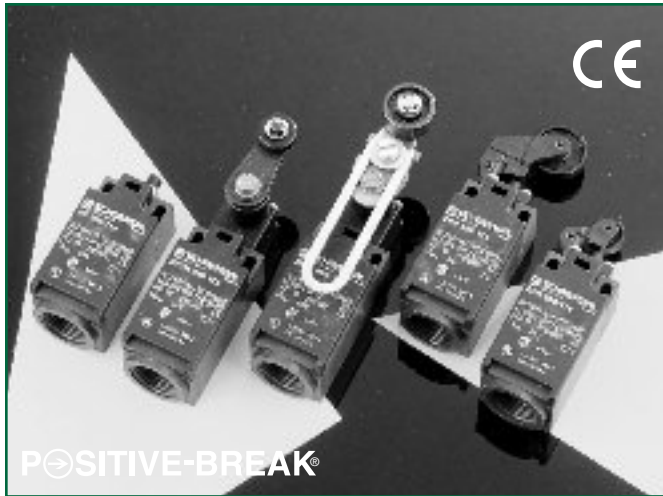


SERIES Z/T236

Safety-Rated, Positive-Break Miniature DIN Limit Switches



Features & Benefits

- **“Positive-Break” NC contacts** ... won't stick or weld shut.
- **Watertight design** ... meets IP67 washdown requirements.
- **Rugged, corrosion-resistant housing** ... tolerates hostile environments.
- **Six popular actuator styles** ... for application versatility.
- **Four 90° actuator mounting positions** ... provide installation flexibility.
- **Slow or snap-action operation** ... choose to best satisfy application requirements.
- **Safety-system approved** ... models with positive-break contacts approved for use in machine guarding applications.
- **Meets rigid safety agency standards** ... IEC, BG, VDE, UL and CSA.

Description

The Z/T236 Series limit switches are designed for use with movable machine guards/access gates which must be closed for operator safety ... and for any other presence/position sensing application normally addressed with conventional limit switches. Their positive-opening NC contacts provide a higher level of safety and/or reliability than conventional spring-driven switches whose contacts can weld or stick shut.

Each is available with a choice of six standard actuators ... rounded plunger, roller plunger, roller rocking lever, rod rocking lever, adjustable roller rocking lever and one-way roller lever ... mountable in any one of four 90° positions. All rocking levers are positively-locked to the shaft, and are adjustable throughout 360° in 10° increments.

Units are available with a choice of slow-action or snap-action contacts.

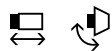
Their rugged fiberglass-reinforced housing and IP67 rating make them ideal alternatives to conventional limit switches.

ORDERING GUIDE

FOR FEATURE:	SPECIFY:
1. Contact operation: Slow Action Snap Action	T Z
2. Operating head	V
3. Roller lever	7 H
4. Body size	236-
5. No. of NO contacts	1
6. No. of NC contacts	1
7. Degree of protection IP 67	Z
8. Sealing of operating head (optional)	Z*
Example 1:	TV7 H 236-11z
Example 2:	ZV7 H 236-11z

*Available on rocking lever actuator style only.

Typical Applications



The Z/T236 Series may be used in any presence/position sensing application normally addressed with conventional limit switches. Models with positive-break NC contacts are approved for use in safety systems. For safety applications the switch must be mounted such that the actuating element of the machine displaces the switch actuator far enough to exceed the positive-break point. (See contact function diagrams: symbol *).

Z/T236 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

Housing	Glass fiber reinforced self-extinguishing thermoplastic
Operating Temperature	-22°F to +175°F (-30°C to +80°C)
Mechanical Life	20 million operations
Minimum Cam Speed (Referenced to Plunger)	Z236 Series: 0.04m./minute T236 Series: 2.4m./minute
Maximum Operating Rate	5000 operations/hour
Bounce Time	Z236 Series: £ 3 ms T236 Series: Function of cam speed
Changeover Time	Z236 Series: £ 5 ms for minimum cam speed T236 Series: Function of cam speed
Degree of Protection	IP67
Conformity to Standards	IEC 947-5-1 EN 60947-5-1 DIN VDE 0660 Part 200 BG-GS-ET15 DIN EN 50 047 CSA-C22.2 UL508

