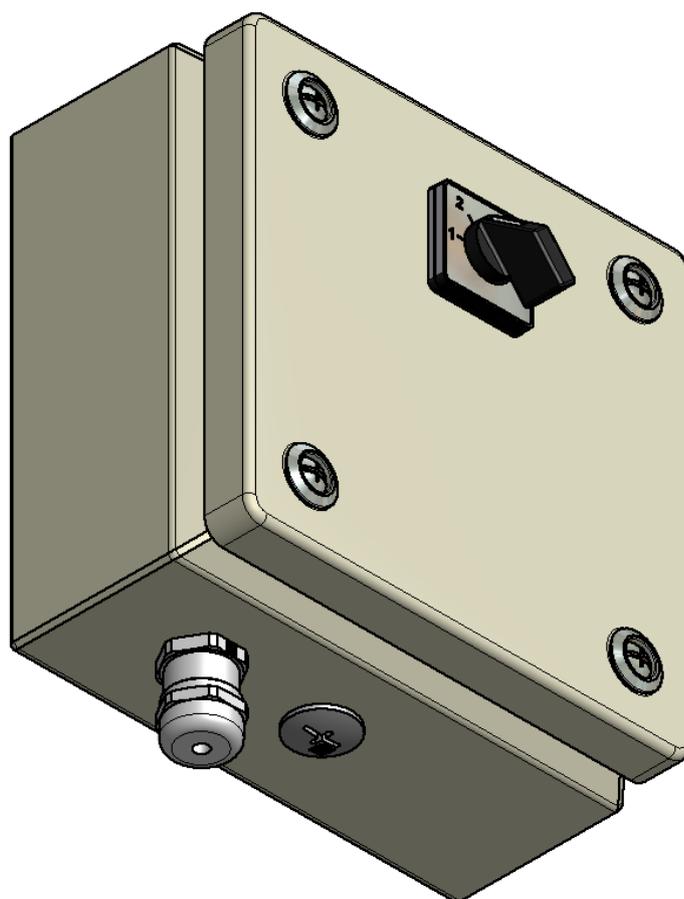


# Material selections switch **VK 30.01**

Ident.-Nr.: 104 0627 02/2018



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## 1 Miscellaneous

### 1.1 Information about this manual

The Operating Manual shall enable the user to properly install the pyrometer and those accessories which are necessary.

Before starting installation, be sure to read and understand this entire manual, in particular the chapter on safety! The instructions contained in this manual, especially those concerning safety, as well as site-specific regulations for accident prevention must be complied with at all times!

### 1.2 Explanation of symbols

Important safety-related references in this manual are marked with a symbol. It is imperative that you observe the safety precautions or instructions indicated by these symbols. Failure to do so might result in accidents involving physical injury and/or material damage.



#### CAUTION!

This symbol indicates important information which, if neglected, might result in pyrometer damage, malfunction or breakdown.



#### PLEASE NOTE !

This symbol points out guidelines which should be heeded for efficient and trouble-free operation.

### 1.3 Liability and Warranty

All information compiled in this manual is in accordance with applicable regulations. The statements made are based on state-of-the-art technology and reflect our extensive knowledge and many years of experience.



#### PLEASE NOTE !

*Always carefully read this Operating Manual before beginning any work on or with the instrument, especially prior to installation and initial setup! The Manufacturer shall not be held liable for any damages or malfunctions arising from a disregard of the warnings and instructions contained herein.*

This Operating Manual must be retained for future use. Please ensure that all persons who wish to operate the instrument have access to this manual.

## 1.4 Copyright

This Operating Manual should be treated as confidential. It is solely intended for use by persons involved with the instrument. This manual may not be made available to a third party without prior Manufacturer's consent. Please contact the Manufacturer if the need should arise.



PLEASE NOTE !

