



ESA Messtechnik GmbH

Schlossstr. 119 - D-82140 Olching / München
Telefon: +49 (0)8142 444 130 - Fax: +49 (0)8142 444 131
Internet: www.esa-messtechnik.de
E-Mail: info@esa-messtechnik.de

Input Adapter for Traveller CF- and Traveller Static-Systems

General Features:

Different input adapters are available for the Traveller CF and Traveller Static Systems. These adapters allow for a straight forward connection of a variety of sensors to standard bridge amplifier cards for strain gauges and strain gauge based sensors. The input adapters are compatible with the following strain gauge bridge amplifier cards:

Traveller CF: SGA-2D, SGA-3D, MAB-SG0, MAB-SG1

Traveller Static: SSGA-1

Since the adapters are active components they only operate with the above-mentioned cards. Support for the input adapters is automatically provided by Traveller CF and Traveller Static software when a respective amplifier card is identified.

The different input adapters significantly increase the versatility and application variety of the Traveller CF and Traveller Static systems.



THIA- and HVIA Input Adapter connected to a Traveller CF-System

High-Level Input Adapter Model HVIA

Description:

Input adapter Model HVIA allows for the recording of voltage signals up to ± 40 volts when connected to the input of one of the above-mentioned strain gauge bridge amplifier cards. A bridge excitation voltage of min. 4 volts is required (7 volts recommended). The measuring range is then defined by adjusting the appropriate gain. The voltage signal is fed to the adapter by way of the BNC input connector.

The entire configuration and adjustments are completely controlled by Traveller CF and Traveller Static software. Bridge configuration HVIA has to be selected for adjustments.

Technical Data:

Input

Input Impedance	100 k Ω
Configuration	differential
Input Voltage Range	differential: ± 40 V common: ± 20 V
Input Connector	BNC
Output Connector	9-Pin D-Sub (male)

Amplifier

Power Supply	4-8 V (from bridge excitation)
Gain	0,125 V/V
DC-Ampl. Stability	20 ppm/ $^{\circ}$ C
Linearity	0,02 % referred to measuring range
Frequency Bandwidth	DC to 40 kHz (-3 dB) @ full output signal
Slew Rate	0,45 V/ μ sec
Common-mode Rejection	CMR = 80 dB

Output

Output Voltage Range	$\pm 1,25$ V @ excitation voltage 4 V $\pm 1,75$ V @ excitation voltage 5 V $\pm 2,5$ V @ excitation voltage 7 V or higher
----------------------	--



HVIA Input Adapter

Thermocouple Input Adapter Model THIA

Description:

With thermocouple input adapter Model THIA all common thermocouples can be connected to a Traveller strain gauge bridge amplifier card. The adapter is simply connected to the system channel input with the respective channel input connector. As with input adapter Model HVIA a bridge excitation voltage of min. 4 volts (7 volts recommended) is to be adjusted for powering the adapter. For cold-junction compensation a jumper must be attached to the respective position for the thermocouple in use.

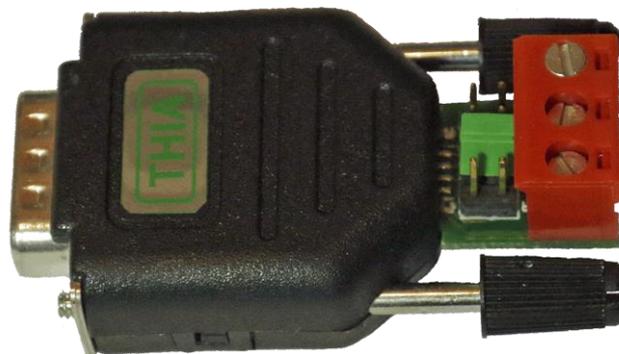
The entire configuration and adjustments are completely controlled by Traveller CF and Traveller Static software. Bridge configuration THIA has to be selected for adjustments. The thermocouple input adapter is available in two versions:

- THIA for all insulated thermocouples (i.e., mantle-thermocouples). Erroneous data with uninsulated thermocouples may occur when more adapters than one is used.
- THIA-2 for all insulated and uninsulated thermocouples with complete galvanic isolation.

