

Pt-MU



Messko



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**提示**

本说明书中的数据可能会和交货的装置稍有差异。  
我方保留进行更改的权利，恕不另行通知。



**NOTE**

Data contained here in may differ in details from the  
equipment delivered.  
We reserve the right to make alterations without notice.



请保留本说明书以备日后参考！

Please keep this manual at hand for future reference!



## 1 安全

### 1.1 安全须知

从事本设备的安装、试运行、运行或维修的人员必须：

- 具有合格的专业资格
- 严格遵守本使用说明书

违章操作或错误使用可能会导致：

- 严重的或致命的伤害
- 损坏本设备或用户的其它财产
- 降低本设备的效能

在安全须知上，本说明书采用如下三种形式强调各种重要事项



**警告**

这是对生命和健康有一定危险的警示。忽视这种警示会导致严重的或致命的伤害。



**注意**

这是对本设备或用户其它设备有一定危险的警示。不排除严重的或致命的伤害。



**提示**

这是对某一事项的重要说明。

### 1.2 指定用途

Pt-MU测量变换器将Pt100信号隔离并转换为独立于负荷的直流电流及直流电压信号。

调试仪表前，务必查阅铭牌上和操作使用说明书上的操作限定值。

### 1.3 设备操作的重要提示

用户必须遵守国家健康及安全规章。

特别要强调的是，在进行涉及带电部件（人碰到它们会有触电危险）的工作时，只有在这些部件断电，或者对它们进行了保护，工作人员不会直接接触到时，这些工作才允许进行。

电气安装应遵守相关国家安全规章。为保证无故障运行必须连接保护导线。

## 1 Safety

### 1.1 Safety instructions

All personnel involved in installation, commissioning, operation or maintenance of this equipment must:

- be suitably qualified and
- strictly observe these operating instructions.

Improper operation or misuse can lead to

- serious or fatal injury,
- damage to the equipment and other property of the user
- a reduction in the efficiency of the equipment.

The safety instructions used in this manual are presented in three different forms to emphasize important information.



**WARNING**

This information indicates particular danger to life and health. Disregarding such a warning can lead to serious or fatal injury.



**CAUTION**

This information indicates particular danger to the equipment or other property of the user. Serious or fatal injury cannot be excluded.



**NOTE**

These notes give important information on a certain issue.

### 1.2 Specified application

The measuring transducer Pt-MU isolates and converts a Pt100-signal into a load-independent direct-current and direct-voltage signal.

It is important to read and observe the limit values for operation indicated on the nameplate and in the operating instructions prior to commissioning the device.

### 1.3 Important notes on equipment operation

The user is obliged to comply with the national health and safety regulations.

It is especially emphasized that works performed to live, i.e. dangerous-contact components, are permissible only while these components are either de-energized or protected against direct contact.

Electrical installation is subject to the relevant national safety regulations. It is imperative to connect the protective conductor in order to ensure trouble-free operation.



注意

本装置的安装和电气接线必须由合格的熟练的技术人员按本使用说明书进行。用户应负责保证本装置仅用于指定的用途。必须遵守所有相关国家的防火规程。为安全起见，事先未经MESSKO公司同意，严禁进行任何未经授权及不正确执行的工作，如设备安装及电气连接。



CAUTION

Installation and electrical connection may only be carried out by qualified and skilled personnel in complete accordance with these operating instructions.

It is the responsibility of the user to make sure that the device is utilised for the specified application only.

Abide to all national fire protection regulations.

For safety reason any unauthorized and improperly executed works, i.e. installation or electrical connection of the equipment, are forbidden without first consulting Messko!

## 2 产品规格

Pt-MU变换器将Pt100信号转换成合适的电流或电压信号。

变换器可连接至Pt100电阻温度计（IEC 751）如Messko的 ZT-F2 或 combi-well。输出信号的初始值可通过图5所示的zero switch调零开关来调节。

零位：z.B. 0-20mA / 0 - 10V

在线零位：z.B. 4-20mA / 2- 10V

接下来，输出信号可连接数字显示器、动圈式指针表或计算机监控系统。

## 2 Product specification

The Transducer Pt-MU converts a Pt100 signal into an appropriate direct current or voltage signal.

