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Get a general overview

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The company
PINTSCH TIEFENBACH

We give more than just impulses.
PINTSCH TIEFENBACH.

This is our motto. We represent innovation, safety and efficiency. Our system solutions are customised, individually dimensioned and match precisely the respective requirements. With our products we focus on:

• Signalling technique
• Shunting equipment
• Sensor technology for industry and mining

In comparison to sensors available in the market, the inductive proximity switches, magnetic switches and filling level monitors (level switches) by PINTSCH TIEFENBACH feature a unique robustness and long service life even in areas with extreme environmental conditions. Examples are: sensors in hot-rolling lines and presses in steel works as well as in deep coal mining or in the chemical industry, where - in addition - requirements with regard to intrinsic safety and explosion protection must be met. The basis for the development of these components was the early activity of the company as a special equipment provider in deep coal mining and the experience gained therefrom. Due to an application-related intensive consulting in connection with the provision of supplementary assemblies for the evaluation of the sensor signals, the users profit from this knowledge and find the optimum solution for their application case.

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**Application**

The switches are used as magnet-sensitive, non-contact pulse and latching switches.

**Components and mode of functioning**

The magnetic switches consist of cast-resin insulated inert gas contacts that are integrated in a corrosion-proof switch housing. By moving a magnet past the switch the contact closes or opens. During the closing procedure the magnetic field increases in a square progression while the gap between the contact studs becomes increasingly smaller and then the contacts close with snap action. Due to the small distance between the contact studs and their low mass the contacts are switched with virtually no inertia.

**Pulse switch (monostable)**

In this switch design the switch is actuated for as long as it is influenced by the magnetic field. When removing the magnet the switch returns to its resting position.

**Latching switches (bistable)**

2 holding magnets in the switch magnetically fix the contact in the respective position. With stronger actuating magnets the switch is either set or reset.

---

### Assembly instructions

If the switch is arranged on a ferromagnetic material, the switching distance is reduced because while the actuating magnet moves towards the switch the magnetic lines of force are distorted or short-circuited. In contrast, if the magnet is arranged on a ferromagnetic material, the switching distance increases because the effect of the switching pole and thus the entire magnetic field are increased.

#### Type code

Order example wK178L234.L = 5 m

- **Cable length:** L = 2, 5, 10 m, other lengths on request
- **Contact wiring:** Reference number acc. to Table 1 (see p. 40)
- **Contact designation:** Reference number acc. to Table 2 (see p. 42)
- **Switch configuration:** Reference number acc. to Table 1 (see p. 40)
- **Switch design:** 1 = monostable / 2 = bistable
- **Type of connection:** L = connecting line // K = terminal // S = plug
- **Device group:**
  - K = magnetic switch
  - KC = magnetic switch, temperature-resistant
  - KX = with ATEX approval
- **Protection class:**
  - w = weather resistant
  - i = intrinsically safe systems
  - e = (Sch)e

---

**General Information**

- Contact-free actuation thanks to permanent magnets
- Maintenance-free
- High rupturing capacity
- Wide temperature range
- Suitable for any installation position
- High responsiveness
  - up to max. 30 ms
- Long service life of 10⁹ switching cycles
- With cable set or cable compartment
- Cable lengths of 2 m, 5 m, 10 m, 15 m etc.
- Cable:
  - standard Ölflex (oil-resistant)
  - silicon (temperature-resistant up to 180 °C)
  - Purwil (UV-resistant)
Magnetic switches
Sensor Technology for Industry and Mining
Magnetic switch of design type 002

**Design**

- **wK002K...**
  - Former designation: wKLST5
  - Former designation: eKLST6
  - w: weather resistant
  - e: explosion protected*  
  
  *The product may only be used as replacement part in plants exposed to explosion risk which were put into operation before the coming into force of the ATEX Directive 94/9/EC or outside the EU.