*The data, texts, charts, drawings, images or other representations contained in this manual are copyright-protected and furthermore, subject to intellectual property rights. Violators will be prosecuted. Unauthorised use and copyright infringement will be subject to penalty by law.*

Reproductions of any kind, in whole or in part, as well as the exploitation or disclosure of this manual's content without the explicit written approval of the Manufacturer are expressly prohibited by law. Violations shall be subject to compensation claims by the Manufacturer. The right to claim additional indemnities remains reserved.

## 2 Safety

This chapter outlines all important safety aspects to be considered for optimum employee protection and to ensure safe and reliable operations.

### 2.1 Intended use

The pyrometer is solely intended for non-contact measurement of temperatures as described in this manual. Any other use is not intended. Operational safety can only be ensured when the instrument is used for its intended purpose.



CAUTION !

It is prohibited to use the pyrometer for any other purpose beyond what is specified in this manual. Using the instrument in any other manner will be considered as improper.

The Manufacturer/Authorised Agent shall not be held liable for any damages or loss resulting from such unintended or improper use; in this case the risk is solely borne by the user.

## 2.2 User's responsibility

The pyrometer may only be used when it is in perfect working condition.

## 2.3 Safety requirements

The instrument works with an operating voltage of 24 VDC. The voltage required for operation must be supplied by a separate power supply. This power supply unit must conform to directive IEC 61010.

## 2.4 Radio interference suppression / EMC

The instrument complies with the requirements of EC Directive 89/336/EEC changed by 91/263/EEC; 92/31/EEC; 93/68/EEC relating to radio interference suppression and electromagnetic compatibility.

European certification:



EN 61000 - 6 - 4  
EN 61000 - 6 - 2  
EN 55011

When connecting a power supply unit, make sure that it also conforms to these standards. Radio interference may arise if the pyrometer is interconnected with such peripheral devices which have not been properly interference-suppressed. This may necessitate additional interference suppression measures.

## 2.5 Quality Management Certification

The KELLER HCW Quality Management System meets the DIN EN ISO 9001 Standards for design, production, repairs and service for non-contact infrared temperature measuring equipment.



### 3 General

The material selections switch allows the external correction of the emissivity or emissivity ratio of the pyrometer.