It can be connected to a Pt100 resistor thermometer (acc. to IEC 751) such as Messko's ZT-F2 or combi-well. The initial value of the output signal can be adapted by means of the zero switch shown in Fig. 5:

Zero: e.g. 0-20mA / 0 - 10V

Live Zero: e.g. 4-20mA / 2- 10V

For further processing, the output signal can be relayed to a downstream digital display, moving coil indicator or a computer monitoring system.



注意

安装和使用一定要严格遵照本说明书的规定



CAUTION

The operating and installation conditions specified by these operating instructions must be strictly complied with.

## 3 安装

按照DIN EN60715用固定在后方的搭锁将转换器安装到35毫米轨道上。转换器可互相并靠安装。建议室温>45°C时，装置间间隙为10毫米。安装地点应无震动，室温不能超过70°C。

## 3 Installation

The transducer is mounted to a 35mm rail acc. to DIN EN 60715 using the snap-on fixing located at the rear. The transducers can be located very closely to one another. At ambient temperatures >45°C, a clearance of 10mm between the devices is recommended. The site of installation should be free of vibrations and the ambient temperature must not exceed 70°C.

## 4 电气连接



注意

只有在相关国家经过适当的健康及安全规程培训过的合格的熟练人员才能进行电气连接。



CAUTION

Electrical connection may only be carried out by qualified and skilled personnel, trained according to the applicable health and safety regulations of the relevant country.

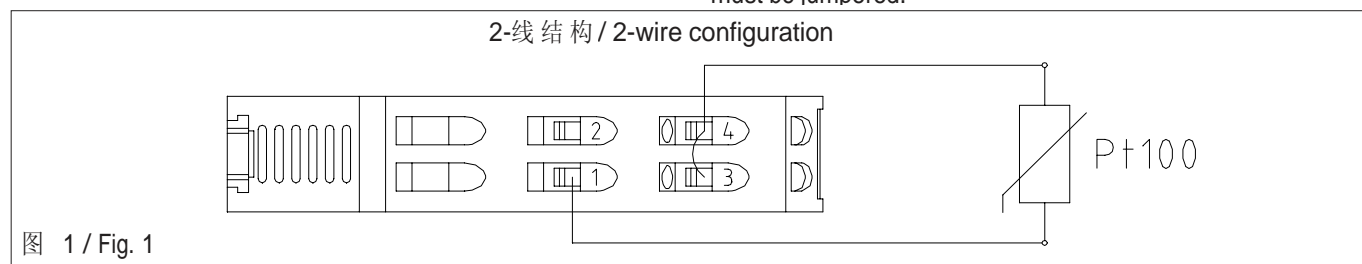
#### 4.1 2线配置

Pt100和Pt-MU之间的线电阻必须小于 $10\ \Omega$ 。用观察窗下的“ZERO”电位计校准线电阻。

Pt100连接至接线端子1和3。接线端子3和4必须跳接。

#### 4.1 2-wire circuit

The line resistance between Pt100 and the Pt-MU must be less than  $10\ \Omega$ . Calibration of the line resistance is done with the “ZERO” potentiometer under the viewing window of the device. The Pt100 is connected to terminals 1 and 3. Terminals 3 and 4 must be jumpered.