- **iKX002K...**
  - ATEX
  - iKX = ATEX approval

For intrinsically safe systems:
- BVS 04 ATEX E155
- CE 0158       I M2 EEx ia I
- CE 0158      II 2G EEx ia IIC T6

Please observe separate ATEX data sheet

**Specifications**

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 41)
- Contact load: see Table 2 (p. 42)
- Repeating accuracy: ± 0.2 mm
- Service life: 108 switching cycles (depending on the contact load)
- Temperature range: -55 °C to +80 °C
- Switching frequency: max. 100 Hz
- Shock load in 11 ms duration:
  - Pulse switch: max. 50 g
  - Latching switch: max. 15 g
- Mounting position: any
- Protection class according to DIN 40050:
  - IP 54
  - IP 65 see assembly instructions

**Characteristics**

- Housing: Gunmetal
- Application: PPH
- Weight: approx. 2.8 kg

**Special features**

- Up to 3 isolated contacts (normally closed contact/normally open contact) or 2 changeover contacts (pulse and latching switch)

Magnetic switch of design type 008

**Design**

- **wK008K...**
  - Former designation: BM1 and BM2
  - w: weather resistant

**Specifications**

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration:
  - Pulse switch: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 41)
- Contact load: see Table 2 (p. 42)
- Repeating accuracy: ± 0.2 mm
- Service life: 108 switching cycles (depending on the contact load)
- Temperature range:
  - L: -20 °C to +80 °C
  - K: -45 °C to +85 °C
  - S: -45 °C to +85 °C
- Switching frequency: max. 100 Hz
- Shock load in 11 ms duration:
  - Pulse switch: max. 50 g
  - Latching switch: max. 15 g
- Mounting position: any
- Protection class according to DIN 40050:
  - K with cable compartment: IP 54
  - L with line and fully encapsulated housing: IP 67

**Characteristics**

- Housing: Light metal casting Silumin
- Weight: approx. 0.340 kg

**Special features**

- Fastening by means of elongated holes
- Connection by means of terminals, cables or sensor plug connectors M12
- Up to 2 isolated contacts (normally closed contact/normally open contact) or 1 changeover contact (pulse and latching switch)
- Contact insert exchangeable
**Design**

wK167K...

- w = weather resistant with cable compartment

wKC167K...

- wKC = heat-resistant
  - -55 °C to +300 °C constant ambient temperature

iKX167K...

- iKX = ATEX approval
  - For intrinsically safe systems:
  - BVS 04 ATEX E155
  - CE 0158
  - II 2G EEx ia I
  - CE 0158
  - II 2G EEx ia IIC T6

Please observe separate ATEX data sheet

**Special features**

- Fastening by means of elongated holes
- 1 isolated contact (normally closed contact/ normally open contact) or 1 changeover contact (latching switch)
- Up to 3 isolated contacts (normally closed contact/ normally open contact) or 2 changeover contacts (pulse switch)

**Dimensions (in mm)**

- 115
- 90
- 68
- 80
- 54
- 25
- 54 (25)
- 23
- 6.6
- 6

**Characteristics**

- IP 65
- Housing: Gunmetal
- Contact cartridge: brass
- Weight: approx. 1.6 kg

**Specifications**

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 40)
- Contact load: see Table 2 (p. 42)
- Repeatability: ± 0.2 mm
- Hysteresis of pulse switch: approx. 25% of service life
- Hysteresis of latching switch: approx. 10% of service life
- 10^9 switching cycles (depending on the contact load)
- Temperature range:
  - wK167K...
    - -20 °C to +85 °C
  - wKC167K...
    - -55 °C to +300 °C
  - wKC167K...
    - -55 °C to +150 °C

**Magnetic switch of design type 168**

**Design**

wK168K...

- w = weather resistant
- IP 54

**Special features**

- Up to 2 changeover contacts (pulse switch)

**Specifications**

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 40)
- Contact load: see Table 2 (p. 42)
- Repeatability: ± 0.2 mm
- Hysteresis of pulse switch: approx. 25% of service life
- 10^9 switching cycles (depending on the contact load)
- Temperature range:
  - -20 °C to +85 °C
- Switching frequency: max. 100 Hz
- Vibration load:
  - Pulse switch: max. 50 g
  - Latching switch: max. 15 g
- Mounting position: any
- Protection class according to DIN 40050: IP 65
- Housing: Grey cast iron
- Contact cartridge: brass
- Weight: approx. 1.5 kg

**Characteristics**

- IP 54
- Housing: Grey cast iron
- Contact cartridge: brass
- Weight: approx. 1.5 kg

