

XML Electromechanical Pressure Switches

Introduction

XML pressure and vacuum switches for control circuits are used to control the pressure of hydraulic oils, fresh water, sea water, air, steam, corrosive fluids, or viscous products, up to 7250 psi (500 bar).

- **XMLA** pressure and vacuum switches have a fixed differential and are for detection of a single threshold. They incorporate a 1 C/O single-pole contact.
- **XMLB** pressure and vacuum switches have an adjustable differential and are for regulation between two thresholds. They incorporate a 1 C/O single-pole contact.
- **XMLC** pressure and vacuum switches have an adjustable differential and are for regulation between two thresholds. They incorporate two C/O single-pole contacts.
- **XMLD** pressure and vacuum switches are dual-stage switches, each stage with a fixed differential, and are for detection at each threshold. They incorporate two C/O single-pole contacts (one per stage).

Setting

XMLA: Pressure and vacuum switches with fixed differential

- **Rising pressure**—Operating point PH is set by adjusting the red screw (1).
- **Falling pressure**—Operating point PB is not adjustable.

The difference between the trip and reset points of the contact is the inherent differential of the switch (contact differential, friction, etc.).

XMLB and XMLC: Pressure and vacuum switches with adjustable differential

When setting the pressure and vacuum switches, first adjust the operating point on rising pressure (PH), then the operating point on falling pressure (PB).

- **Rising pressure**—Operating point PH is set by adjusting the red screw (1).
- **Falling pressure**—Operating point PB is set by adjusting the green screw (2).

XMLD: Dual-stage pressure and vacuum switches with fixed differential for each threshold**Operating point on rising pressure of stage 1 and stage 2**

- **First stage** operating point on rising pressure (PH1) is set by adjusting the red screw (1).
- **Second stage** operating point on rising pressure (PH2) is set by adjusting the blue screw (2).

Operating point on falling pressure

- The operating points on falling pressure (PB1 and PB2) are not adjustable.
- The difference between the trip and reset points of each contact is the inherent differential of the switch (such as contact differential or friction).

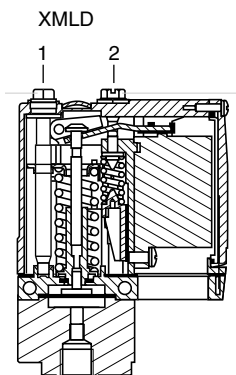
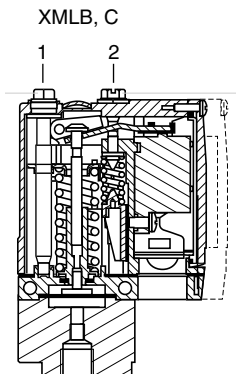
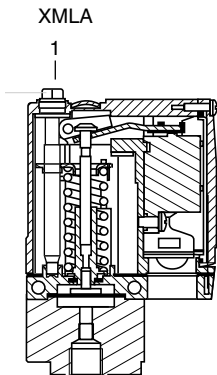
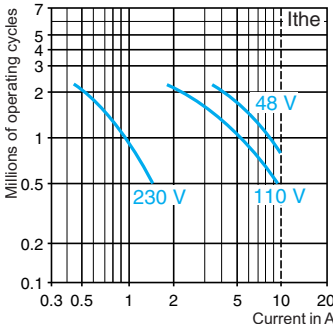


Table 2: Environmental specifications

| | |
|---|--|
| Conformity to standards | CE, IEC/EN 60947-5-1, UL 508, CSA C22-2 n° 14 |
| Product certifications | UL, CSA, CCC, BV, LRQS, RINA, GL, DNV, VIT-SEPRO |
| Protective treatment | Standard version "TC". Special version "TH" |
| Ambient air temperature, °F (°C) | For operation: -13 to +158 (-25 to +70). Storage: -40 to +158 (-40 to +70) |
| Fluids or products controlled | Hydraulic oils, air, fresh water, sea water, 32–320 °F (0 to 160 °C), depending on model Steam, corrosive fluids, viscous products, 32–320 °F (0 to 160 °C), depending on model |
| Materials | Case: zinc alloy. Component materials in contact with fluid: see pages 77–78 |
| Operating position | All positions |
| Vibration resistance | 4 gn (30...500 Hz) conforming to IEC 68-2-6 except XML-L35 ..., XML-001 ... and XMLBM03 ...: 2 gn |
| Shock resistance | 50 gn conforming to IEC 68-2-27 except XML-L35 ..., XML-001 ... and XMLBM03 ...: 30 gn |
| Electric shock protection | Class I conforming to IEC 1140, IEC 536 and NF C 20-030 |
| Degree of protection | Screw terminal models: IP 66 conforming to IEC/EN 60529 Connector models: IP 65 conforming to IEC/EN 60529 |
| Operating rate (operating cycles/minute) | Piston version switches: up to 60 cycles/minute for temperatures greater than 32 °F (0 °C) Diaphragm version switches: up to 120 cycles/minute for temperatures greater than 32 °F (0 °C), |
| Repeat accuracy | < 2% |
| Pressure connection ⁽¹⁾ | <ul style="list-style-type: none"> G 1/4 (BSP female) conforming to NF E 03-005, ISO 228 1/4" NPTF female PT 1/4 (JIS B0203). |
| Electrical Connection ⁽¹⁾ for screw terminal models | <ul style="list-style-type: none"> 1/2" NPT electrical connections ISO M20 x 1.5 tapped entry DIN Pg 13.5 (n° 13) tapped entry Connector models, either M12 or DIN 43650 A: consult your local sales office. |

⁽¹⁾ See page 20, "Interpretation of the Catalog Number for XML Devices," for more information on specifying the electrical and pressure connections.

Table 3: Contact block specifications

| | | | | | | | | | | |
|--|---|----|----|----|-----|---|----|----|----|-----|
| Rated operational specifications | ~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A) conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1 | | | | | | | | | |
| Rated insulation voltage | Ui = 500 V conforming to IEC/EN 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 | | | | | | | | | |
| Rated impulse withstand voltage | U imp = 6 kV conforming to IEC/EN 60947-1 | | | | | | | | | |
| Type of contacts Silver tipped contacts | XMLA and XMLB: 1 C/O single-pole contact (4 terminal), snap action XMLC: 2 C/O single-pole contacts (8 terminal), simultaneous, snap action XMLD: 2 C/O single-pole contacts (8 terminal), staggered, snap action | | | | | | | | | |
| Resistance across terminals (mΩ) | < 25 conforming to NF C 93-050 method A or IEC 255-7 category 3 | | | | | | | | | |
| Terminal referencing | Conforming to CENELEC EN 50013 | | | | | | | | | |
| Short-circuit protection | 10 A cartridge fuse type gG (gl) | | | | | | | | | |
| Connection | Screw clamp terminals. Clamping capacity, min: 1 x 0.2 mm ² , max: 2 x 2.5 mm ² | | | | | | | | | |
| Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Utilisation categories AC-15 and DC-13 | XMLA and XMLB AC supply ~ 50/60 Hz ~ Inductive circuit, Ithe = 10 A | | | | | XMLC and XMLD AC supply ~ 50/60 Hz ~ Inductive circuit, Ithe = 10 A | | | | |
| Operating rate: 3600 operating cycles/hour Load factor: 0.5 |  | | | | | | | | | |
| | DC supply --- Power broken in W for 1 million operating cycles | | | | | DC supply --- Power broken in W for 5 million operating cycles | | | | |
| | Voltage | V | 24 | 48 | 120 | Voltage | V | 24 | 48 | 120 |
| ~ | W | 31 | 29 | 26 | ~ | W | 10 | 7 | 4 | |

Function

Pressure and vacuum switches control or regulate pressure or vacuum levels in hydraulic or pneumatic systems. They transform the pressure change into a digital electrical signal when the preset operating points are reached.

Switches for control circuits

Switches with control-duty rated electrical contacts, designed for control of contactors, relays, power valves, PLC inputs, etc.

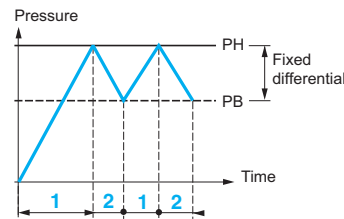
Switches for power circuits

Switches with power electrical contacts (1, 2, or 3 pole) designed for direct switching of single-phase or three-phase motors (pumps, compressors, etc.).

Pressure switch operating principle

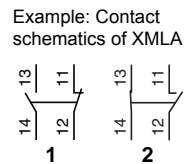
Fixed Differential: Detection of a Single Threshold

Fixed differential switches have a single adjustable setting point (either PH or PB). The differential between the high and low points (PH–PB) depends on the construction of the switch. It is not adjustable.



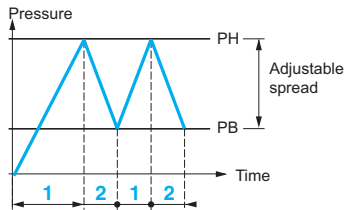
— Adjustable value
--- Non adjustable value

PH = High point
(on rising pressure)
PB = Low point
(on falling pressure)



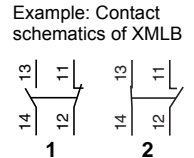
Adjustable Differential: Regulation between Two Thresholds

Adjustable differential switches have setting points for both the high point (PH) and the low point (PB). Both of these points can be independently adjusted.

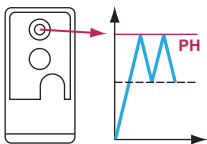


— Adjustable value

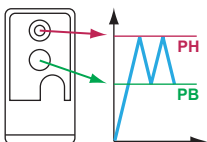
PH = High point
(on rising pressure)
PB = Low point
(on falling pressure)



Fixed differential

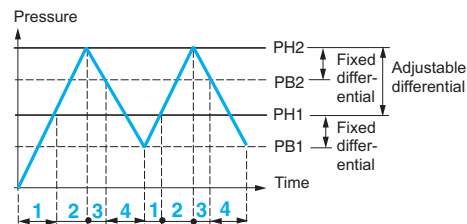


Adjustable differential



Dual-Stage: Detection of Two Thresholds

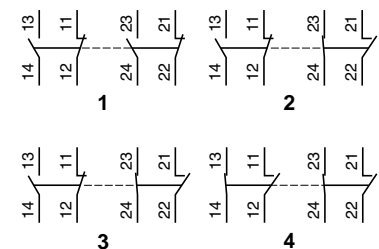
Dual-stage switches allow two distinct levels of control to be monitored with one device. Each stage allows detection of a single threshold with a single setting point (fixed differential). Both these points can be independently adjusted. However, for both stages, the differential between the high point and the low point (PH1–PB1 and PH2–PB2) is fixed and depends on the construction of the switch.



— Adjustable value
--- Non adjustable value

PH = High point
(on rising pressure)
PB = Low point
(on falling pressure)

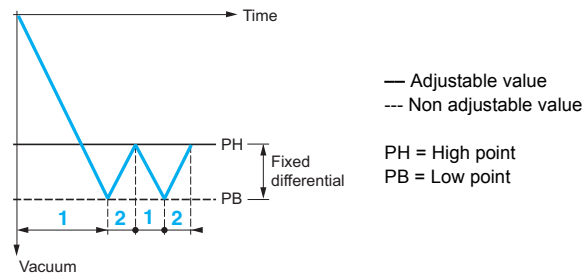
Example: Contact schematics of XMLD



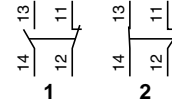
Vacuum switch operating principle

Detection of a single threshold

The switches for detection of a single threshold (fixed differential) have a single adjustable setting point (PH). The differential between the high and low points (PH–PB) depends on the inherent characteristics of the switch. It is not adjustable.

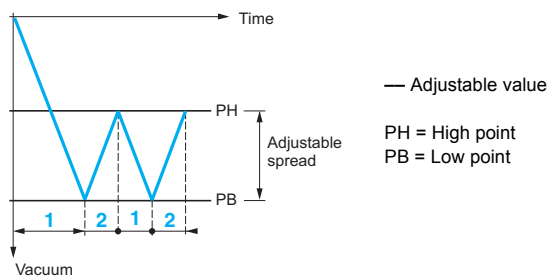


Example: Contact schematics of XMLA

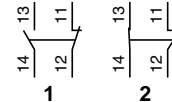


Regulation between two thresholds

The switches for regulation between two thresholds (adjustable differential) have both a high point setting (PH) and a low point setting (PB). Both of these points can be independently adjusted.



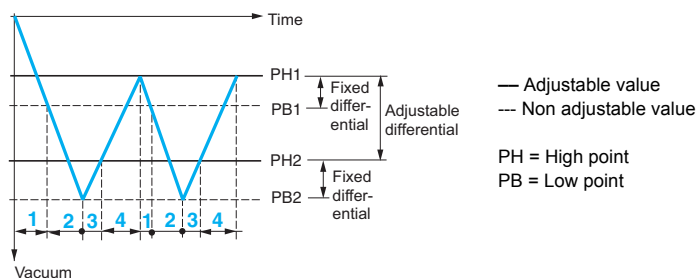
Example: Contact schematics of XMLB



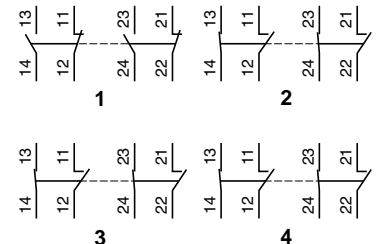
Detection of two thresholds

The dual-stage switches, for detection at each threshold, have an adjustable high point setting for each stage (PH1 and PH2). Both of these points can be independently adjusted.

For both stages, the differential between the high point and the low point (PH1–PB1 and PH2–PB2) depends on the inherent characteristics of the switch. It is not adjustable.



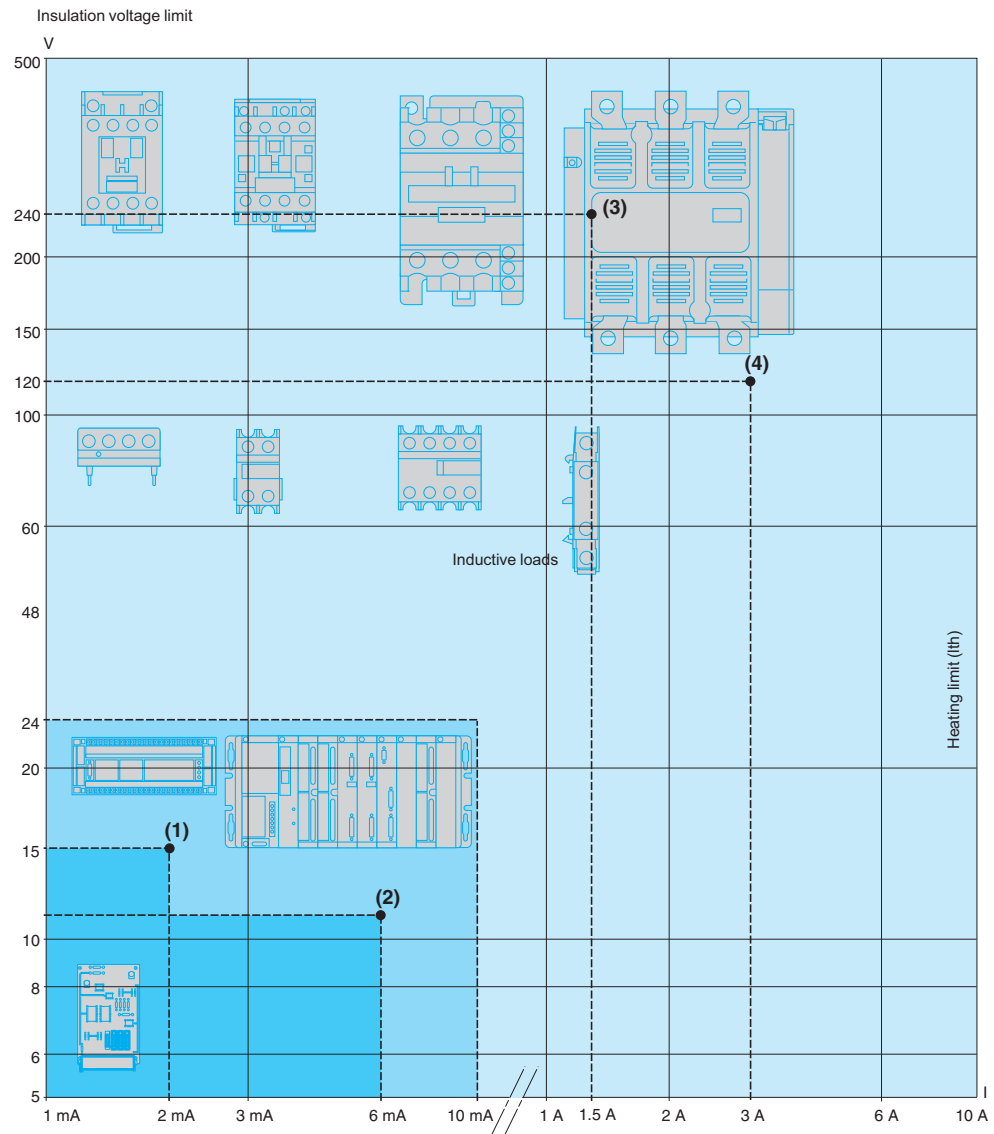
Example: Contact schematics of XMLD



Maximum allowable accidental pressure

The maximum accidental pressure of XML switches is equal to at least 2.25 times the switch size.

If accidental overpressures occur and their duration is less than 50 milliseconds, the pressure damping device incorporated in the XML switches (sizes 10 bar and greater) reduces the effect.

Application range of pressure and vacuum switches types XML, XMA and XMX, for control circuits**On standard loads:** Continuous duty, frequent switching.

- (1) Standard PLC input, type 1
 (2) Standard PLC input, type 2
 (3) Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13

| | | |
|-------------|-------|-------|
| B300 | 240 V | 1.5 A |
| R300 | 250 V | 0.1 A |

- (4) Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13

| | | |
|-------------|-------|--------|
| B300 | 120 V | 3 A |
| R300 | 125 V | 0.22 A |

PLC: Programmable Logic Controller

| Pressure switches | Application range | | |
|--|-------------------|--|--|
| XMLA, XMLB, XMLC, XMLD XMV (upcoming product) | | | |
| XMLE, XMLF, XMLG | | | |

On small loads: The use of electromechanical pressure and vacuum switches with programmable logic controllers is becoming more prevalent. On small loads, the switches maintain a failure rate of less than 1 for 100 million operating cycles. Results may vary depending on application.

Selecting the switch size

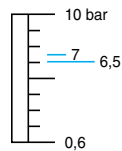
After establishing the type of switch required for the application (single threshold detection or regulation between two thresholds), the selection of its size depends on the following criteria:

- the differential: difference between the high point (PH) and the low point (PB),
- the maximum pressure allowable per cycle,
- repeat accuracy, precision and minimum drift.

