the strain gauge bridge (at 350 Ohm) by about 0.5 mV / V is generated. The value recorded in the load-free status can be recorded to verify the measuring system used.

Adjustment ranges input sensitivity in mV/V

Gain coarse switch	Min. (gain fine pot)	Max. (gain fine pot)
0.35	0.28	0.42
0.5	0,4	0.6
0.7	0.56	0.84
1	0.8	1.2
1.4	1.12	1.68
2	1.6	2.4
3	2.4	3.6

Order Example

Type Code	Description
BA627 - ST	Strain gauge measuring amplifier (plug-and-socket connection)
BA627 - KL	Strain gauge measuring amplifier (cable gland)

Options

	Type code	Description
Plug	XKC 041.03	6-pin plug connected to sensor cable, IP 67 (only for BA627-ST)
Cable	XKC 032.01	Connecting cable 3m with 5-pin cable socket, IP 65 (only for BA627-ST)
Adjustment	XKE 801	Change the factory settings