**Dimensions (in mm)**

- 116
- 75
- 80
- 23
- 120
- 3 x PG 16
Magnetic switches
Sensor Technology for Industry and Mining

Specifications

- **Response time (closing):** max. 3.5 ms
- **Fall time (opening):** max. 0.2 ms
- **Max. number of switching:** 10
- **Switching frequency:** max. 100 Hz
- **Temperature range:** -25 ºC to +65 ºC
- **Service life (depending on the contact load):** 10^9 switching cycles

Design

**wK171L11...**

- **Design type:** 171
- **Former designation:** s-HKPT1/EX
- **w = weather resistant**
- **e = explosion protected**
- **IP 65**

Special features

- Design type 171 corresponds to design type 170 (without mounting bracket)
- Optionally 1 normally open contact or 1 changeover contact (pulse switch)
- With Ölflex cable set (oil-resistant) or silicone (temperature-resistant up to 180 ºC)

Magnetic switch of design type 173

**iKX171L11...**

- **ATEX**
- **iKX = ATEX approval**

For intrinsically safe systems:

- **BVS 04 ATEX E155**
- **CE 0158 I M2 EEx ia I**
- **CE 0158 II 2G EEx ia IIC T6**

Please observe separate ATEX data sheet

Specifications

- **Response time (closing):** max. 3.5 ms
- **Fall time (opening):** max. 0.2 ms
- **Max. number of switching:** 10
- **Switching frequency:** max. 100 Hz
- **Temperature range:** -20 ºC to +85 ºC
- **Service life (depending on the contact load):** 10^9 switching cycles

Design

**wK173S1151**

- **Former designation:** BSUS
- **w = weather resistant**

Special features

- With plug and coupler
- Special design wk173k1143 (former designation BST), 1 normally open contact with TRIAC wiring

Characteristics

**MONOSTABLE**

- **Specifications**
  - **Response time (closing):** max. 3.5 ms
  - **Fall time (opening):** max. 0.2 ms
  - **Max. number of switching:** 10
  - **Switching frequency:** max. 100 Hz
  - **Temperature range:** -20 ºC to +85 ºC
  - **Service life (depending on the contact load):** 10^9 switching cycles

- **Design**
  - **wK171L11...**
    - **Former designation:** s-HKPT1/EX
    - **w = weather resistant**
    - **e = explosion protected**
    - **IP 65**

- **Special features**
  - Design type 170 corresponds to design type 171 (without mounting bracket)
  - Optionally 1 normally open contact or 1 changeover contact (pulse switch)
  - With Ölflex cable set (oil-resistant) or silicone (temperature-resistant up to 180 ºC)

- **Magnetic switch of design type 171**

- **Dimensions (in mm)**
  - 22
  - 18
  - 15
  - 9.1

- **Housing:** Chrome-plated brass
- **Weight:** approx. 0.230 kg with 2 m cable

**Magnetic switch of design type 173**

- **Specifications**
  - **Response time (closing):** max. 3.5 ms
  - **Fall time (opening):** max. 0.2 ms
  - **Max. number of switching:** 10
  - **Switching frequency:** max. 100 Hz
  - **Temperature range:** -20 ºC to +85 ºC

- **Design**
  - **wK173S1151**
    - **Former designation:** BSUS
    - **w = weather resistant**

- **Special features**
  - With plug and coupler
  - Special design wk173k1143 (former designation BST), 1 normally open contact with TRIAC wiring

- **Characteristics**

- **Specifications**

- **Design**

- **Magnetic switch of design type 173**

- **Dimensions (in mm)**
  - 14
  - 110
  - 14
Specifications

Response time (closing): max. 3.5 ms
Fall time (opening): max. 0.2 ms
Bounce duration: max. 0.5 ms
Contacts fitted: see Table 1 (p. 41)
Contact load: see Table 2 (p. 42)
Repetitive accuracy: ± 0.2 mm
Service life: 10 million switching cycles (depending on the contact load)
Temperature range: -20 ºC to +75 ºC
Switching frequency: max. 100 Hz
Shock load in 11 ms duration:
Pulse switch: max. 50 g
Latching switch: max. 15 g
Mounting position: any
Protection class according to DIN 40050: IP 65
Approval: PTB III B/E-15488
Housing: Plastic
Weight: approx. 0.220 kg with 2 m cable
approx. 90 g/m

