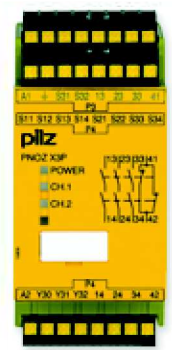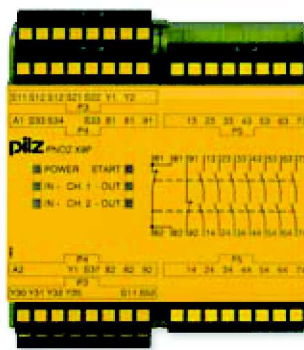# ▶ Safety relays PNOZ X

Safety relays from the product range PNOZ X are proven through their reliability and robustness and have developed a wide application range in the most varied of safety applications. PNOZ is the world's most widely used safety relay. One PNOZ is used per safety function.

PNOZ X1P   PNOZ X3P   PNOZ X9P

Customized safety for each application

Its technical features are based on voltage-free, electromechanical contacts in 2 relay technology. Sizes vary from 22.5 to 90 mm, the number of contacts from two to eight. Whatever your safety requirement – PNOZ X has already proved itself a million times over in the rugged everyday industrial environment. Why not take advantage!
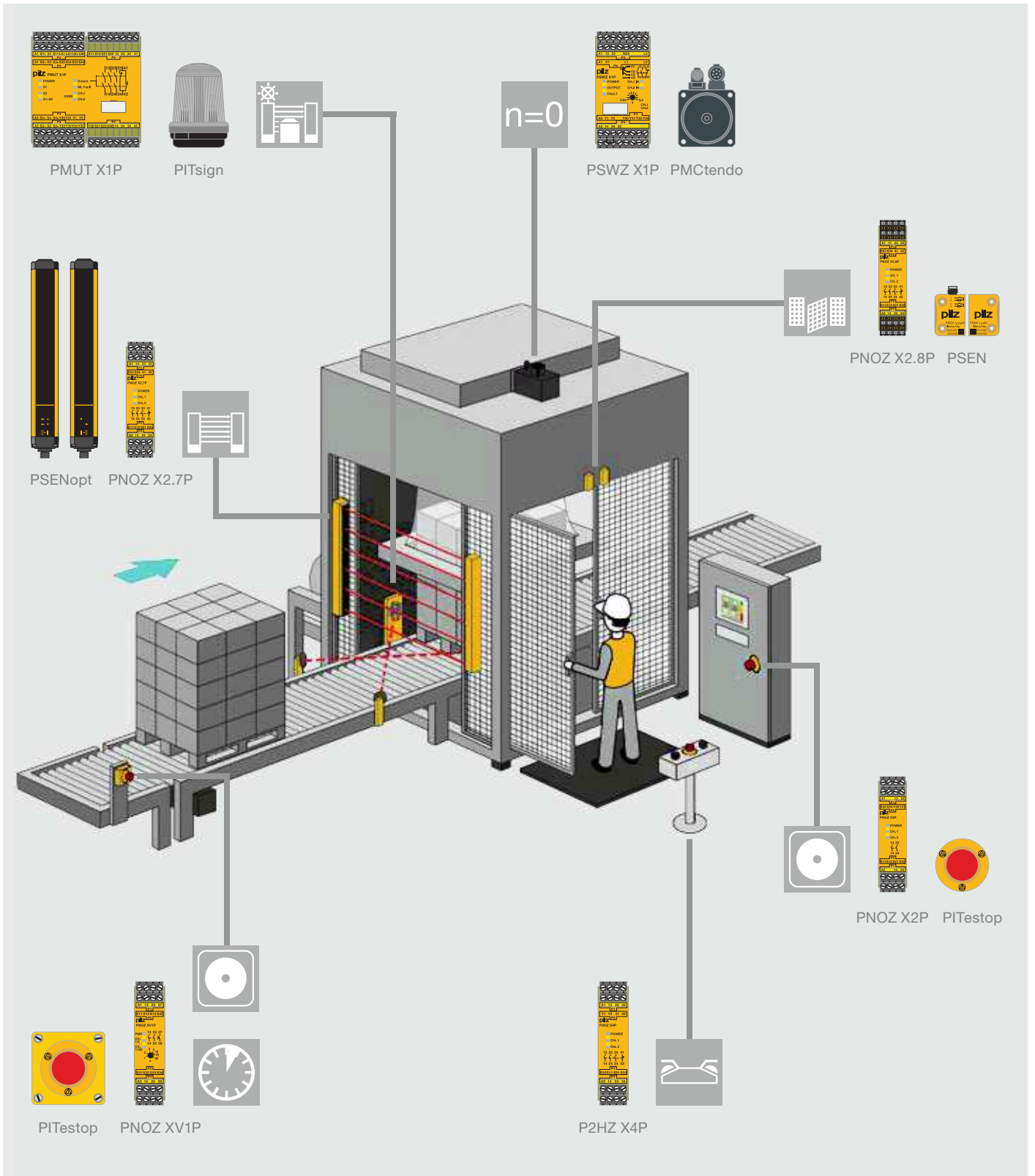
Your benefits at a glance