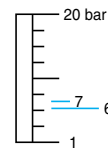
Selecting a fixed differential pressure switch for detecting a single threshold

Main criterion: minimum differential

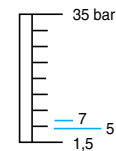
Example: for a selected high point (PH) of 7 bar



XMLA010.....
Differential = 0.5 bar



XMLA020.....
Differential = 1 bar

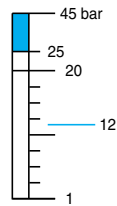


XMLA035.....
Differential = 2 bar

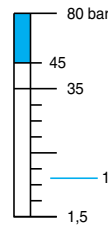
Select an XMLA010..... (the lowest size)

Main criterion: tolerance to overpressures

Example: for a selected high point (PH) of 12 bar



XMLA020.....
Allowable accidental overpressure = 45 bar

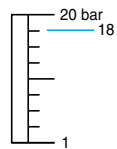


XMLA035.....
Allowable accidental overpressure = 80 bar

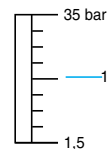
Select an XMLA035..... (the highest size)

Main criterion: repeat accuracy, precision and minimum drift

Example: for a selected high point (PH) of 18 bar



XMLA020.....
Adjustable from 1–20 bar



XMLA035.....
Adjustable from 1.5–35 bar

As a general rule, avoid working at the upper or lower limits of the operating range.

Select an XMLA035.....

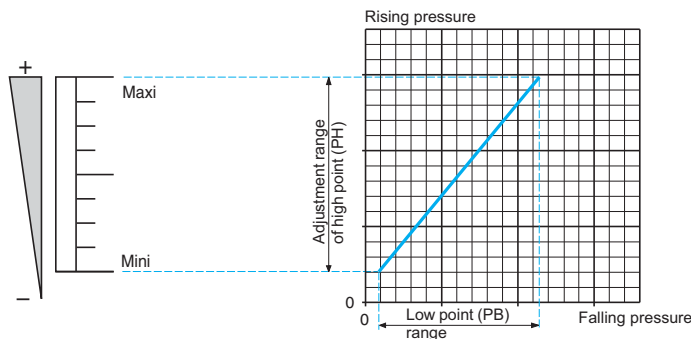
Table 4: Converting Units of Pressure

| | psi | kg/cm ² | bar | atm | mm Hg (Torr) | mm H ₂ O | Pa |
|-------------------------|--------------------------|---------------------------|--------------------------|---------------------------|------------------------|---------------------|-----------------|
| 1 psi = | 1 | 0.07031 | 0.06895 | 0.06805 | 51.71 | 703.7 | 6895 |
| 1 kg/cm ² = | 14.22 | 1 | 0.98066 | 0.96784 | 735.55 | 10 000 | 98 066 |
| 1 bar = | 14.50 | 1.0197 | 1 | 0.98695 | 750.06 | 10 197 | 10 ⁵ |
| 1 atm = | 14.70 | 1.0333 | 1.0132 | 1 | 760.0 | 10 333 | 101 325 |
| 1 mm Hg = (Torr) | 0.01934 | 1.360 x 10 ⁻³ | 1.333 x 10 ⁻³ | 1.316 x 10 ⁻³ | 1 | 13.59 | 133.3 |
| 1 mm H ₂ O = | 1.421 x 10 ⁻³ | 10 ⁻⁴ | ~ 10 ⁻⁴ | ~ 10 ⁻⁴ | 0.07361 | 1 | ~ 9.80 |
| 1 Pa = | 1.45 x 10 ⁻⁴ | 1.0197 x 10 ⁻⁵ | 10 ⁻⁵ | 9.8695 x 10 ⁻⁶ | 7.5 x 10 ⁻³ | 0.10197 | 1 |

Example: 1 bar = 14.50 psi = 10⁵ Pa

Table 5: Operating Curves: Fixed Differential, Detecting a Single Threshold

Adjustment range of the high point

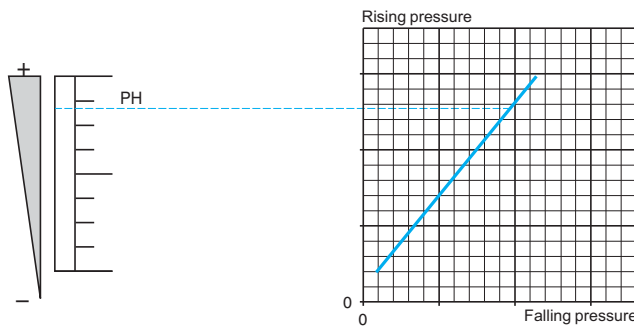


Defined by the difference between the minimum and maximum high point (PH) setting values.

For a high set point (PH), the lower point (PB) is fixed and cannot be adjusted.

For a low set point (PB), the higher point (PH) is fixed and cannot be adjusted.

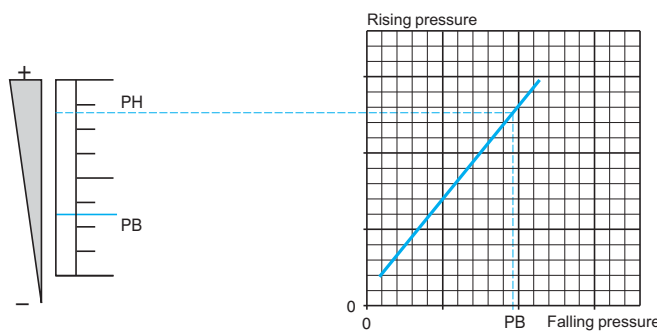
Operating point on rising pressure (PH)



The upper pressure setting at which the pressure or vacuum switch actuates the contacts on rising pressure.

Adjustable throughout the range on rising pressure.

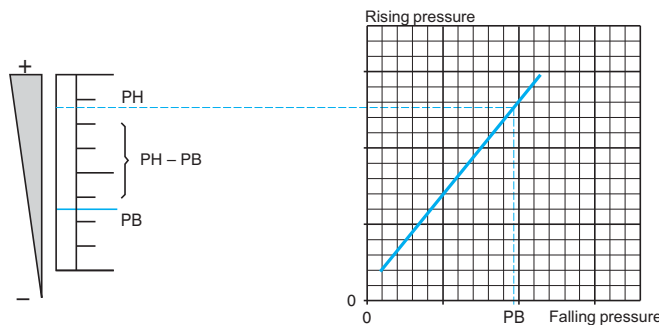
Operating point on falling pressure (PB)



The pressure at which the switch contact changes state on falling pressure.

The lower point (PB) is not adjustable and is entirely dependent on the high point setting (PH) and the inherent differential of the switch.

Differential



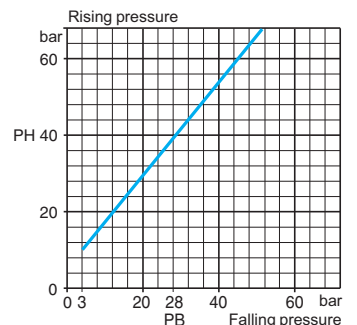
$PH - PB = \text{inherent differential}$

The difference between the operating point on rising pressure (PH) and the operating point on falling pressure (PB).

This point is not adjustable, so the value of the differential is fixed.

It is the inherent differential of the switch (contact differential, friction, etc.).

Example



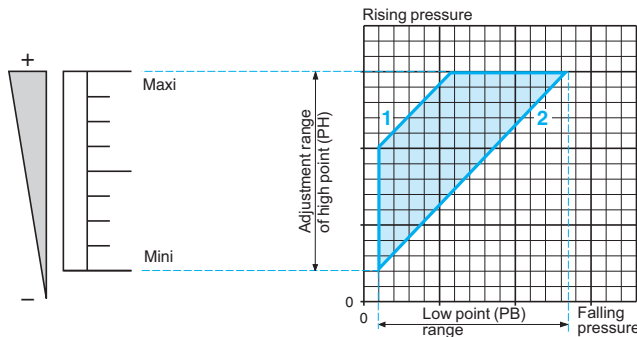
Operating point on rising pressure (PH) is 40 bar (set value at which the contact changes state on rising pressure).

The operating point on falling pressure (PB) is 28 bar (fixed value at which the contact returns to its original state).

Conclusion:
the differential is $40 - 28 = 12$ bar.

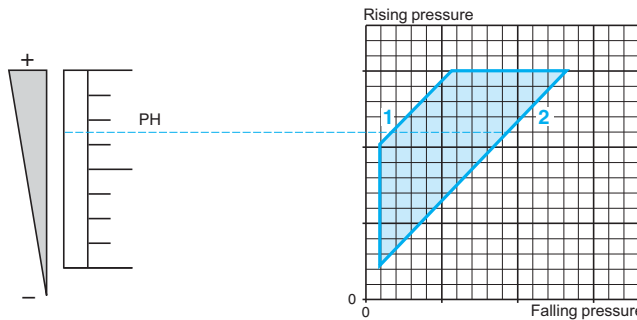
Table 6: Operating Curves: Adjustable Differential, Regulating between Two Thresholds

Adjustment range of the high point



Defined by the difference between the minimum and maximum high point (PH) setting values.

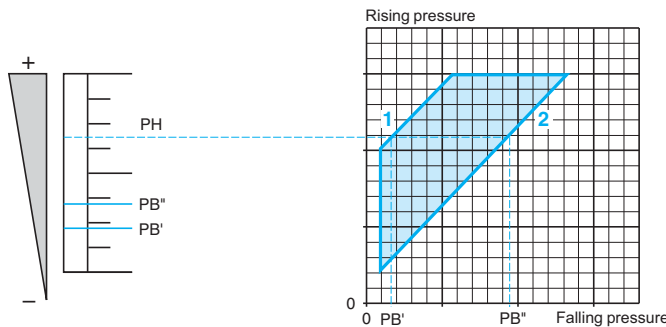
Operating point on rising pressure (PH)



The upper pressure setting at which the pressure or vacuum switch actuates the contacts on rising pressure.

Adjustable throughout the range on rising pressure.

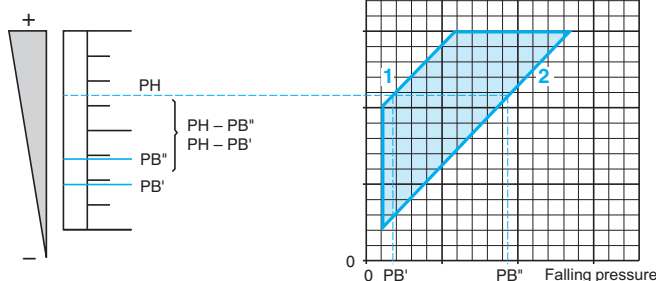
Operating point on falling pressure (PB)



The pressure at which the switch contact changes state on falling pressure.

The adjustable differential enables the independent setting of the lower point (PB).

Differential



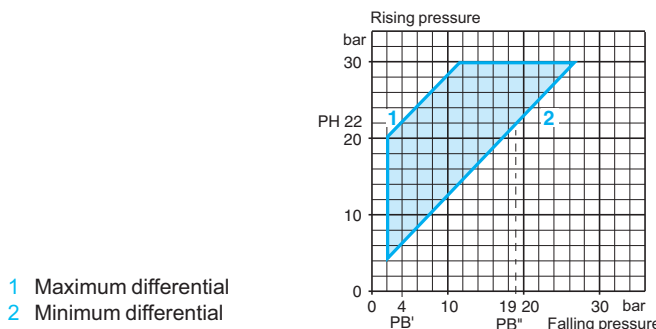
Low point < High point

$PH - PB' =$ inherent differential
 $PH - PB'' =$ minimum differential

The difference between the operating point on rising pressure (PH) and the operating point on falling pressure (PB).

Note: the low point can be set at any value between PB' and PB'' .

Example

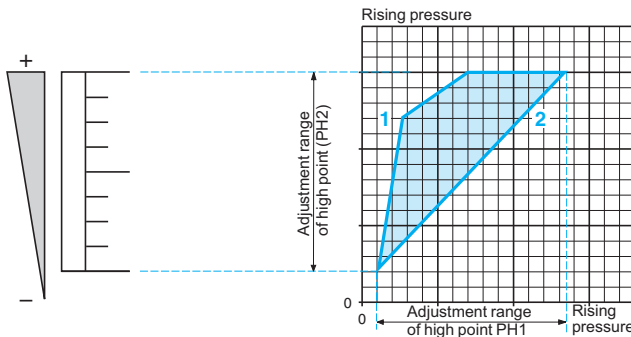


Operating point on rising pressure (PH) is 22 bar (set value at which the contact changes state on rising pressure). The operating point on falling pressure (PB) ranges from 4 and 19 bar (set value at which the contact returns to its original state).

Conclusion:
the maximum differential is $22 - 4 = 18$ bar,
the minimum differential is $22 - 19 = 3$ bar.

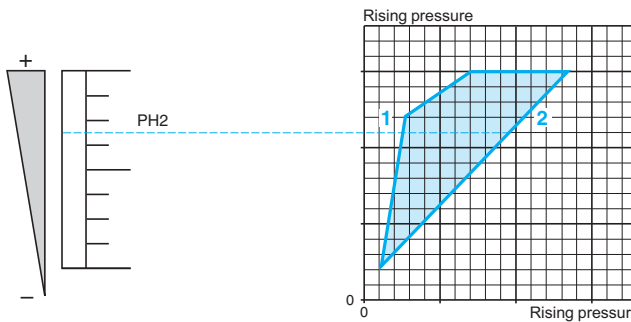
Table 7: Operating Curves: Dual-Stage, Fixed Differential, Detection at Each Threshold (switching on rising pressure)

Adjustment ranges of the operating points PH1 and PH2 on rising pressure



Defined by the difference between the minimum and maximum high point setting values of each stage (PH1 and PH2).

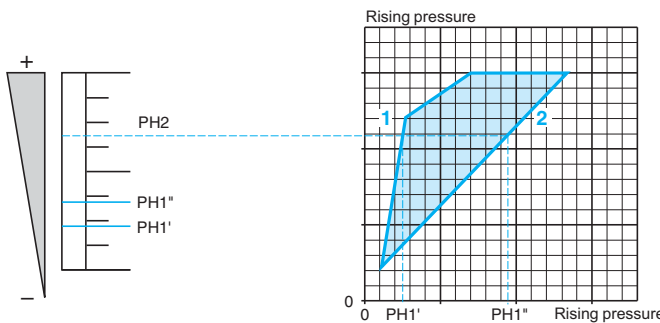
Operating point PH2 on rising pressure



The upper pressure setting at which the pressure or vacuum switch actuates contact 2 on rising pressure.

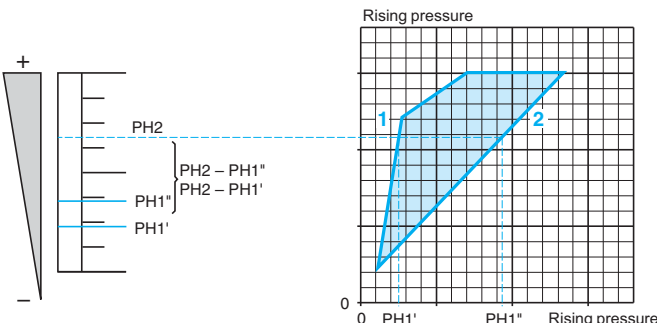
Adjustable throughout the range on rising pressure.

Operating point PH1 on rising pressure



The upper pressure setting at which the pressure or vacuum switch actuates contact 1 on rising pressure.

Spread



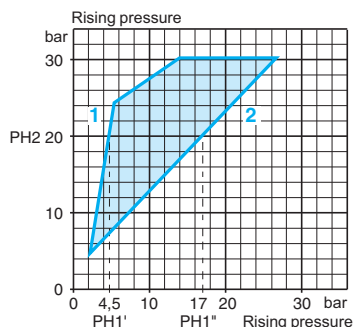
$PH1 < PH2$
 $PH2 - PH1' = \text{maximum spread}$
 $PH2 - PH1'' = \text{minimum spread}$

The difference between operating points PH2 and PH1 on rising pressure.

Note: operating point PH1 can be set at any value between PH1' and PH1''.

Example:
Determining operating points on rising pressure for the two stages

- 1 Maximum spread
- 2 Minimum spread

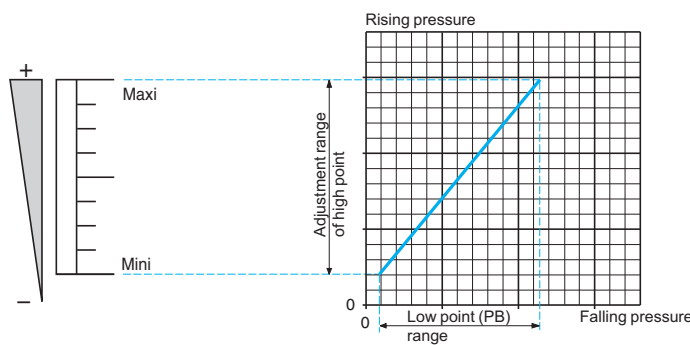


Second stage operating point on rising pressure (PH2) = 20 bar (set value at which contact 2 changes state on rising pressure). First stage operating point (PH1) can be set between 4.5 and 17 bar on rising pressure.

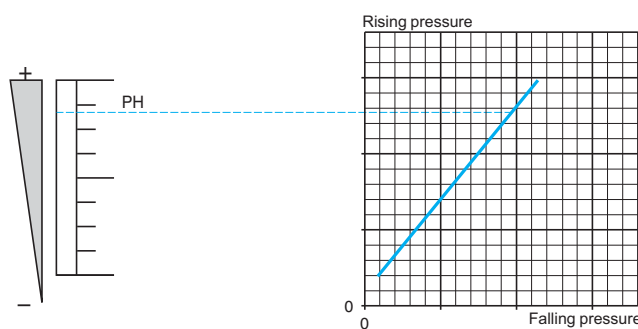
Conclusion:
the maximum spread is:
 $20 - 4.5 = 15.5 \text{ bar}$,
the minimum spread is:
 $20 - 17 = 3 \text{ bar}$.