ELECTRICAL SPECIFICATIONS

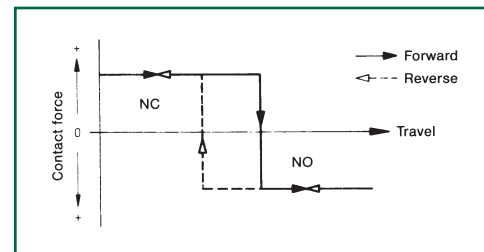
Contacts	Fine silver
Contact Configuration	Double-pole, double-break with electrically-separated contact bridges
Contact Gap	Z236 Series: 2x0.08 inches (2x2mm) T236 Series: 2x0.14 inches (2x3.5mm)
Contact Rating	4A/230VAC 2.5A/400VAC
Switching Action	Snap-action, positive-break NC contacts (Z236) Slow-action, positive-break NC contacts (T236)
Short Circuit Protection	Fuse: 10A (time delay) 2.5A (no time delay) 6A (time delay) as positive-break position switch
Rated Insulation Voltage	500VAC
Rated Impulse Withstand Voltage	6kV
Type Terminals	Screw terminals, maximum 2.5mm (AWG13) wire



Series T236
Slow-action
switch

Series Z236
Snap-action
switch

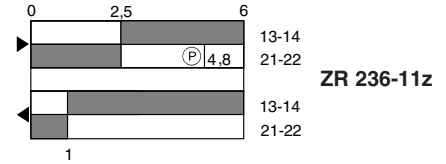
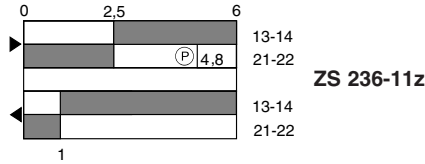
CONTACT SYSTEMS



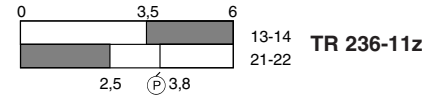
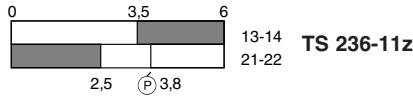
Z/T236 TECHNICAL DATA

Contact function diagrams

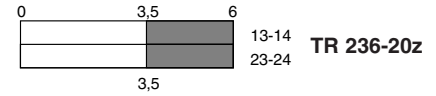
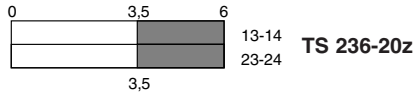
Snap action positive break
1 NO + 1 NC



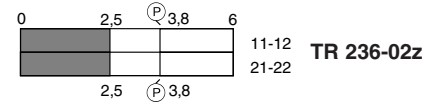
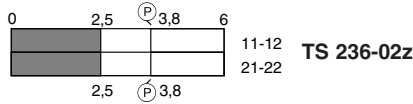
Slow action
1 NO + 1 NC (break before make)



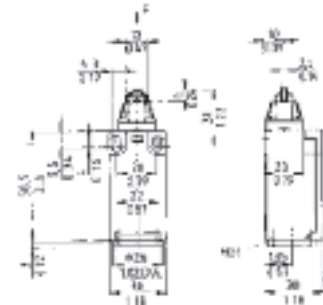
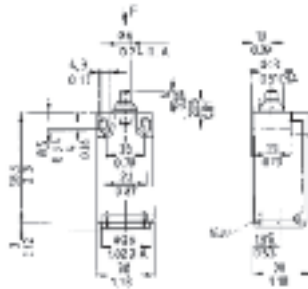
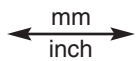
2 NO (simultaneous)