Magnetic switch of design type 174

Design

eK174L...
Former designation sK-HKPT1/EX (pulse switch)
Former designation sk-HKPT2/EX (latching switch)
e = explosion protected*

wK174L...
Former designation wK-HKPT1 (pulse switch)
Former designation wK-HKPT2 (latching switch)
w = weather resistant IP65

Special features

• With Ölflex cable set (oil-resistant) or with sensor plug connector M12
• Optionally 1 normally open contact, normally closed contact or changeover contact (pulse and latching switch)

Magnetic switch of design type 176

Design

wK176L1...
Former designation wK-HKPT6
w = weather resistant IP65

Special features

• With Ölflex cable set (oil-resistant) or silicone (temperature-resistant up to 180 ºC) (other connecting lines on request)
• Optionally 1 normally closed contact, normally open contact or changeover contact possible (pulse switch)
Specifications

Response time (closing): max. 3.5 ms
Response time (opening): max. 0.2 ms
Bounce duration: max. 0.5 ms
Contacts fitted: see Table 1 (p. 40)
Contact load: see Table 2 (p. 42)
Repeating accuracy: ± 0.2 mm
Service life: 10^9 switching cycles
Temperature range: -20 ºC to +85 ºC
Special design wKC: -60 ºC to 150 ºC with silicone cable
Switching frequency: max. 100 Hz
Shock load in 11 ms duration:
  Pulse switch max. 50 g
  Latching switch max. 15 g
Mounting position: any
Protection class according to DIN 40050: IP 67, fully encapsulated
Housing: brass
Weight: approx. 0.390 kg with 2 m cable

Characteristics

- Fastening by means of elongated holes
- 1 isolated contact (normally closed contact/normally open contact) or 1 changeover contact (latching switch)
- Up to 3 isolated contacts (normally closed contact/normally open contact) or 2 changeover contacts (pulse switch)
- With Ölflex cable set (oil-resistant), silicone (temperature-resistant up to 180 ºC), Purwil (UV-resistant) or sensor plug connector M12

Special features

Design

wK177L...
Former designation w-HKPT1
(pulse switch)
Former designation w-HKPT2a
(latching switch)

wKC177L...
Former designation w-HKPT2
(heat-resistant up to +150 ºC)
with silicone connecting line

iKX177L...
iKX = ATEX approval
For intrinsically safe systems:
BVS D4 ATEX E155
CE 0158 §2 I M2 EEx ia I
CE 0158 §2 II 2G EEx ia IIC T6
Please observe separate ATEX data sheet

Dimensions (in mm)

Magnetic switch of design type 177

Magnetic switch of design type 178

Specifications

Response time (closing): max. 3.5 ms
Response time (opening): max. 0.2 ms
Bounce duration: max. 0.5 ms
Contacts fitted: see Table 1 (p. 40)
Contact load: see Table 2 (p. 42)
Repeating accuracy: ± 0.2 mm
Service life: 10^9 switching cycles (depending on the contact load)
Temperature range: Ölflex cable -20 ºC to +85 ºC
Purwil cable -40 ºC to +85 ºC
Switching frequency: max. 100 Hz
Shock load in 11 ms duration:
  Pulse switch max. 50 g
  Latching switch max. 15 g
Mounting position: any
Protection class according to DIN 40050: IP 65
IP 67, fully encapsulated
Housing: Gunmetal
Weight: 0.750 kg with 2 m cable
approx. 90 g/m

Characteristics

- 1 or 2 changeover contacts (pulse and latching switch)
- With Ölflex cable set (oil-resistant), silicone (temperature-resistant up to 180 ºC), Purwil (UV-resistant)

Special features

Design

wK178L...
Former designation w-HKPT2
w = weather resistant
IP65

Dimensions (in mm)
Specifications

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 41)
- Contact load: see Table 2 (p. 42)
- Repeating accuracy: ± 0.2 mm
- Service life: 10⁸ switching cycles
- (depending on the contact load)
- Temperature range:
  - L: -20 ºC to +85 ºC
  - K: -45 ºC to +85 ºC
  - S: -45 ºC to +85 ºC
- Switching frequency: max. 100 Hz
- Shock load in 11 ms duration:
  - Pulse switch max. 50 g
  - Latching switch max. 15 g
- Mounting position: any
- Protection class according to DIN 40050:
  - K with cable compartment: IP 54
  - L with cast-on line: IP 67
- Housing design type: Gunmetal
- Weight: approx. 1 kg

