

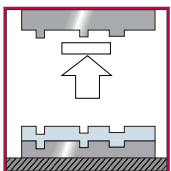
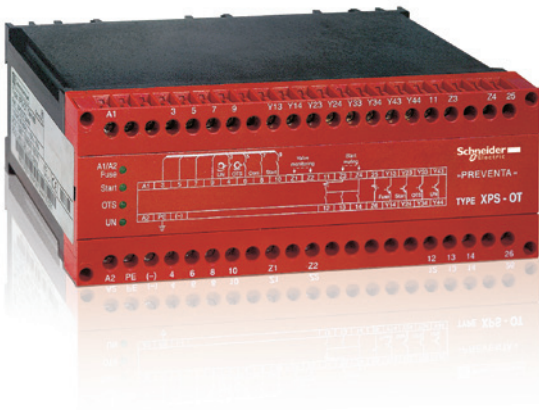
# Preventa safety modules

# XPSOT

For safety stop with automatic  
overtravel monitoring and control

Catalogue

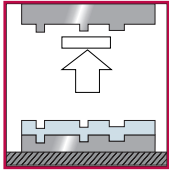
june 2014



# Preventa safety modules

## Type XPSOT

For safety stop with automatic overtravel monitoring and control



### Operating principle

Safety module **XPSOT** is used on eccentric presses to monitor overtravel and ensure that the press slide stops in a non-dangerous position, i.e. top dead centre (TDC), during normal (non-emergency) operation.

Use of this module, designed in accordance with standard EN 692 relating to mechanical press safety, makes it possible to create a redundant, self-monitoring control system. The two essential functions of this safety module are to:

■ **Trigger the end of cycle stop sequences slightly before top dead centre (at point A) so as to come to a complete stop at TDC.**

After TDC, the permissible overtravel is approximately 10°. The safety module immediately detects any overtravel. Overtravel is indicative of braking device deterioration and, in this case, jog mode must be used to move the slide back to TDC. The next cycle will be inhibited to allow maintenance to be performed on the braking device (cam 1).

■ **Take over control monitoring during the dangerous part of the cycle (slide downstroke). Any stop instruction issued between TDC (0°) and point C (approximately 150° after TDC) causes an immediate stop of the press.**

**This approximate value of 150° corresponds to the 8 mm tool closure dimension (safety point).**

When a stop instruction is issued after this safety point, the press completes the cycle and comes to a complete stop at TDC (cam 2).

Control of the dangerous part of the cycle (generally the slide downstroke) is usually activated from a two-hand control station associated with a safety module (type **XPSBCE**).

Overtravel monitoring is performed **on each cycle** by safety module **XPSOT**.

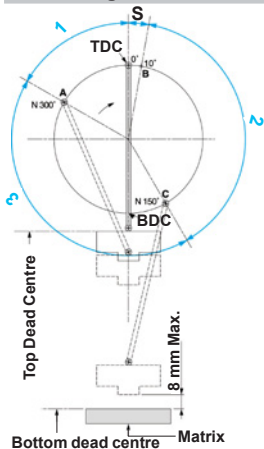
### Maximum achievable safety level

- PL e/Category 4 conforming to EN/ISO 13849-1
- SILCL 3 conforming to EN/IEC 62061

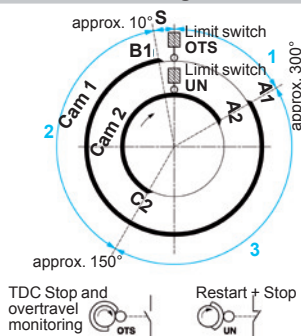
### Product certifications

- UL
- CSA
- TÜV

### Press diagram



### Control cams diagram



- 1 Permissible overtravel zone.
- 2 Dangerous zone (usually slide downstroke).
- 3 Non-dangerous zone (usually slide upstroke).

S Permissible overtravel.

A Press stop trigger point.

B Point at which permissible overtravel is exceeded (a stop instruction issued after point B will lock up the press).

C Takeover point, beyond which the press will complete its cycle up to TDC.

TDC Top dead centre, actual stopping zone of the press.

BDC Bottom dead centre.

### Cam operation

Cam 1 is associated with the **OTS**, limit switch (LS), cam 2 with the **UN** limit switch (the limit switches must be located on different cams for safety reasons). The **OTS** limit switch is deactivated at TDC, at which point the **UN** limit switch is activated.

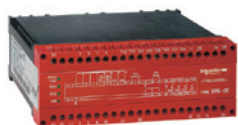
Point A1 of **cam 1** is located approximately 300° after TDC and, when reached, the press stops and comes to a standstill: **A1 is the press stop trigger point**. Point B1, located approximately 10° after TDC, constitutes the end of cam 1: **If B1 is exceeded during stopping, the overtravel is abnormally long, the press locks up** and the next cycle is inhibited.