2 NC (simultaneous)



Dimensions



Types of Actuators

Rounded plunger
Style S

Roller plunger
Style R

Actuating force/-torque

9 N (19 N positive break)

9 N (19 N positive break)

Actuating speed Z/T at \angle

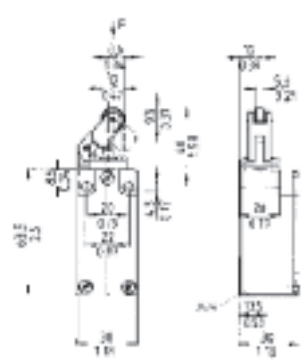
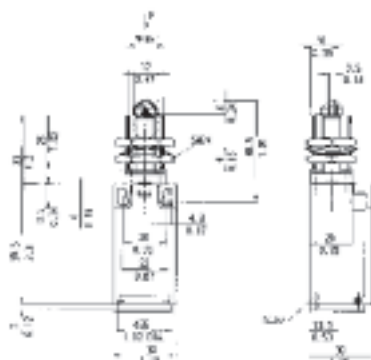
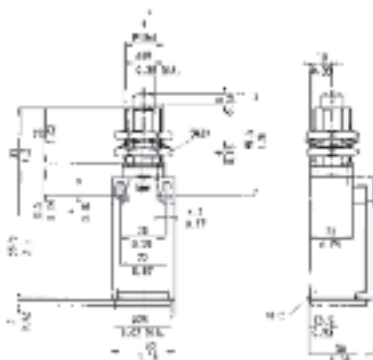
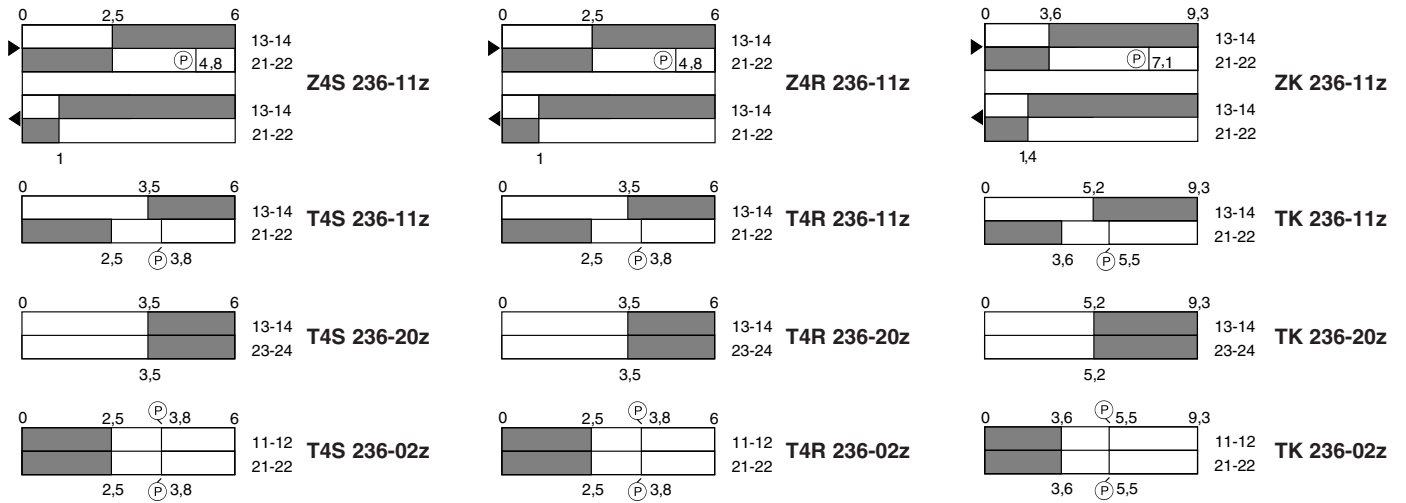
0°: min. 10/60 mm/min, max. 1 m/s

30°: min. 20/120 mm/min, max. 1 m/s

Part No.	Symbol	Action	Style S	Style R
		Snap Action positive break	ZS 236-11z	ZR 236-11z
		Slow action	TS 236-11z	TR 236-11z
		Slow action	TS 236-20z*	TR 236-20z*
		Slow action	TS 236-02z	TR 236-02z

* Not for use in safety applications

Z/T236 TECHNICAL DATA



**Rounded plunger (central mounting)
Style 4S**

**Top roller plunger (central mounting)
Style 4R**

**Top roller lever
Style K**

9N (19N positive break)

9 N (19N positive break)

8 N (18 N positive break)

0°: min. 10/60 mm/min, max. 1 m/s

30°: min. 20/120 mm/min, max. 1 m/s

30°: min. 24/240 mm/min, max. 1 m/s

Z4S 236-11z

Z4R 236-11z

ZK 236-11z

T4S 236-11z

T4R 236-11z

TK 236-11z

T4S 236-20z*

T4R 236-20z*

TK 236-20z*

T4S 236-02z

T4R 236-02z

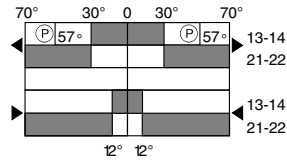
TK 236-02z

* Not for use in safety applications

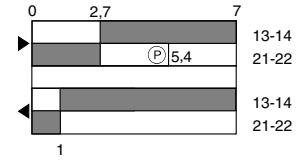
Z/T236 TECHNICAL DATA

Contact function diagrams

Snap action positive break
1 NO + 1 NC

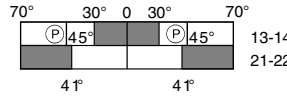


ZV1H 236-11z

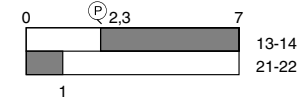


Z1R 236-11z

Slow action
1 NO + 1 NC (break before make)