Table 8: Operating Curves: Dual-Stage, Fixed Differential, Detection at Each Threshold (switching on rising pressure)

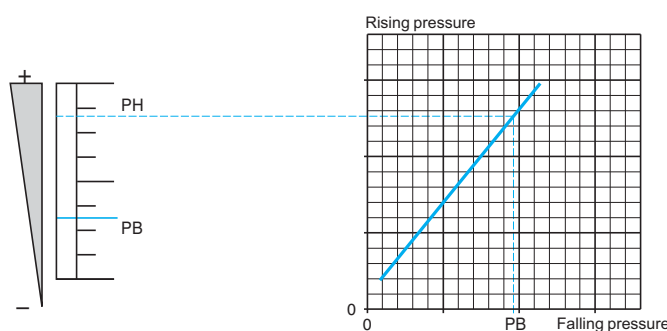
Adjustment range of high point (PH1 or PH2)



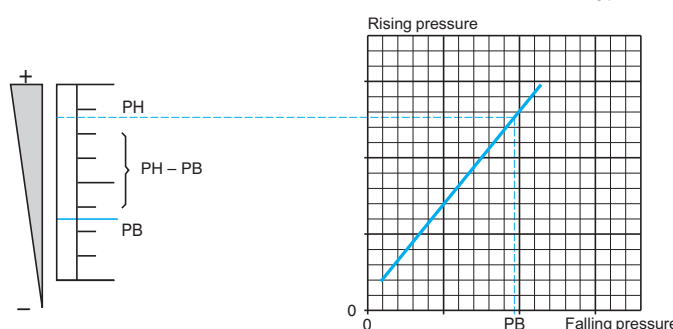
Operating point on rising pressure (PH1 or PH2)



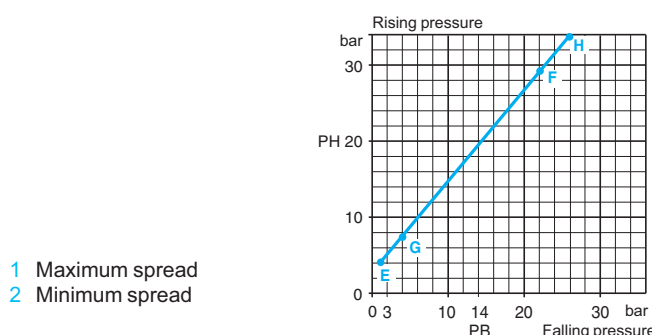
Operating point on falling pressure (PB1 or PB2)



Differential



Example:
stage 1 = segment EF
stage 2 = segment GH



- 1 Maximum spread
- 2 Minimum spread

Defined by the difference between the minimum and maximum high point (PH1 or PH2) setting values for each stage.

For a high set point (PH1 or PH2), the lower point (PB1 or PB2) is fixed and cannot be adjusted.

For a low set point (PB1 or PB2), the higher point (PH1 or PH2) is fixed and cannot be adjusted.

The upper pressure setting at which the pressure or vacuum switch actuates the contact, for each stage, on rising pressure.

Adjustable throughout the range on rising pressure.

The pressure at which the switch contact changes state, for each stage, on falling pressure.

The lower point (PB) is not adjustable and is entirely dependent on the high point setting (PH) and the inherent differential of the switch.

$PH - PB =$ inherent differential

The difference between the operating point on rising pressure (PH) and the operating point on falling pressure (PB), for each stage. This point is not adjustable, so the value of the differential is fixed. It is the inherent differential of the switch (contact differential, friction, etc.) for each of its two stages.

For stage 2 (segment GH):

Operating point on rising pressure (PH2) is 20 bar (set value at which contact 2 changes state on rising pressure). The operating point on falling pressure (PB2) is 14 bar (fixed value at which contact 2 returns to its original state).

Conclusion: for stage 2, the differential is: $20 - 14 = 6$ bar.

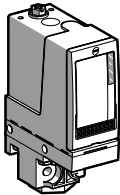
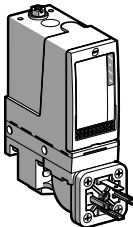
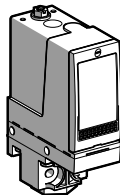
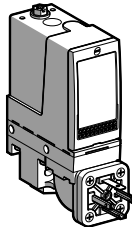
Repeat the same procedure for stage 1 (segment EF).

Interpretation of the Catalog Number for XML Devices

Table 9: Interpreting the Catalog Number (Example: XMLA004A2S13)

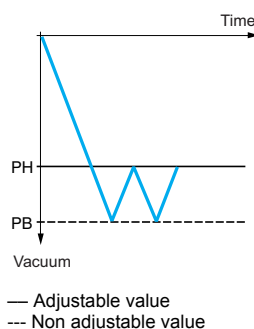
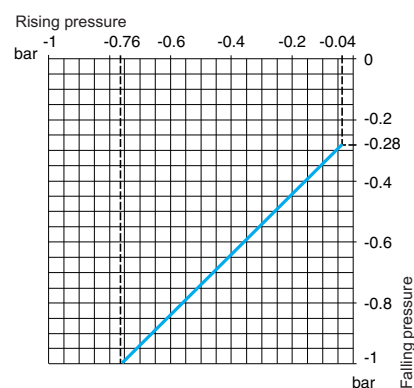
| | | XML | A | 004 | A | 2 | S | 1 | 3 | |
|------------------------------|--|------------------------|---|-----|---|---|---|---|---|-----|
| Designation | | Catalog Number | | | | | | | | |
| Nautilus Pressure Switch | | XML | | | | | | | | |
| Type | Nonadjustable differential, single pole | | A | | | | | | | |
| | Adjustable differential, single pole | | B | | | | | | | |
| | Adjustable differential, double pole | | C | | | | | | | |
| | Nonadjustable differential, double pole | | D | | | | | | | |
| Operating range bar (psi) | 0.05 | | | L05 | | | | | | |
| | 0.35 | | | L35 | | | | | | |
| | 0.35 Overpressure 0.30 (4.35) | | | S35 | | | | | | |
| | -1 to -0.28 | | | M01 | | | | | | |
| | -1 to -0.14 | | | M02 | | | | | | |
| | -0.2 to -0.02 | | | M03 | | | | | | |
| | -0.5 to 5 | | | M05 | | | | | | |
| | 1 | | | 001 | | | | | | |
| | 2.5 | | | 002 | | | | | | |
| | 2.5 Overpressure 0.30 (4.35) | | | S02 | | | | | | |
| | 4 | | | 004 | | | | | | |
| | 4 Overpressure 0.30 (4.35) | | | S04 | | | | | | |
| | 10 | | | 010 | | | | | | |
| | 10 Overpressure 0.30 (4.35) | | | S10 | | | | | | |
| | 20 | | | 020 | | | | | | |
| | 20 Overpressure 0.30 (4.35) | | | S20 | | | | | | |
| | 35 | | | 035 | | | | | | |
| | 40 | | | 040 | | | | | | |
| | 70 | | | 070 | | | | | | |
| | 160 | | | 160 | | | | | | |
| | 300 | | | 300 | | | | | | |
| | 500 | | | 500 | | | | | | |
| Input fluid | Diaphragm type | | | | | | | | | |
| | Hydraulic oils, air, fresh, or sea water, 32–158 °F (0–70 °C) | | | | A | | | | | |
| | Hydraulic oils, air, fresh, or sea water, 32–320 °F (0–160 °C) | | | | B | | | | | |
| | Corrosive fluid | | | | C | | | | | |
| | Viscous products | | | | P | | | | | |
| | Hydraulic oils or air, 32–140 °F (0–60 °C) | | | | R | | | | | |
| | Fresh or sea water, 32–320 °F (0–160 °C) | | | | S | | | | | |
| | Vacuum type with diaphragm | | | | | | | | | |
| | Hydraulic oils, air, fresh or sea water, 32–158 °F (0–70 °C) | | | | V | | | | | |
| | Hydraulic oils, air, fresh or sea water, 32–320 °F (0–160 °C) | | | | T | | | | | |
| | Piston type | | | | | | | | | |
| | Hydraulic oils or air, 32–320 °F (0–160 °C) | | | | D | | | | | |
| | Fresh or sea water, 32–320 °F (0–160 °C) | | | | E | | | | | |
| | Corrosive fluid, 32–320 °F (0–160 °C) | | | | N | | | | | |
| Display | Not provided | | | | | | 1 | | | |
| | Provided | | | | | | 2 | | | |
| Electrical Connection | Threaded hole | | | | | | S | | | |
| | DIN 43650 connector | | | | | | C | | | |
| | M12 threaded connector (Micro Change type) | | | | | | D | | | |
| Contact type | Dry contact | | | | | | | 1 | | |
| Entry type | European | | | | | | | | | |
| | Pressure | G 1/4 (BSP female) | | | | | | | 1 | |
| | Electrical | Type 13 (Pg 13.5) | | | | | | | | |
| | Pressure | G 1/4 (BSP female) | | | | | | | 2 | |
| | Electrical | ISO M20 | | | | | | | | |
| | U.S.A. | | | | | | | | | |
| | Pressure | 1/4 in. NPTF | | | | | | | 3 | |
| | Electrical | 1/2 in. NPT | | | | | | | | |
| | Japan | | | | | | | | | |
| | Pressure | PT 1/4 (JIS B0203) | | | | | | | 4 | |
| | Electrical | 1/2 in. PF (JIS B0202) | | | | | | | | |
| Options | May indicate factory setting | | | | | | | | | ... |

Table 10: Size: -1 bar (-14.5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| XMLA Vacuum Switches | | With setting scale | | Without setting scale | |
|--|--|---|---------------------|---|---------------------|
| | |  | |  | |
| | |  | |  | |
| Adjustable Range of Operating Point (PB) (Falling pressure) | | -0.28 to -1 bar (-4.06 to -14.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77-78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLAM01V2S13 | XMLAM01V2C11 | XMLAM01V1S13 | XMLAM01V1C11 |
| | Hydraulic oils, fresh water, sea water, air, corrosive fluids, up to 320 °F (160 °C) | XMLAM01T2S13 | XMLAM01T2C11 | XMLAM01T1S13 | XMLAM01T1C11 |
| Weight, lb (kg) | | 1.51 (0.685) | 1.58 (0.715) | 1.51 (0.685) | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (add to PB to get PH) | At low setting | 0.24 bar (3.48 psi), ±0.05 bar (±0.72 psi) | | | |
| | At high setting | 0.24 bar (3.48 psi), ±0.05 bar (±0.72 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | |
| | Accidental | 9 bar (130.5 psi) | | | |
| Destruction Pressure | | 18 bar (261 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Vacuum Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLAM01V2S13** becomes **XMLAM01V2S11**).

Operating Curves



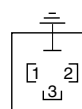
Connection

Terminal model



Connector model

Vacuum switch connector pin view

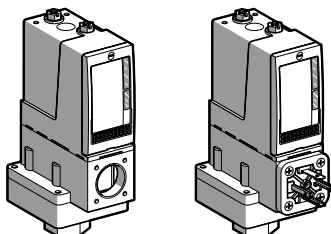
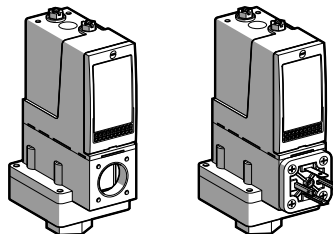


1 → 11 and 13
2 → 12
3 → 4

Other Versions

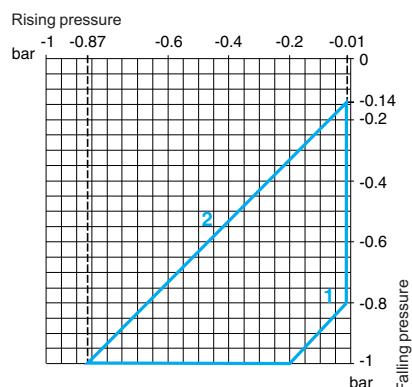
For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 11: Size: -1 bar (-14.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

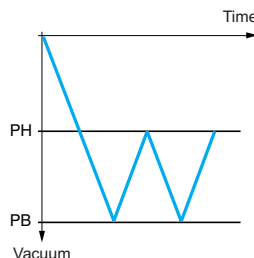
| Vacuum switches type XMLB | | With setting scale | | Without setting scale | |
|--|--|--|---------------------|---|---------------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PB) (Falling pressure) | | -0.14 to -1 bar (-2.03 to -14.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77-78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLBM02V2S13 | XMLBM02V2C11 | XMLBM02V1S13 | XMLBM02V1C11 |
| | Hydraulic oils, fresh water, sea water, air, corrosive fluids, up to 320 °F (160 °C) | XMLBM02T2S13 | XMLBM02T2C11 | XMLBM02T1S13 | XMLBM02T1C11 |
| Weight, lb (kg) | | 2.24 (1.015) | 2.27 (1.030) | 2.24 (1.015) | 2.27 (1.030) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (add to PB to get PH) | Min. at low setting | 0.13 bar (1.88 psi), ±0.02 bar (±0.29 psi) | | | |
| | Min. at high setting | 0.13 bar (1.88 psi), ±0.02 bar (±0.29 psi) | | | |
| | Max. at high setting | 0.8 bar (11.6 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | |
| | Accidental | 9 bar (130.5 psi) | | | |
| Destruction Pressure | | 18 bar (261 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Vacuum Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLBM02V2S13 becomes XMLBM02V2S11).

Operating Curves



1 Maximum differential
2 Minimum differential
— Adjustable value



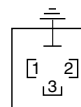
Connection

Terminal model



Connector model

Vacuum switch connector pin view



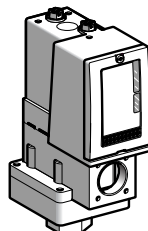
1 → 11 and 13
2 → 12
3 → 4

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 12: Size: –1 bar (–14.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

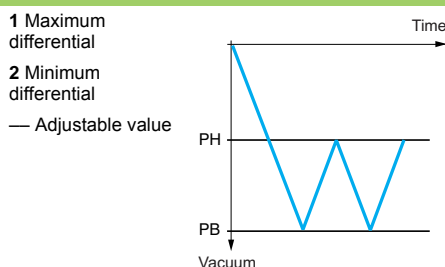
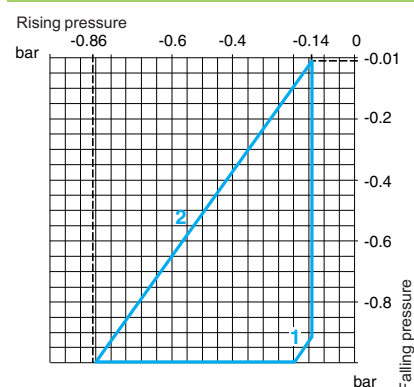
| | |
|---------------------------|--------------------|
| Vacuum switches type XMLC | With setting scale |
|---------------------------|--------------------|



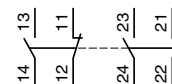
| | | |
|--|--|---|
| Adjustable Range of Operating Point (PB) (Falling pressure) | | –0.14 to –1 bar (–2.03 to –14.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLCM02V2S13 |
| | Hydraulic oils, fresh water, sea water, air, corrosive fluids, up to 320 °F (160 °C) | XMLCM02T2S13 |
| Weight, lb (kg) | | 2.24 (1.015) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (add to PB to get PH) | Min. at low setting | 0.13 bar (1.89 psi), ±0.02 bar (±0.29 psi). |
| | Min. at high setting | 0.14 bar (2.03 psi), ±0.02 bar (±0.29 psi). |
| | Max. at high setting | 0.8 bar (11.6 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) |
| | Accidental | 9 bar (130.5 psi) |
| Destruction Pressure | | 18 bar (261 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Vacuum Switch Style | | Diaphragm |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLCM02V2S13** becomes **XMLCM02V2S11**).

| | |
|------------------|------------|
| Operating Curves | Connection |
|------------------|------------|



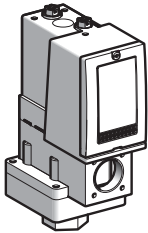
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

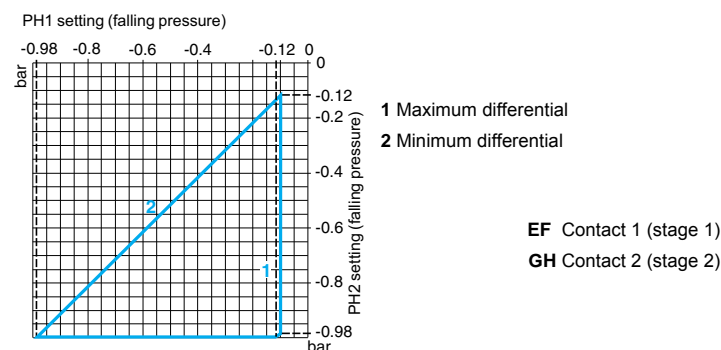
Table 13: Size: -1 bar (-14.5 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

| Vacuum switches type XMLD | | Without setting scale |
|--|--|---|
| | |  |
| Adjustable Range of Operating Points (Falling pressure) | 2nd stage operating point (PB2) | -0.12 to -1 bar (-1.74 to -14.5 psi) |
| | 1st stage operating point (PB1) | -0.10 to -0.98 bar (-1.45 to -14.21 psi) |
| Spread between the Two Stages (PB2—PB1) | | 0.02 to 0.88 bar (0.29 to 12.76 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLDM02V1S13 |
| | Hydraulic oils, fresh water, sea water, air, corrosive fluids, up to 320 °F (160 °C) | XMLDM02T1S13 |
| Weight, lb (kg) | | 2.24 (1.015) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (add to PB1/PB2 to get PH1/PH2) | At low setting | 0.1 bar (1.45 psi), ±0.035 bar (±0.51 psi) |
| | At high setting | 0.1 bar (1.45 psi), ±0.02 bar (±0.29 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) |
| | Accidental | 9 bar (130.5 psi) |
| Destruction Pressure | | 18 bar (261 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Vacuum Switch Style | | Diaphragm |

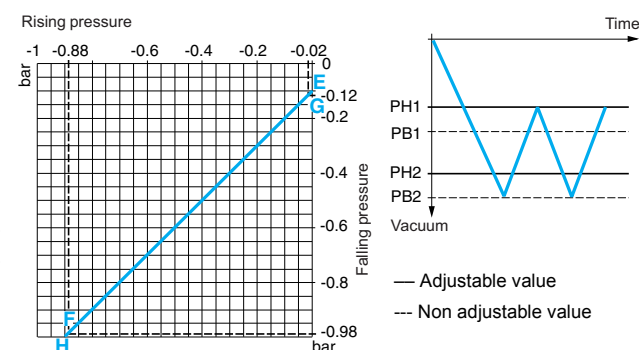
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLDM02V1S13** becomes **XMLDM02V1S11**).

