SAFETY LIMIT SWITCHES

Safety Limit Switches
Description

Application

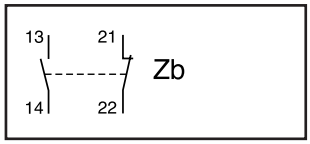
The Comepi limit switches are developed and manufactured according to the rules set out in IEC international publications and EN european standards.

Easy to use, electromechanical limit switches offer specific qualities:

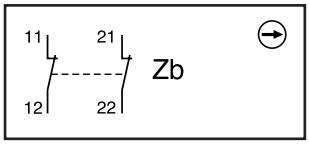
- Visible operation.
- Able to switch strong currents (10 A conventional thermal current).
- Precise operating points (consistency).
- Immune to electromagnetic disturbances.
- Electrically separated contacts.
- N.C. contacts with positive opening operation (⊖).

Contact Blocks

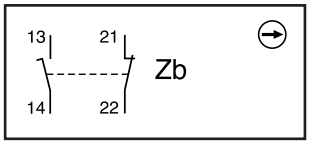
Z11 Snap action
1NO+1NC



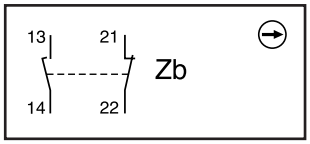
Z02 Snap action
2NC



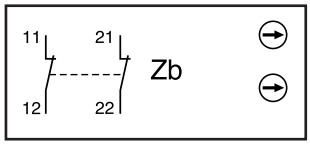
X11 Slow action break before make 1NO+1NC



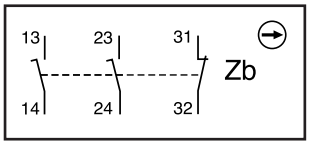
Y11 Slow action make before break 1NO+1NC



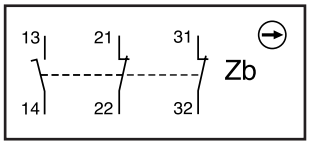
W02 Simultaneous slow action
2NC



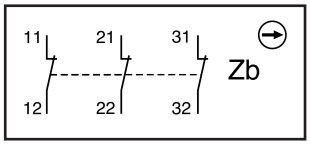
X21 Slow action break before make 2NO+1NC



X12 Slow action break before make 1NO+2NC



W03 Simultaneous slow action
3NC



Main Technical Data

	SP, SBP, SDP series	SM, SBM, SCM, SDM series
Standards	IEC 947-5-1, EN 60947-5-1, UL 508, CSA C22-2 No 14	
Operating temperature range	-25°C... +70°C	
Protection against electrical shocks (acc. to IEC 536)	Class II	Class I
Protection degree (acc. to IEC 529)	IP65	IP 66
Rated insulation voltage (acc. to IEC 947-1)	U_i = 690V (SM, SDM series: U_i = 400V)	
Rated impulsed withstand voltage (acc. to IEC 947-1)	U_{imp} = 6kV	
Short-circuit protection	Fuse 10A type gG (gl)	
Power category	A600 - Q600 (SM, SDM series: A300 - Q300)	
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	

Electrical connection

Replace the symbol • with the number of the required thread

1: PG 13.5

2: 1/2" Through adapter on SP and SDP series)

3: PG 11 Available on SP, SM, SDP and SDM series)

4: M16x1,5 Available on SP, SM, SDP and SDM series)

5: M20x1,5

COMEPI
componenti elettrici per industria

Safety Limit Switches

Limit switches with keys, shaft lever or pull wire

K20
90° adjustable head

K120
Fully turnable head

K71
Zinc plated steel shaft
K72
Stainless steel shaft

K61
Zinc plated steel lever

K96
Pull wire without reset for simple stop

K98
Pull wire with reset for emergency stop

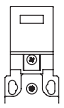
SP_K Series

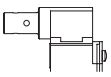
30 mm polymeric casing.
1 cable inlet. IP 65 ▣

