AST Gruppe
Angewandte System Technik

BA 643
Inline DMS Amplifier

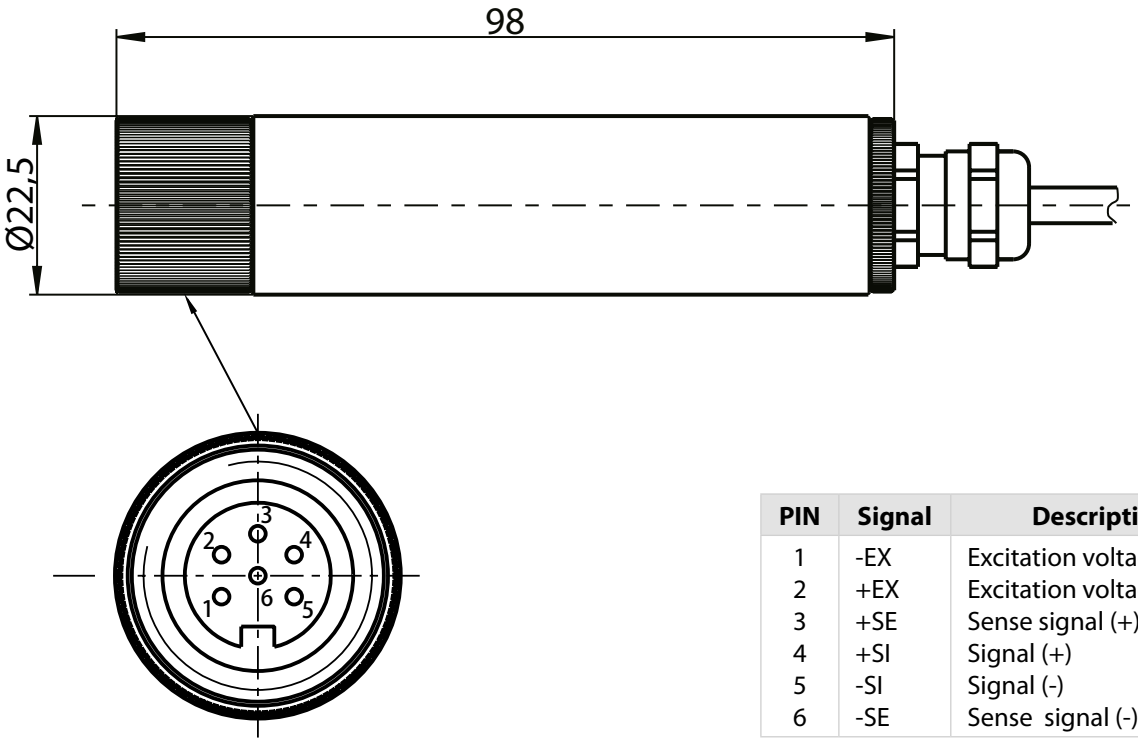
Application

The strain gauge amplifier BA 643 can be used for all strain gauge load cell and is particularly suitable for miniature force transducer in which the space for additional electronics is limited.

Features

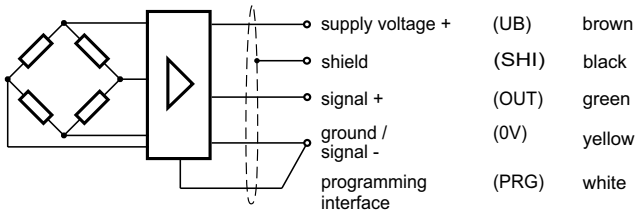
- 0.1 % accuracy class at voltage output
- Environmental protection IP 65
- Power supply
  12 ... 30VDC: 4 ... 20mA
  20 ... 30VDC: -10 ... +10V

Dimensions/ Connections



PIN	Signal	Description
1	-EX	Excitation voltage (-)
2	+EX	Excitation voltage (+)
3	+SE	Sense signal (+)
4	+SI	Signal (+)
5	-SI	Signal (-)
6	-SE	Sense signal (-)

Cable length to force transducer: 0.5m



Specifications

Type		BA 643.13	BA 643.14
Output signal		4 ... 20 mA	-10 ... 0 ... +10V
Input			
Input signal range*	mV/V	1 ... 3	1 ... 3
Bridge resistance of the strain-gauge bridge	Ω	350 ... 1000	350 ... 1000
Supply voltage for sensor	V	3.4	3.4
Output			
Standard signal output		4 ... 20mA	-10 ... 0 ... +10V
Zero range >0<*	mV/V	-5 ... +5	-5 ... +5
Full load range >V<*	mV/V	1 ... 10	1 ... 10
Load resistance (burden)	Ω	<300	>10.000
Accuracy re 2mV/V Input signal = v. E.	%v. E.	0.2	0.1
Frequency limit -3dB		70Hz	70Hz
Error signal at 2mV/V input		0.012mA AC (0.075%)	0.0055mV AC (0.055%)
Relative linearity error	%v. E.	0.05	0.05
Temperature-coefficient amplification	%v. E./10K	0.1	0.1
Temperature-coefficient zero point	%v. E./10K	0.1	0.1
Supply voltage			
Power supply (reverse polarity protection)	VDC	12 ... 30	20 ... 30
Power consumption	mA	< 35	< 20
Environmental condition			
Operating temperature range	°C	-30 ... +60	
Storage temperature range	°C	-40 ... +65	
Immunity		DIN EN 61000-6-2	
Absence of radio interference		DIN EN 55011-B	
Construction			
Dimensions	mm	84 x ø22.5	
Weight	g	200	
Environmental protection (EN 60529)		IP 65	

* mounted on the force transducer and adjusted: 0kN = 4mA/ 0V rated load compression = 20mA/ 10V
- the housing of the force transducer must be earthed
- wire PRG (white) must be connected to 0V (yellow)

Order Example

Type Code	Description
BA 643.13	Inline DMS amplifier 3 = Output 4 ... 20 mA, 4 = -10 ... 0 ... +10V 1 = connector for force transducer with plug Model

Accessoires / Options

	Type Code	Description
Connector male	XKC 041.03	Connector male instead of open cable ends, 6-pin