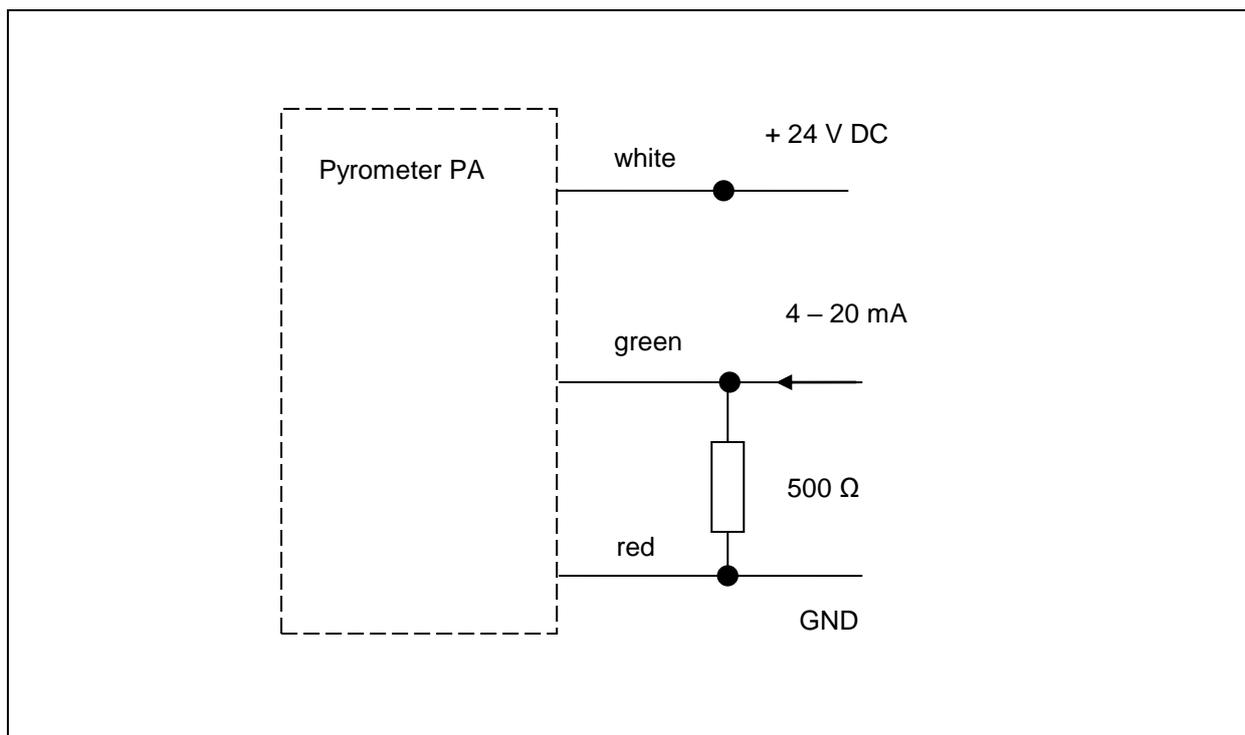
### 4 Connection

#### 4.1 Power supply 24 V DC

The material selections switch works with an operating voltage of 24 V DC. The voltage required for operation must be supplied by a separate power supply. This power supply unit must conform to directive DIN IEC 61010.