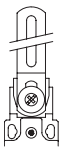
Contact blocks	→ K20	→ K120	→ K7•	→ K61	→ K96	→ K98
Z11 (1NO+1NC)	SP•K20Z11	SP•K120Z11	SP•K7•Z11	SP•K61Z11	SP•K96Z11	SP•K98Z11
Z02 (2NC)	SP•K20Z02	SP•K120Z02	SP•K7•Z02	SP•K61Z02	SP•K96Z02	SP•K98Z02
X11 (1NO+1NC)	SP•K20X11	SP•K120X11	SP•K7•X11	SP•K61X11	SP•K96X11	SP•K98X11
Y11 (1NO+1NC)	SP•K20Y11	SP•K120Y11	SP•K7•Y11	SP•K61Y11	SP•K96Y11	SP•K98Y11
W02 (2NC)	SP•K20W02	SP•K120W02	SP•K7•W02	SP•K61W02	SP•K96W02	SP•K98W02

SM_K Series

30 mm metal casing.
1 cable inlet. IP 66



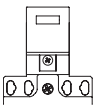


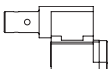


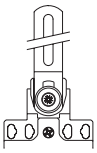
Contact blocks	→ K20	→ K120	→ K7•	→ K61	→ K96	→ K98
Z11 (1NO+1NC)	SM•K20Z11	SM•K120Z11	SM•K7•Z11	SM•K61Z11	SM•K96Z11	SM•K98Z11
Z02 (2NC)	SM•K20Z02	SM•K120Z02	SM•K7•Z02	SM•K61Z02	SM•K96Z02	SM•K98Z02
X11 (1NO+1NC)	SM•K20X11	SM•K120X11	SM•K7•X11	SM•K61X11	SM•K96X11	SM•K98X11
Y11 (1NO+1NC)	SM•K20Y11	SM•K120Y11	SM•K7•Y11	SM•K61Y11	SM•K96Y11	SM•K98Y11
W02 (2NC)	SM•K20W02	SM•K120W02	SM•K7•W02	SM•K61W02	SM•K96W02	SM•K98W02

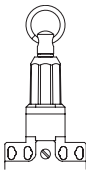
SDP_K Series

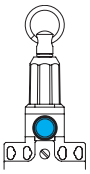
50 mm polymeric casing.
2 cable inlets. IP 65 ▣







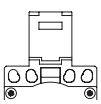


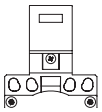


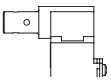
Contact blocks	→ K20	→ K120	→ K7•	→ K61	→ K96	→ K98
Z11 (1NO+1NC)	SDP•K20Z11	SDP•K120Z11	SDP•K7•Z11	SDP•K61Z11	SDP•K96Z11	SDP•K98Z11
Z02 (2NC)	SDP•K20Z02	SDP•K120Z02	SDP•K7•Z02	SDP•K61Z02	SDP•K96Z02	SDP•K98Z02
X11 (1NO+1NC)	SDP•K20X11	SDP•K120X11	SDP•K7•X11	SDP•K61X11	SDP•K96X11	SDP•K98X11
Y11 (1NO+1NC)	SDP•K20Y11	SDP•K120Y11	SDP•K7•Y11	SDP•K61Y11	SDP•K96Y11	SDP•K98Y11
W02 (2NC)	SDP•K20W02	SDP•K120W02	SDP•K7•W02	SDP•K61W02	SDP•K96W02	SDP•K98W02

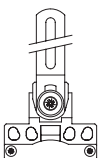
SDM_K Series

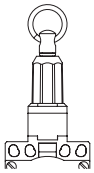
50 mm metal casing.
3 cable inlets. IP 66

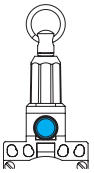












Contact blocks	→ K20	→ K120	→ K7•	→ K61	→ K96	→ K98
Z11 (1NO+1NC)	SDM•K20Z11	SDM•K120Z11	SDM•K7•Z11	SDM•K61Z11	SDM•K96Z11	SDM•K98Z11
Z02 (2NC)	SDM•K20Z02	SDM•K120Z02	SDM•K7•Z02	SDM•K61Z02	SDM•K96Z02	SDM•K98Z02
X11 (1NO+1NC)	SDM•K20X11	SDM•K120X11	SDM•K7•X11	SDM•K61X11	SDM•K96X11	SDM•K98X11
Y11 (1NO+1NC)	SDM•K20Y11	SDM•K120Y11	SDM•K7•Y11	SDM•K61Y11	SDM•K96Y11	SDM•K98Y11
W02 (2NC)	SDM•K20W02	SDM•K120W02	SDM•K7•W02	SDM•K61W02	SDM•K96W02	SDM•K98W02