▶ Technology proven over many years of use

▶ Huge selection of products

▶ For all safety functions such as monitoring E-STOPs, safety gates, light beam devices, muting, pressure sensitive mats, two-hand control and much more

▶ Delayed and instantaneous contact expansion modules, safe timers, safe monitoring relays for standstill, speed and other functions

▶ Excellent price/performance ratio

▶ Rapid commissioning thanks to plug-in terminals

▶ Maximum safety with minimum space requirement

▶ Complete solution comprising evaluation devices, compatible sensor technology, control and signal devices

▶ Low storage costs thanks to universal power supply and plug-in terminals

Keep up-to-date on safety relays PNOZ X:

🖑 Webcode   5225

Online information at www.pilz.com

PMUT X1P

PITsign

n=0

PSWZ X1P PMCtendo

PNOZ X2.8P PSEN

PSENopt PNOZ X2.7P

PNOZ X2P PITestop

PITestop PNOZ XV1P

P2HZ X4P

Example: using safety relays PNOZ X on a packaging machine.

▶ Selection guide – PNOZ X

Safety relays PNOZ X

Type	Application					
PNOZ X1P	◆	◆				
PNOZ X2P	◆	◆				
PNOZ X2.7P	◆	◆	◆			
PNOZ X2.8P	◆	◆	◆			
PNOZ X3P	◆	◆	◆			
PNOZ X7P	◆	◆				
PNOZ X8P	◆	◆	◆			
PNOZ X9P	◆	◆	◆			
PNOZ X10.11P	◆	◆	◆			
PNOZ X11P	◆	◆	◆			
PNOZ XV1P	◆	◆	◆			
PNOZ XV3P	◆	◆	◆			
PNOZ XV3.1P	◆	◆	◆			
PMUT X1P	◆		◆	◆		
P2HZ X1P					◆	EN 574, Type IIIC
P2HZ X4P					◆	EN 574, Type IIIC
PSWZ X1P						◆
PZE X4P	Contact expansion					

Relays

Relays

Performance Level (PL) – EN ISO 13849-1	Safety Integrity Level (SIL) CL – claim limit in accordance with IEC 62061	Output contacts Safety-related		Non-safety-related		Housing width in mm
e	3	3	-	1	-	22.5
e	3	2	-	-	-	22.5
e	3	3	-	1	-	22.5
e	3	3	-	1	-	22.5
e	3	3	-	1	1	45.0
e	3	2	-	-	-	22.5
e	3	3	-	2	2	45.0
e	3	7	-	2	2	90.0
e	3	6	-	4	-	90.0
e	3	7	-	1	2	90.0
e (d) [1]	3	2	1	-	-	22.5
e (d) [1]	3	3	2	-	-	45.0
e (d) [1]	3	3	2	1	-	90.0
e	3	3	-	1	5	90.0
e	3	3	-	1	2	45.0
e	3	3	-	1	-	22.5
e	3	2	-	1	1	45.0
e	3	4	-	-	-	22.5

[1] Value applies for instantaneous (delayed) safety contacts

Technical documentation on safety relays PNOZ X:

Webcode 0685

Online information at www.pilz.com

▶ Technical details – PNOZ X
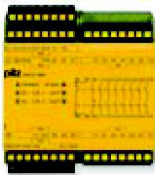
Safety relays PNOZ X

