

# Panasonic

## SAFETY COMPONENTS

MAC-I LIMIT SWITCHES





## Features

The MAC-I limit switches are developed and manufactured according to the rules set out in IEC international publications and EN European standards.

Easy to use, electromechanical limit switches offer specific qualities:

- Visible operation
- Able to switch strong currents (10A conventional thermal current)
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- Electrically separated contacts
- N.C. contacts with positive opening operation



## Content

|   |       |
|---|-------|
| MA150 series.....                         | 4     |
| MA160 series.....                         | 5     |
| SLC/SLZ series 30mm .....                 | 6     |
| SLC/SLZ series 50mm .....                 | 7     |
| SLF series metal casing 30/50mm.....      | 8     |
| SLF series aluminium casing 40/60mm ..... | 9     |
| MAP/MAM/MDP/MDM series 30mm.....          | 10    |
| MAP/MAM/MDP/MDM series 50mm.....          | 11    |
| Dimensions.....                           | 12-17 |
| Specifications .....                      | 18    |
| Accessories .....                         | 19    |

## European Standards

- EN 50005 Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number: General rules (CEI 17-17).
- EN 50013 Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches (CEI 17-17).
- EN 50041 Low-voltage switchgear and controlgear for industrial use - Control switches - Position switches 42,5 x 80 - Dimensions and characteristics.
- EN 50047 Low-voltage switchgear and controlgear for industrial use - Control switches - Position switches 30 x 55 - Dimensions and characteristics.
- EN 60947-1 Low-voltage switchgear and controlgear for industrial use - Part 1: General rules (CEI EN 60947-1).
- EN 60947-5-1 Low-voltage switchgear and controlgear for industrial use - Part 5: Control circuit devices and switching elements - Section 1: Electromechanical control circuit devices (CEI EN 60947-5-1) - Chapter 3: Special requirements for control switches with positive opening operation.
- EN 60529 Degrees of protection provided by enclosures (IP code).
- EN 61058-1 Switches for appliances. Part 1: General requirements.

# MA150 series

## Electrical connection

Replace the symbol "•" with the required thread:

0: for PG 13.5 cable gland

On request:

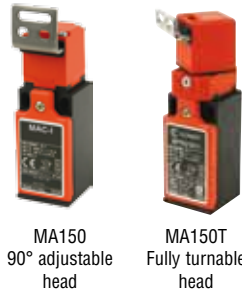
2: for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

3: for PG11 cable gland

4: for M16 x 1.5 cable gland

5: for M20 x 1.5 cable gland



MA150  
90° adjustable  
head

MA150T  
Fully turnable  
head

## Available contact blocks

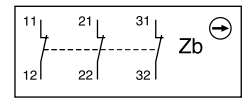
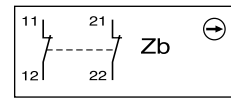
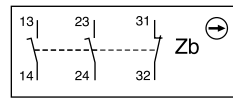
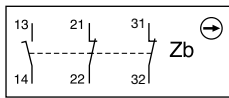
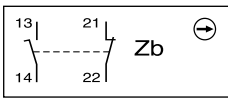
**X11:** Slow action break before  
make 1NO + 1NC

**X12P:** Slow action break before  
make 1NO + 2NC

**X21P:** Slow action break before  
make 2NO + 1NC

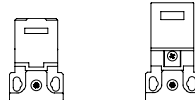
**W02:** Simultaneous slow action  
2NC

**W03P:** Simultaneous slow action  
3NC



### MA150 series

30mm polymeric casing.  
1 cable inlet. IP65



#### Contact blocks

|                | ↔           | ↔            |
|----------------|-------------|--------------|
| X11 (1NO+1NC)  | MA15•T•X11  | MA15•FT•X11  |
| X12P (1NO+2NC) | MA15•T•X12P | MA15•FT•X12P |
| X21P (2NO+1NC) | MA15•T•X21P | MA15•FT•X21P |
| W02 (2NC)      | MA15•T•W02  | MA15•FT•W02  |
| W03P (3NC)     | MA15•T•W03P | MA15•FT•W03P |



### MA150M series

30mm metal casing.  
1 cable inlet. IP66



#### Contact blocks

|                | ↔            | ↔             |
|----------------|--------------|---------------|
| X11 (1NO+1NC)  | MA15•MT•X11  | MA15•MFT•X11  |
| X12P (1NO+2NC) | MA15•MT•X12P | MA15•MFT•X12P |
| X21P (2NO+1NC) | MA15•MT•X21P | MA15•MFT•X21P |
| W02 (2NC)      | MA15•MT•W02  | MA15•MFT•W02  |
| W03P (3NC)     | MA15•MT•W03P | MA15•MFT•W03P |

## Ordering code MA150 (T) series :

**M A 1 5 0 M F T 8 3 X 1 1**

Electrical connection  
see top of page

Metal casing

Fully turnable head

### Operating keys

T83, T84, T85  
T86, T87, T88, T90  
(see page 10)

### Contact blocks

- X11: Slow action break before make 1NO + 1NC
- X12P: Slow action break before make 1NO + 2NC
- X21P: Slow action break before make 2NO + 1NC
- W02: Simultaneous slow action 2NC
- W03P: Simultaneous slow action 3NC

## Electrical connection

Replace the symbol "•" with the required thread:

0: for PG 13.5 cable gland

On request:

2: for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

3: for PG11 cable gland

4: for M16 x 1.5 cable gland

5: for M20 x 1.5 cable gland



MA160  
90° adjustable  
head

MA160T  
Fully turnable  
head

## Available contact blocks

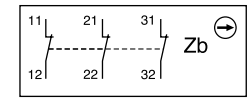
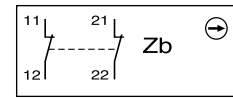
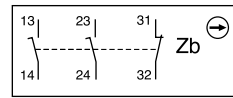
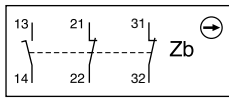
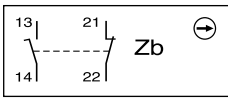
**X11:** Slow action break before  
make 1NO + 1NC

**X12P:** Slow action break before  
make 1NO + 2NC

**X21P:** Slow action break before  
make 2NO + 1NC

**W02:** Simultaneous slow action  
2NC

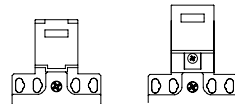
**W03P:** Simultaneous slow action  
3NC



## MA160 series

50mm polymeric casing.

2 cable inlets. IP65



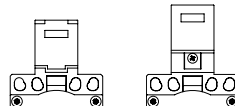
Contact blocks

|                | ↻           | ↻            |
|----------------|-------------|--------------|
| X11 (1NO+1NC)  | MA16•T↻X11  | MA16•FT↻X11  |
| X12P (1NO+2NC) | MA16•T↻X12P | MA16•FT↻X12P |
| X21P (2NO+1NC) | MA16•T↻X21P | MA16•FT↻X21P |
| W02 (2NC)      | MA16•T↻W02  | MA16•FT↻W02  |
| W03P (3NC)     | MA16•T↻W03P | MA16•FT↻W03P |

## MA160M series

50mm metal casing.

3 cable inlets. IP66



Contact blocks

|                | ↻            | ↻             |
|----------------|--------------|---------------|
| X11 (1NO+1NC)  | MA16•MT↻X11  | MA16•MFT↻X11  |
| X12P (1NO+2NC) | MA16•MT↻X12P | MA16•MFT↻X12P |
| X21P (2NO+1NC) | MA16•MT↻X21P | MA16•MFT↻X21P |
| W02 (2NC)      | MA16•MT↻W02  | MA16•MFT↻W02  |
| W03P (3NC)     | MA16•MT↻W03P | MA16•MFT↻W03P |

## Ordering code MA160 (T) series :

**M A 1 6 0 M F T 8 3 X 1 1**

Electrical connection  
see top of page

Metal casing

Fully turnable head

Operating keys

T83, T84, T85  
T86, T87, T88, T90  
(see page 10)

Contact blocks

- X11: Slow action break before make 1NO + 1NC
- X12P: Slow action break before make 1NO + 2NC
- X21P: Slow action break before make 2NO + 1NC
- W02: Simultaneous slow action 2NC
- W03P: Simultaneous slow action 3NC

# SLC & SLZ series 30mm

## Electrical connection

Replace the symbol "•" with the required thread:

1: for PG 13.5 cable gland

On request:

2: for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

3: for PG11 cable gland

4: for M16 x 1.5 cable gland

5: for M20 x 1.5 cable gland



C71  
Zinc plated steel shaft  
C72  
Stainless steel shaft



Z61  
Zinc plated steel lever



C71  
Zinc plated steel shaft  
C72  
Stainless steel shaft



Z61  
Zinc plated steel lever

## Available contact blocks

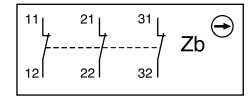
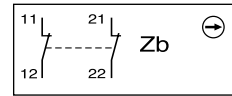
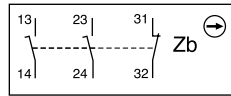
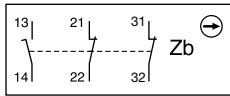
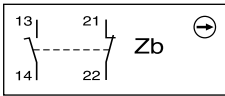
**X11:** Slow action break before make 1NO + 1NC

**X12P:** Slow action break before make 1NO + 2NC

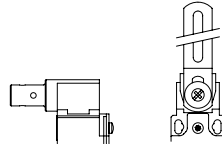
**X21P:** Slow action break before make 2NO + 1NC

**W02:** Simultaneous slow action 2NC

**W03P:** Simultaneous slow action 3NC



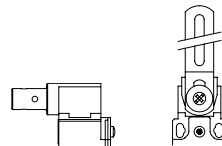
SLC & SLZ series  
30mm polymeric casing.  
1 cable inlet. IP65



| Contact blocks | ↻          | ↻          |
|----------------|------------|------------|
| X11 (1NO+1NC)  | SL•C7•X11  | SL•Z61X11  |
| X12P (1NO+2NC) | SL•C7•X12P | SL•Z61X12P |
| X21P (2NO+1NC) | SL•C7•X21P | SL•Z61X21P |
| W02 (2NC)      | SL•C7•W02  | SL•Z61W02  |
| W03P (3NC)     | SL•C7•W03P | SL•Z61W03P |



SLC & SLZ series  
30mm metal casing.  
1 cable inlet. IP66



| Contact blocks | ↻           | ↻           |
|----------------|-------------|-------------|
| X11 (1NO+1NC)  | SL•MC7•X11  | SL•MZ61X11  |
| X12P (1NO+2NC) | SL•MC7•X12P | SL•MZ61X12P |
| X21P (2NO+1NC) | SL•MC7•X21P | SL•MZ61X21P |
| W02 (2NC)      | SL•MC7•W02  | SL•MZ61W02  |
| W03P (3NC)     | SL•MC7•W03P | SL•MZ61W03P |

## Ordering code SLC / SLZ (M) series :

**S L 1 M C 7 1 X 1 1**

Electrical connection  
see top of page

Metal casing

Shaft SLC type  
C71, C72

Lever SLZ type  
Z61

## Contact blocks

- X11: Slow action break before make 1NO + 1NC
- X12P: Slow action break before make 1NO + 2NC
- X21P: Slow action break before make 2NO + 1NC
- W02: Simultaneous slow action 2NC
- W03P: Simultaneous slow action 3NC

## Electrical connection

Replace the symbol "•" with the required thread:

1: for PG 13.5 cable gland

On request:

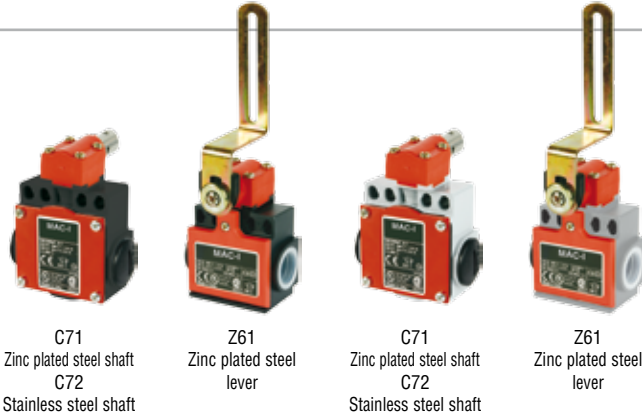
2: for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

3: for PG11 cable gland

4: for M16 x 1.5 cable gland

5: for M20 x 1.5 cable gland



## Available contact blocks

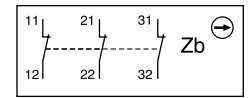
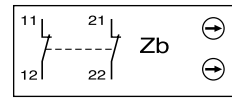
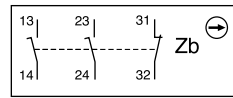
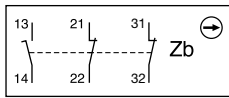
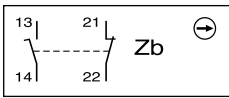
**X11:** Slow action break before make 1NO + 1NC

**X12P:** Slow action break before make 1NO + 2NC

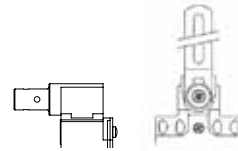
**X21P:** Slow action break before make 2NO + 1NC

**W02:** Simultaneous slow action 2NC

**W03P:** Simultaneous slow action 3NC

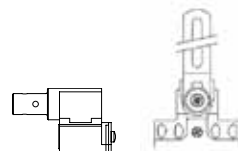


SLC & SLZ series  
50mm polymeric casing.  
2 cable inlet. IP65



| Contact blocks | ↔           | ↔           |
|----------------|-------------|-------------|
| X11(1NO+1NC)   | SL•5C7•X11  | SL•5Z61X11  |
| X12P(1NO+2NC)  | SL•5C7•X12P | SL•5Z61X12P |
| X21P(2NO+1NC)  | SL•5C7•X21P | SL•5Z61X21P |
| W02 (2NC)      | SL•5C7•W02  | SL•5Z61W02  |
| W03P (3NC)     | SL•5C7•W03P | SL•5Z61W03P |

SLC & SLZ series  
50mm metal casing.  
3 cable inlet. IP66



| Contact blocks | ↔            | ↔            |
|----------------|--------------|--------------|
| X11(1NO+1NC)   | SL•M5C7•X11  | SL•M5Z61X11  |
| X12P(1NO+2NC)  | SL•M5C7•X12P | SL•M5Z61X12P |
| X21P(2NO+1NC)  | SL•M5C7•X21P | SL•M5Z61X21P |
| W02 (2NC)      | SL•M5C7•W02  | SL•M5Z61W02  |
| W03P (3NC)     | SL•M5C7•W03P | SL•M5Z61W03P |

## Ordering code SLC / SLZ (M) series :

**S L 1 5 M C 7 1 X 1 1**

Electrical connection  
see top of page

50mm

Metal casing

Shaft SLC type  
**C71, C72**

Lever SLZ type  
**Z61**

## Contact blocks

- X11: Slow action break before make 1NO + 1NC
- X12P: Slow action break before make 1NO + 2NC
- X21P: Slow action break before make 2NO + 1NC
- W02: Simultaneous slow action 2NC
- W03P: Simultaneous slow action 3NC

# SLF series

## Electrical connection

Replace the symbol "•" with the required thread:

1: for PG 13.5 cable gland

On request

2: for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

3: for PG11 cable gland

4: for M16 x 1.5 cable gland

5: for M20 x 1.5 cable gland



F96  
Pull wire  
without  
reset for  
simple stop

F98  
Pull wire with  
reset for  
emergency stop

## Available contact blocks

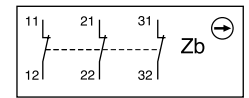
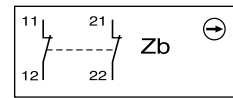
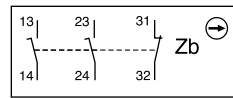
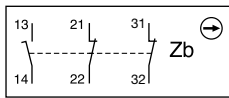
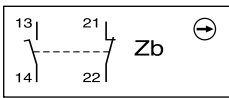
**X11:** Slow action break before  
make 1NO + 1NC

**X12P:** Slow action break before  
make 1NO + 2NC

**X21P:** Slow action break before  
make 2NO + 1NC

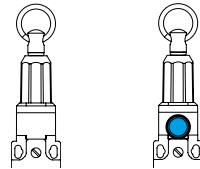
**W02:** Simultaneous slow action  
2NC

**W03P:** Simultaneous slow action  
3NC



## SLF series

**30mm metal casing**  
1 cable inlet. IP66



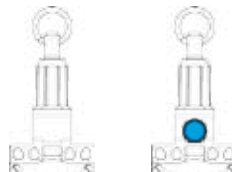
### Contact blocks

|                | ↻          | ↻          |
|----------------|------------|------------|
| X11(1NO+1NC)   | SL•F96X11  | SL•F98X11  |
| X12P (1NO+2NC) | SL•F96X12P | SL•F98X12P |
| X21P (2NO+1NC) | SL•F96X21P | SL•F98X21P |
| W02 (2NC)      | SL•F96W02  | SL•F98W02  |
| W03P (3NC)     | SL•F96W03P | SL•F98W03P |