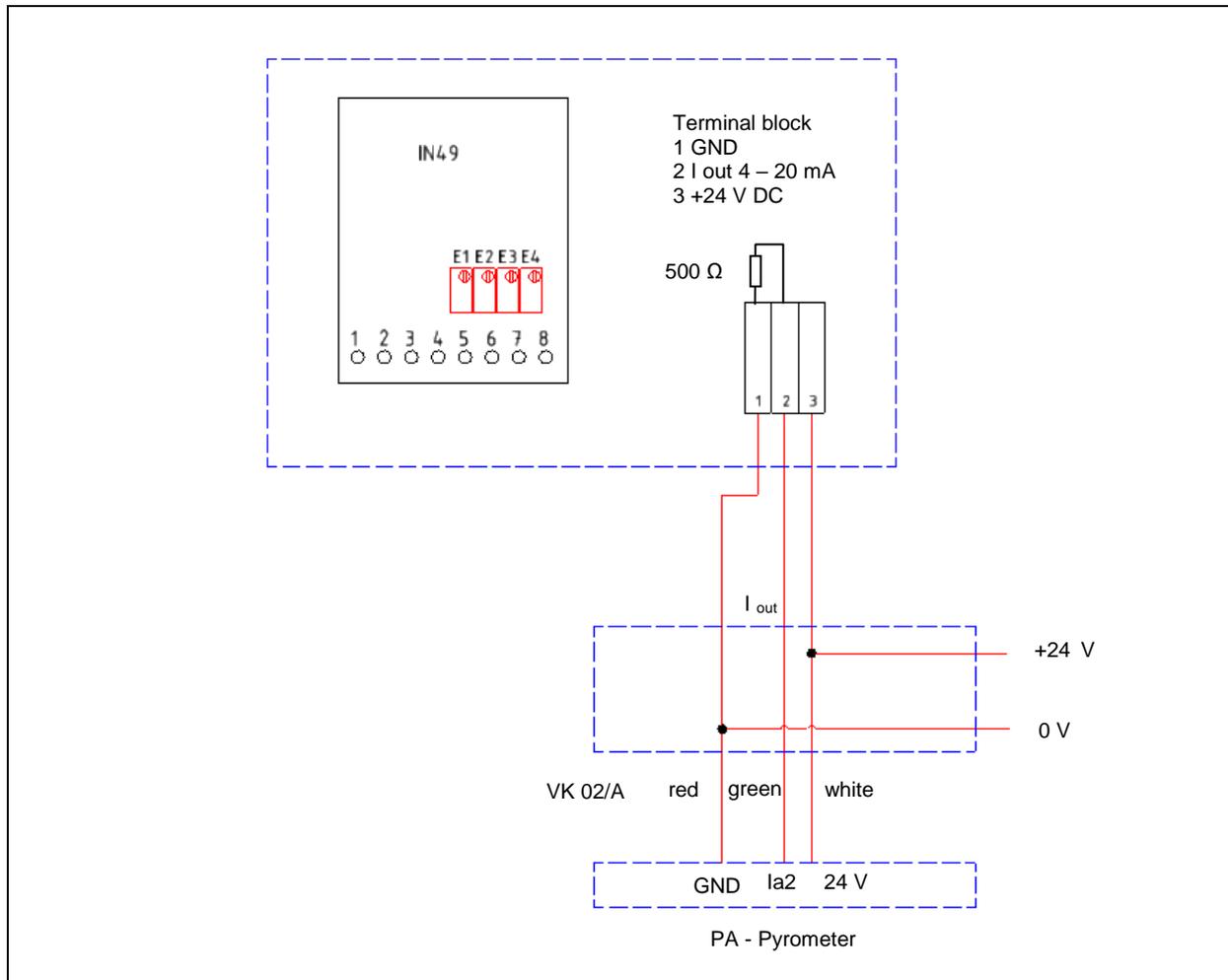
#### 4.2 Stromausgang 4 -20 mA

The material selections switch has an active linear current output. For the connection to the PA pyrometer a 500  $\Omega$  resistor must be installed between the analogue input of the PA pyrometer and ground.



## 5 Installation VK 30.01

### 5.1 VK 30.01 Installation with internal 500 Ω resistor



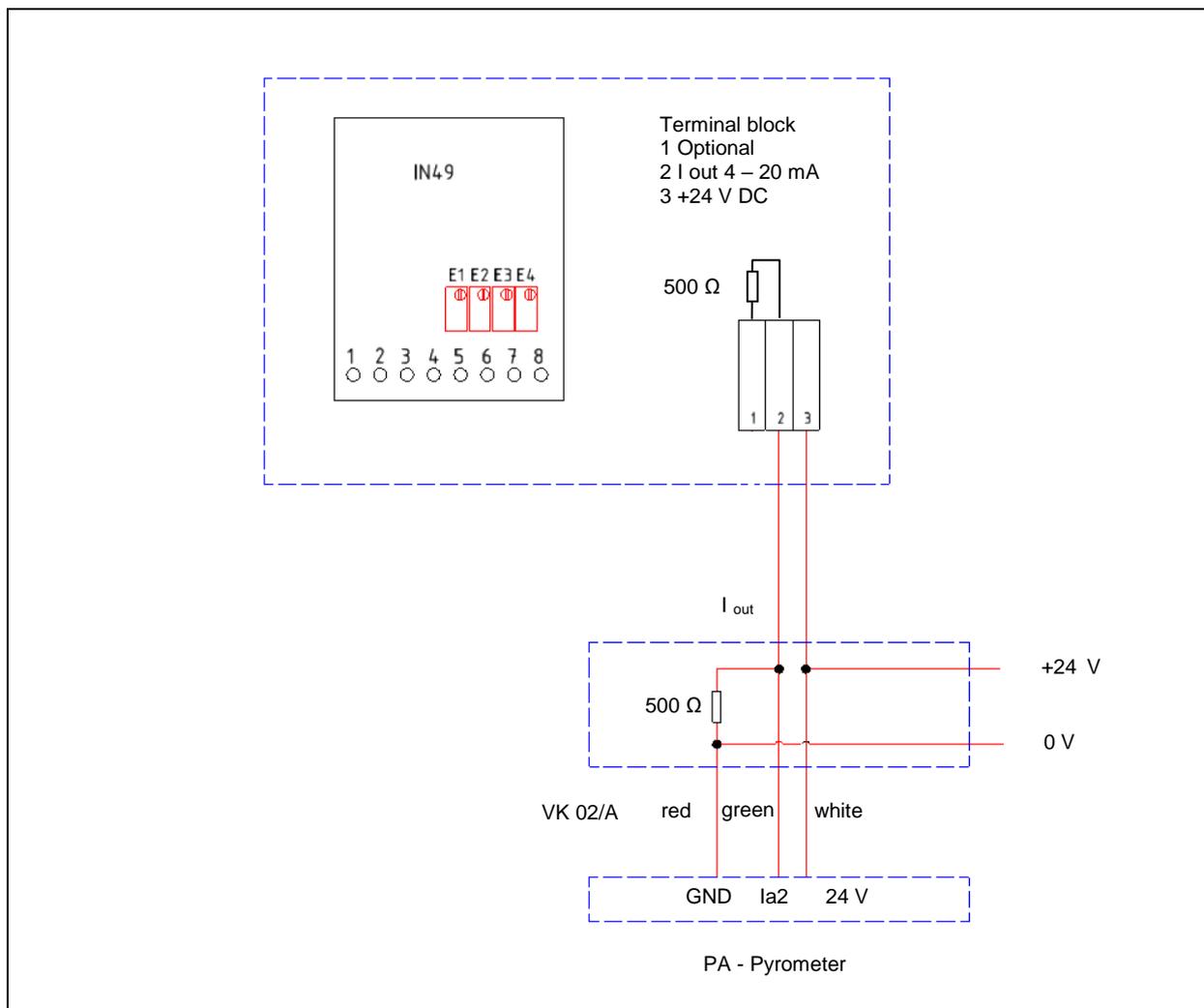
Up to 5 m between pyrometer and material selections switch it is possible to use the internal 500 Ω resistor. No additional wiring is necessary.