Characteristics

- wK180K...
  - Former designation BM1 and BM2
  - w = weather resistant

Special features

- Fastening by means of elongated holes
- Connection by means of terminals, cables or sensor plug connectors M12
- Up to 2 isolated contacts (normally closed contact/normally open contact) or 1 changeover contact (pulse and latching switch)
- Contact insert exchangeable

Specifications

- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 41)
- Contact load: see Table 2 (p. 42)
- Repeating accuracy: ± 0.2 mm
- Service life: 10⁸ switching cycles
  (depending on the contact load)
- Temperature range:
  - L: -20 ºC to +85 ºC
  - K: -45 ºC to +85 ºC
  - S: -45 ºC to +85 ºC
- Switching frequency: max. 100 Hz
- Shock load in 11 ms duration:
  - Pulse switch max. 50 g
  - Latching switch max. 15 g
- Mounting position: any, see assembly instructions
- Protection class according to DIN 40050: IP 65
- Housing: Gunmetal
- Contact insert: PPH, elastically suspended
- Weight: approx. 2.5 kg

Characteristics

- wK209K...
  - w = weather resistant
  - IP65

Special features

- Optionally up to 2 normally open contacts, normally closed contacts or changeover contacts (pulse and latching switch)
Specifications
- Response time (closing): max. 3.5 ms
- Fall time (opening): max. 0.2 ms
- Bounce duration: max. 0.5 ms
- Contacts fitted: see Table 1 (p. 41)
- Contact load: see Table 2 (p. 42)
- Repeatability accuracy: ± 0.2 mm
- Service life: 105 switching cycles (depending on the contact load)
- Temperature range: -25 °C to +85 °C
- Switching frequency: max. 100 Hz
- Shock load in 11 ms duration: max. 50 g
- Latching switch: max. 15 g
- Mounting position: any, see assembly instructions
- Protection class according to DIN 40050: IP 65
- Connection: terminals up to 4 mm²
- Introduction: 3a M25x1.5
- Housing: Gunmetal
- Application: ABS
- Weight: approx. 8.6 kg

Characteristics
- wK509K...
- eK509K...
- w = weather resistant
- e = explosion protected

Special features
- Optionally up to 2 normally open contacts, normally closed contacts or changeover contacts (pulse and latching switch)
- Connection by means of terminals of up to 4 mm²

Electronic monostable magnetic switches

Application
The switches are used as magnet-sensitive, non-contact limit switches and pulse generators. Due to the electronic, fully encapsulated design the magnetic switch is resistant to vibration.

Components and mode of functioning
The magnetic switch consists of a magnet-sensitive electronics system embedded in cast resin and is actuated by approaching or moving a magnet passed the switch area. The switch can be operated through non-magnetisable materials such as non-ferrous metals.

Monostable switch
In this switch design the switch is actuated for as long as it is influenced by the magnetic field. After removing the magnet the switch returns to its resting position.

Switching distance

Magnetic switch of design type 509

Design
- wK509K...
- Former designation wMST2/S
- eK509K...
- Former designation eMST2/T (pulse switch)
- eMST2/S (latching switch)
- e = explosion protected

*The product may only be used as replacement part in plants exposed to explosion risk which were put into operation before the coming into force of the ATEX Directive 94/9/EC or outside the EU. (SCH)es/(Ex)es G5 n. VDE 0171 BVS - T4692

iKX509K...
- (ATEX)
- iKX = ATEX approval

For intrinsically safe systems:
- BVS 04 ATEX E155
- CE 0158 2G I M2 EEx ia I
- CE 0158 2G II 2G EEx ia IIC T6

Please observe separate ATEX data sheet
Electronic magnetic switches
Sensor Technology for Industry and Mining