PNOZ X1P

PNOZ X2.8P

PNOZ X3P

PNOZ X9P

Type	Supply voltage (U$_B$):	Outputs: Voltage/current/rating	Dimensions (H x W x D) in mm
PNOZ X1P	24 VDC	DC1: 24 V/6 A/150 W	101/94 [1)] x 22.5 x 121
PNOZ X2P	▶ 24 VAC/DC ▶ 48 … 240 VAC/DC	DC1: 24 V/6 A/150 W	101/94 [1)] x 22.5 x 121
PNOZ X2.7P PNOZ X2.8P	▶ 24 VAC/DC ▶ 24 … 240 VAC/DC	DC1: 24 V/6 A/150 W	101/94 [1)] x 22.5 x 121
PNOZ X3P	▶ 24 VAC/DC ▶ 24 … 240 VAC/DC	DC1: 24 V/8 A/200 W	101/94 [1)] x 45 x 121
PNOZ X7P	▶ 24 VAC/DC ▶ 110 … 120, 230 … 240 VAC	DC1: 24 V/6 A/150 W	101/94 [1)] x 22.5 x 121
PNOZ X8P	▶ 24 VDC ▶ 24, 110, 230 VAC	DC1: 24 V/8 A/200 W	101/94 [1)] x 45 x 121
PNOZ X9P	▶ 12 VDC ▶ 24 VDC, 100 … 240 VAC	DC1: 24 V/8 A/200 W	101/94 [1)] x 90 x 121
PNOZ X11P	▶ 24 VDC, 24 VAC ▶ 110 … 120, 230 … 240 VAC	DC1: 24 V/8 A/200 W	101/94 [1)] x 90 x 121

Features	Order number	
	Spring-loaded terminals	Plug-in screw terminals
▸ 1-channel operation	787 100	777 100
▸ 2-channel operation with detection of shorts across contacts ▸ Automatic or monitored reset can be selected	▸ 24 VAC/DC _____ 787 303 ▸ 48 … 240 VAC/DC _____ 787 307	▸ 24 VAC/DC _____ 777 303 ▸ 48 … 240 VAC/DC _____ 777 307
▸ 2-channel operation with or without detection of shorts across contacts ▸ PNOZ X2.7P: Monitored start ▸ PNOZ X2.8P: Automatic start	▸ PNOZ X2.7P C - 24 VAC/DC _____ 787 305 - 24 … 240 VAC/DC ___ 787 306 ▸ PNOZ X2.8P C - 24 VAC/DC _____ 787 301 - 24 … 240 VAC/DC ___ 787 302	▸ PNOZ X2.7P C - 24 VAC/DC _____ 777 305 - 24 … 240 VAC/DC ___ 777 306 ▸ PNOZ X2.8P C - 24 VAC/DC _____ 777 301 - 24 … 240 VAC/DC ___ 777 302
▸ Dual-channel wiring, with or without detection of shorts across contacts ▸ Monitored or automatic reset can be selected ▸ 1 semiconductor output ▸ Safety gate function with N/C / N/O combination	▸ 24 VAC/DC _____ 787 310 ▸ 24 … 240 VAC/DC ___ 787 313	▸ 24 VAC/DC _____ 777 310 ▸ 24 … 240 VAC/DC ___ 777 313
▸ 1-channel operation	▸ 24 VAC/DC _____ 787 059 ▸ More available on request	▸ 24 VAC/DC _____ 777 059 ▸ More available on request
▸ 2-channel operation with or without detection of shorts across contacts ▸ Monitored or automatic reset can be selected ▸ 2 semiconductor outputs	▸ 24 VAC _____ 787 770 ▸ 24 VDC _____ 787 760 ▸ More available on request	▸ 24 VAC _____ 777 770 ▸ 24 VDC _____ 777 760 ▸ More available on request
▸ Dual-channel wiring, with or without detection of shorts across contacts ▸ Monitored or automatic reset can be selected ▸ 2 semiconductor outputs	▸ 24 VDC _____ 787 609 ▸ 24 VDC, 100 … 240 VAC _____ 787 606	▸ 12 VDC _____ 777 607 ▸ 24 VDC _____ 777 609 ▸ 24 VDC, 100 … 240 VAC _____ 777 606
▸ Dual-channel wiring, with or without detection of shorts across contacts ▸ Monitored or automatic reset can be selected ▸ 2 semiconductor outputs	▸ 24 VDC, 24 VAC _____ 787 080 ▸ 110 … 120 VAC _____ 787 083 ▸ 230 … 240 VAC _____ 787 086	▸ 24 VDC, 24 VAC _____ 777 080 ▸ 110 … 120 VAC, 24 VDC _____ 777 083 ▸ 230 … 240 VAC, 24 VDC _____ 777 086