**CAUTION !**

If the cable length between pyrometer and material selections switches > 5 m the 500 Ω resistor must be installed at the pyrometer.

## 5.2 VK 30.01 with external 500 Ω resistor



## 6 Settings

With the material selections switch it is possible to set 4 different emissivity correction or emissivity ratio correction values.

The adjustment will be done by the potentiometer E1 to E4. Before the adjustments can be done the current output 2 of the pyrometer must be configured as analogue input.

### 6.1 Sample analogue input to control emissivity ratio

Configuration I/O (Codeseite: C010)

Parameter	Function	Explanation
$R_{O2}$	Analogue output 2	OFF Off
$R_{IFn}$	Analogue input function	EPSR emissivity ratio
$R_{UI}$	Analogue in upper and lower voltage values	Define lower limit of voltage span for input voltage 1 (2 V)

A .U2	Analogue in upper and lower voltage values	Define lower limit of voltage span for input voltage 2 ( <b>10 V</b> )
A .U 1	Analogue in upper and lower input variables	Input variable 1 (for example <b>100%</b> emissivity ratio)
A .U2	Analogue in upper and lower input variables	Input variable t 2 (for example <b>110%</b> emissivity ratio)
SAVE	Save	Save changes / exit menu

Change the configurations of the pyrometer that the analogue input is displayed.