## SLF series

**50mm metal casing.**  
3 cable inlet. IP66



### Contact blocks

|                | ↻           | ↻           |
|----------------|-------------|-------------|
| X11(1NO+1NC)   | SL•5F96X11  | SL•5F98X11  |
| X12P (1NO+2NC) | SL•5F96X12P | SL•5F98X12P |
| X21P (2NO+1NC) | SL•5F96X21P | SL•5F98X21P |
| W02 (2NC)      | SL•5F96W02  | SL•5F98W02  |
| W03P (3NC)     | SL•5F96W03P | SL•5F98W03P |

## Ordering code SLF (M) series :

**SL 1 5 F96 X11**

Electrical connection  
see top of page

50mm Metal casing

F96 = pull wire w.o. reset  
F98 = pull wire with reset

## Contact blocks

X11: Slow action break before  
make 1NO + 1NC

X12P: Slow action break before  
make 1NO + 2NC

X21P: Slow action break before  
make 2NO + 1NC

W02: Simultaneous slow action 2NC

W03P: Simultaneous slow action 3NC



**Electrical connection**

Replace the symbol "•" with the required thread:

**1:** for PG 13.5 cable gland

On request:

**2:** for 1/2" NPT cable gland

(with adapter in MA150 and MA160 series)

**5:** for M20 x 1.5 cable gland



**F97**  
Pull wire without reset for simple stop

**F99**  
Pull wire with reset for emergency stop

**Available contact blocks**

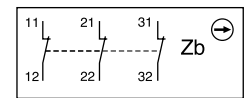
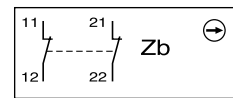
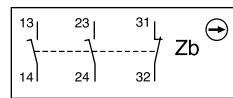
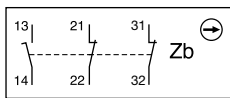
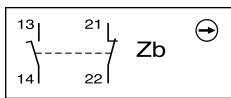
**X11:** Slow action break before make 1NO + 1NC

**X12:** Slow action break before make 1NO + 2NC

**X21:** Slow action break before make 2NO + 1NC

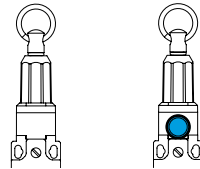
**W02:** Simultaneous slow action 2NC

**W03:** Simultaneous slow action 3NC

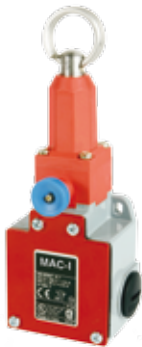


**SLF series**

**40mm** aluminium casing.  
1 cable inlet. IP66

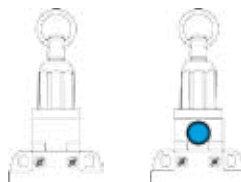


| Contact blocks | ⊖         | ⊕         |
|----------------|-----------|-----------|
| X11 (1NO+1NC)  | SL•F97X11 | SL•F99X11 |
| X12 (1NO+2NC)  | SL•F97X12 | SL•F99X12 |
| X21 (2NO+1NC)  | SL•F97X21 | SL•F99X21 |
| W02 (2NC)      | SL•F97W02 | SL•F99W02 |
| W03 (3NC)      | SL•F97W03 | SL•F99W03 |



**SLF series**

**60mm** aluminium casing.  
3 cable inlet. IP66



| Contact blocks | ⊖          | ⊕          |
|----------------|------------|------------|
| X11(1NO+1NC)   | SL•6F97X11 | SL•6F99X11 |
| X12 (1NO+2NC)  | SL•6F97X12 | SL•6F99X12 |
| X21 (2NO+1NC)  | SL•6F97X21 | SL•6F99X21 |
| W02 (2NC)      | SL•6F97W02 | SL•6F99W02 |
| W03 (3NC)      | SL•6F97W03 | SL•6F99W03 |

**Ordering code SLF (A) series :**

**SL 1 6 F97 X11**

Electrical connection see top of page

60mm aluminium casing

F97 = pull wire w.o. reset  
F99 = pull wire with reset

**Contact blocks**

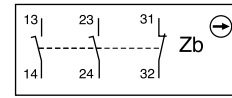
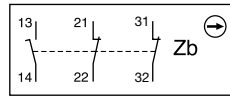
- X11: Slow action break before make 1NO + 1NC
- X12: Slow action break before make 1NO + 2NC
- X21: Slow action break before make 2NO + 1NC
- W02: Simultaneous slow action 2NC
- W03: Simultaneous slow action 3NC

# MAP/MAM/MDP/MDM series

## Available contact blocks

**X12P:** Slow action break before make 1NO + 2NC

**X21P:** Slow action break before make 2NO + 1NC



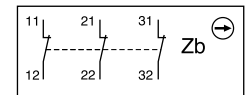
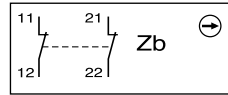
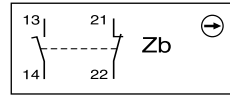
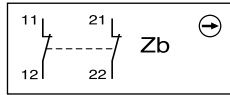
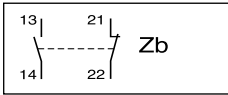
**Z11:** Snap action 1NO + 1NC

**Z02:** Snap action 2NC

**X11:** Slow action break before make 1NO + 1NC

**W02:** Simultaneous slow action 2NC

**W03P:** Simultaneous slow action 3NC



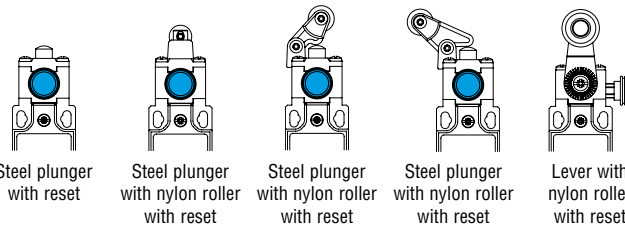
## MAP-R series

## 30mm polymeric limit switches - IP65 - 1 cable inlet



### Cable inlets

|                               |
|-------------------------------|
| MAP1: PG 13.5                 |
| MAP2: 1/2" NPT (with adapter) |
| MAP3: PG 11                   |
| MAP4: M 16 x 1.5              |
| MAP5: M 20 x 1.5              |



| Contact blocks  | R11         | R13         | R31         | R32         | R41         |
|---|-------------|-------------|-------------|-------------|-------------|
| X11 Non overlapping Slow action contacts (1NO + 1NC)  | MAP•R11X11  | MAP•R13X11  | MAP•R31X11  | MAP•R32X11  | MAP•R41X11  |
| X12P Non overlapping Slow action contacts (1NO + 2NC) | MAP•R11X12P | MAP•R13X12P | MAP•R31X12P | MAP•R32X12P | MAP•R41X12P |
| X21P Non overlapping Slow action contacts (2NO + 1NC) | MAP•R11X21P | MAP•R13X21P | MAP•R31X21P | MAP•R32X21P | MAP•R41X21P |
| Z11 Snap action contacts (1NO + 1NC)                  | MAP•R11Z11  | MAP•R13Z11  | MAP•R31Z11  | MAP•R32Z11  | MAP•R41Z11  |
| Z02 Snap action contacts (2NC)                        | MAP•R11Z02  | MAP•R13Z02  | MAP•R31Z02  | MAP•R32Z02  | MAP•R41Z02  |
| W02 Slow action contacts (2NC)                        | MAP•R11W02  | MAP•R13W02  | MAP•R31W02  | MAP•R32W02  | MAP•R41W02  |
| W03P Slow action contacts (3NC)                       | MAP•R11W03P | MAP•R13W03P | MAP•R31W03P | MAP•R32W03P | MAP•R41W03P |