Operating Curves

High setting trip points of contacts 1 and 2

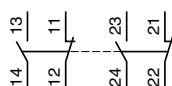


Inherent Differential of contacts 1 and 2



Connection: Terminal model

Contact 1 (stage 1) Contact 2 (stage 2)

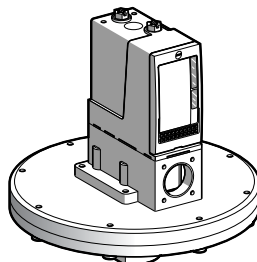


Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 14: Size: -200 mbar (-2.9 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

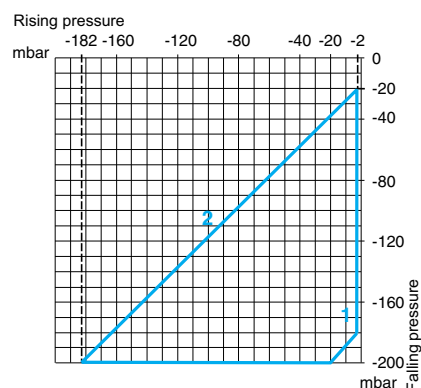
| Vacuum switches type XMLB | With setting scale |
|---------------------------|--------------------|
|---------------------------|--------------------|



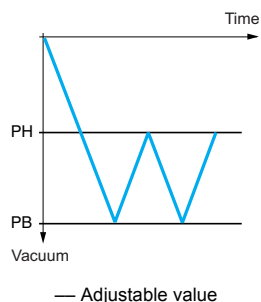
| | | |
|---|---|---|
| Adjustable Range of Operating Point (PB) (Falling pressure) | | -20 to -200 mbar (-0.29 to -2.9 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled For materials in contact with fluid, see pages 77-78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLBM03R2S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLBM03S2S13 |
| Weight, lb (kg) | | 7.30 (3.310) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (add to PB to get PH) | Min. at low setting | 18 mbar (0.26 psi), ±2 mbar (±0.29 psi) |
| | Min. at high setting | 18 mbar (0.26 psi), ±2 mbar (±0.29 psi) |
| | Max. at high setting | 180 mbar (2.6 psi) |
| Maximum Allowable Pressure | Per cycle | 1 bar (14.5 psi) |
| | Accidental | 2 bar (29 psi) |
| Destruction Pressure | | 3.5 bar (50.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. |
| Vacuum Switch Style | | Diaphragm |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLBM03R2S13** becomes **XMLBM03R2S11**).

| Operating Curves | Connection |
|------------------|------------|
|------------------|------------|



1 Maximum differential
2 Minimum differential



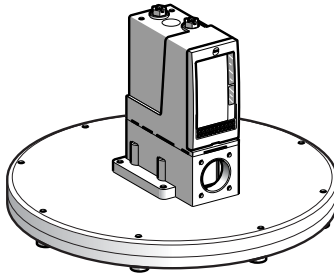
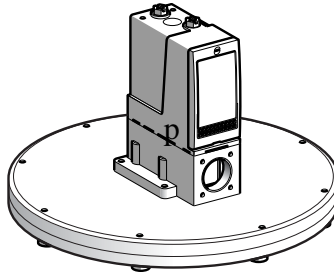
Terminal model



Other Versions

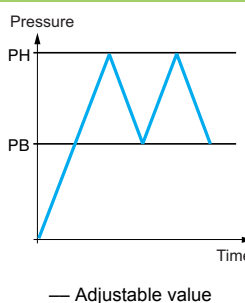
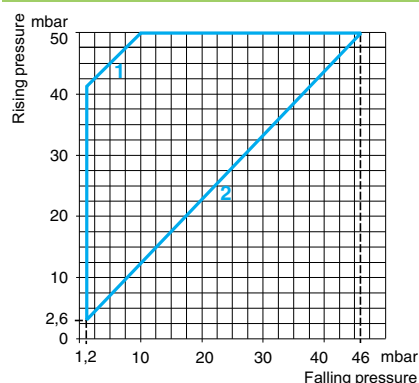
For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 15: Size 50 mbar (0.72 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | Without setting scale |
|--|---|--|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 2.6–50 mbar (0.038–0.72 psi) | |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLBL05R2S13 | XMLBL05R1S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLBL05S2S13 | XMLBL05S1S13 |
| Weight, lb (kg) | | 5.34 (2.420) | |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 1.4 mbar (0.02 psi), –0.8 mbar, +1.1 mbar (–0.01 psi, +0.02 psi). | |
| | Min. at high setting | 4 mbar (0.06 psi), ±1.4 mbar, (±0.02 psi) | |
| | Max. at high setting | 40 mbar (0.58 psi) | |
| Maximum Allowable Pressure | Per cycle | 62.5 mbar (0.90 psi) | |
| | Accidental | 112.5 mbar (1.63 psi) | |
| Destruction Pressure | | 225 mbar (3.26 psi) | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | |
| Pressure Switch Style | | Diaphragm | |

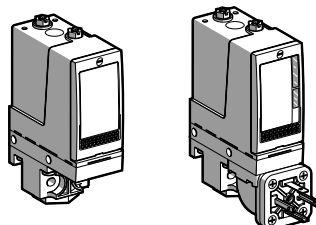
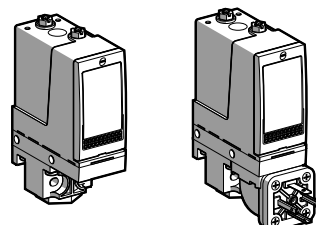
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLBL05R2S13 becomes XMLBL05R2S11).

Operating Curves Connection: Terminal model

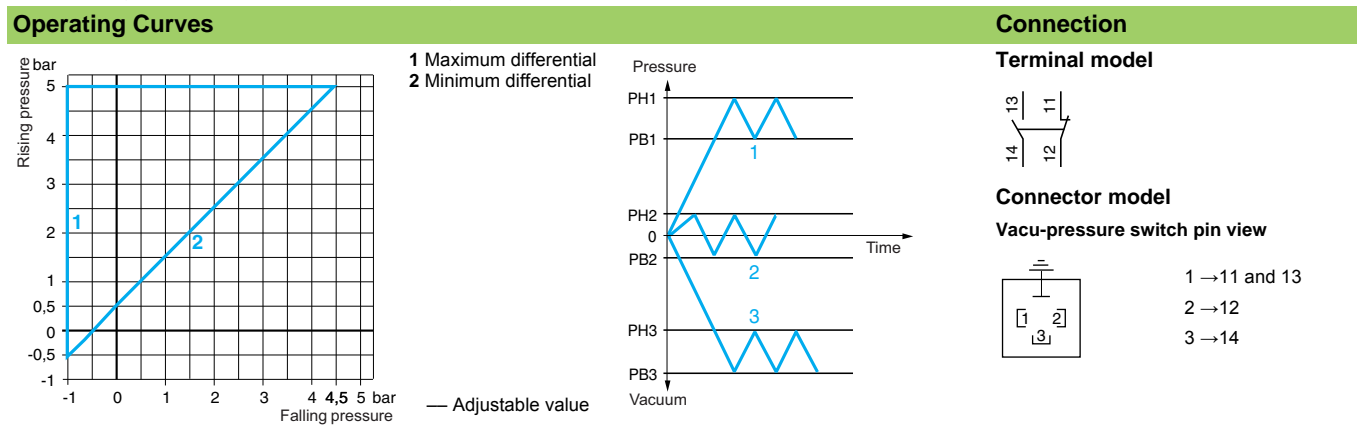


Other Versions For switches with DIN 43650A connector or alternative tapped cable entries (such as NPT), consult your local sales office.

Table 16: Size 5 bar (72.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Vacu-Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | −0.5 to 5 bar (−7.25 to 72.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLBM05A2S13 | XMLBM05A2C11 | XMLBM05A1S13 | XMLBM05A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLBM05B2S13 | XMLBM05B2C11 | XMLBM05B1S13 | XMLBM05B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLBM05C2S13 | XMLBM05C2C11 | XMLBM05C1S13 | XMLBM05C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLBM05P2S13 | XMLBM05P2C11 | XMLBM05P1S13 | XMLBM05P1C11 |
| Weight, lb (kg) | | 1.51 (0.685) | 1.58 (0.715) | 1.55 (0.705) | 1.62 (0.735) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.5 bar (7.25 psi), ±0.05 bar (±0.72 psi) | | | |
| | Min. at high setting | 0.5 bar (7.25 psi), ±0.05 bar (±0.72 psi) | | | |
| | Max. at high setting | 6 bar (87 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 6.25 bar (90.62 psi) | | | |
| | Accidental | 11.25 bar (163.12 psi) | | | |
| Destruction Pressure | | 23 bar (333.5 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Vacu-Pressure Switch Style | | Diaphragm | | | |

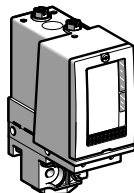
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLBM05A2S13 becomes XMLBM05A2S11).



Other Versions For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 17: Size 5 bar (72.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

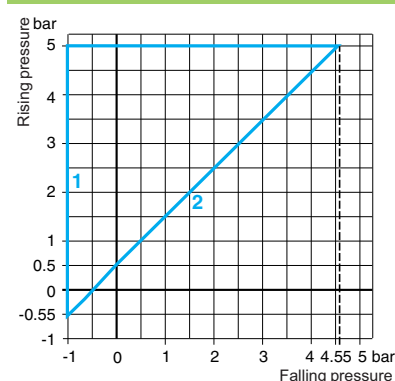
Vacu-pressure Switches, Type XMLC With setting scale



| | | |
|---|--|---|
| Adjustable Range of Operating Point (PH) (Rising pressure) | | –0.55 to 5 bar (–7.97 to 72.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLCM05A2S13 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLCM05B2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLCM05C2S13 |
| Weight, lb (kg) | | 1.51 (0.685) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.45 bar (6.52 psi), ±0.1 bar (±1.45 psi) |
| | Min. at high setting | 0.45 bar (6.52 psi), ±0.1 bar (±1.45 psi) |
| | Max. at high setting | 6 bar (87 psi) |
| Maximum Allowable Pressure | Per cycle | 6.25 bar (90.62 psi) |
| | Accidental | 11.25 bar (163.12 psi) |
| Destruction Pressure | | 23 bar (333.5 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. |
| Vacu-Pressure Switch Style | | Diaphragm |

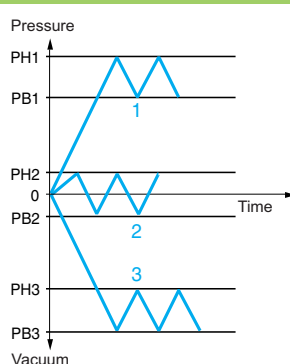
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLCM05A2S13** becomes **XMLCM05A2S11**).

Operating Curves Connection

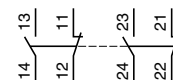


1 Maximum differential
2 Minimum differential

— Adjustable value

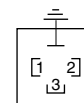


Terminal model



Connector model

Vacu-pressure switch pin view

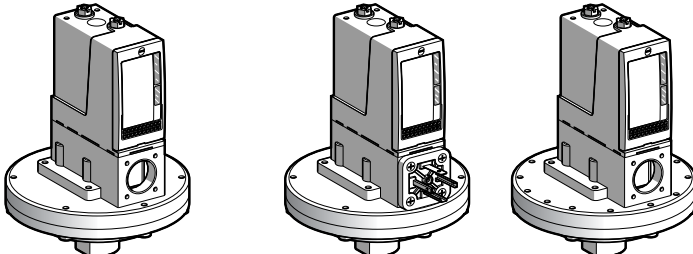


1 → 11 and 13
2 → 12
3 → 14

Other Versions

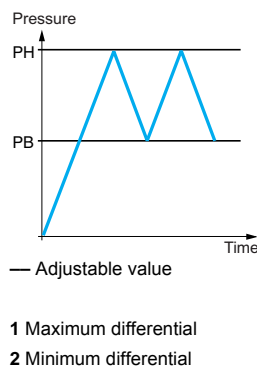
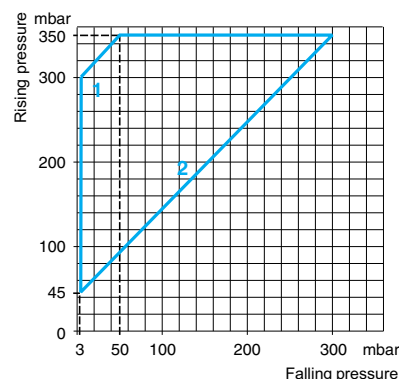
For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 18: Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | With setting scale 30 bar (435 psi) overpressure |
|---|--|---|---------------------|---|
| <div></div> | | | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 45–350 mbar (0.65–5.07 psi) | | 42–330 mbar (0.61–4.78 psi) |
| Electrical Connection | | Terminals | DIN connector | Terminals |
| Catalog Numbers ⁽¹⁾ | | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLBL35R2S13 | XMLBL35R2C11 | XMLBS35R2S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLBL35S2S13 | XMLBL35S2C11 | — |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLBL35P2S13 | XMLBL35P2C11 | — |
| Weight, lb (kg) | | 5.68 (2.575) | 5.71 (2.590) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 42 mbar (0.60 psi), –8 mbar, +3 mbar (–0.12 psi, +0.04 psi) | | 33 mbar (0.48 psi), –8 mbar, +3 mbar (–0.12 psi, +0.04 psi) |
| | Min. at high setting | 50 mbar (0.72 psi), ±8 mbar (±0.11 psi) | | 58 mbar (0.84 psi), ±8 mbar (±0.11 psi) |
| | Max. at high setting | 300 mbar (4.35 psi) | | 250 mbar (3.62 psi) |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) | | 30 bar (435 psi) |
| | Accidental | 2.25 bar (32.62 psi) | | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 4.5 bar (65.25 psi) | | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | |
| Pressure Switch Style | | Diaphragm | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLBL35R2S13 becomes XMLBL35R2S11).

Operating Curves



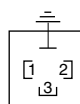
Connection

Terminal model



Connector model

Pressure switch connector pin view

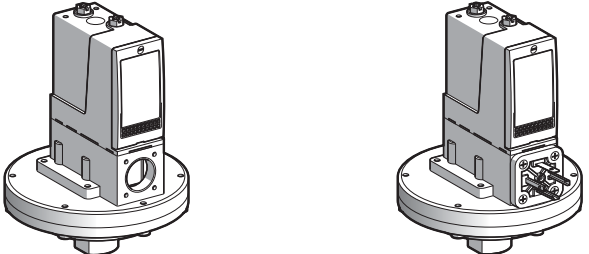


- 1 → 11 and 13
- 2 → 12
- 3 → 14

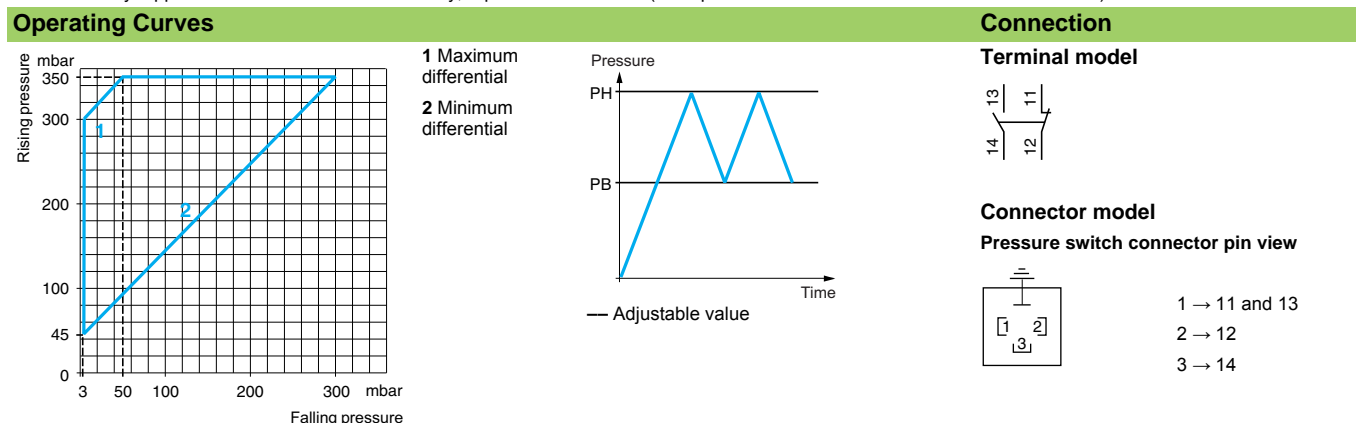
Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 19: Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

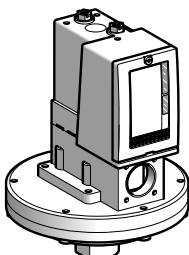
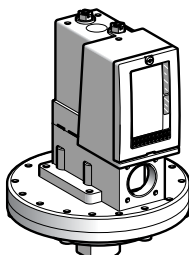
| Pressure Switches, Type XMLB | | Without setting scale | |
|--|--|--|---------------------|
| | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 45–350 mbar (0.65–5.07 psi) | |
| Electrical Connection | | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLBL35R1S13 | XMLBL35R1C11 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLBL35S1S13 | XMLBL35S1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLBL35P1S13 | XMLBL35P1C11 |
| Weight, lb (kg) | | 5.68 (2.575) | 5.71 (2.590) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 42 mbar (0.60 psi), –8 mbar, +3 mbar (–0.12 psi, +0.04 psi) | |
| | Min. at high setting | 50 mbar (0.72 psi), ±8 mbar (±0.11 psi) | |
| | Max. at high setting | 300 mbar (4.35 psi) | |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) | |
| | Accidental | 2.25 bar (32.62 psi) | |
| Destruction Pressure | | 4.5 bar (65.25 psi) | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | |
| Pressure Switch Style | | Diaphragm | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLBL35R1S13 becomes XMLBL35R1S11).



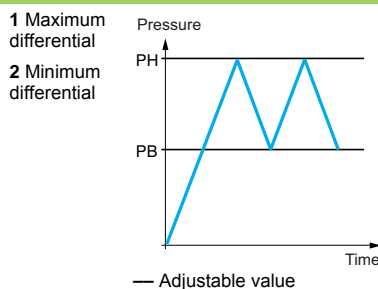
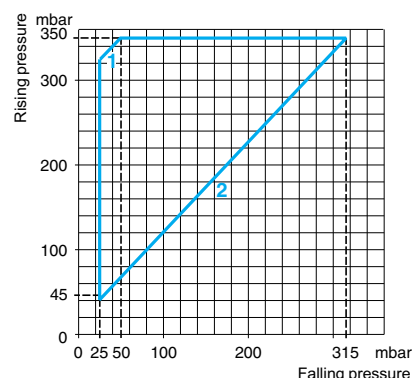
Other Versions For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 20: Size 350 mbar (5.07 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale | With setting scale 30 bar (435 psi) overpressure |
|--|---|---|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 45–350 mbar (0.65–5.07 psi) | 42–330 mbar (0.61–4.78 psi) |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLCL35R2S13 | XMLCS35R2S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLCL35S2S13 | — |
| Weight, lb (kg) | | 5.68 (2.575) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 20 mbar (0.29 psi), ±20 mbar (±0.29 psi) | 40 mbar (0.58 psi), ±20 mbar (±0.29 psi) |
| | Min. at high setting | 35 mbar (0.51 psi), ±20 mbar (±0.29 psi) | 88 mbar (1.27 psi), ±20 mbar (±0.29 psi) |
| | Max. at high setting | 300 mbar (4.35 psi) | 230 mbar (3.33 psi) |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) | 30 bar (435 psi) |
| | Accidental | 2.25 bar (32.62 psi) | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 4.5 bar (65.25 psi) | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | |
| Pressure Switch Style | | Diaphragm | |

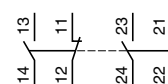
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLCL35R2S13 becomes XMLCL35R2S11).