Safety Limit Switches

Limit switches with keys, shaft lever or pull wire

SBM_K Series

40 mm aluminium casing.
1 cable inlet. IP 66

K30/K40
Key operated
90° adjustable head

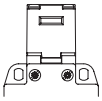
K97
Pull wire without reset
for simple stop

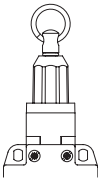
K99
Pull wire with reset
for emergency stop

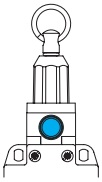
Contact blocks	→ K40	→ K97	→ K99
Z11 (1NO+1NC)	SBM•K40Z11	SBM•K97Z11	SBM•K99Z11
Z02 (2NC)	SBM•K40Z02	SBM•K97Z02	SBM•K99Z02
X11 (1NO+1NC)	SBM•K40X11	SBM•K97X11	SBM•K99X11
Y11 (1NO+1NC)	SBM•K40Y11	SBM•K97Y11	SBM•K99Y11
W02 (2NC)	SBM•K40W02	SBM•K97W02	SBM•K99W02
X21 (2NO+1NC)	SBM•K40X21	SBM•K97X21	SBM•K99X21
X12 (1NO+2NC)	SBM•K40X12	SBM•K97X12	SBM•K99X12
W03 (3NC)	SBM•K40W03	SBM•K97W03	SBM•K99W03

SCM_K Series

60 mm aluminium casing.
3 cable inlets. IP 66



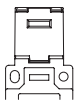




Contact blocks	→ K40	→ K97	→ K99
Z11 (1NO+1NC)	SCM•K40Z11	SCM•K97Z11	SCM•K99Z11
Z02 (2NC)	SCM•K40Z02	SCM•K97Z02	SCM•K99Z02
X11 (1NO+1NC)	SCM•K40X11	SCM•K97X11	SCM•K99X11
Y11 (1NO+1NC)	SCM•K40Y11	SCM•K97Y11	SCM•K99Y11
W02 (2NC)	SCM•K40W02	SCM•K97W02	SCM•K99W02
X21 (2NO+1NC)	SCM•K40X21	SCM•K97X21	SCM•K99X21
X12 (1NO+2NC)	SCM•K40X12	SCM•K97X12	SCM•K99X12
W03 (3NC)	SCM•K40W03	SCM•K97W03	SCM•K99W03

SBP_K Series

40 mm polymeric casing.
1 cable inlet. IP 65 ⧈



Contact blocks	→ K30
Z11 (1NO+1NC)	SBP•K30Z11
Z02 (2NC)	SBP•K30Z02
X11 (1NO+1NC)	SBP•K30X11
Y11 (1NO+1NC)	SBP•K30Y11
W02 (2NC)	SBP•K30W02
X21 (2NO+1NC)	SBP•K30X21
X12 (1NO+2NC)	SBP•K30X12
W03 (3NC)	SBP•K30W03

Safety Limit Switches
Accessories

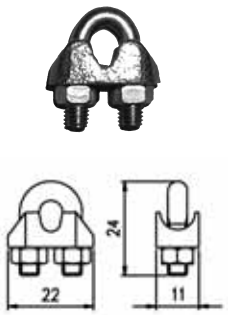
Operating keys (to be ordered separately)

Description	Bent key	Flat key	Bent key	Flat key	Shock absorbing bent key	Shock absorbing flat key	Adjustable joint key
Centre distance fixing holes	22 mm.	22 mm.	13 mm.	13 mm.	15 mm.	15 mm.	40 mm.
	Code	**Code**	**Code**	**Code**	**Code**	**Code**	**Code**
For operating heads K20 and K120	**13**	**14**	**15**	**16**	**17**	**18**	**19**
For operating heads K30 and K40			**35**	**36**			**39**