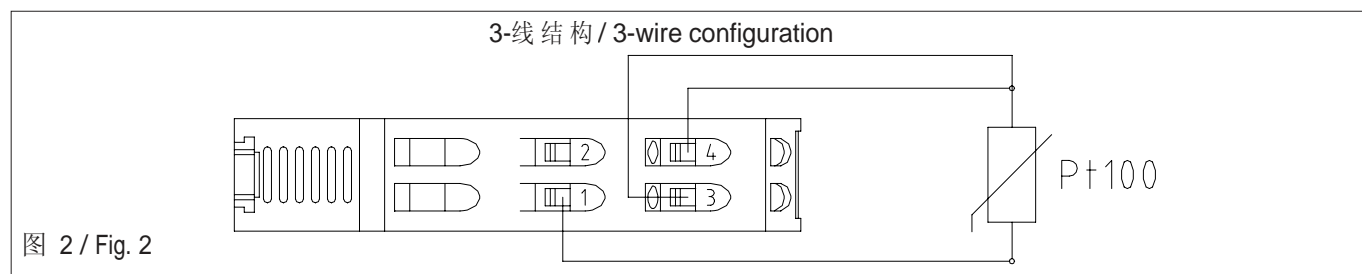


#### 4.2 3-线配置

此处不需校准线电阻( $<100\ \Omega$ )。Pt100连接到接线端子1和3。补偿线连接到接线端子4。

#### 4.2 3-wire circuit

Calibration of the line resistances ( $<100\ \Omega$ ) is not necessary here. The Pt100 is connected to terminals 1 and 3. The compensation line is connected to terminal 4.

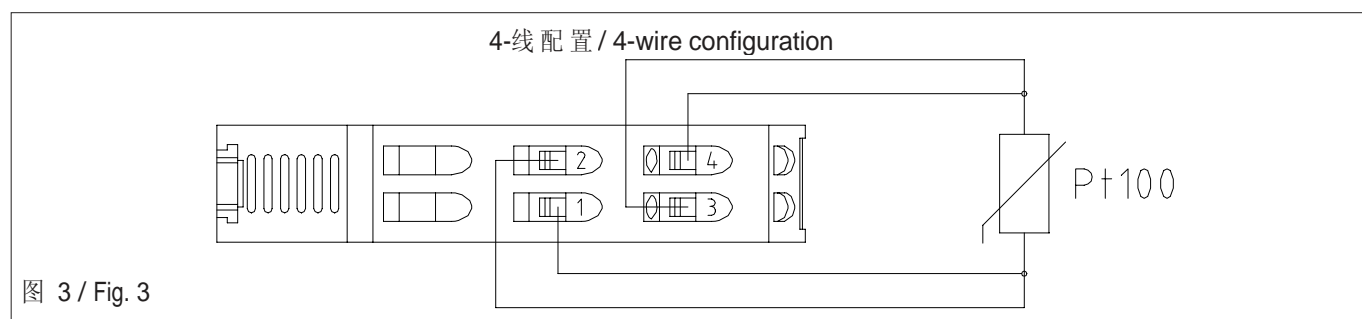


#### 4.3 4-线配置

用4线结构连接Pt100时，装置上的DIL开关必须按图5所示设定。无需校准线电阻( $<100\ \Omega$ )。Pt100连接到接线端子2和3。补偿线连接到接线端子1和4。

#### 4.3 4-wire circuit

When the Pt100 is connected with 4-wire technology, the DIL switches on the device must be set as shown in figure 5. Calibration of line resistances ( $<100\ \Omega$ ) is not necessary. The Pt100 is connected to terminals 2 and 3. The compensation lines are connected to terminals 1 and 4.



#### 4.4 直流电流信号

当多个计控装置（如开关和调节装置、测量仪表、打字机等）连接到电流输出时，这些装置必须和转换器串联。（确保极性正确）。不可超过最大载荷 $750\ \text{W}$ （包括电源线）连接到接线端子13和14。

#### 4.4 Direct current signal

When several evaluation devices (e.g., switching and regulating devices, measuring devices, writers etc.) are connected to the current output, these must be circuited in series to the transducer (make sure that polarity is correct). The maximum load of  $750\ \text{W}$  (including the feeder line) may not be exceeded. Connection made to terminals 13 and 14.

4.5 直流电压信号

当多个计控装置（如开关和调节装置、测量仪表、打字机等）连接到电压输出时，这些装置必须与转换器并联。（确保极性正确）。连接到接线端子15和16。输出最大载荷为20 mA。