[1] Height with spring-loaded terminals / plug-in screw terminals

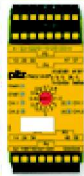Technical documentation on safety relays PNOZ X:

Webcode   0685

Online information at www.pilz.com

▶ Technical details – PNOZ X

Safety relays PNOZ X

PNOZ XV1P

PNOZ XV3P

PMUT X1P

P2HZ X4P

Type	Supply voltage (U$_B$):	Outputs: Voltage/current/rating	Dimensions (H x W x D) in mm
PNOZ XV1P	24 VDC	DC1: 24 V/5 A/125 W	101/94 [1)] x 22.5 x 121
PNOZ XV3P	24 VDC	DC1: 24 V/8 A/200 W	101/94 [1)] x 45 x 121
PNOZ XV3.1P	▶ 24 VDC ▶ 24 … 240 VAC/DC	DC1: 24 V/8 A/200 W	101/94 [1)] x 90 x 121
PMUT X1P	24 VDC	DC1: 24 V/8 A/200 W	101/94 [1)] x 90 x 121
P2HZ X1P	▶ 24 VDC ▶ 24, 42, 110, 115, 230, 240 VAC	DC1: 24 V/5 A/125 W	101/94 [1)] x 45 x 121
P2HZ X4P	24 VAC/DC	DC1: 24 V/5 A/125 W	101/94 [1)] x 22.5 x 121
PSWZ X1P	24 … 240 VAC/DC	DC1: 24 V/6 A/150 W	101/94 [1)] x 45 x 121
PZE X4P	24 VDC	DC1: 24 V/6 A/150 W	101/94 [1)] x 22.5 x 121

Relays

Relays

Features	Order number	
	Spring-loaded terminals	Plug-in screw terminals
▶ Dual-channel wiring, with or without detection of shorts across contacts ▶ Monitored or automatic reset can be selected	▶ 0.1 … 3 s —————— 787 601 ▶ 1 … 30 s —————— 787 602	▶ 0.1 … 3 s —————— 777 601 ▶ 1 … 30 s —————— 777 602
▶ Dual-channel wiring, with or without detection of shorts across contacts ▶ Monitored or automatic reset can be selected	▶ 3 s —————— 787 512 ▶ 30 s —————— 787 510 ▶ More available on request	▶ 3 s —————— 777 512 ▶ 30 s —————— 777 510 ▶ More available on request
▶ Dual-channel wiring, with or without detection of shorts across contacts ▶ Monitored or automatic reset can be selected ▶ Universal power supply 24 … 240 VAC/DC	▶ 3 s selectable, 24 … 240 VAC/DC ——— 787 532 ▶ 30 s selectable, 24 … 240 VAC/DC ——— 787 530 ▶ More available on request	▶ 3 s selectable, 24 … 240 VAC/DC ——— 777 532 ▶ 30 s selectable, 24 … 240 VAC/DC ——— 777 530 ▶ More available on request
▶ Up to 4 muting sensors ▶ Monitoring and switching muting lamps ▶ Parallel and sequential muting ▶ Simultaneity monitoring ▶ 5 semiconductor outputs ▶ Reset input ▶ Override function via key switch in the case of a fault ▶ LED status indicators	788 010	778 010
▶ 2 semiconductor outputs	▶ 24 VDC —————— 787 340 ▶ More available on request	▶ 24 VDC —————— 777 340 ▶ More available on request
▶ 22.5 mm width	▶ 24 VAC —————— 787 354 ▶ 24 VDC —————— 787 355	▶ 24 VAC —————— 777 354 ▶ 24 VDC —————— 777 355
▶ Safe standstill monitoring ▶ 1 or 2-channel operation ▶ No external components required ▶ Fault signal if simultaneity time is exceeded ▶ Reset input ▶ Detects open circuits	▶ U_M: 0.5 V —————— 787 949 ▶ U_M: 3 V —————— 787 950	▶ U_M: 0.5 V —————— 777 949 ▶ U_M: 3 V —————— 777 950
▶ 1-channel operation	787 585	777 585

[1] Height with spring-loaded terminals / plug-in screw terminals

Technical documentation on safety relays PNOZ X:

Webcode 0685

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