Operating Curves



Connection

Terminal model

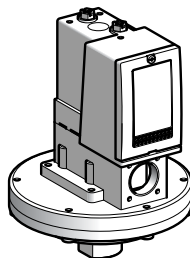


Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 21: Size 350 mbar (5.07 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

Pressure Switches, Type XMLD Without setting scale

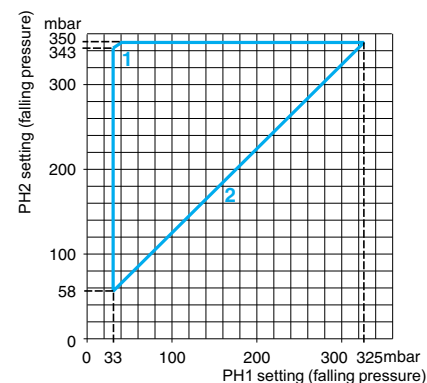


| | | |
|--|---|---|
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 58–350 mbar (0.84–5.07 psi) |
| | 1st stage operating point (PH1) | 33–325 mbar (0.48–4.71 psi) |
| Spread between the Two Stages (PH2–PH1) | | 25–310 mbar (0.36–4.50 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLDL35R1S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLDL35S1S13 |
| Weight, lb (kg) | | 5.68 (2.575) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 30 mbar (0.44 psi), ±10 mbar (±0.15 psi) |
| | At high setting | 30 mbar (0.44 psi), ±8 mbar (±0.11 psi) |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) |
| | Accidental | 2.25 bar (32.62 psi) |
| Destruction Pressure | | 4.5 bar (65.25 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLDL35R1S13 becomes XMLDL35R1S11).

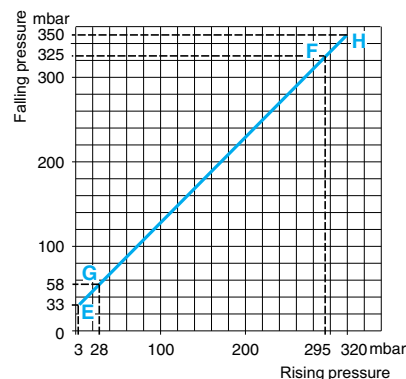
Operating Curves

High setting trip points of contacts 1 and 2

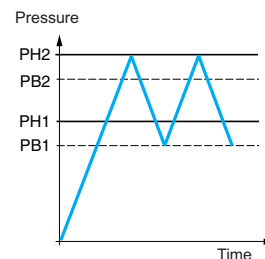


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model

Contact 1 (stage 1) Contact 2 (stage 2)

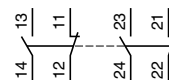
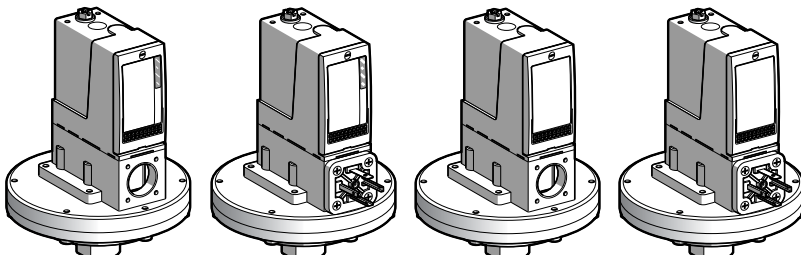
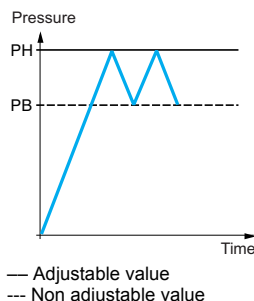
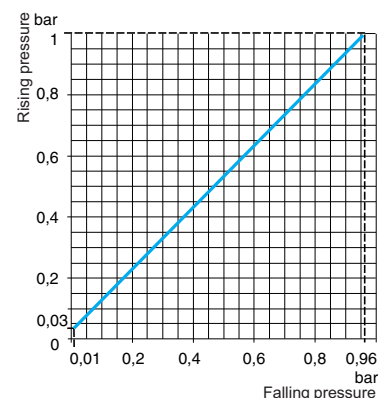


Table 22: Size 1 bar (14.5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|-----------------------|---------------|
| | |  | | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.03–1 bar (0.435–14.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled For materials in contact with fluid, see pages 77–78 | Hydraulic oils, air, up to 320 °F (160 °C) | XMLA001R2S13 | XMLA001R2C11 | XMLA001R1S13 | XMLA001R1C11 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLA001S2S13 | XMLA001S2C11 | XMLA001S1S13 | XMLA001S1C11 |
| Weight, lb (kg) | | 5.63 (2.555) | 5.67 (2.570) | 5.63 (2.555) | 5.67 (2.570) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 0.02 bar (0.29 psi), ±0.01 bar (±0.14 psi) | | | |
| | At high setting | 0.04 bar (0.58 psi), ±0.01 bar (±0.14 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) | | | |
| | Accidental | 2.25 bar (32.62 psi) | | | |
| Destruction Pressure | | 4.5 bar (65.25 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLA001R2S13** becomes **XMLA001R2S11**).

Operating Curves



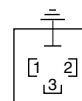
Connection

Terminal model



Connector model

Pressure switch connector pin view

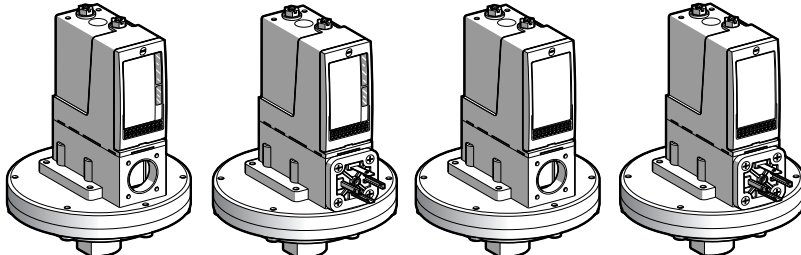


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

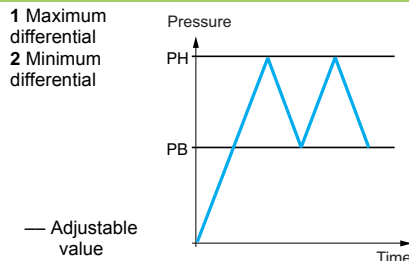
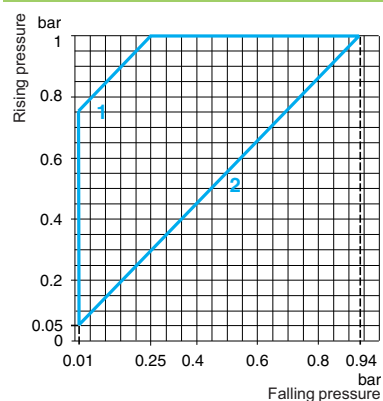
Table 23: Size 1 bar (14.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|--|--|---------------|-----------------------|---------------|
| | |  | | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.05–1 bar (0.72–14.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, air, up to 320 °F (160 °C) | XMLB001R2S13 | XMLB001R2C11 | XMLB001R1S13 | XMLB001R1C11 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLB001S2S13 | XMLB001S2C11 | XMLB001S1S13 | XMLB001S1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLB001P2S13 | XMLB001P2C11 | XMLB001P1S13 | XMLB001P1C11 |
| Weight, lb (kg) | | 5.68 (2.575) | 5.71 (2.590) | 5.68 (2.575) | 5.71 (2.590) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.04 bar (0.58 psi), ±10 mbar (±0.14 psi) | | | |
| | Min. at high setting | 0.06 bar (0.87 psi), ±20 mbar (±0.29 psi) | | | |
| | Max. at high setting | 0.75 bar (10.87 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) | | | |
| | Accidental | 2.25 bar (32.62 psi) | | | |
| Destruction Pressure | | 4.5 bar (65.25 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLB001R2S13** becomes **XMLB001R2S11**).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



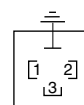
Connection

Terminal model



Connector model

Pressure switch connector pin view



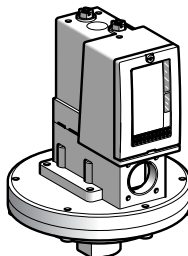
1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 24: Size 1 bar (14.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | With setting scale |
|------------------------------|--------------------|
|------------------------------|--------------------|

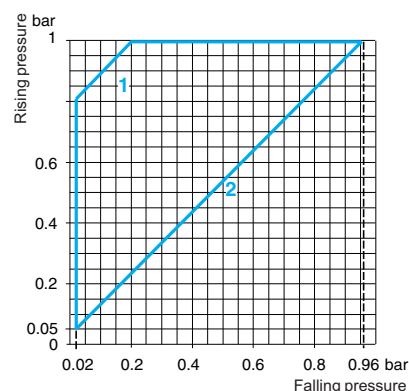


| | | |
|--|---|---|
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.05–1 bar (0.725–14.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, air, up to 320 °F (160 °C) | XMLC001R2S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLC001S2S13 |
| Weight, lb (kg) | | 5.63 (2.555) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.03 bar (0.43 psi), ±0.01 bar (±0.14 psi) |
| | Min. at high setting | 0.04 bar (0.58 psi), ±0.03 bar (±0.43 psi) |
| | Max. at high setting | 0.8 bar (11.6 psi) |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) |
| | Accidental | 2.25 bar (32.62 psi) |
| Destruction Pressure | | 4.5 bar (65.25 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLC001R2S13** becomes **XMLC001R2S11**).

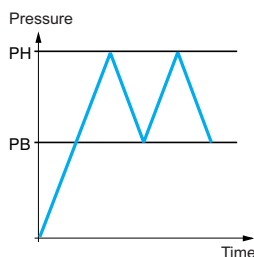
⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

| Operating Curves | Connection |
|------------------|------------|
|------------------|------------|

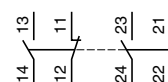


1 Maximum differential
2 Minimum differential

— Adjustable value



Terminal model

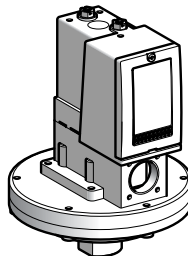


Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 25: Size 1 bar (14.5 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

Pressure Switches, Type XMLD Without setting scale



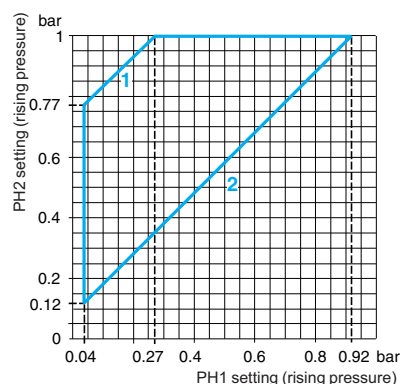
| | | |
|--|---|---|
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 0.12–1 bar (1.74–14.5 psi) |
| | 1st stage operating point (PH1) | 0.04–0.92 bar (0.58–13.34 psi) |
| Spread between the Two Stages (PH2–PH1) | | 0.08–0.73 bar (1.16–10.59 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, air, up to 320 °F (160 °C) | XMLD001R1S13 |
| | Fresh water, sea water, corrosive fluids, up to 320 °F (160 °C) | XMLD001S1S13 |
| Weight, lb (kg) | | 5.68 (2.575) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 0.03 bar (0.44 psi), ±0.01 bar (±0.14 psi) |
| | At high setting | 0.07 bar (1.02 psi), ±0.04 bar (±0.58 psi) |
| Maximum Allowable Pressure | Per cycle | 1.25 bar (18.12 psi) |
| | Accidental | 2.25 bar (32.62 psi) |
| Destruction Pressure | | 4.5 bar (65.25 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLD001R1S13** becomes **XMLD001R1S11**).

(2) Component materials of units in contact with the fluid, see pages 77–78.

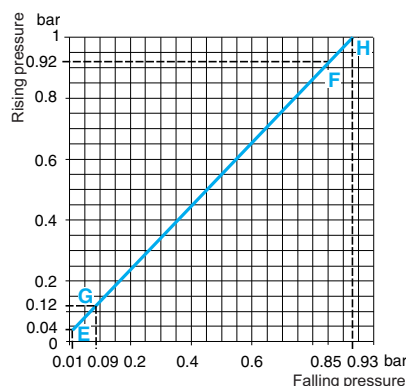
Operating Curves

High setting trip points of contacts 1 and 2

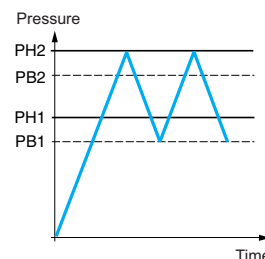


- 1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



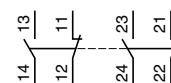
- EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection: Terminal model

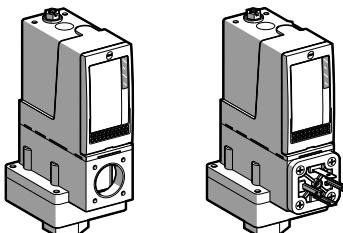
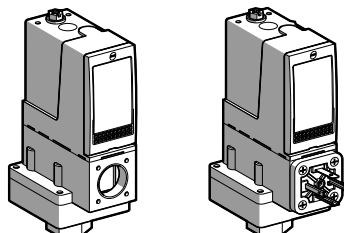
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

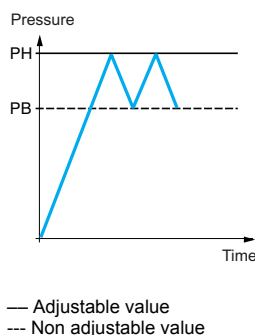
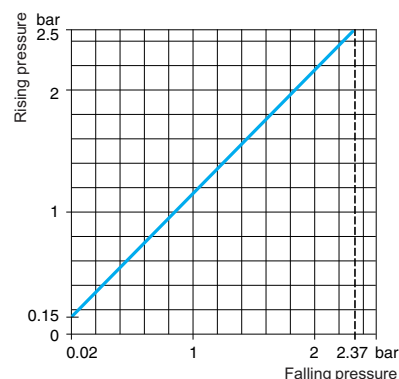
Table 26: Size 2.5 bar (36.25 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.15–2.5 bar (2.17–36.25 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLA002A2S13 | XMLA002A2C11 | XMLA002A1S13 | XMLA002A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLA002B2S13 | XMLA002B2C11 | XMLA002B1S13 | XMLA002B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLA002C2S13 | XMLA002C2C11 | XMLA002C1S13 | XMLA002C1C11 |
| Weight, lb (kg) | | 2.19 (0.995) | 2.23 (1.010) | 2.19 (0.995) | 2.23 (1.010) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 0.13 bar (1.88 psi), ±0.03 bar (±0.43 psi) | | | |
| | At high setting | 0.13 bar (1.88 psi), ±0.03 bar (±0.43 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | |
| | Accidental | 9 bar (130.5 psi) | | | |
| Destruction Pressure | | 18 bar (261 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA002A2S13 becomes XMLA002A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



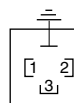
Connection

Terminal Model



Connector model

Pressure switch connector pin view

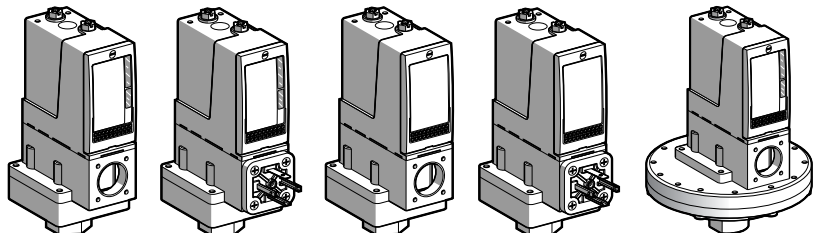


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

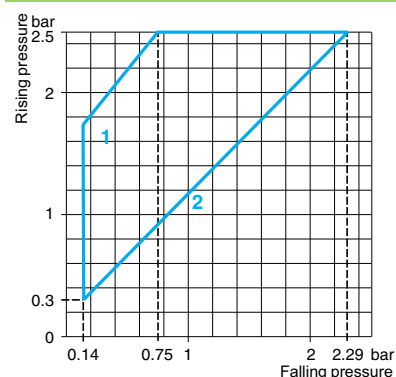
**Table 27: Size 2.5 bar (36.25 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP**

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | | With setting scale 30 bar (435 psi) overpressure |
|---|--|--|---------------|-----------------------|---------------|---|
| | |  | | | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.3–2.5 bar (4.35–36.25 psi) | | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector | Terminals |
| Catalog Numbers ⁽¹⁾ | | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLB002A2S13 | XMLB002A2C11 | XMLB002A1S13 | XMLB002A1C11 | — |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLB002B2S13 | XMLB002B2C11 | XMLB002B1S13 | XMLB002B1C11 | — |
| | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | — | | | | XMLBS02B2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLB002C2S13 | XMLB002C2C11 | XMLB002C1S13 | XMLB002C1C11 | — |
| Weight, lb (kg) | | 2.24 (1.015) | 2.27 (1.030) | 2.24 (1.015) | 2.27 (1.030) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.16 bar (2.32 psi), –0.8 mbar, +1.1 mbar (–0.01 psi, +0.02 psi) | | | | 0.1 bar (1.45 psi), –0.8 mbar, +1.1 mbar (–0.01 psi, +0.02 psi) |
| | Min. at high setting | 0.21 bar (3.04 psi), ±1.4 mbar (±0.02 psi) | | | | 0.22 bar (3.19 psi), ±1.4 mbar (±0.02 psi) |
| | Max. at high setting | 1.75 bar (25.37 psi) | | | | 1.45 bar (21 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | | 30 bar (435 psi) |
| | Accidental | 9 bar (130.5 psi) | | | | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 18 bar (261 psi) | | | | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | | |
| Pressure Switch Style | | Diaphragm | | | | |

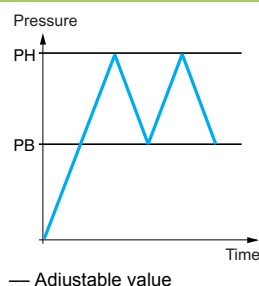
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLBL05R2S13** becomes **XMLBL05R2S11**).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



- 1 Maximum differential
- 2 Minimum differential



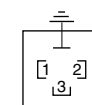
Connection

Terminal model



Connector model

Pressure switch connector pin view

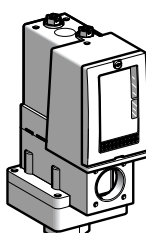
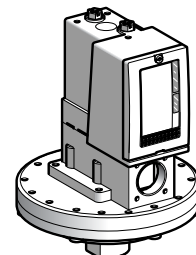