Thermocouples are connected to Model THIA by screw clamps. Thermocouples are connected to Model THIA-2 either by screw clamps or by thermocouple mini-connectors (select with ordering).

Technical Data:

Thermocouple type	E = -100°C to +1000°C (jumper position E)
Measuring Ranges	J = -200°C to +760°C (jumper position J)
	K = -150°C to +1250°C (jumper position K - as delivered condition)
	T = -200°C to +400°C (jumper position K)
	R = 0°C to +1750°C (jumper position R)
	S = 0°C to +1750°C (jumper position R)
Output Error	±1°C m @ 25 °C environmental temperature
Powering	4 to 10 V (bridge excitation voltage)
Power Current	2 mA max.
Gain	50 V/V



THIA Input Adapter

PT-100 / PT-1000 Input Adapter Model PTIA

Description:

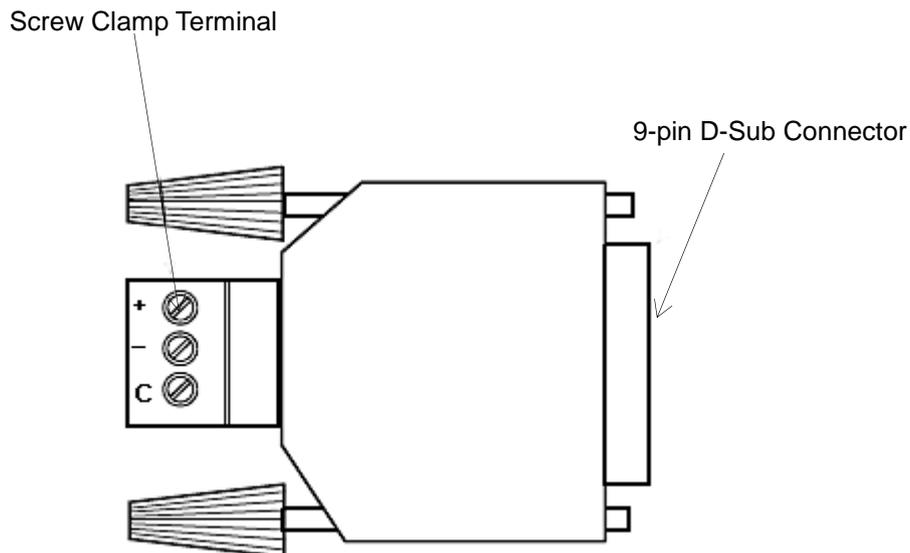
With PT-100 / PT-1000 input adapter Model PTIA PT-100 temperature sensors (PT-1000 optional) can be connected to a Traveller strain gauge bridge amplifier card. A very high measurement data accuracy is ensured by using an ultra-high-precision reference resistor. As with all other input adapters Model PTIA must be powered with min. 4 volts (7 volts or higher recommended) from the bridge excitation. Internal current sources and 3-leadwire circuitry are effectively compensating for voltage drop due to long input cables.

Sensors are connected by screw clamps. This ensures safe connections and rapid exchanging possibilities.

The possibility of using PT-1000 sensors is optional and must be specified with ordering.

Technical Data:

Sensor Type	PT100 (100Ω resistance @ 0 °C) PT1000 (1000Ω resistance @ 0 °C) - optional
Const. Current Excitation	2 x 0,2 mA constant current sources, not grounded
Measuring Range	-100 °C to +500 °C
max. appl. Input Voltage	-6 V to +40 V
Resolution	min. 0,013 °K
Total Accuracy	better ± 0,8 °C
Excitation Voltage	min. 4 V to 10 V
Excitation Current	max. 2 mA
Input Connection	Screw Clamps Terminal
Output Connector	9-pin D-Sub (male)



PT-100 / PT-1000 Input Adapter Model PTIA