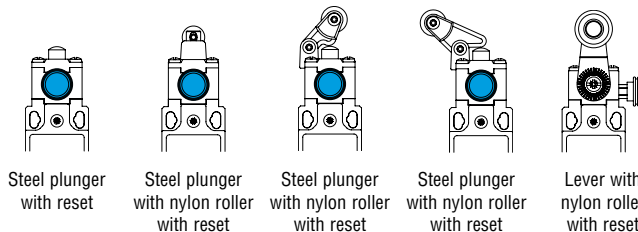
## MAM-R series

## 30mm metal limit switches - with polymeric working heads - IP66 - 1 cable inlet



### Cable inlets

|                 |
|-----------------|
| MAM1: PG13.5    |
| MAM2: 1/2" NPT  |
| MAM3: PG11      |
| MAM4: M16 x 1.5 |
| MAM5: M20 x 1.5 |



| Contact blocks  | R11         | R13         | R31         | R32         | R41         |
|---|-------------|-------------|-------------|-------------|-------------|
| X11 Non overlapping Slow action contacts (1NO + 1NC)  | MAM•R11X11  | MAM•R13X11  | MAM•R31X11  | MAM•R32X11  | MAM•R41X11  |
| X12P Non overlapping Slow action contacts (1NO + 2NC) | MAM•R11X12P | MAM•R13X12P | MAM•R31X12P | MAM•R32X12P | MAM•R41X12P |
| X21P Non overlapping Slow action contacts (2NO + 1NC) | MAM•R11X21P | MAM•R13X21P | MAM•R31X21P | MAM•R32X21P | MAM•R41X21P |
| Z11 Snap action contacts (1NO + 1NC)                  | MAM•R11Z11  | MAM•R13Z11  | MAM•R31Z11  | MAM•R32Z11  | MAM•R41Z11  |
| Z02 Snap action contacts (2NC)                        | MAM•R11Z02  | MAM•R13Z02  | MAM•R31Z02  | MAM•R32Z02  | MAM•R41Z02  |
| W02 Slow action contacts (2NC)                        | MAM•R11W02  | MAM•R13W02  | MAM•R31W02  | MAM•R32W02  | MAM•R41W02  |
| W03P Slow action contacts (3NC)                       | MAM•R11W03P | MAM•R13W03P | MAM•R31W03P | MAM•R32W03P | MAM•R41W03P |

Other versions available on request

## Ordering code MAP/MAM series :

**M** **AP1** **R11** **Z11**

### Cable inlets

MAP1, MAP2, MAP3, MAP4, MAP5  
MAM1, MAM2, MAM3, MAM4, MAM5  
See product description.

### Head types

R11, R13, R31, R32, R41

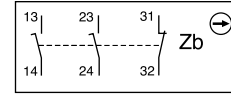
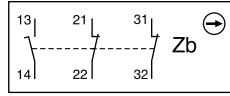
### Contact blocks

Z11: Snap action 1NO+1NC  
Z02: Snap action 2NC  
X11: Slow action break before make 1NO+1NC  
X12P: Slow action break before make 1NO+2NC  
X21P: Slow action break before make 2NO+1NC  
W02: Simultaneous slow action 2NC  
W03P: Simultaneous slow action 3NC

Available contact blocks

X12P: Slow action break before make 1NO + 2NC

X21P: Slow action break before make 2NO + 1NC



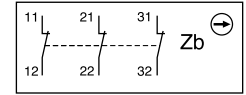
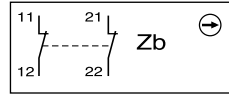
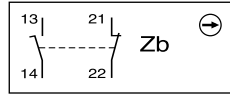
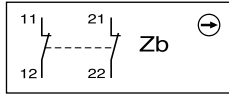
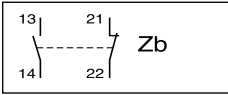
Z11: Snap action 1NO + 1NC

Z02: Snap action 2NC

X11: Slow action break before make 1NO + 1NC

W02: Simultaneous slow action 2NC

W03P: Simultaneous slow action 3NC



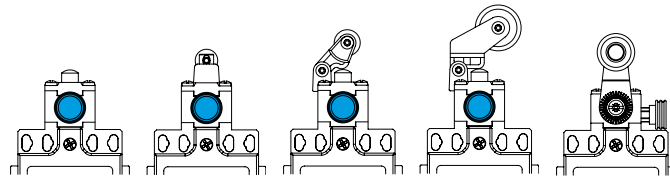
MDP-R series

50mm polymeric limit switches - IP65 - 2 cable inlets



Cable inlets

- MDP1: PG 13.5
- MDP2: 1/2" NPT (with adapter)
- MDP3: PG 11
- MDP4: M 16 x 1.5
- MDP5: M 20 x 1.5



| Contact blocks  | R11         | R13         | R31         | R38         | R41         |
|---|-------------|-------------|-------------|-------------|-------------|
| X11 Non overlapping Slow action contacts (1NO + 1NC)  | MDP•R11X11  | MDP•R13X11  | MDP•R31X11  | MDP•R38X11  | MDP•R41X11  |
| X12P Non overlapping Slow action contacts (1NO + 1NC) | MDP•R11X12P | MDP•R13X12P | MDP•R31X12P | MDP•R38X12P | MDP•R41X12P |
| X21P Non overlapping Slow action contacts (2NO + 1NC) | MDP•R11X21P | MDP•R13X21P | MDP•R31X21P | MDP•R38X21P | MDP•R41X21P |
| Z11 Snap action contacts (1NO + 1NC)                  | MDP•R11Z11  | MDP•R13Z11  | MDP•R31Z11  | MDP•R38Z11  | MDP•R41Z11  |
| Z02 Snap action contacts (2NC)                        | MDP•R11Z02  | MDP•R13Z02  | MDP•R31Z02  | MDP•R38Z02  | MDP•R41Z02  |
| W02 Slow action contacts (2NC)                        | MDP•R11W02  | MDP•R13W02  | MDP•R31W02  | MDP•R38W02  | MDP•R41W02  |
| W03P Slow action contacts (3NC)                       | MDP•R11W03P | MDP•R13W03P | MDP•R31W03P | MDP•R38W03P | MDP•R41W03P |

Other versions available on request

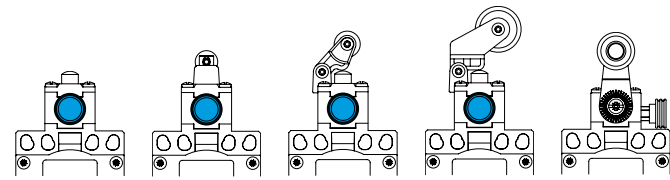
MDM-R series

50mm metal limit switches - with polymeric working heads - IP66 - 3 cable inlets



Cable inlets

- MDM1: PG 13.5
- MDM2: 1/2" NPT
- MDM3: PG 11
- MDM4: M 16 x 1.5
- MDM5: M 20 x 1.5



| Contact blocks  | R11         | R13         | R31         | R38         | R41         |
|---|-------------|-------------|-------------|-------------|-------------|
| X11 Non overlapping Slow action contacts (1NO + 1NC)  | MDM•R11X11  | MDM•R13X11  | MDM•R31X11  | MDM•R38X11  | MDM•R41X11  |
| X12P Non overlapping Slow action contacts (1NO + 1NC) | MDM•R11X12P | MDM•R13X12P | MDM•R31X12P | MDM•R38X12P | MDM•R41X12P |
| X21P Non overlapping Slow action contacts (2NO + 1NC) | MDM•R11X21P | MDM•R13X21P | MDM•R31X21P | MDM•R38X21P | MDM•R41X21P |
| Z11 Snap action contacts (1NO + 1NC)                  | MDM•R11Z11  | MDM•R13Z11  | MDM•R31Z11  | MDM•R38Z11  | MDM•R41Z11  |
| Z02 Snap action contacts (2NC)                        | MDM•R11Z02  | MDM•R13Z02  | MDM•R31Z02  | MDM•R38Z02  | MDM•R41Z02  |
| W02 Slow action contacts (2NC)                        | MDM•R11W02  | MDM•R13W02  | MDM•R31W02  | MDM•R38W02  | MDM•R41W02  |
| W03P Slow action contacts (3NC)                       | MDM•R11W03P | MDM•R13W03P | MDM•R31W03P | MDM•R38W03P | MDM•R41W03P |

Other versions available on request

Ordering code MDP/MDM series :

**M DP1 R11 Z11**

Cable inlets

MDP1, MDP2, MDP3, MDP4, MDP5  
MDM1, MDM2, MDM3, MDM4, MDM5  
See product description.