1 \rightarrow 11 and 13
2 \rightarrow 12
3 \rightarrow 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

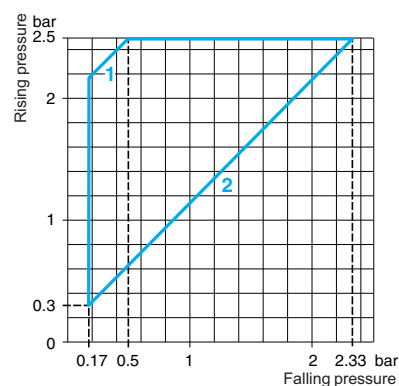
Table 28: Size 2.5 bar (36.25 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale | With setting scale 30 bar (435 psi) overpressure |
|---|--|---|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.3–2.5 bar (4.35–36.25 psi) | |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | — | XMLCS02B2S13 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLC002B2S13 | — |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC002C2S13 | — |
| Weight, lb (kg) | | 2.19 (0.995) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.13 bar (1.89 psi), ±0.02 bar (±0.29 psi) | 0.1 bar (1.45 psi), ±0.02 bar (±0.29 psi) |
| | Min. at high setting | 0.17 bar (2.47 psi), ±0.03 bar (±0.43 psi) | 0.18 bar (2.61 psi), ±0.03 bar (±0.43 psi) |
| | Max. at high setting | 2 bar (29 psi) | 1.25 bar (18.12 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | 30 bar (435 psi) |
| | Accidental | 9 bar (130.5 psi) | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 18 bar (261 psi) | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | |
| Pressure Switch Style | | Diaphragm | |

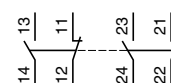
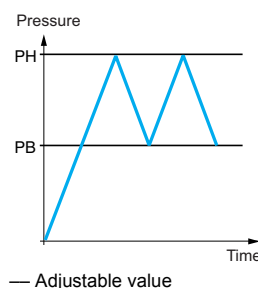
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC002B2S13 becomes XMLC002B2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves Connection



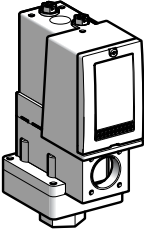
1 Maximum differential
2 Minimum differential



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 29: Size 2.5 bar (36.25 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

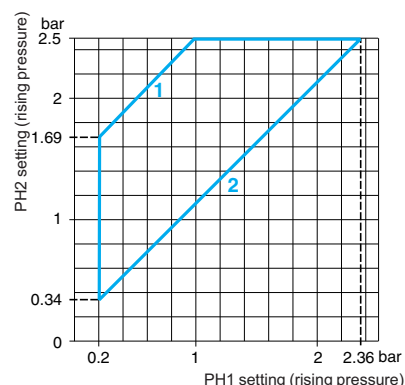
| Pressure Switches, Type XMLD | | Without setting scale |
|---|--|---|
|  | | |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 0.34–2.5 bar (4.93–36.25 psi) |
| | 1st stage operating point (PH1) | 0.2–2.36 bar (2.9–34.22 psi) |
| Spread between the Two Stages (PH2–PH1) | | 0.14–1.5 bar (2.03–21.75 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLD002B1S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLD002C1S13 |
| Weight, lb (kg) | | 2.24 (1.015) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 0.14 bar (2.03 psi), ±0.04 bar (±0.58 psi) |
| | At high setting | 0.19 bar (2.76 psi), ±0.07 bar (±1.02 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) |
| | Accidental | 9 bar (130.5 psi) |
| Destruction Pressure | | 18 bar (261 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD002B1S13 becomes XMLD002B1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

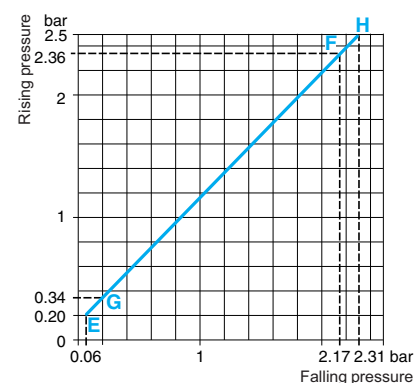
Operating Curves

High setting trip points of contacts 1 and 2

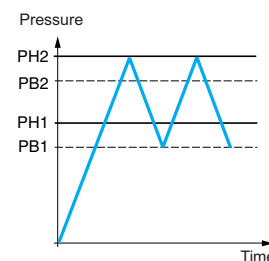


- 1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



- EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



- Adjustable value
--- Non adjustable value

Connection: Terminal model

Contact 2 (stage 2) Contact 1 (stage 1)

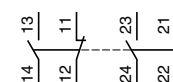
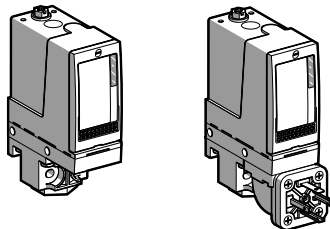
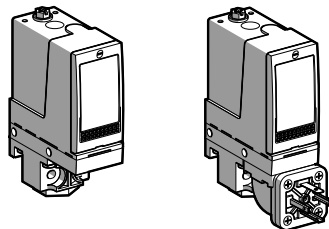


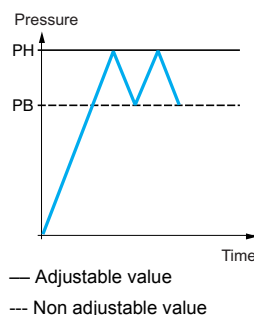
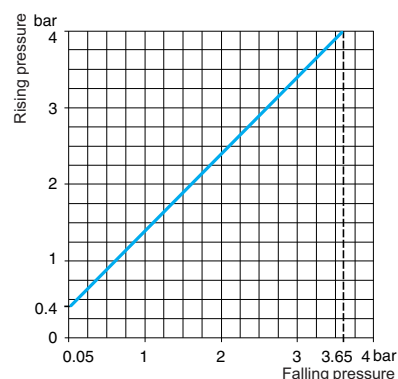
Table 30: Size 4 bar (58 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.4–4 bar (5.8–58 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLA004A2S13 | XMLA004A2C11 | XMLA004A1S13 | XMLA004A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLA004B2S13 | XMLA004B2C11 | XMLA004B1S13 | XMLA004B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLA004C2S13 | XMLA004C2C11 | XMLA004C1S13 | XMLA004C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLA004P2S13 | XMLA004P2C11 | XMLA004P1S13 | XMLA004P1C11 |
| Weight, lb (kg) | | 1.51 (0.685) | 1.58 (0.715) | 1.51 (0.685) | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 0.35 bar (5.07 psi), ±0.03 bar (±0.43 psi) | | | |
| | At high setting | 0.35 bar (5.07 psi), ±0.03 bar (±0.43 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | |
| | Accidental | 9 bar (130.5 psi) | | | |
| Destruction Pressure | | 18 bar (261 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA004A2S13 becomes XMLA004A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operation curves



Connection

Terminal model



Connector model

Pressure switch connector pin view

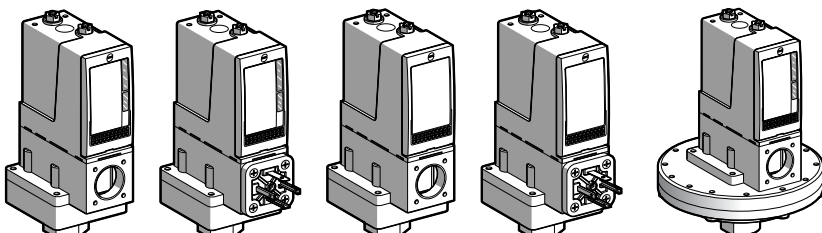


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

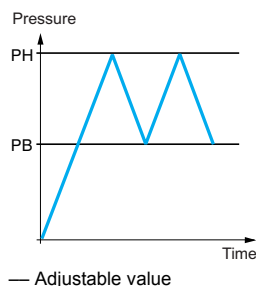
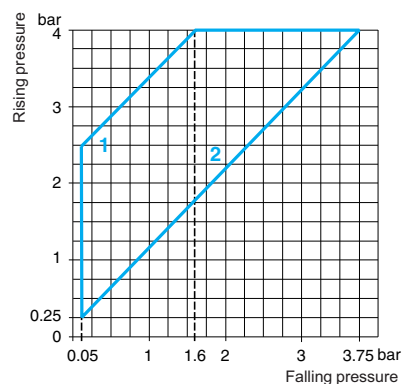
Table 31: Size 4 bar (58 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | | With setting scale 30 bar (435 psi) overpressure | |
|--|--|--|---------------|-----------------------|---------------|--|--------------|
|  | | | | | | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.25–4 bar (3.62–58 psi) | | | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLB004A2S13 | XMLB004A2C11 | XMLB004A1S13 | XMLB004A1C11 | — | |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLB004B2S13 | XMLB004B2C11 | XMLB004B1S13 | XMLB004B1C11 | — | |
| | Hydraulic oils, freshwater, air, up to 320 °F (160 °C) | — | | | | | XMLBS04B2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLB004C2S13 | XMLB004C2C11 | XMLB004C1S13 | XMLB004C1C11 | — | |
| Weight, lb (kg) | | 2.24 (1.015) | 2.27 (1.030) | 2.24 (1.015) | 2.27 (1.030) | 7.72 (3.500) | |
| Supplementary Specifications (not shown under general specifications) | | | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.2 bar (2.9 psi), ±0.01 bar (±0.14 psi) | | | | 0.15 bar (2.18 psi), ±0.01 bar (±0.14 psi) | |
| | Min. at high setting | 0.25 bar (3.62 psi), –0.03 bar, +0.05 bar (–0.43 psi, +0.72 psi) | | | | 0.34 bar (4.93 psi), –0.03 bar, +0.05 bar (–0.43 psi, +0.72 psi) | |
| | Max. at high setting | 2.4 bar (34.8 psi) | | | | 2.46 bar (35.67 psi) | |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | | | | 30 bar (435 psi) | |
| | Accidental | 9 bar (130.5 psi) | | | | 37.5 bar (543.75 psi) | |
| Destruction Pressure | | 18 bar (261 psi) | | | | 67.5 bar (978.75 psi) | |
| Cable Entry and Wire Size for Terminal Models 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | | | | | |
| Connector Type for Connector Models DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | | | | | |
| Pressure Switch Style | | Diaphragm | | | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB004A2S13 becomes XMLB004A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



1 Maximum differential
2 Minimum differential

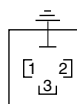
Connection

Terminal model



Connector model

Pressure switch connector pin view

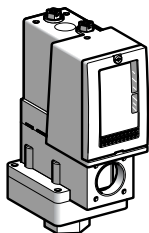
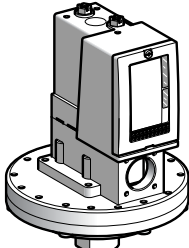


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

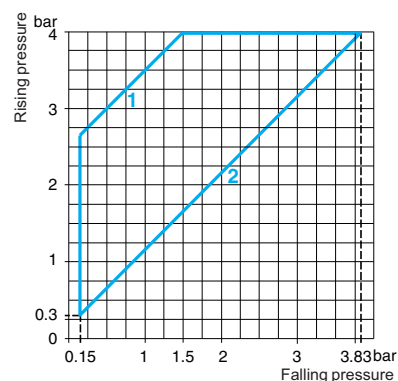
Table 32: Size 4 bar (58 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale | With setting scale 30 bar (435 psi) overpressure |
|---|--|---|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.3–4 bar (4.35–58 psi) | |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | — | XMLCS04B2S13 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLC004B2S13 | — |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC004C2S13 | — |
| Weight, lb (kg) | | 1.51 (0.685) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.15 bar (2.18 psi), ±0.02 bar (±0.29 psi) | 0.1 bar (1.45 psi), ±0.02 bar (±0.29 psi) |
| | Min. at high setting | 0.17 bar (2.47 psi), ±0.02 bar (±0.29 psi) | 0.25 bar (3.62 psi), ±0.02 bar (±0.29 psi) |
| | Max. at high setting | 2.5 bar (36.25 psi) | 2.20 bar (31.9 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) | 30 bar (435 psi) |
| | Accidental | 9 bar (130.5 psi) | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 18 bar (261 psi) | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | |
| Pressure Switch Style | | Diaphragm | |

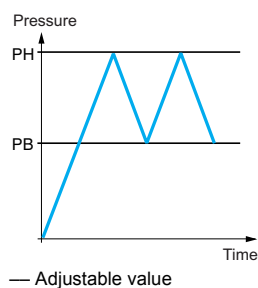
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC004B2S13 becomes XMLC004B2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

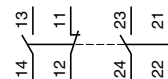


1 Maximum differential
2 Minimum differential



Connection

Terminal model

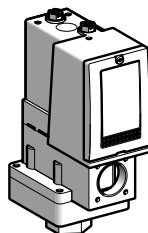


Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 33: Size 4 bar (58 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

Pressure Switches, Type XMLD Without setting scale



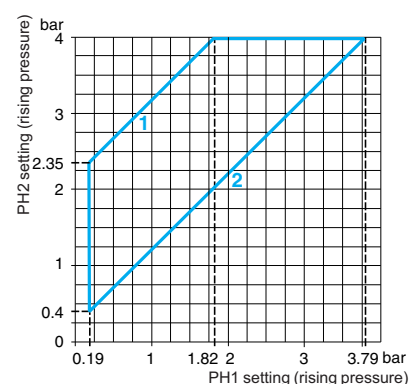
| | | |
|--|--|---|
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 0.40–4 bar (5.8–58 psi) |
| | 1st stage operating point (PH1) | 0.19–3.79 bar (2.76–54.96 psi) |
| Spread between the Two Stages (PH2–PH1) | | 0.21–2.18 bar (3.05–31.61 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLD004B1S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLD004C1S13 |
| Weight, lb (kg) | | 2.24 (1.015) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 0.15 bar (2.18 psi), ±0.03 bar (±0.43 psi) |
| | At high setting | 0.19 bar (2.76 psi), ±0.03 bar (±0.43 psi) |
| Maximum Allowable Pressure | Per cycle | 5 bar (72.5 psi) |
| | Accidental | 9 bar (130.5 psi) |
| Destruction Pressure | | 18 bar (261 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD004B1S13 becomes XMLD004B1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

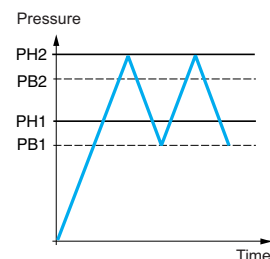
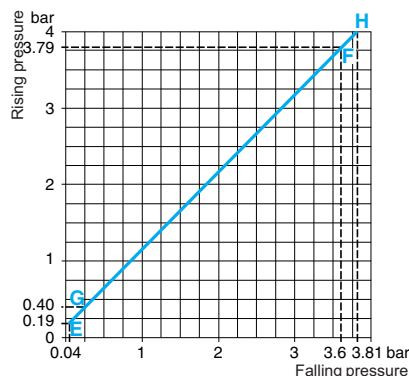
High setting trip points of contacts 1 and 2



1 Maximum differential
2 Minimum differential

EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

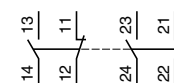
Inherent differential of contacts 1 and 2



— Adjustable value
--- Non adjustable value

Connection: Terminal model

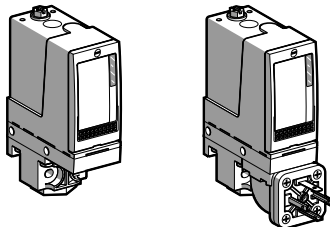
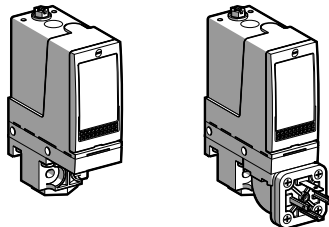
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

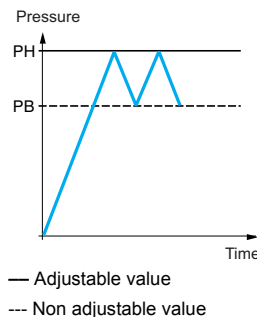
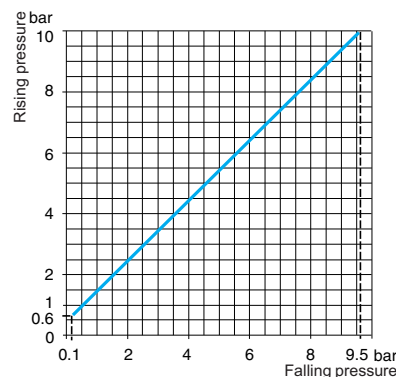
Table 34: Size 10 bar (145 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.6–10 bar (8.7–145 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLA010A2S13 | XMLA010A2C11 | XMLA010A1S13 | XMLA010A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLA010B2S13 | XMLA010B2C11 | XMLA010B1S13 | XMLA010B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLA010C2S13 | XMLA010C2C11 | XMLA010C1S13 | XMLA010C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLA010P2S13 | XMLA010P2C11 | XMLA010P1S13 | XMLA010P1C11 |
| Weight, lb (kg) | | 1.51 (0.685) | 1.58 (0.715) | 1.51 (0.685) | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 0.5 bar (7.25 psi), ±0.05 bar (±0.72 psi) | | | |
| | At high setting | 0.5 bar (7.25 psi), ±0.05 bar (±0.72 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 12.5 bar (181.25 psi) | | | |
| | Accidental | 22.5 bar (326.25 psi) | | | |
| Destruction Pressure | | 45 bar (652.5 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA010A2S13 becomes XMLA010A2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



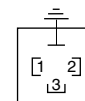
Connection

Terminal model



Connector model

Pressure switch connector pin view

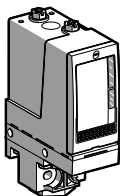
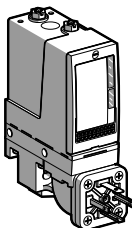
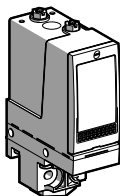
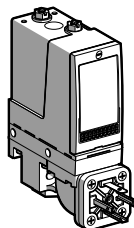
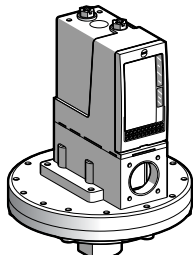