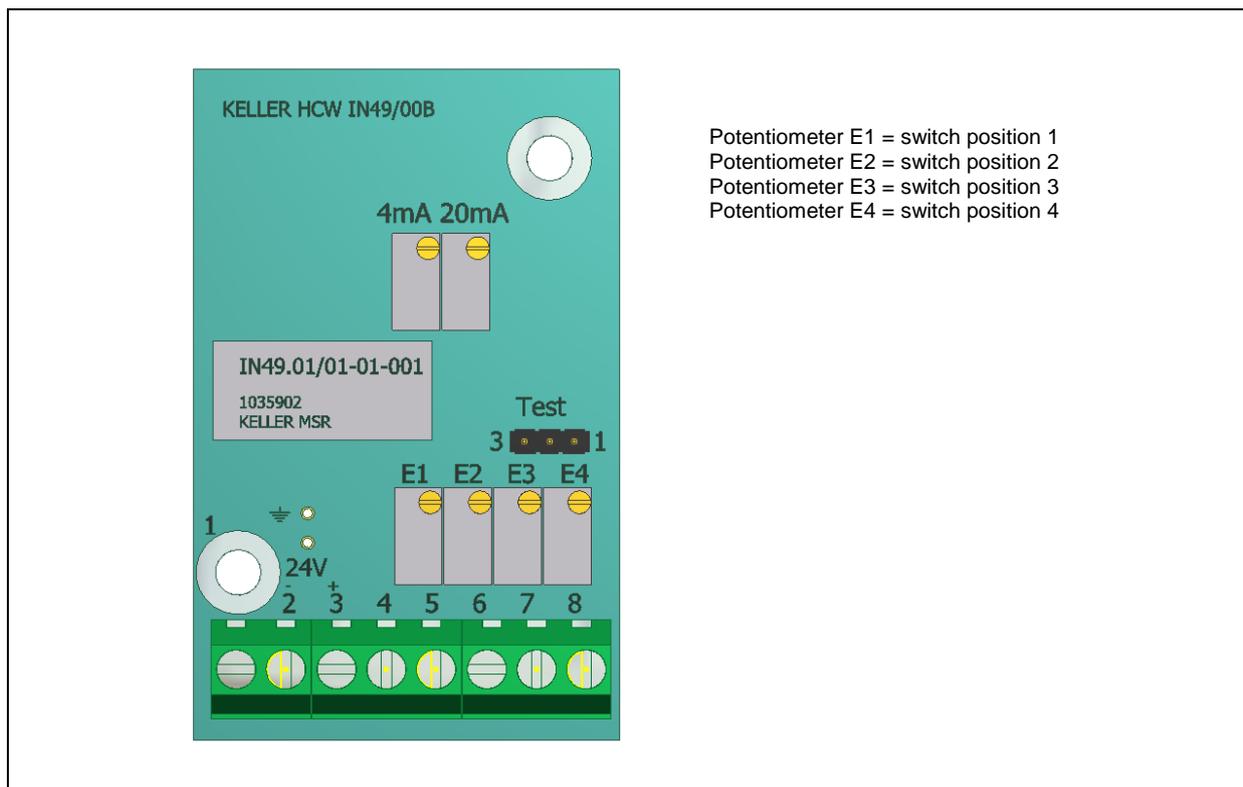
Displayed temperature readings (Codeseite: C020)

Parameter	Function	Explanation
A in	Initial value at analogue input	Current value of analogue input when activated

Change the switch to position one. Change the setting by turning the screw of potentiometer until the desired value will displayed at the pyrometer. Set the remaining switches on the same way. After configuration change the settings at the pyrometer back that the actual temperature is displayed at the pyrometer.

Parameter	Funktion	Explanation
9.	two-colour/ratio temp. reading	Shows current temperature reading in two-colour mode

## 6.2 Aktive current output IN 49



## 7 Shipping, Packaging and Disposal

### 7.1 Inspecting your shipment

Unpack and inspect the entire shipment immediately upon receipt to make sure it is complete and undamaged.

If the container/package shows visible signs of damage, please refuse the shipment. If this is not possible, accept the shipment on the condition that the freight carrier's delivery record is noted with the extent of the damage in order to file a claim.

Should you discover a concealed loss or damage, report it to KELLER HCW and to the freight carrier immediately. If the period for filing claims has expired, you will no longer be able to make any claims for compensation of damage or loss.

### 7.2 Packaging

The packages used by KELLER HCW are made of carefully selected, environmentally compatible materials and are thus recyclable. We suggest you retain the packaging for possible future use; otherwise please ensure that they are disposed of in an ecologically sound manner.

### 7.3 Disposal of used apparatus

Used electrical and electronic equipment often contain valuable components. The owner/user may either return such an instrument to the manufacturer for disposal, or he must dispose of it himself in a professional and nonpolluting manner.

KELLER HCW will not be held accountable for any inappropriate disposal carried out by the user/owner of KELLER HCW instruments.