Specifications

Operating voltage: 12 to 80 V DC
Load current: 0 to 400 mA
10 ms, 2 A
100 ms, 800 mA
Sustained short-circuit-proof
Elect. design: PNP (positive switching)
No-load current: > 10 mA
Switch status indicator: LED red
Elect. design: NAMUR
Repeatability: ± 0.2 mm
Hysteresis: 2 to 5 mm
Temperature range: -20 ºC to +85 ºC
Switching frequency: max. 250 Hz
Mounting position: any
Protection class acc. to DIN 40050:
- IP 54
- IP 65, see assembly instructions
Housing: Gunmetal

Characteristics

Dimensions (in mm)

MONOSTABLE

Special features

- Monostable for large switching distances, max. 2 systems
- Resistant to vibration

Type code

2 NF 22 - ... / 2 NF 22 - ...

Design type (housing)
- Type of connection: K = terminals
- Elect. design, system 2:
  - 1 = NAMUR, 95 = normally open contact PNP,
  - 94 = normally closed contact PNP
- Electr. design, system 1:
  - 1 = NAMUR, 95 = normally open contact PNP,
  - 94 = normally closed contact PNP
- Nominal size
- NF designation: electronic magnetic switch
- Number of systems:
  - 1 = 1 system, 2 = 2 systems

NF 30 - ...

Cable length: (L = 2 m)
- Design type (housing)
- Type of connection: L = cable set
- Electric design:
  - 1 = NAMUR, 95 = normally open contact PNP,
  - 94 = normally closed contact PNP
- Nominal size
- NF designation: electronic magnetic switch

Special features

- Monostable for large switching distances
- Resistant to vibration

Characteristics

Dimensions (in mm)

MONOSTABLE

Specifications

Operating voltage: 12 to 80 V DC
Load current: 0 to 400 mA
10 ms, 2 A
100 ms, 800 mA
Sustained short-circuit-proof
Elect. design: PNP (positive switching)
No-load current: > 10 mA
Switch status indicator: LED red
Elect. design: NAMUR
Repeatability: ± 0.2 mm
Hysteresis: 2 to 5 mm
Temperature range: -20 ºC to +85 ºC
Switching frequency: max. 250 Hz
Mounting position: any
Protection class acc. to DIN 40050:
- with cable IP 67
- Connecting line: 2 m, 3 m, 5 m, or 10 m possible
- Housing: Crastin
- Fastening clip: to be ordered separately

Characteristics

Dimensions (in mm)

MONOSTABLE

Special features

- Monostable for large switching distances
- Resistant to vibration
Permanent actuating magnets
Sensor Technology for Industry and Mining

Type M10/2

Dimensions (in mm)

- Magnet encapsulated in plastic
- Optionally the active side is SOUTH or NORTH

Design

- Diameter of 31 mm (D31)
- Diameter of 20 mm (D20)

Type M10/S

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

Design

Type M10

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

Design
Permanent actuating magnets
Sensor Technology for Industry and Mining

**Type M8**

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Design**

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Type M9/1**

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Design**

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Type M9/2**

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Design**

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Type M9/2 (46 mm high)**

Dimensions (in mm)

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Design**

- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH
Permanent actuating magnets
Sensor Technology for Industry and Mining

**Type M9/4**

Dimensions (in mm)
- 260
- 214
- 85
- 10

Design
- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Type M9/4 (46 mm high)**

Dimensions (in mm)
- 260
- 214
- 85
- 10

Design
- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Type M9/6**

Dimensions (in mm)
- 369
- 315
- 85
- 10

Design
- Magnet encapsulated in gunmetal
- Optionally the active side is SOUTH or NORTH

**Assembly instructions**

If the actuating magnet is placed on a ferromagnetic material, the switching distance increases since the effect of the circuit breaker pole and thus the entire magnetic field are increased.

As standard, the magnets are delivered with the south pole being the actuating side.
Electronic actuating magnets
Sensor Technology for Industry and Mining
**Specifications**

- **Power consumption:** 16 W/VA
- **ON period:** 100%
- **Protection class acc. to DIN 40050:** IP 54
- **Housing:** Gunmetal
- **Type of connection:** Terminals
- **Operating voltage:**
  - wEMT/L1/.: VDC
    - without rectifier: 24VDC, 60VDC, 115VDC, 230VDC
  - wEMT/L2/.: VAC
    - with rectifier: 24VAC, 60VAC, 115VAC, 230VAC

**Characteristics**

- **Dimensions (in mm):**
  - 150 (Width) x 180 (Height) x 30 (Depth)
  - 210 (Overall Size)