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

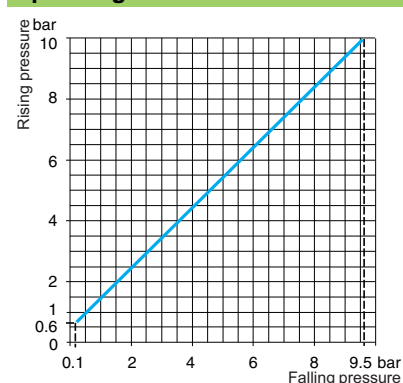
Table 35: Size 10 bar (145 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | | With setting scale 30 bar (435 psi) overpressure | | |
|--|---|---|---------------|---|---------------|--|---|---|
| | |  | |  | |  |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.7–10 bar (10.15–145 psi) | | | | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector | Terminals | | |
| Catalog Numbers ⁽¹⁾ | | | | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLB010A2S13 | XMLB010A2C11 | XMLB010A1S13 | XMLB010A1C11 | — | | |
| | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | — | — | — | — | XMLBS10A2S13 | | |
| | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | XMLB010B2S13 | XMLB010B2C11 | XMLB010B1S13 | XMLB010B1C11 | — | | |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLB010C2S13 | XMLB010C2C11 | XMLB010C1S13 | XMLB010C1C11 | — | | |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLB010P2S13 | XMLB010P2C11 | XMLB010P1S13 | XMLB010P1C11 | — | | |
| Weight, lb (kg) | | 1.55 (0.705) | 1.62 (0.735) | 1.55 (0.705) | 1.62 (0.735) | 7.72 (3.500) | | |
| Supplementary Specifications (not shown under general specifications) | | | | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.57 bar (8.26 psi), ±0.05 bar (±0.72 psi). | | | | | 0.45 bar (6.52 psi), ±0.05 bar (±0.72 psi). | |
| | Min. at high setting | 0.85 bar (12.32 psi), –0.1 bar, +0.15 bar (–1.45 psi, +2.17 psi) | | | | | 0.85 bar (12.32 psi), –0.1 bar, +0.15 bar (–1.45 psi, +2.17 psi) | |
| | Max. at high setting | 7.5 bar (108.75 psi) | | | | | 6.25 bar (90.62 psi) | |
| Maximum Allowable Pressure | Per cycle | 12.5 bar (181.25 psi) | | | | | 30 bar (435 psi) | |
| | Accidental | 22.5 bar (326.25 psi) | | | | | 37.5 bar (543.75 psi) | |
| Destruction Pressure | | 45 bar (652.5 psi) | | | | | 67.5 bar (978.75 psi) | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | | | | |
| Pressure Switch Style | | Diaphragm | | | | | | |

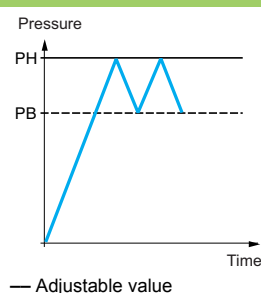
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB010A2S13 becomes XMLB010A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



- 1 Maximum differential
- 2 Minimum differential



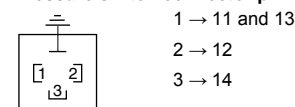
Connection

Terminal model



Connector model

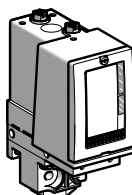
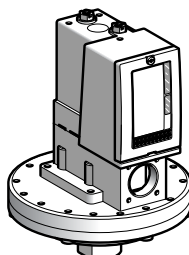
Pressure switch connector pin view



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

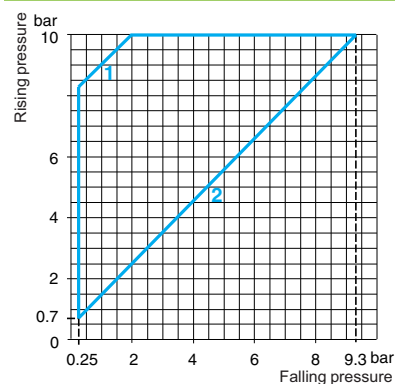
Table 36: Size 10 bar (145 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale | With setting scale 30 bar (435 psi) overpressure |
|---|---|---|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 0.7–10 bar (10.15–145 psi) | |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, air, up to 158 °F (70 °C) | — | XMLCS10A2S13 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLC010B2S13 | — |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC010C2S13 | — |
| Weight, lb (kg) | | 1.51 (0.685) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.45 bar (6.53 psi), ±0.05 bar (±0.72 psi) | 0.25 bar (3.62 psi), ±0.05 bar (±0.72 psi) |
| | Min. at high setting | 0.70 bar (10.15 psi), ±0.01 bar (±1.45 psi) | 0.65 bar (9.42 psi), ±0.01 bar (±1.45 psi) |
| | Max. at high setting | 8 bar (116 psi) | 5.6 bar (81.2 psi) |
| Maximum Allowable Pressure | Per cycle | 12.5 bar (181.25 psi) | 30 bar (435 psi) |
| | Accidental | 22.5 bar (326.25 psi) | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 45 bar (652.5 psi) | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | |
| Pressure Switch Style | | Diaphragm | |

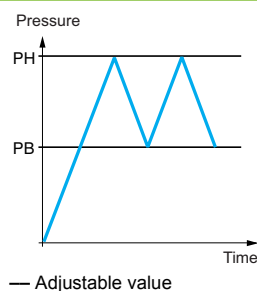
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLC010B2S13** becomes **XMLC010B2S11**).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

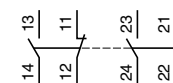


1 Maximum differential
2 Minimum differential



Connection

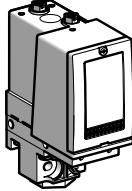
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 37: Size 10 bar (145 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

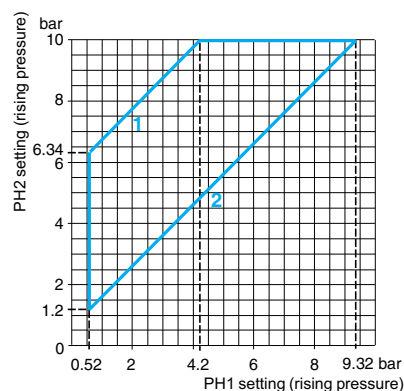
| Pressure Switches, Type XMLD | | Without setting scale |
|---|--|---|
|  | | |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) 1st stage operating point (PH1) | 1.2–10 bar (17.4–145 psi) 0.52–9.32 bar (7.54–135.14 psi) |
| Spread between the Two Stages (PH2–PH1) | | 0.68–5.8 bar (9.86–84.1 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLD010B1S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLD010C1S13 |
| Weight, lb (kg) | | 1.55 (0.705) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 0.45 bar (6.53 psi), ±0.05 bar (±0.72 psi) |
| | At high setting | 0.6 bar (8.7 psi), ±0.1 bar (±1.45 psi) |
| Maximum Allowable Pressure | Per cycle | 12.5 bar (181.25 psi) |
| | Accidental | 22.5 bar (326.25 psi) |
| Destruction Pressure | | 45 bar (652.5 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD010B1S13 becomes XMLD010B1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

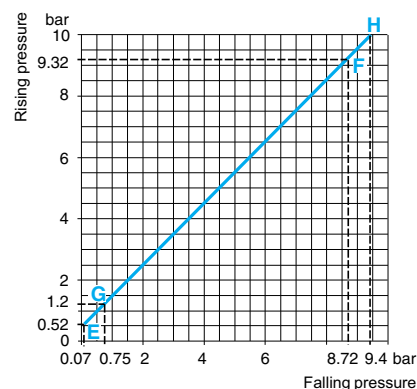
Operating Curves

High setting trip points of contacts 1 and 2

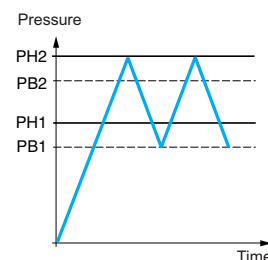


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

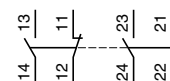


— Adjustable value
--- Non adjustable value

Connection

Terminal model

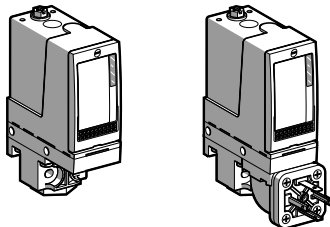
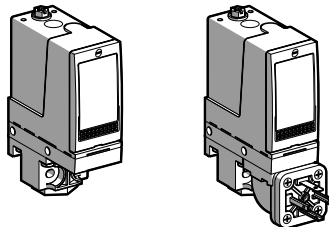
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

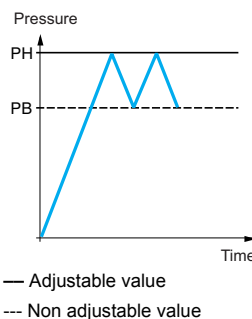
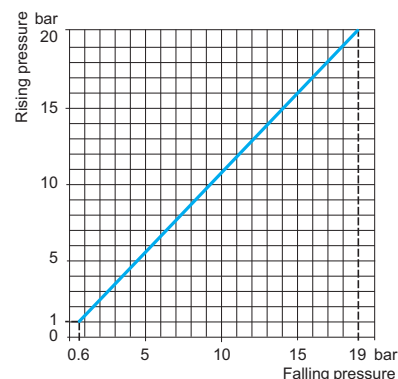
Table 38: Size 20 bar (290 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 1–20 bar (14.5–290 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLA020A2S13 | XMLA020A2C11 | XMLA020A1S13 | XMLA020A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLA020B2S13 | XMLA020B2C11 | XMLA020B1S13 | XMLA020B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLA020C2S13 | XMLA020C2C11 | XMLA020C1S13 | XMLA020C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLA020P2S13 | XMLA020P2C11 | XMLA020P1S13 | XMLA020P1C11 |
| Weight, lb (kg) | | 1.51 (0.685) | 1.58 (0.715) | 1.51 (0.685) | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 0.4 bar (5.8 psi), ±0.2 bar (±2.9 psi) | | | |
| | At high setting | 1 bar (14.5 psi), ±0.1 bar (±1.45 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 25 bar (362.5 psi) | | | |
| | Accidental | 45 bar (652.5 psi) | | | |
| Destruction Pressure | | 90 bar (1305 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA020A2S13 becomes XMLA020A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



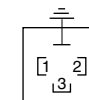
Connection

Terminal model



Connector model

Pressure switch connector pin view

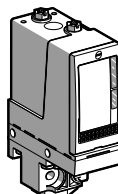
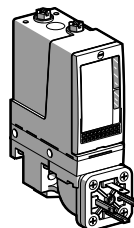
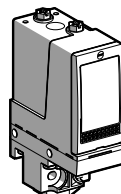
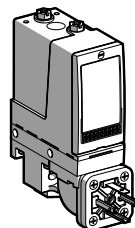
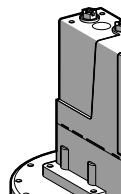



1 → 11 and 13
2 → 12
3 → 14

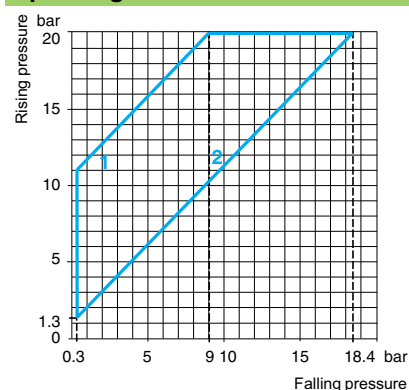
Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

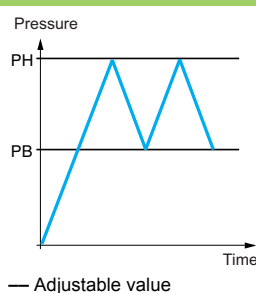
Table 39: Size 20 bar (290 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | | With setting scale 30 bar (435 psi) overpressure |
|--|--|---|---------------------|---|---------------------|---|
| | |  | |  | |  |
| | |  | |  | |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 1.3–20 bar (18.9–290 psi) | | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector | Terminals |
| Catalog Numbers ⁽¹⁾ | | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLB020A2S13 | XMLB020A2C11 | XMLB020A1S13 | XMLB020A1C11 | — |
| | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | — | — | — | — | XMLBS20A2S13 |
| | Hydraulic oils, fresh water, air, up to 320 °F (160 °C) | XMLB020B2S13 | XMLB020B2C11 | XMLB020B1S13 | XMLB020B1C11 | — |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLB020C2S13 | XMLB020C2C11 | XMLB020C1S13 | XMLB020C1C11 | — |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLB020P2S13 | XMLB020P2C11 | XMLB020P1S13 | XMLB020P1C11 | — |
| Weight, lb (kg) | | 1.55 (0.705) | 1.62 (0.735) | 1.55 (0.705) | 1.62 (0.735) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 1 bar (14.5 psi), ±0.25 bar (±3.63 psi) | | | | 0.95 bar (13.78 psi), ±0.25 bar (±3.63 psi) |
| | Min. at high setting | 1.6 bar (23.20 psi), ±0.25 bar (±3.63 psi) | | | | 1.45 bar (21.03 psi), ±0.25 bar (±3.63 psi) |
| | Max. at high setting | 11 bar (159.5 psi) | | | | 12.6 bar (182.7 psi) |
| Maximum Allowable Pressure | Per cycle | 25 bar (362.5 psi) | | | | 30 bar (435 psi) |
| | Accidental | 45 bar (652.5 psi) | | | | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 90 bar (1305 psi) | | | | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | | |
| Pressure Switch Style | | Diaphragm | | | | |

Operating Curves



- 1 Maximum differential
- 2 Minimum differential



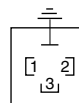
Connection

Terminal model



Connector model

Pressure switch connector pin view



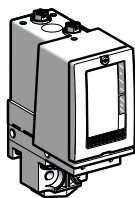
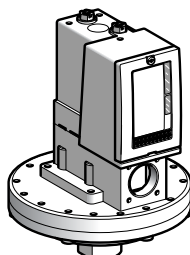
1 \rightarrow 11 and 13

 $2 \rightarrow 12$ $3 \rightarrow 14$

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

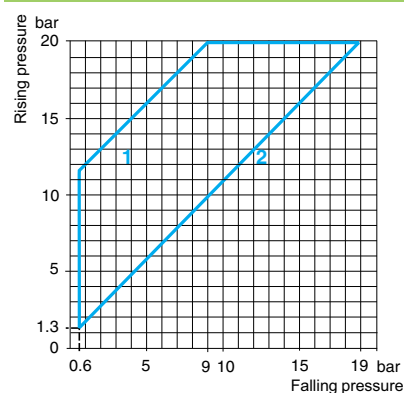
Table 40: Size 20 bar (290 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale | With setting scale 30 bar (435 psi) overpressure |
|--|---|---|---|
| | |  |  |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 1.3–20 bar (18.85–290 psi) | |
| Electrical Connection | | Terminals | |
| Catalog Numbers ⁽¹⁾ | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, air, up to 158 °F (70 °C) | — | XMLCS20A2S13 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLC020B2S13 | — |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC020C2S13 | — |
| Weight, lb (kg) | | 1.51 (0.685) | 7.72 (3.500) |
| Supplementary Specifications (not shown under general specifications) | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 0.7 bar (10.15 psi), ±0.2 bar (±2.9 psi) | 0.7 bar (10.15 psi), ±0.2 bar (±2.9 psi) |
| | Min. at high setting | 1 bar (14.5 psi), ±0.2 bar (±2.9 psi) | 1.15 bar (16.67 psi), ±0.2 bar (±2.9 psi) |
| | Max. at high setting | 11 bar (159.5 psi) | 11.70 bar (169.6 psi) |
| Maximum Allowable Pressure | Per cycle | 25 bar (362.5 psi) | 30 bar (435 psi) |
| | Accidental | 45 bar (652.5 psi) | 37.5 bar (543.75 psi) |
| Destruction Pressure | | 90 bar (1305 psi) | 67.5 bar (978.75 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | |
| Pressure Switch Style | | Diaphragm | |

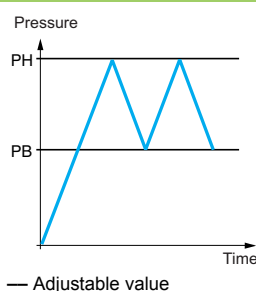
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: **XMLC020B2S13** becomes **XMLC020B2S11**).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

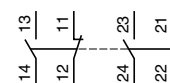


1 Maximum differential
2 Minimum differential



Connection

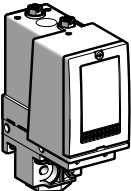
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 41: Size 20 bar (290 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

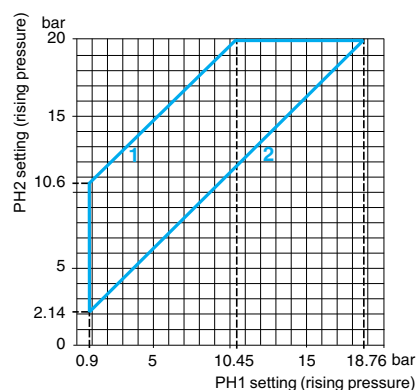
| Pressure Switches, Type XMLD | | Without setting scale |
|---|--|---|
|  | | |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 2.14–20 bar (31.03–290 psi) |
| | 1st stage operating point (PH1) | 0.9–18.76 bar (13.05–272.02 psi) |
| Spread between the Two Stages (PH2–PH1) | | 1.24–9.55 bar (17.98–138.48 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLD020B1S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLD020C1S13 |
| Weight, lb (kg) | | 1.55 (0.705) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 0.7 bar (10.15 psi), ±0.15 bar (±2.18 psi) |
| | At high setting | 1.3 bar (18.85 psi), ±0.3 bar (±4.35 psi) |
| Maximum Allowable Pressure | Per cycle | 25 bar (362.5 psi) |
| | Accidental | 45 bar (652.5 psi) |
| Destruction Pressure | | 90 bar (1305 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD020B1S13 becomes XMLD020B1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

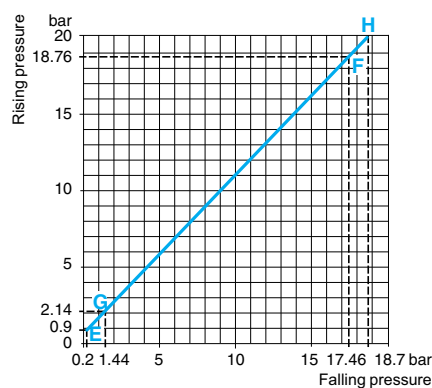
Operating Curves

High setting trip points of contacts 1 and 2

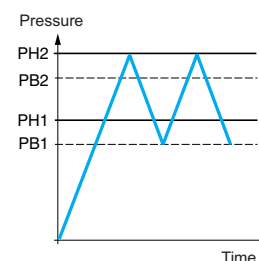


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model

Contact 2 (stage 2) Contact 1 (stage 1)

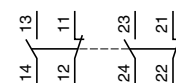
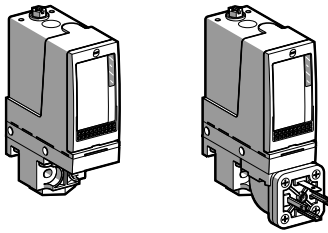
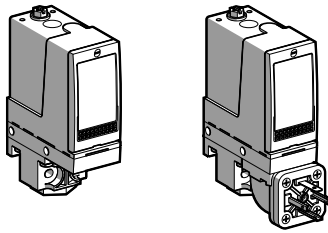