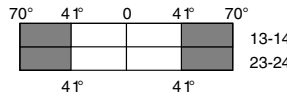


TV1H 236-11z

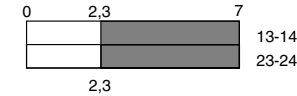


T1R 236-11z

2 NO (simultaneous)

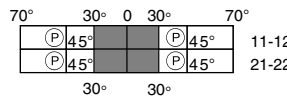


TV1H 236-20z

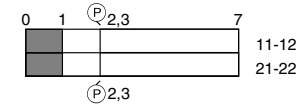


T1R 236-20z

2 NC (simultaneous)



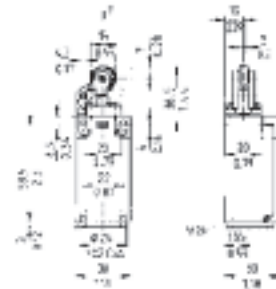
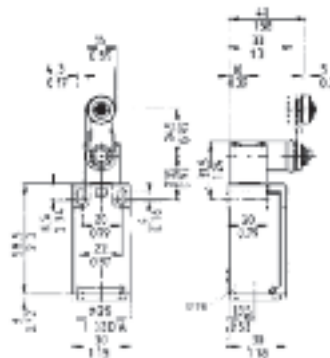
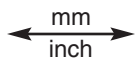
TV1H 236-02z



T1R 236-02z



Dimensions



Types of Actuators

Roller rocking lever
Style 1H

Top roller lever
Style 1R

Actuating force/-torque

15 Ncm (18.5 Ncm positive break)

15 Ncm (18.5 Ncm positive break)

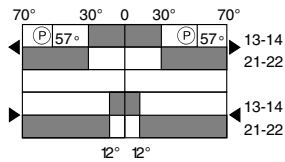
Actuating speed Z/T at ∇

30°: min. 92/492 mm/min, max. 1 m/s

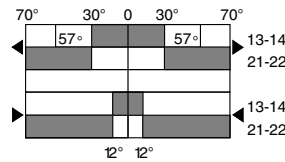
30°: min. 27/160 mm/min, max. 1 m/s

Part No.	Actuator Type	Roller rocking lever Style 1H	Top roller lever Style 1R
13-14 21-22	Snap Action positive break	ZV1H 236-11z	Z1R 236-11z
13-14 21-22	Slow action	TV1H 236-11z	T1R 236-11z
13-14 23-24	Slow action	TV1H 236-20z*	T1R 236-20z*
11-12 21-22	Slow action	TV1H 236-02z	T1R 236-02z

