

# HB-Therm®

## Instruction Manual Proximity switch



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Translation of original instruction

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## General

# 1 General

## 1.1 Information about this manual

This manual enables the safe and efficient handling of the unit.

The manual is a component part of the unit and must always be kept close to the unit readily accessible for personnel. Before starting any work, the personnel must have carefully read and understood this manual. A basic requirement to work safely is to comply with all the safety instructions and behaviour guidelines in this manual.

Illustrations in this manual are for basic understanding and may deviate from the actual design.

## 1.2 Explanation of symbols

### Warnings

Warnings are identified by symbols. These warnings are introduced by signal words, which express the severity of a danger. Adhere to these warnings and act cautiously in order to avoid accidents, personal injuries and damage to property.



#### **ATTENTION!**

... indicates a potentially hazardous situation which, if not avoided, may result in property damage.

### Hints and recommendations



#### **NOTE!**

... emphasizes useful hints and recommendations as well as information for efficient and trouble-free operation.

### 1.3 Limitation of liability

All information and notes in this Manual were compiled under due consideration of valid standards and regulations, the present status of technology and our years of knowledge and experience.

The manufacturer can not be made liable for damage resulting from:

- disregarding this Manual
- unintended use
- employment of untrained personnel
- unauthorized conversions
- technical modifications
- use of unapproved spare parts

In case of customised versions the actual scope of delivery can vary from the explanations and representations in this Manual, because of the utilization of additional options or due to latest technical changes.

Apart from this, the obligations agreed upon in the delivery contract, the general terms and conditions and the delivery conditions of the manufacturer and the legal regulations valid at the time of contract do apply.

### 1.4 Copyright

This Manual is protected by copyright law and exclusively to be used for internal purposes.

Passing this Manual on to third parties, duplication of any kind – even in form of excerpts – as well as the use and/or disclosure of the contents without the written consent of the manufacturer is not permitted, except for internal purposes.

Violations oblige to compensation. The right for further claims remains reserved.

### 1.5 Warranty terms

The warranty terms are provided in the manufacturer's terms and conditions.

### 1.6 Customer Service

For technical information, please contact the HB-Therm representatives or our customer service department  
→ [www.hb-therm.ch](http://www.hb-therm.ch).

Furthermore, our employees are always interested in new information and experiences resulting from the application that could be valuable for the improvement of our products.

**Technical data**

## 2 Technical data

**General information**

For the technical specifications of the inductive proximity switch, please refer to the data sheet issued by the manufacturer, Baumer Electric AG (→ <http://hb.click/NS-EN>).

**Environment**

	<b>Value</b>	<b>Unit</b>
Temperature range	-25–75	°C
Relative humidity*	35–85	% RH
Type of protection	IP 67	

\* non-condensing

### 3 Structure and function

#### 3.1 Overview

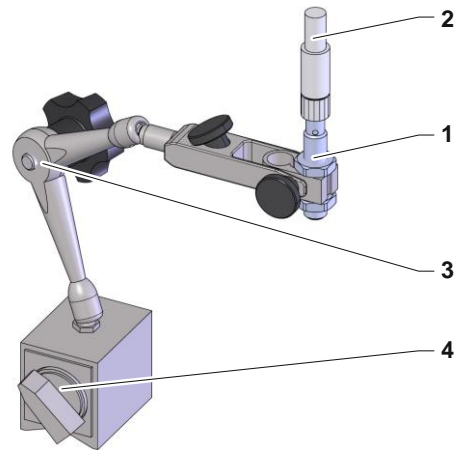


Fig. 1: Overview

- 1 Inductive proximity switch
- 2 Control cable proximity switch
- 3 Ball joint swivel arms with precision adjustment mechanism
- 4 Magnetic base with rotary switch

#### 3.2 Functional principle

If the machine does not have a signal for controlling the variothermal switching unit, or if its programming is not suitable, a magnetically inductive proximity switch (contactless sensor) can be used. This can be attached, for example, in such a manner that it is activated when the tool is closed. If the tool closes and in doing so activates the proximity switch, this acts as a synchronisation signal for the variothermal switching unit (trigger). The switching times can be set on the variothermal system.

## Operation

### 4 Operation

#### 4.1 Connection

##### Connecting the proximity switch (Ext. Control)

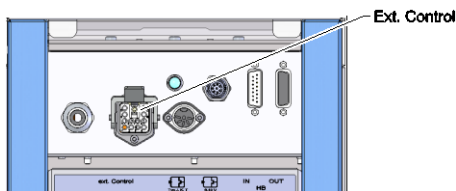


Fig. 2: Interfaces Vario-5

To actuate the switching unit through signals by means of the control cable of the proximity switch, proceed as follows:

1. Feed the control cable of the proximity switch between the front and the service flap.
2. Connect the control cable to the Ext. Control socket.
3. Close the service flap
4. For schematic terminal assignment (→ page 9).



#### **WARNING:**

##### **Damage due to improper cable routing!**

Material damage can occur due to improper cable routing.

Therefore:

- Control cables to and from the proximity switch must not touch any objects that have surface temperatures greater than 50 °C.
- Avoid mechanical stress on the proximity switch.

#### 4.2 Settings

##### Machine actuation

The proximity switch replaces the machine's clock signal and is used for actuation type "Cycle H" and "Cycle C". The settings can be found in Instruction Manual Vario-5.



## Proximity switch connection assignment

### 4.3 Attaching the measuring unit

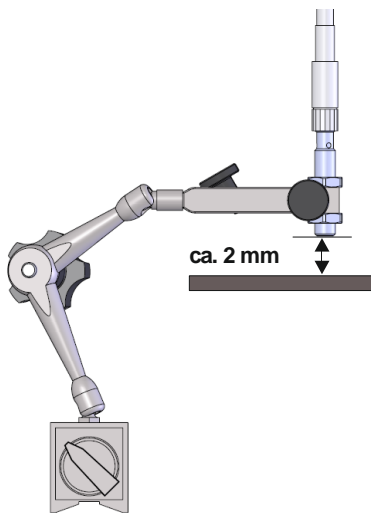


Fig. 3: Positioning the proximity switch

When attaching the measuring device, the following points must be observed:

- The magnetic base must be attached on a magnetic surface using a switch (ON/OFF).
- In the case of an inductive proximity switch, the target object must be metallic.
- Direct proximity switch to target object (tool). Ideally, the target object should be a closed tool which the proximity switch recognises during this operation (proximity switch activated).
- The orientation of the proximity switch to the target object to be detected can be axial or radial as required.
- The proximity switch must be positioned at a distance of about 2 mm from the surface to be detected (tool) → Fig. 3.

## 5 Proximity switch connection assignment