两个输出同时使用时，电压输出的最大载荷为1mA。禁止连接两个输出。

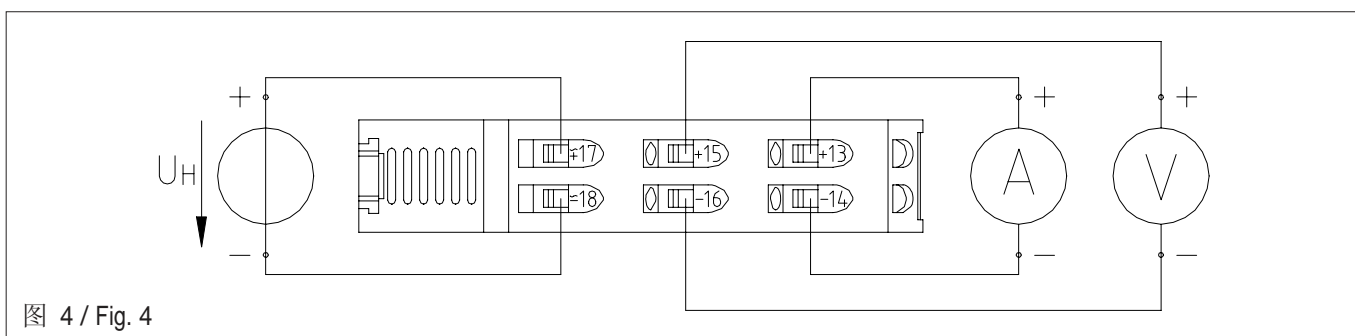
装置已配有防短路变换器。对本变换器无需再使用过电流保护装置了。

4.5 Direct voltage signal

When several evaluation devices ( e.g., switching and regulating devices, measuring devices, writers and so on) are connected to the voltage output, these must be circuited parallel to the transducer (make sure that polarity is correct). Connection is made to terminals 15 and 16. The maximum load of the output is 20mA.

When both outputs are used simultaneously, the maximum load of the voltage output is 1mA. Connection between the two outputs is not permitted.

The devices are equipped with short-circuit-proof transformers. This makes the use of over current protection unnecessary for the transducer itself.



**注意**

本说明书中所给的技术规范为标准产品的。对于特殊设计的产品，请注意订单和铭牌上的说明。

**CAUTION**

The specifications given in this operating instructions are for standard products. For special designs you have to take care about the notes given in the order and on the nameplate.

5 技术数据

**输入**  
 输入值: Pt100 按照 IEC 751  
 测量范围: 0 至 160°C 或 -20至 140°C  
 2-线配置: 线电阻 <10Ω , 用电位计校准  
 3-线配置: 线电阻 <100Ω , 无需校准  
 4-线配置: 线电阻 <100Ω , 无需校准

**辅助电压:** 230VAC±20% 45-65Hz, 2,5VA

**输出**  
 输出值: 直流电流和直流电压, 按照铭牌规定 (如 4至 20mA及 2至 10V)  
 电流输出: 最大 750Ω  
 电压输出: 最大 20mA, 两个输出同时使用时: 最大 1mA

**动态系统特性**  
 精确度: +1%至 70°C  
 温度范围: -15至 +70°C

5 Technical Data

**Input**  
 Input size: Pt100 as per IEC 751  
 Meas. range: 0 to 160°C or -20 to 14°C  
 2-wire technique: Line resistance < 10Ω , calibration with potentiometer  
 3-wire technique: Line resistance < 100Ω , no calibration required  
 4-wire technique: Line resistance < 100Ω , no calibration required