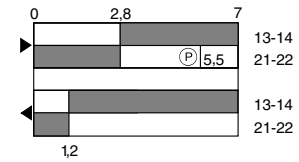
Z/T236 TECHNICAL DATA



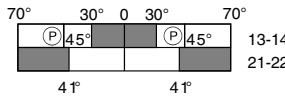
ZV7H 236-11z



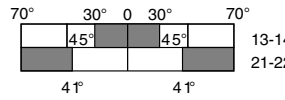
ZV10H 236-11z



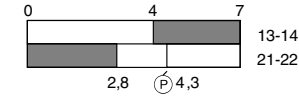
Z3K 236-11z



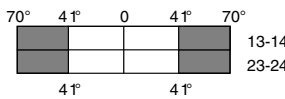
TV7H 236-11z



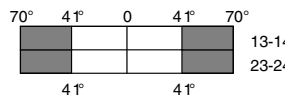
TV10H 236-11z



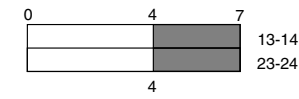
T3K 236-11z



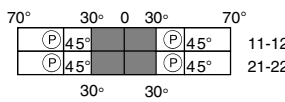
TV7H 236-20z



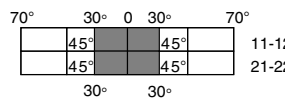
TV10H 236-20z



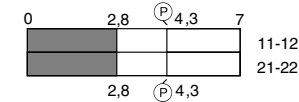
T3K 236-20z



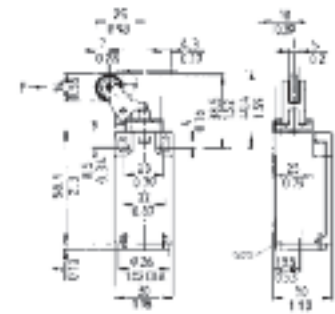
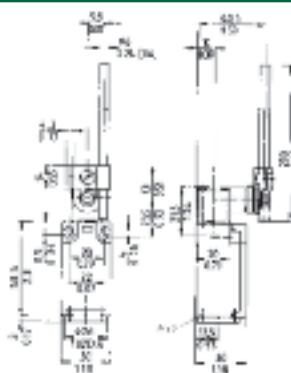
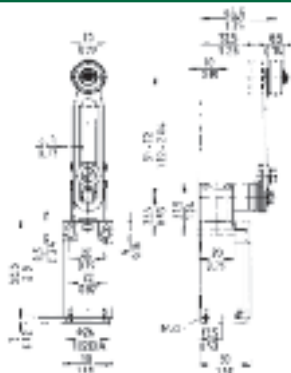
TV7H 236-02z



TV10H 236-02z



T3K 236-02z



**Adjustable roller rocking lever*
Style 7H**

**Rod rocking lever*
Style 10H**

**One-way roller lever
Style 3K**

15 Ncm (18.5 Ncm positive break)

15 Ncm (18.5 Ncm positive break)

9 N (19 N positive break)

30°: min. 240/1440 mm/min, max. 1 m/s

30°: min. 687/4122 mm/min, max. 1 m/s

30°: min. 27/160 mm/min, max. 1 m/s

ZV7H 236-11z*

ZV10H 236-11z*

Z3K 236-11z

TV7H 236-11z*

TV10H 236-11z*

T3K 236-11z

TV7H 236-20z*

TV10H 236-20z*

T3K 236-20z*

TV7H 236-02z*

TV10H 236-02z*

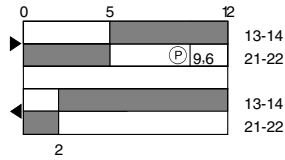
T3K 236-02z

* Not for use in safety applications

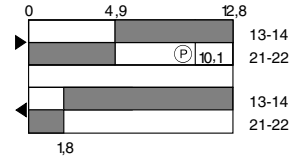
Z/T236 TECHNICAL DATA

Contact function diagrams

Snap action positive break
1 NO + 1 NC

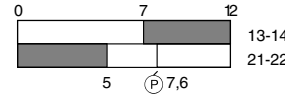


Z4K 236-11z

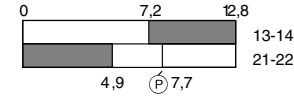


ZK4 236-11z

Slow action
1 NO + 1 NC (break before make)

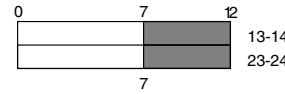


T4K 236-11z

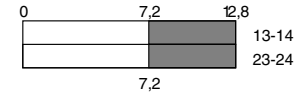


TK4 236-11z

2 NO (simultaneous)

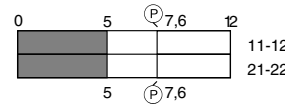


T4K 236-20z

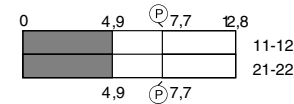


TK4 236-20z

2 NC (simultaneous)



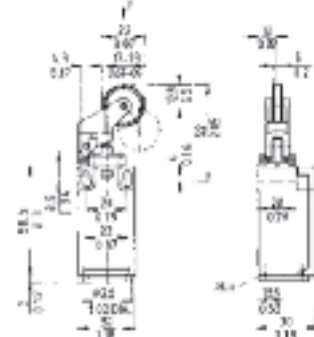
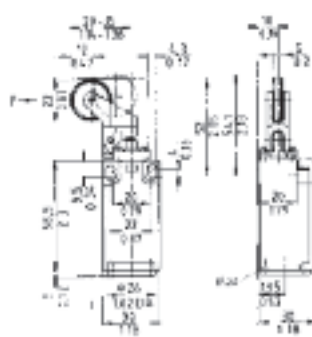
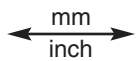
T4K 236-02z



TK4 236-02z



Dimensions



Types of Actuators

One-way roller lever
Style 4K

One-way roller lever
Style K4

Actuating force/-torque

6 N (16 N positive break)

6 N (16 N positive break)

Actuating speed Z/T at ∇

30°: min. 44/264 mm/min, max. 1 m/s

30°: min. 56/336 mm/min, max. 1 m/s

Part No.	Symbol	Action	Style 4K	Style K4
		Snap Action positive break	Z4K 236-11z	ZK4 236-11z
		Slow action	T4K 236-11z	TK4 236-11z
		Slow action	T4K 236-20z*	TK4 236-20z*
		Slow action	T4K 236-02z	TK4 236-02z