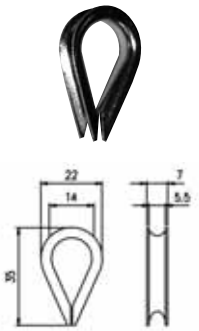
Accessories

OCC 08
Stay Bolt

MOR 05
Rope Clamp

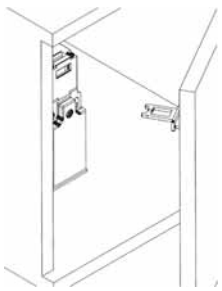


RED 05
Rope eye

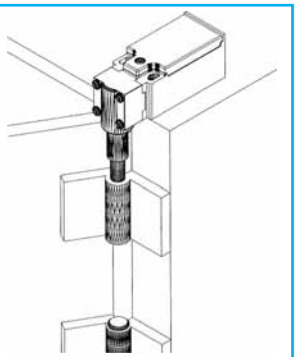


FUN 05
Rope ø 5mm

Examples of applications



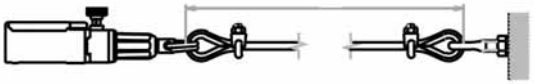
Key safety switch



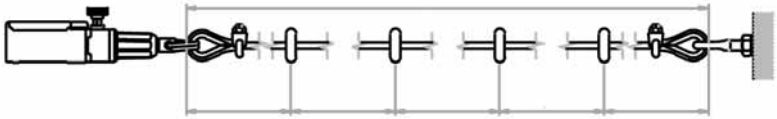
Shaft safety switch

Z lever safety switch

SP, SM, SDP, SDM: 6m max.
SBM, SCM: 16m max.



SP, SM, SDP, SDM: 15m max.
SBM, SCM: 25m max.



SP, SM, SDP, SDM:	3m max.	3m max.	3m max.	3m max.	3m max.
SBM, SCM:	3÷5m max.	3÷5m max.	3÷5m max.	3÷5m max.	3÷5m max.

Pull wire safety switch

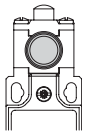
Safety Limit Switches

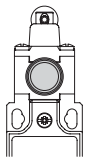
Limit switches with pull button reset

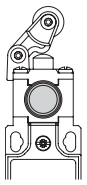
AP_R series 30 mm. polymeric limit switches - IP 65 ☐
EN 50047 - 1 cables entry

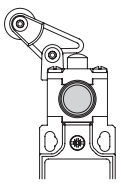
Cable inlets

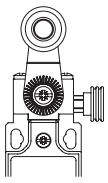
AP1: PG 13.5
AP2: 1/2" NPT (with adapter)
AP3: PG 11
AP4: M 16 x 1,5
AP5: M 20 x 1,5


Steel plunger with reset


Steel plunger with nylon roller with reset


Steel plunger with nylon roller with reset


Steel plunger with nylon roller with reset


Lever with nylon roller with reset

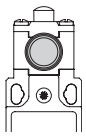
Contact blocks	⊖ R11	⊖ R13	⊖ R31	⊖ R32	⊖ R41
Z11 (1NO+1NC)	AP•R11Z11	AP•R13Z11	AP•R31Z11	AP•R32Z11	AP•R41Z11
Z02 (2NC)	AP•R11Z02	AP•R13Z02	AP•R31Z02	AP•R32Z02	AP•R41Z02
X11 (1NO+1NC)	AP•R11X11	AP•R13X11	AP•R31X11	AP•R32X11	AP•R41X11
W02 (2NC)	AP•R11W02	AP•R13W02	AP•R31W02	AP•R32W02	AP•R41W02

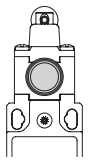
Other versions available on request

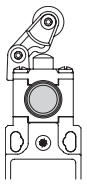
AM_R series 30 mm. metal limit switches - with polymeric working heads - IP 66
1 cables entry

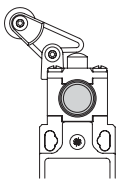
Cable inlets

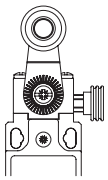
AM1: PG 13.5
AM2: 1/2" NPT
AM3: PG 11
AM4: M 16 x 1,5
AM5: M 20 x 1,5