Head types

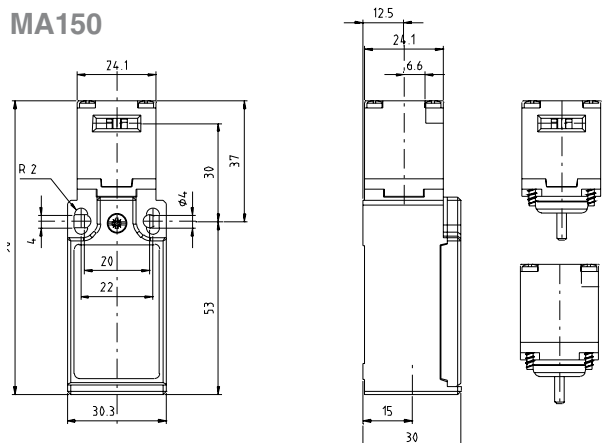
R11, R13, R31, R38, R41

Contact blocks

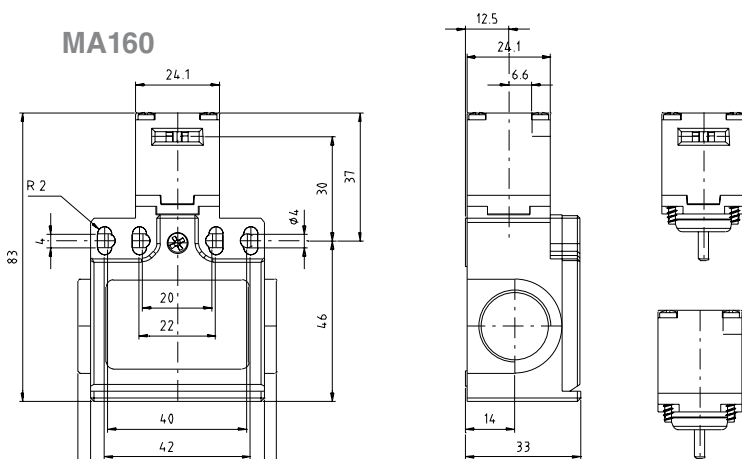
- Z11: Snap action 1NO+1NC
- Z02: Snap action 2NC
- X11: Slow action break before make 1NO+1NC
- X12P: Slow action break before make 1NO+2NC
- X21P: Slow action break before make 2NO+1NC
- W02: Simultaneous slow action 2NC
- W03P: Simultaneous slow action 3NC