Point A2 of cam 2 functions like point A1 on cam 1 (contact state of the **UN** limit switch reversed in relation to the state of the **OTS** limit switch).

Point C2, located approximately 150° after TDC, corresponds to the 8 mm tool closing dimension. Stop instructions issued after C2 is reached are not executed until point A2 is reached.

### References

Description	Display	Supply	Reference	Weight kg/ lb
Safety modules for safety stop with automatic overtravel monitoring and control	4 LEDs	115 V ~	<b>XPSOT3444</b>	1.100/ 2.425
		230 V ~	<b>XPSOT3744</b>	1.100/ 2.425



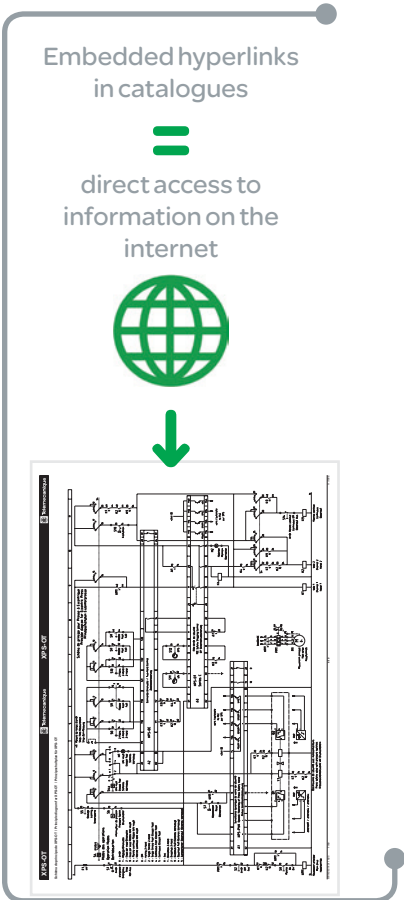
XPSOT

# Preventa safety modules

## Type XPSOT

For safety stop with automatic overtravel monitoring and control

>> Wiring diagram and Functional Diagram are available on the "e-Shop" via the partnumber.



**Operating principle, references**

**Preventa safety modules**  
Type XPSOT  
For safety stop with automatic overtravel monitoring and control

**Operating principle**

Safety module XPSOT is used on eccentric presses to monitor overtravel and ensure that the press slide stops in a non-dangerous position, i.e. top dead centre (TDC), during normal (non-emergency) operation. Use of this module, designed in accordance with standard EN 692 relating to mechanical press safety, makes it possible to create a redundant, self-monitoring control system. The two essential functions of this safety module are to:

- Trigger the end of cycle stop sequences slightly before top dead centre (at point A) so as to come to a complete stop at TDC.
- After TDC, the permissible overtravel is approximately 10°. The safety module immediately detects any overtravel. Overtravel is indicative of braking device deterioration and, in this case, jog mode must be used to move the slide back to TDC. The next cycle will be inhibited to allow maintenance to be performed on the braking device (cam 1).
- Take over control monitoring during the dangerous part of the cycle (slide downstroke). Any stop instruction issued between TDC (0°) and point C (approximately 150° after TDC) causes an immediate stop of the press. This approximate value of 150° corresponds to the 8 mm tool closure dimension (safety point). When a stop instruction is issued after this safety point, the press completes the cycle and comes to a complete stop at TDC (cam 2).

Control of the dangerous part of the cycle (generally the slide downstroke) is usually activated from a two-hand device (type XPSBCE).

Control cycle by safety module XPSOT.

3849-1.

**Product certifications**

- UL
- CSA
- TÜV

**References**

Description	Display	Supply	Reference	Weight kg/ lb
Safety modules for safety stop with automatic overtravel monitoring and control	41 LEDs	115 V AC	XPSOT3444	1.100/ 2.425
		230 V ~	XPSOT744	1.100/ 2.425

**Operating principle (continued)**

Press diagram      Control cams diagram

> Click on a partnumber, the hyperlink opens the "e-Shop"

> Click on "Documents & Download"

XPSOT3444  
module XPSOT - stop at top dead center with automatic overtravel - 115 V AC

Download your XPSOT3444 datasheet

Change your selection Remove all

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Main Show

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Standards EN 60204-1

> Click on "Instruction sheet"

Related documents

XPSOT3444  
module XPSOT - stop at top dead center with automatic overtravel - 115 V AC

Refine your selection

- Product image
- Instruction sheet
- Product environmental
- End of life manual
- CAD

Result: 2 documents

Instruction sheet

XPSOT safety modules for safety stop with automatic overtravel monitoring and control



**More information on**  
<http://www.schneider-electric.com/machinesafety>

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