Steel plunger with reset


Steel plunger with nylon roller with reset


Steel plunger with nylon roller with reset


Steel plunger with nylon roller with reset


Lever with nylon roller with reset

Contact blocks	⊖ R11	⊖ R13	⊖ R31	⊖ R32	⊖ R41
Z11 (1NO+1NC)	AM•R11Z11	AM•R13Z11	AM•R31Z11	AM•R32Z11	AM•R41Z11
Z02 (2NC)	AM•R11Z02	AM•R13Z02	AM•R31Z02	AM•R32Z02	AM•R41Z02
X11 (1NO+1NC)	AM•R11X11	AM•R13X11	AM•R31X11	AM•R32X11	AM•R41X11
W02 (2NC)	AM•R11W02	AM•R13W02	AM•R31W02	AM•R32W02	AM•R41W02

Other versions available on request

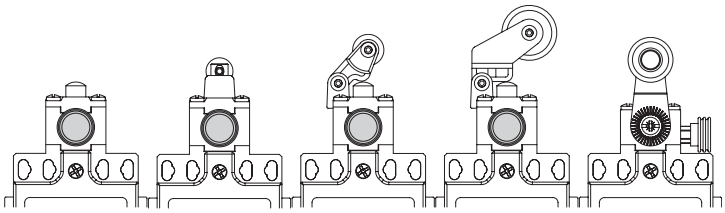
Safety Limit Switches

Limit switches with pull button reset

DP_R series 50 mm. polymeric limit switches - IP 65
2 cables entries

Cable inlets

DP1: PG 13.5
DP2: 1/2" NPT (with adapter)
DP3: PG 11
DP4: M 16 x 1,5
DP5: M 20 x 1,5



Steel plunger with reset | Steel plunger with nylon roller with reset | Steel plunger with nylon roller with reset | Steel plunger with nylon roller with reset | Lever with nylon roller with reset

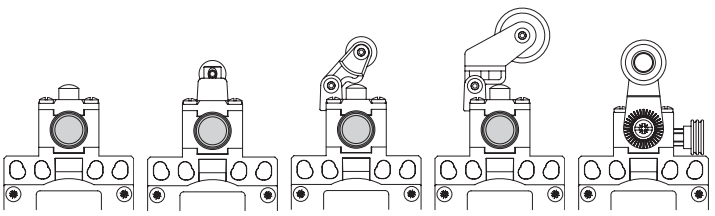
Contact blocks	→ R11	→ R13	→ R31	→ R38	→ R41
Z11 (1NO+1NC)	DP•R11Z11	DP•R13Z11	DP•R31Z11	DP•R38Z11	DP•R41Z11
Z02 (2NC)	DP•R11Z02	DP•R13Z02	DP•R31Z02	DP•R38Z02	DP•R41Z02
X11 (1NO+1NC)	DP•R11X11	DP•R13X11	DP•R31X11	DP•R38X11	DP•R41X11
W02 (2NC)	DP•R11W02	DP•R13W02	DP•R31W02	DP•R38W02	DP•R41W02

Other versions available on request

DM_R series 50 mm. metal limit switches - with polymeric working heads - IP 66
3 cables entries

Cable inlets

DM1: PG 13.5
DM2: 1/2" NPT
DM3: PG 11
DM4: M 16 x 1,5
DM5: M 20 x 1,5



Steel plunger with reset | Steel plunger with nylon roller with reset | Steel plunger with nylon roller with reset | Steel plunger with nylon roller with reset | Lever with nylon roller with reset

Contact blocks	→ R11	→ R13	→ R31	→ R38	→ R41
Z11 (1NO+1NC)	DM•R11Z11	DM•R13Z11	DM•R31Z11	DM•R38Z11	DM•R41Z11
Z02 (2NC)	DM•R11Z02	DM•R13Z02	DM•R31Z02	DM•R38Z02	DM•R41Z02
X11 (1NO+1NC)	DM•R11X11	DM•R13Z02	DM•R31Z02	DM•R38Z02	DM•R41Z02
W02 (2NC)	DM•R11W02	DM•R13Z02	DM•R31Z02	DM•R38Z02	DM•R41Z02

Other versions available on request

NOTES