# Dimensions

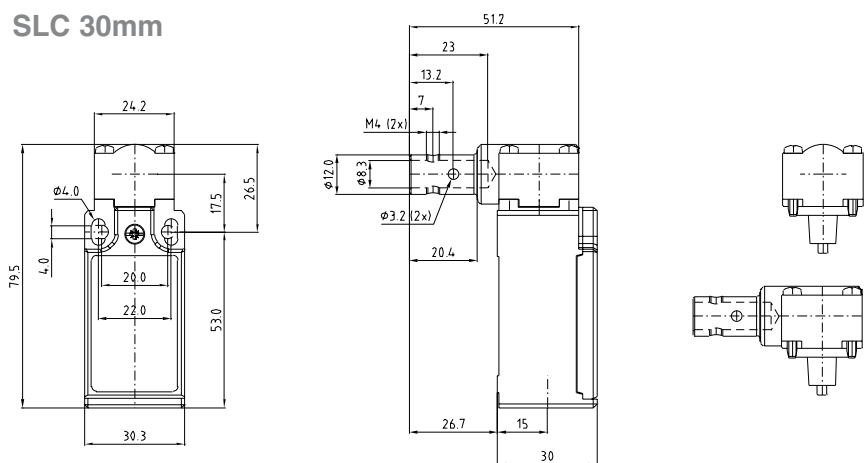
**MA150**



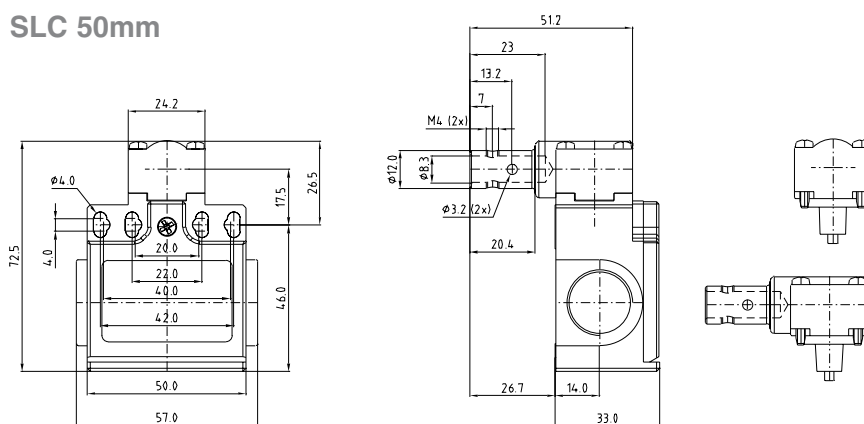
**MA160**



**SLC 30mm**

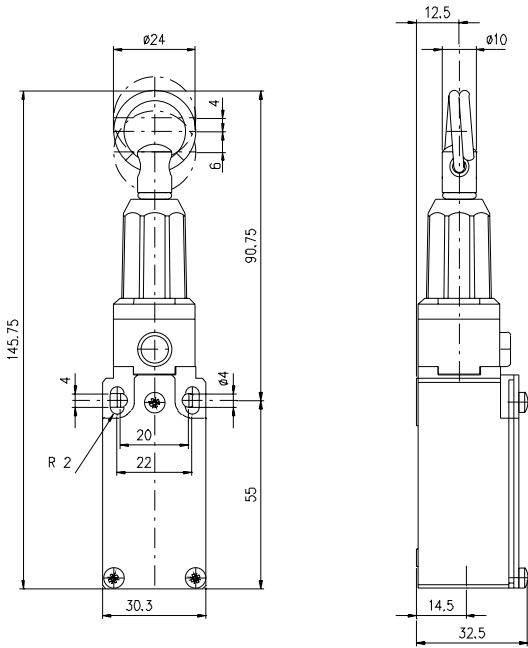


**SLC 50mm**

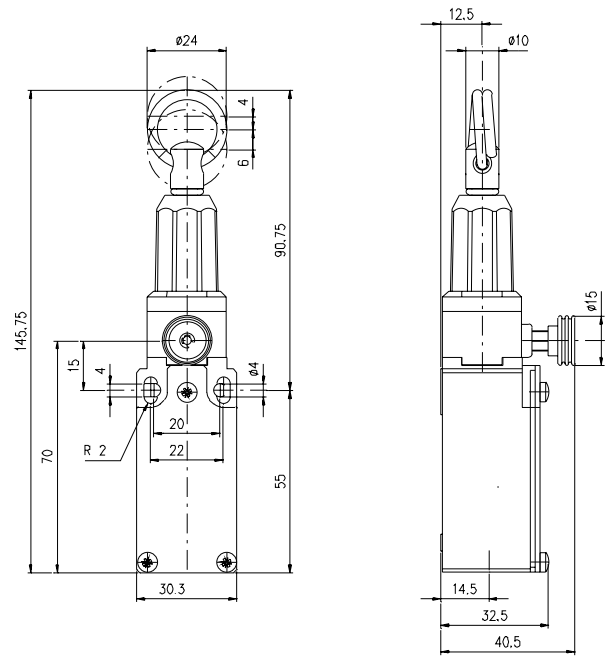


All measurements in mm

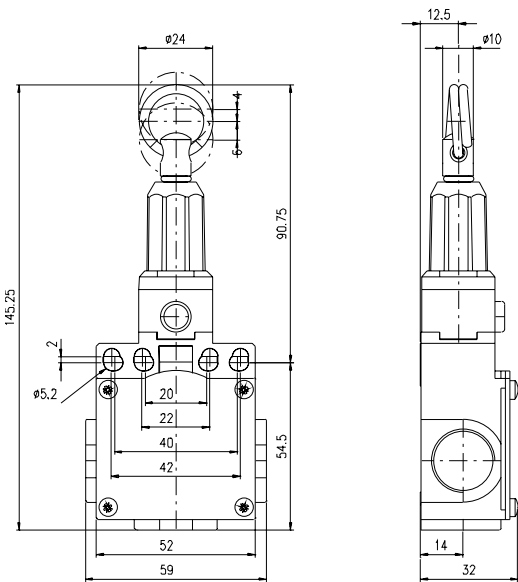
SLF 30mm without reset



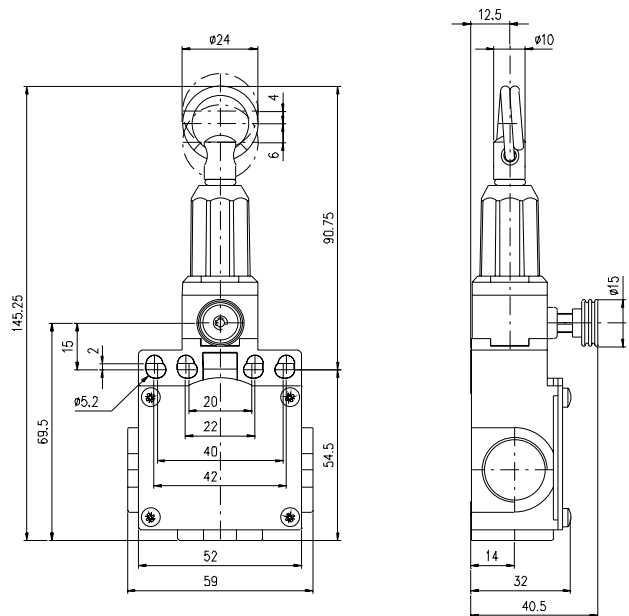
SLF 30mm with reset



SLF 50mm without reset

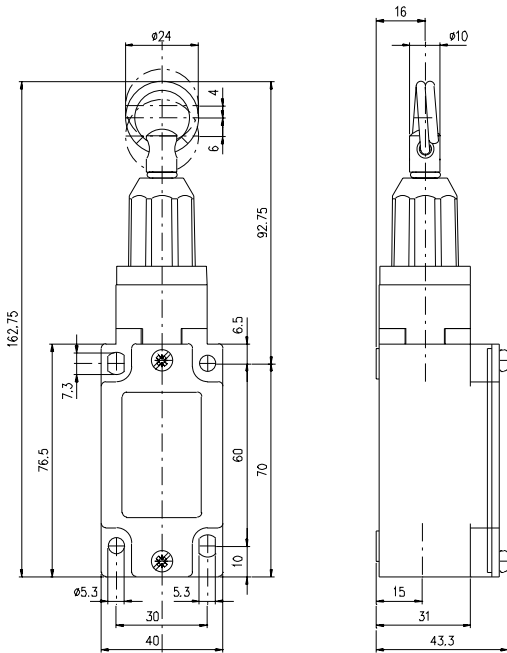


SLF 50mm with reset

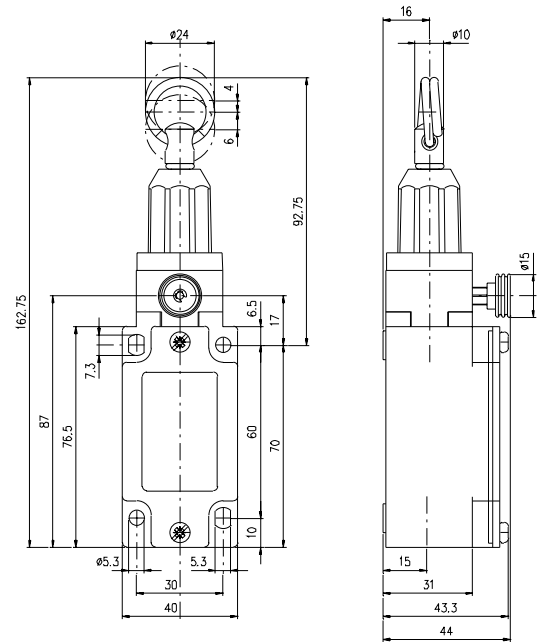


All measurements in mm

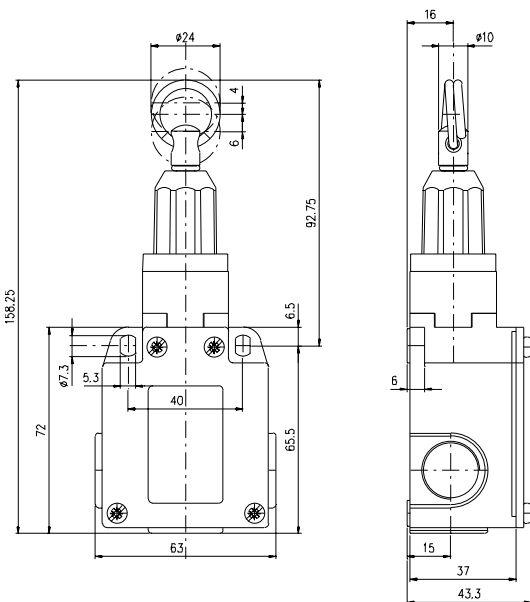
## SLF 40mm



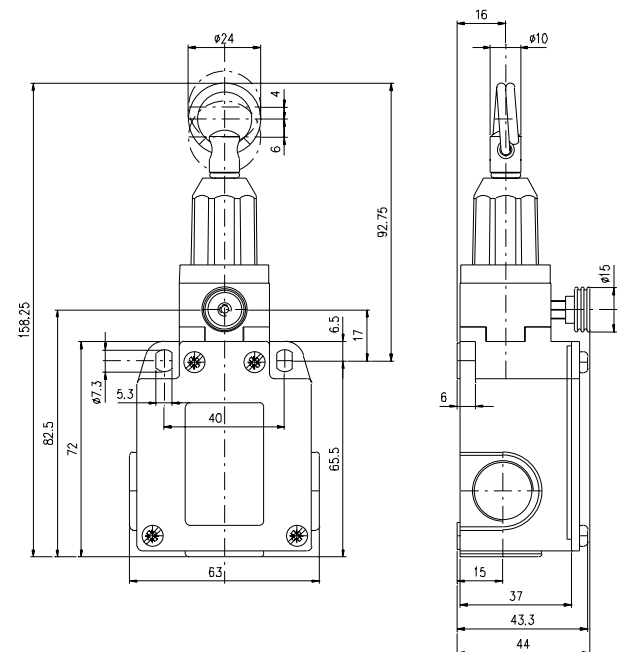
## SLF 40mm with reset button



## SLF 60mm

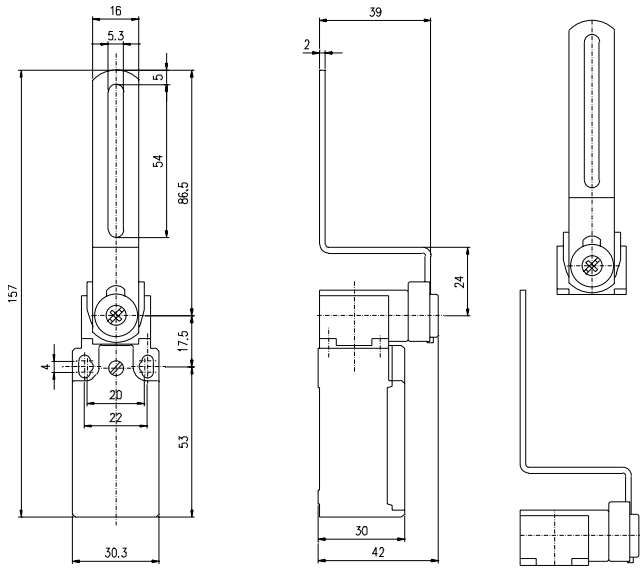


## SLF 60mm with reset button

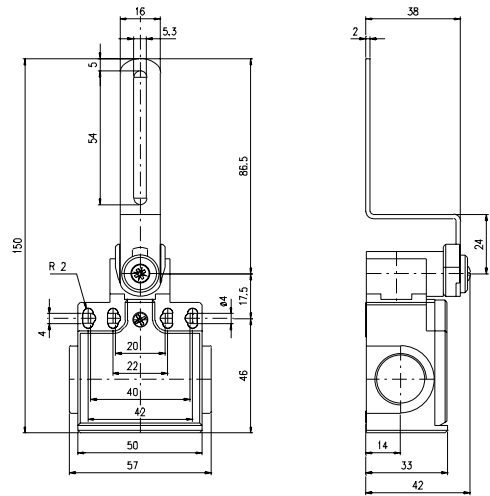


All measurements in mm

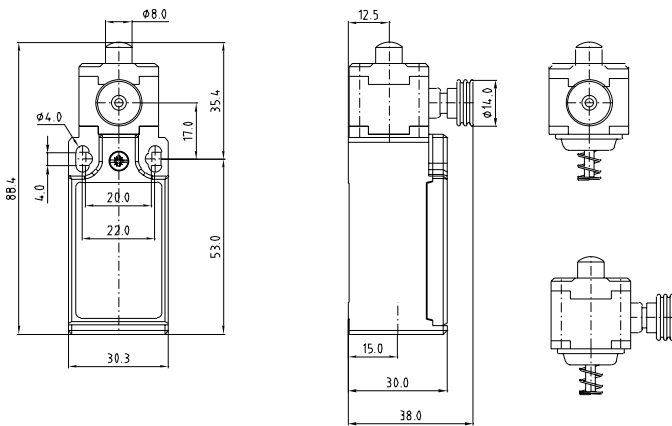
### SLZ 30mm



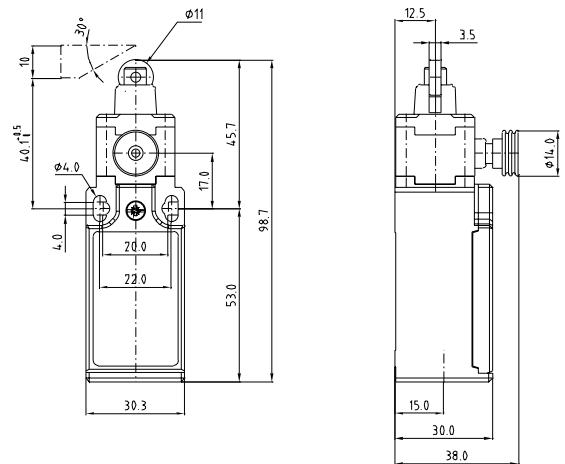
### SLZ 50mm



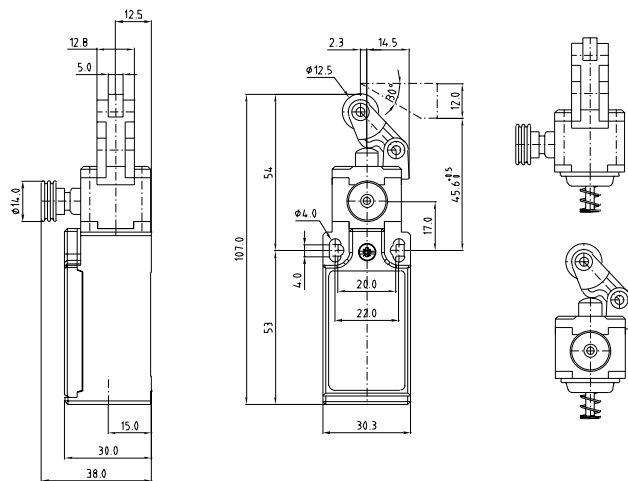
### MAPR11



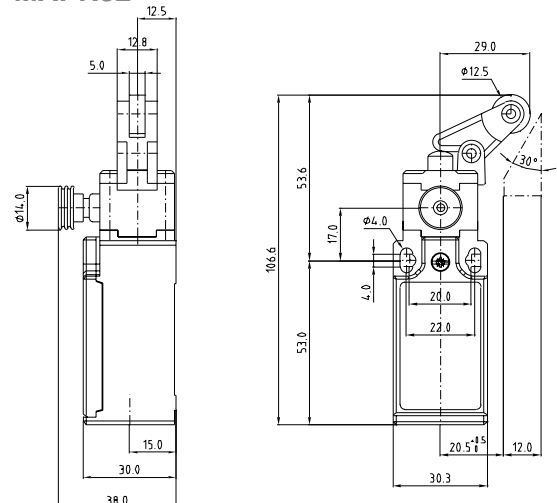
### MAPR13



### MAPR31

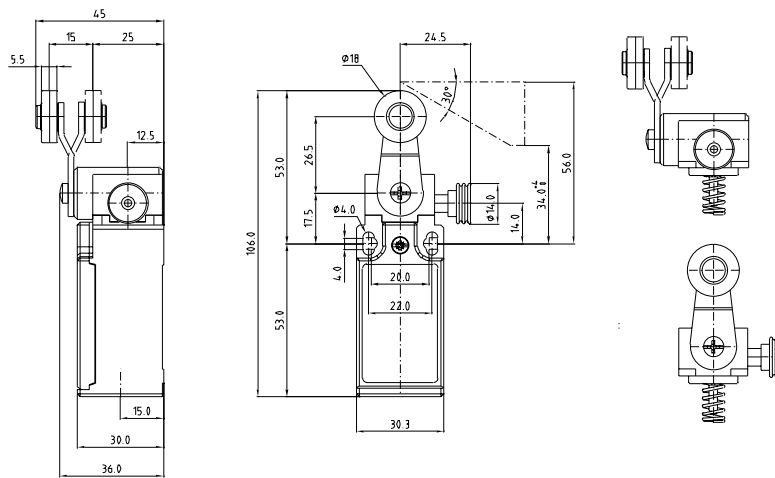


### MAPR32

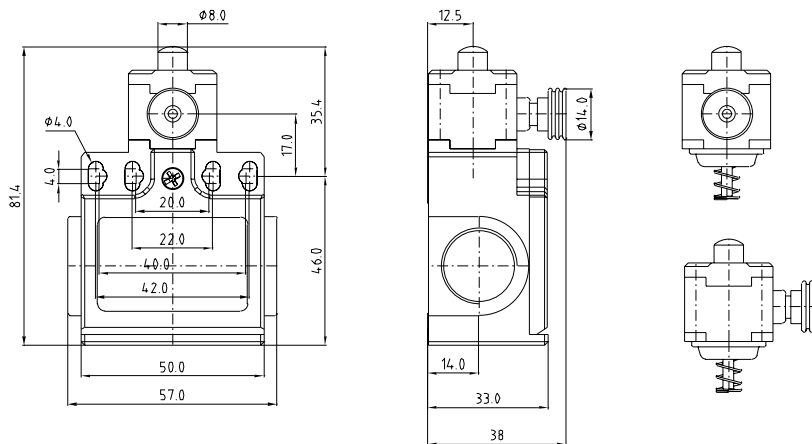


All measurements in mm

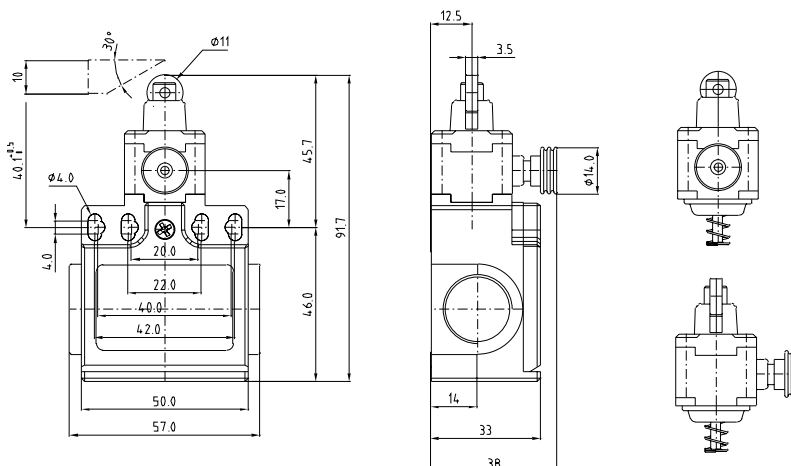
## MAPR41



## MDPR11



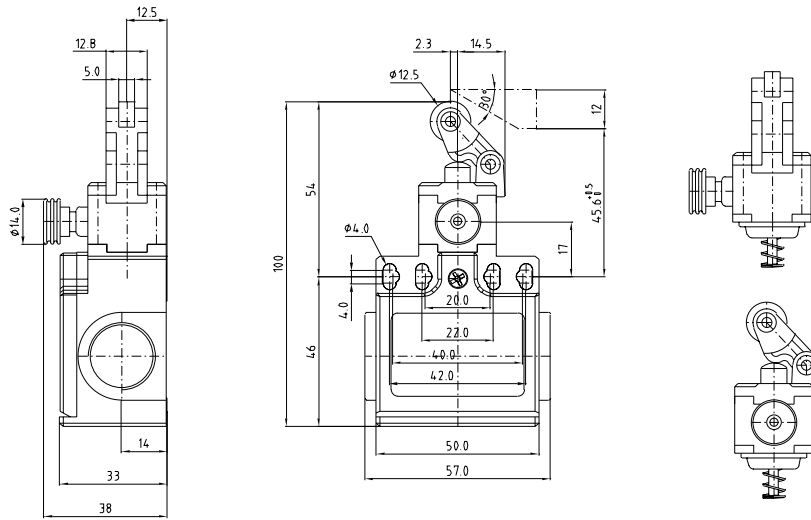
## MDPR13



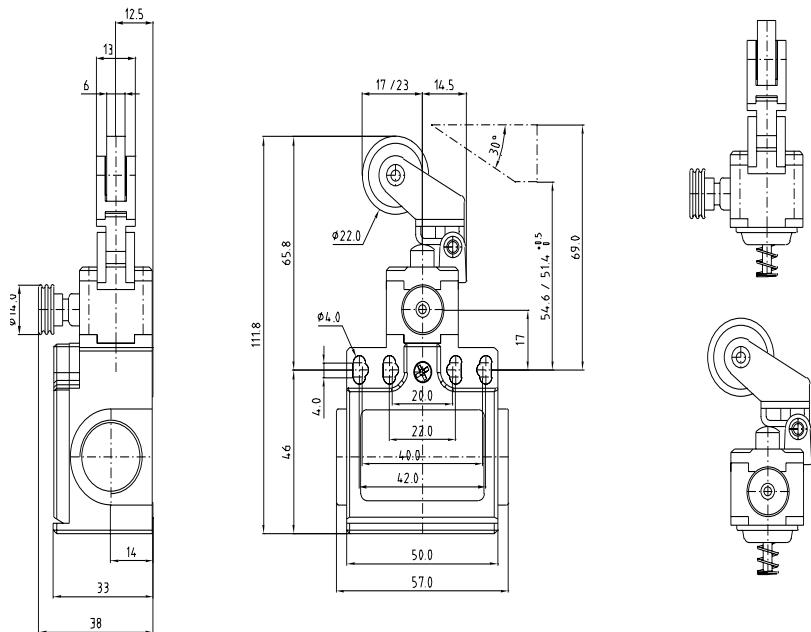
All measurements in mm



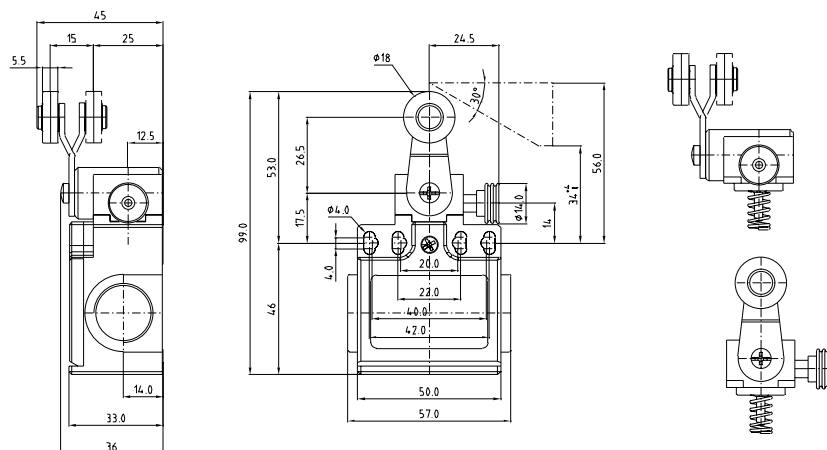
### MDPR31



### MDPR38









### MDPR41










All measurements in mm

## Specifications

|   |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