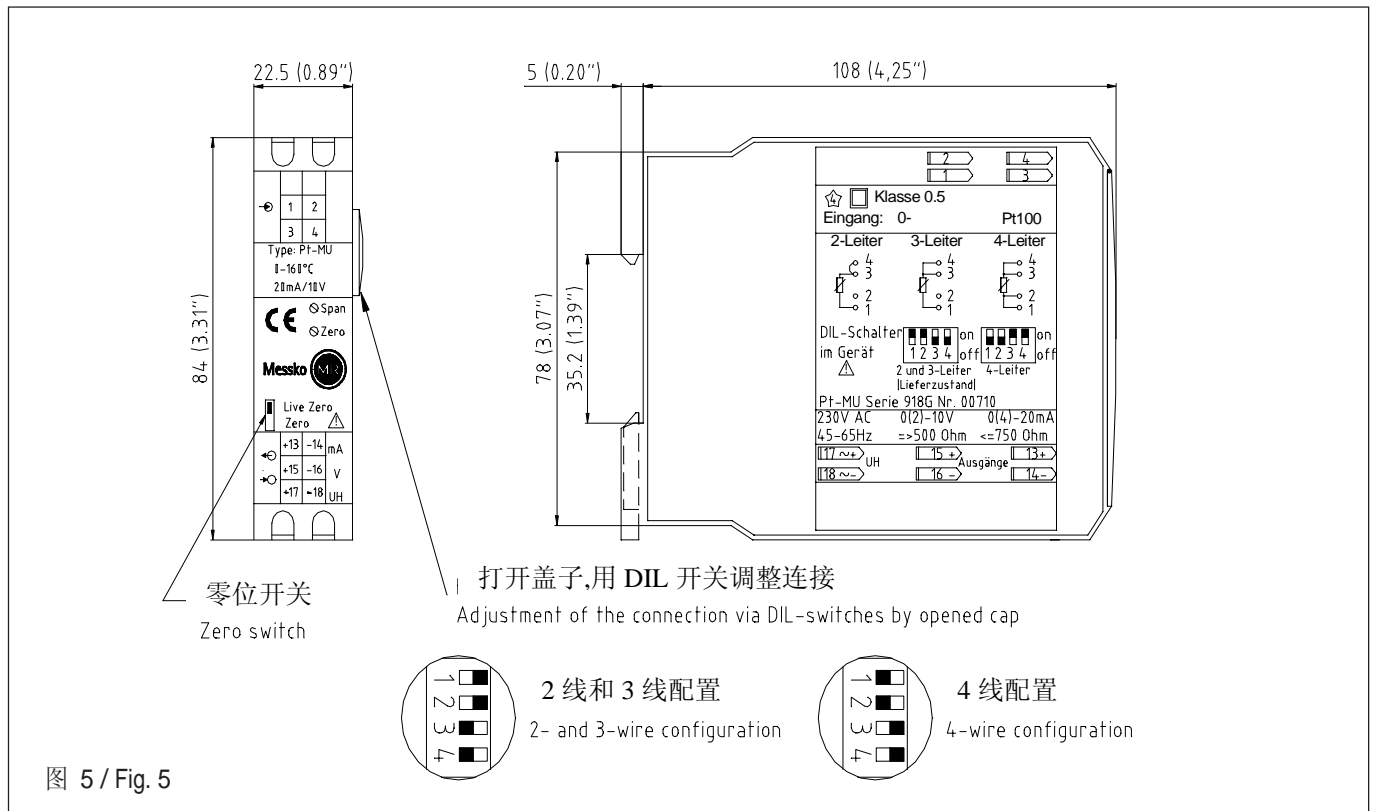
**Auxiliary voltage:** 230V AC ±20%, 45 to 65Hz, 2.5V A

**Output**  
 Output size: Proportional direct current and proportional direct voltage, as per nameplate (e.g., 4 to 20mA and 2 to 10V)  
 Current output: Load of max. 750Ω  
 Voltage output: Max. load of 20 mA, when both outputs are used: max. load of 1mA

**Dynamic system behavior**  
 Accuracy: +1% up to 70°C  
 Temperature range: -15 to +70°C

负荷影响:	无	Load influence:	No
户外影响:	无 (至 400A/m)	External field influence:	No (up to 400 A/m)
残余纹波:	<15mV <sub>SS</sub>	Residual ripple:	< 15 mV <sub>SS</sub>
设定时间:	<300ms	Settling time:	< 300 msec
空载电压:	最大 24V	No-load voltage:	Max. of 24V
电流限定:	过载时最大2倍	Current limitation:	Max. of 2-fold during overload
保护等级:	外壳 IP30, 接线端子 IP20, 按照 IEC60529	Protection rating:	Housing: IP30, terminals: IP20, in acc. w. IEC 60529
测试电压:	2.5kV至 50-60Hz/1分钟, 输入至输出、输入至辅助电压及输出至辅助电压之间	Test voltage:	2.5kV, 50 to 60Hz/1 min. between input to output, input to auxiliary voltage and output to auxiliary voltage
重量:	约 150g	Weight:	Approx. 150g

6 附录 / Appendix



**注意**

断电后才能换为 DIL 开关。打开盖子后, 可以触摸到带电部件。

**CAUTION**

Changes to the DIL switches may only be made in a de-energized state. After the covering cap is opened, the voltage-carrying parts can be touched.

重要说明：

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