**Special features**

- Suitable for medium switching distances

---

**Class wEMT**

**Type code**

- **wEMT**
- **L1**
- **230V MS**

**Housing:**
- MS = gunmetal, AL = silumin (no longer available)

**Operating voltage**
- L1 = without rectifier, L2 = with rectifier

**Protection class:**
- w = weather resistant IP54

---

**Specifications**

- **Power consumption:** 130 W/VA
- **ON period:** 100%
- **Protection class - DIN 40050:** IP 54
- **Housing:** Brass
- **Type of connection:** Terminals
- **Operating voltage:**
  - EUMT/MS/..: VDC
    - without rectifier: 24VDC, 115VDC, 230VDC
  - EUMT/MS/..: VAC
    - with rectifier: 24VAC, 115VAC, 230VAC

**Polarity:**
- South / south
  - (for magnetic switches with inert gas contact)
  - North / south

**Characteristics**

- **Design:**
  - with magnetic field control

- **Operating voltage**
  - wK174L114

**Housing:**
- MS = brass

**Class**

**Special features**

- Suitable for large switching distances
Technical details
Magnetic switches
### Switch configuration

**Table no. 1**

<table>
<thead>
<tr>
<th>Contact wiring</th>
<th>No reference number</th>
<th>Reference number 1 wiring configuration</th>
<th>Reference number 2 wiring with surge protection</th>
<th>Reference number 3 with Triac</th>
<th>Reference number 5 NAMUR design</th>
<th>Reference number 7 LED for 24 V DC PNP</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>1</td>
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<td>LED for 24 V DC PNP</td>
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</tbody>
</table>

#### Color coding

- **A**: Normally open contact
- **B**: Normally closed contact
- **C**: Changeover contact
- **D**: Normally open contact
- **E**: Normally closed contact

#### Monostable version

- Only to be implemented with a changeover contact

---

40

---

41
### Table 2

<table>
<thead>
<tr>
<th>no.</th>
<th>Switch design</th>
<th>Contacts</th>
<th>Electrical data without wiring</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Monostable and bistable</td>
<td>Normally open contact</td>
<td>max. rupturing capacity: 60 W / 60 VA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>max. switching current: 1.5 A</td>
<td>max. switching voltage: 230 V DC, AC</td>
</tr>
<tr>
<td>2</td>
<td>Monostable and bistable</td>
<td>Normally open contact for large switching distances</td>
<td>max. rupturing capacity: 60 W / 60 VA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>max. switching current: 1 A</td>
<td>max. switching voltage: 250 V DC, AC</td>
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<tr>
<td>4</td>
<td>Monostable and bistable</td>
<td>Normally open contact for inductive loads</td>
<td>max. rupturing capacity: 100 W / 100 VA</td>
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<td>max. switching current: 1.5 A</td>
<td>max. switching voltage: 250 V DC, AC</td>
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<tr>
<td>5</td>
<td>Monostable and bistable</td>
<td>Changeover contact</td>
<td>max. rupturing capacity: 40 W / 60 VA</td>
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<tr>
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<td>max. switching current: 1 A</td>
<td>max. switching voltage: 230 V DC, AC</td>
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<td>7</td>
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<td>max. rupturing capacity: 10 W / 10 VA</td>
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<td></td>
<td>max. switching current: 0.5 A</td>
<td>max. switching voltage: 100 V DC, AC</td>
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<td>8</td>
<td>Monostable and bistable</td>
<td>Changeover contact</td>
<td>max. rupturing capacity: 60 W / 80 VA</td>
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<td></td>
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<td>max. switching current: 1 A</td>
<td>max. switching voltage: 230 V DC, AC</td>
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<td>9</td>
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<td>Changeover contact</td>
<td>max. rupturing capacity: 20 W / 20 VA</td>
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<td></td>
<td></td>
<td>max. switching current: 1 A</td>
<td>max. switching voltage: 150 V DC, AC</td>
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### Table 3

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<th>Contact Magnet</th>
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</tbody>
</table>

All measurements between the contact and the actuating magnet were performed in a non-ferrous environment. The switching distance varies depending on the housing class and the size. Please refer to the respective data sheet for the product-related parameters.
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01/2016 V02

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