|   |  |  |  |  |  |  |
| <b>Type</b>   | <b>MAC-I</b>  | <b>MAC-I</b>  | <b>MAC-I</b>  | <b>MAC-I</b>   | <b>MAC-I</b>  | <b>MAC-I</b>  |
|   | <b>MA 150/160</b>   | <b>SLC</b>  | <b>SLF</b>  | <b>SLZ</b>   | <b>MA-R</b>   | <b>MD-R</b>   |
|   | limit switches with operating keys  | limit switches with shaft lever   | limit switches with pull wire   | limit switches with steel lever  | limit switches with pull button reset   | limit switches with pull button reset   |
| Casing  | Polymeric   |   | Metal   | Polymeric/metal  |   |   |
| Standards   | IEC 947-5-1, EN 60947-5-1, UL 508, CSA C22-2 No 14                                |   |   |  |   |   |
| Operating temperature range                         | -25°C to +70°C  |   |   |  |   |   |
| Protection against electrical shock (IEC 536)       | class II  |   |   | class I  |   |   |
| Protection degree                                   | IP65  |   |   | IP66   |   |   |
| Rated insulation voltage (acc. to IEC 529)          | Ui= 690V (MA150M/160M;SLC-M;SLZ-M;SLF-M series Ui=400V,)                          |   |   |  |   |   |
| Rated impuled withstand voltage (acc. to IEC 947-1) | Uimp= 4kV   |   |   |  |   |   |
| Short-circuit protection                            | 10A type gG(gl)   |   |   |  |   |   |
| Rated operational current (acc. to IEC 947-5-1)     | AC-15: 24V-10A; 230V-3,1A; 380V-1, 9A DC-13: 24V-2,8A; 250V-0,27A                 |   |   |  |   |   |

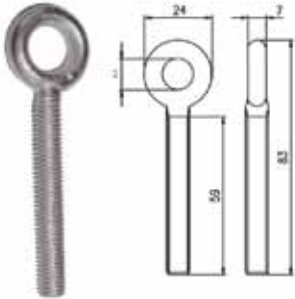
## Specifications

|                                     |   |   |   |  |   |   |   |
|-------------------------------------|---|---|---|--|---|---|---|
| <b>Operating keys for MA150/160</b> |  |  |  |  |  |  |  |
| <b>Description</b>                  | <b>Bent key</b>   | <b>Flat key</b>   | <b>Bent key</b>   | <b>Flat Key</b>  | <b>Shock absorbing bent key</b>   | <b>Shock absorbing flat key</b>   | <b>Adjustable joint key</b>   |
| Centre distance fixing holes        | 22mm  | 22mm  | 13mm  | 13mm   | 15mm  | 15mm  | 40mm  |
| Order code                          | T83   | T84   | T85   | T86  | T87   | T88   | T90   |

You can find further information on our homepage: [www.panasonic-electric-works.com](http://www.panasonic-electric-works.com)

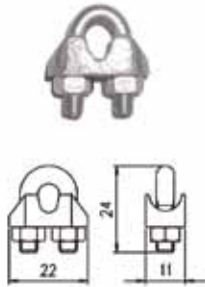
## Accessories

OCC 08



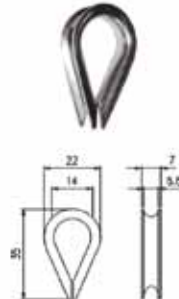
Stay bolt

MOR 05



Rope clamp

RED 05



Rope eye

FUN 05

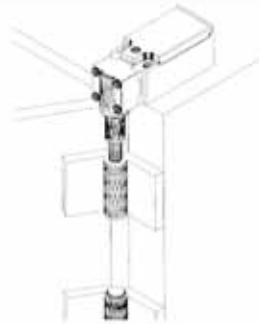


| Code:     | Meters |
|-----------|--------|
| FUN05M010 | 10     |
| FUN05M015 | 15     |
| FUN05M020 | 20     |
| FUN05M025 | 25     |
| FUN05M102 | 102    |

Rope Ø 5mm



Key safety switch



Shaft safety switch

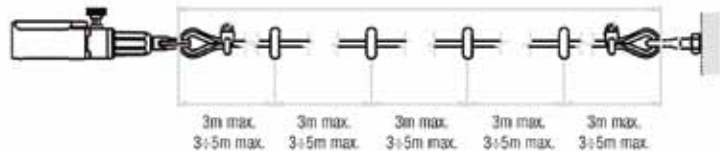


Z lever safety switch

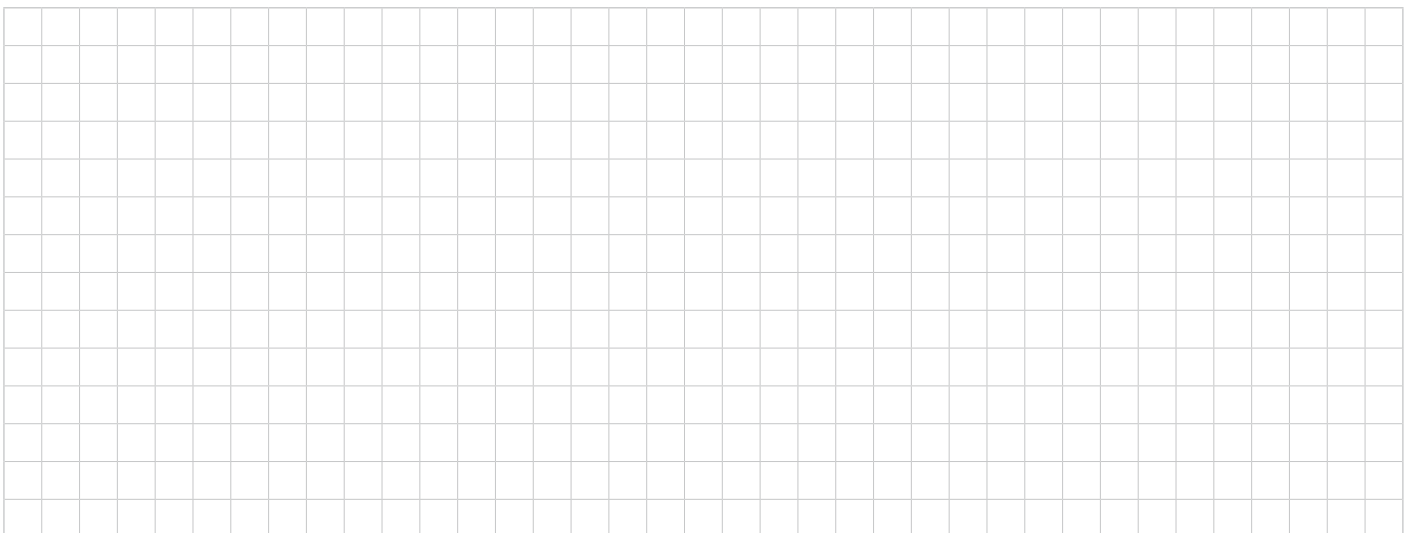
SLF series 30mm,50mm metal casing → 6m max.  
SLF series 40mm, 60mm aluminium casing → 16m max.



SLF series 30mm,50mm metal casing → 15m max.  
SLF series 40mm, 60mm aluminium casing → 25m max.



## Notes



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