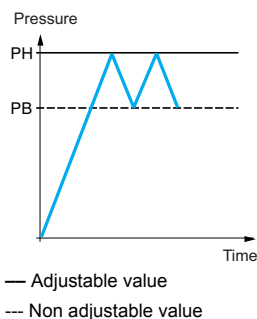
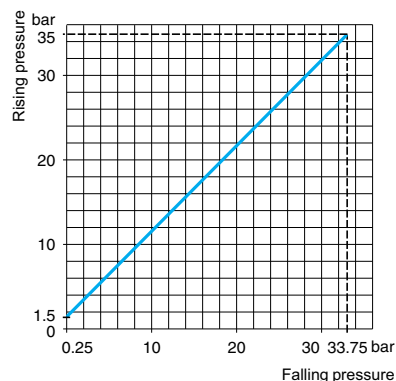
Table 42: Size 35 bar (507.5 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 1.5–35 bar (21.75–507.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLA035A2S13 | XMLA035A2C11 | XMLA035A1S13 | XMLA035A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLA035B2S13 | XMLA035B2C11 | XMLA035B1S13 | XMLA035B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLA035C2S13 | XMLA035C2C11 | XMLA035C1S13 | XMLA035C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLA035P2S13 | XMLA035P2C11 | XMLA035P1S13 | XMLA035P1C11 |
| Weight, lb (kg) | | 1.53 (0.695) | 1.60 (0.725) | 1.53 (0.695) | 1.60 (0.725) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 1.25 bar (18.12 psi), ±0.25 bar (±3.62 psi) | | | |
| | At high setting | 1.25 bar (18.12 psi), ±0.25 bar (±3.62 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 45 bar (652.5 psi) | | | |
| | Accidental | 80 bar (1160 psi) | | | |
| Destruction Pressure | | 160 bar (2320 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA035A2S13 becomes XMLA035A2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



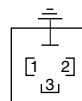
Connection

Terminal model



Connector model

Pressure switch connector pin view

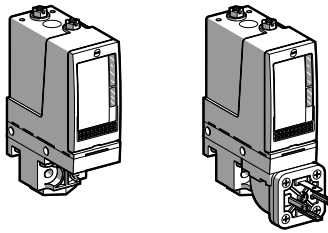
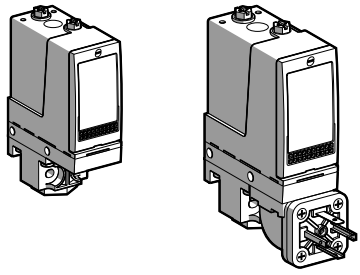


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

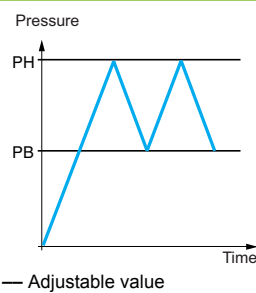
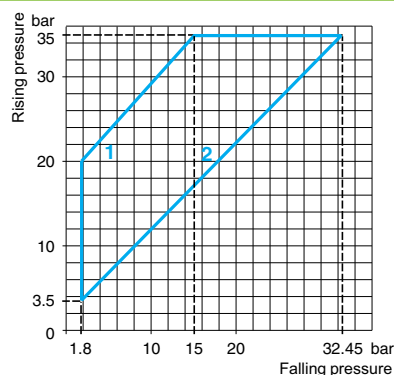
Table 43: Size 35 bar (507.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|--|---|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 3.5–35 bar (50.75–507.5 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 158 °F (70 °C) | XMLB035A2S13 | XMLB035A2C11 | XMLB035A1S13 | XMLB035A1C11 |
| | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLB035B2S13 | XMLB035B2C11 | XMLB035B1S13 | XMLB035B1C11 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLB035C2S13 | XMLB035C2C11 | XMLB035C1S13 | XMLB035C1C11 |
| | Viscous products, up to 320 °F (160 °C) (G1¼" pressure connection) | XMLB035P2S13 | XMLB035P2C11 | XMLB035P1S13 | XMLB035P1C11 |
| Weight, lb (kg) | | 1.58 (0.715) | 1.64 (0.745) | 1.58 (0.715) | 1.64 (0.745) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 1.7 bar (24.65 psi), –0.5 bar, +0.7 bar (–7.25 psi, +10.15 psi) | | | |
| | Min. at high setting | 2.55 bar (36.97 psi), –0.5 bar, +0.7 bar (–7.25 psi, +10.15 psi) | | | |
| | Max. at high setting | 20 bar (290 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 45 bar (652.5 psi) | | | |
| | Accidental | 80 bar (1160 psi) | | | |
| Destruction Pressure | | 160 bar (2320 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Diaphragm | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB035A2S13 becomes XMLB035A2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



1 Maximum differential
2 Minimum differential

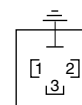
Connection

Terminal model



Connector model

Pressure switch connector pin view

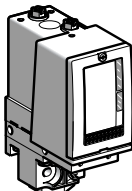


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

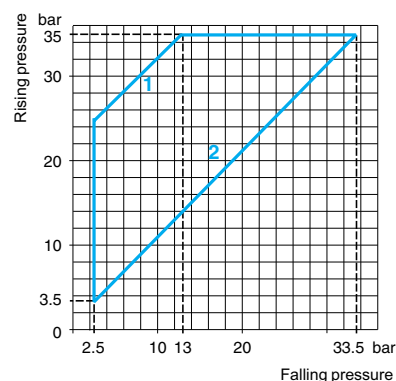
Table 44: Size 35 bar (507.5 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale |
|---|--|---|
|  | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 3.5–35 bar (50.75–507.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLC035B2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC035C2S13 |
| Weight, lb (kg) | | 1.53 (0.695) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 1 bar (14.5 psi), ±0.2 bar (±2.9 psi) |
| | Min. at high setting | 1.5 bar (21.75 psi), ±0.5 bar (±7.25 psi) |
| | Max. at high setting | 22 bar (319 psi) |
| Maximum Allowable Pressure | Per cycle | 45 bar (652.5 psi) |
| | Accidental | 80 bar (1160 psi) |
| Destruction Pressure | | 160 bar (2320 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

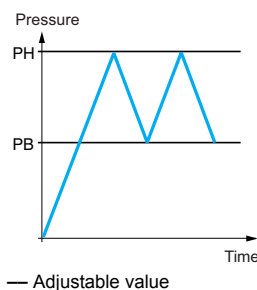
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC035B2S13 becomes XMLC035B2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

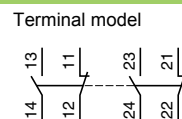
Operating Curves



1 Maximum differential
2 Minimum differential



Connection

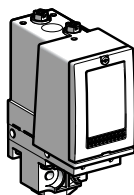


Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 45: Size 35 bar (507.5 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

Pressure Switches, Type XMLD Without setting scale



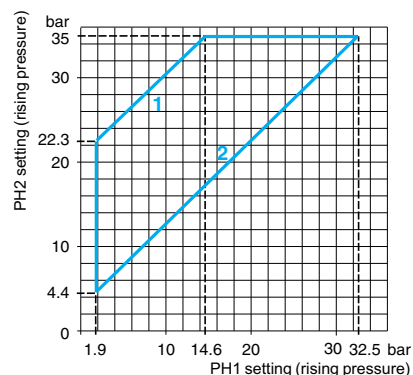
| | | |
|--|--|---|
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) 1st stage operating point (PH1) | 4.4–35 bar (63.8–507.5 psi) 1.9–32.5 bar (27.55–471.25 psi) |
| Spread between the Two Stages (PH2–PH1) | | 2.5–20.4 bar (36.25–295.8 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, fresh water, sea water, air, up to 320 °F (160 °C) | XMLD035B1S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLD035C1S13 |
| Weight, lb (kg) | | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 1.5 bar (21.75 psi), ±0.3 bar (±4.35 psi) |
| | At high setting | 2.6 bar (37.7 psi), ±0.7 bar (±10.15 psi) |
| Maximum Allowable Pressure | Per cycle | 45 bar (652.5 psi) |
| | Accidental | 80 bar (1160 psi) |
| Destruction Pressure | | 160 bar (2320 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Diaphragm |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD035B1S13 becomes XMLD035B1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

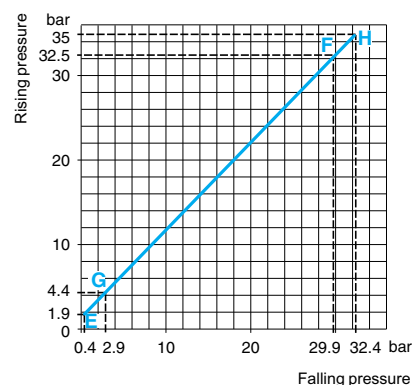
Operating Curves

High setting trip points of contacts 1 and 2

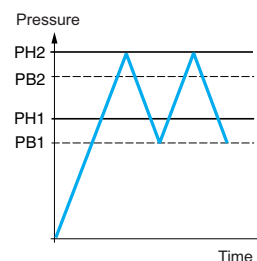


- 1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



- EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

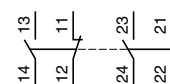


- Adjustable value
--- Non adjustable value

Connection

Terminal model

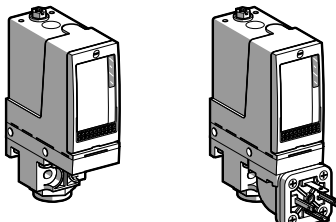
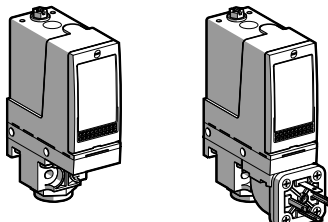
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

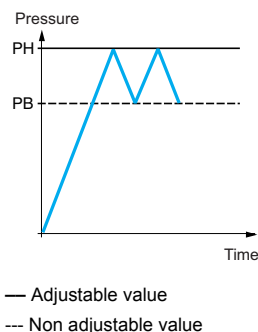
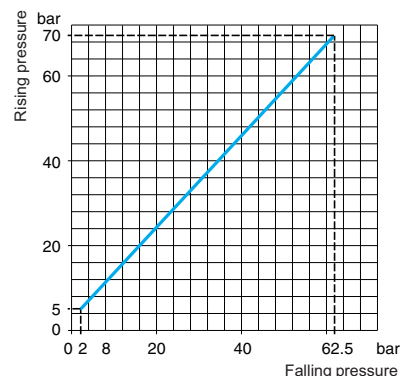
Table 46: Size 70 bar (1015 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 5–70 bar (72.5–1015 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLA070D2S13 | XMLA070D2C11 | XMLA070D1S13 | XMLA070D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLA070E2S13 | XMLA070E2C11 | XMLA070E1S13 | XMLA070E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLA070N2S13 | XMLA070N2C11 | XMLA070N1S13 | XMLA070N1C11 |
| Weight, lb (kg) | | 1.53 (0.695) | 1.60 (0.725) | 1.53 (0.695) | 1.60 (0.725) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 3 bar (43.5 psi), ±1 bar (±14.5 psi) | | | |
| | At high setting | 7.5 bar (108.75 psi), ±1 bar (±14.5 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 90 bar (1035 psi) | | | |
| | Accidental | 160 bar (2320 psi) | | | |
| Destruction Pressure | | 320 bar (4640 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA070D2S13 becomes XMLA070D2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



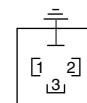
Connection

Terminal model



Connector model

Pressure switch connector pin view

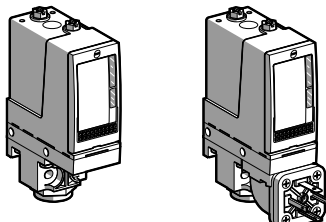
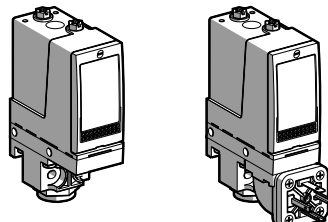


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

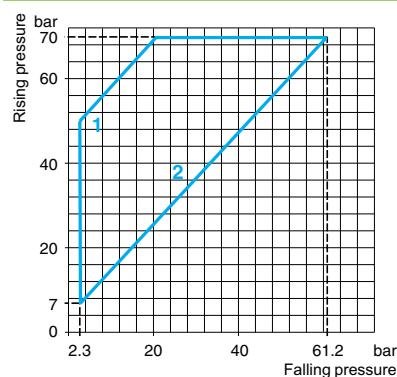
Table 47: Size 70 bar (1015 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|---|---|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 7–70 bar (101.5–1015 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLB070D2S13 | XMLB070D2C11 | XMLB070D1S13 | XMLB070D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLB070E2S13 | XMLB070E2C11 | XMLB070E1S13 | XMLB070E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLB070N2S13 | XMLB070N2C11 | XMLB070N1S13 | XMLB070N1C11 |
| Weight, lb (kg) | | 1.58 (0.715) | 1.64 (0.745) | 1.58 (0.715) | 1.64 (0.745) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 4.7 bar (68.15 psi), –0.4 bar, +0.7 bar (–5.8 psi, +10.15 psi) | | | |
| | Min. at high setting | 8.8 bar (127.6 psi), –0.6 bar, +0.8 bar (–8.7 psi, +11.6 psi) | | | |
| | Max. at high setting | 50 bar (725 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 90 bar (1035 psi) | | | |
| | Accidental | 160 bar (2320 psi) | | | |
| Destruction Pressure | | 320 bar (4640 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

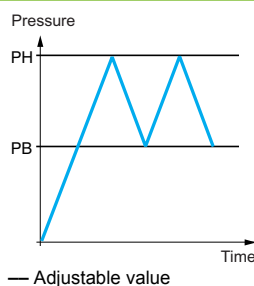
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB070D2S13 becomes XMLB070D2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



1 Maximum differential
2 Minimum differential



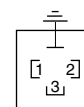
Connection

Terminal model



Connector model

Pressure switch connector pin view

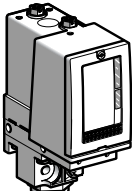


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

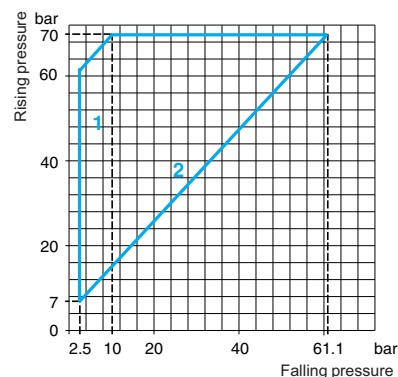
Table 48: Size 70 bar (1015 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale |
|---|---|---|
|  | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 7–70 bar (101.5–1015 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled ⁽²⁾ | Hydraulic oils, up to 320 °F (160 °C) | XMLC070D2S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLC070E2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC070N2S13 |
| Weight, lb (kg) | | 1.53 (0.695) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 4.5 bar (65.25 psi), ±0.8 bar (±11.6 psi) |
| | Min. at high setting | 8.9 bar (129.05 psi), ±0.8 bar (±11.6 psi) |
| | Max. at high setting | 60 bar (870 psi) |
| Maximum Allowable Pressure | Per cycle | 90 bar (1035 psi) |
| | Accidental | 160 bar (2320 psi) |
| Destruction Pressure | | 320 bar (4640 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

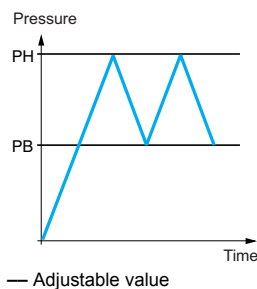
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC070D2S13 becomes XMLC070D2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

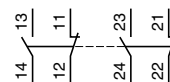


1 Maximum differential
2 Minimum differential



Connection

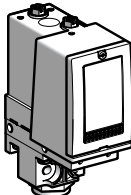
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 49: Size 70 bar (1015 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

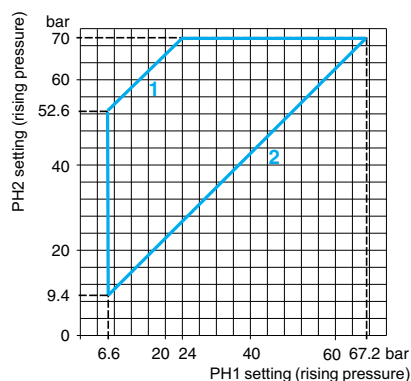
| Pressure Switches, Type XMLD | | Without setting scale |
|--|---|---|
| | |  |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 9.4–70 bar (136.3–1015 psi) |
| | 1st stage operating point (PH1) | 6.6–67.2 bar (95.7–974.4 psi) |
| Spread between the Two Stages (PH2–PH1) | | 2.8–46 bar (40.6–667 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLD070D1S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLD070E1S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLD070N1S13 |
| Weight, lb (kg) | | 1.58 (0.715) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 5 bar (72.5 psi), ±1.5 bar (±21.75 psi) |
| | At high setting | 9.5 bar (137.75 psi), ±2 bar (±29 psi) |
| Maximum Allowable Pressure | Per cycle | 90 bar (1035 psi) |
| | Accidental | 160 bar (2320 psi) |
| Destruction Pressure | | 320 bar (4640 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD070D1S13 becomes XMLD070D1S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

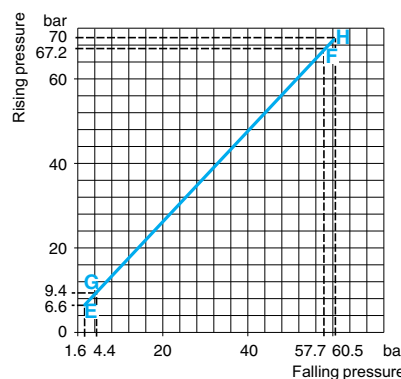
Operating Curves

High setting trip points of contacts 1 and 2

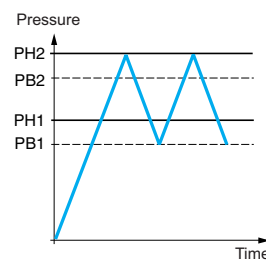


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

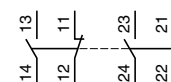


— Adjustable value
--- Non adjustable value

Connection

Terminal model

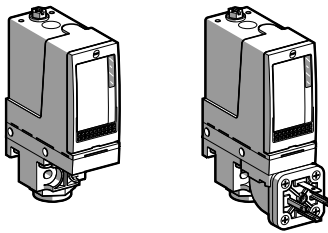
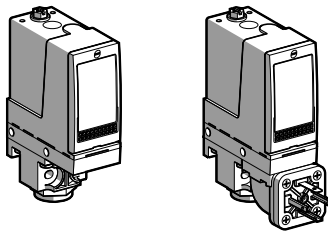
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

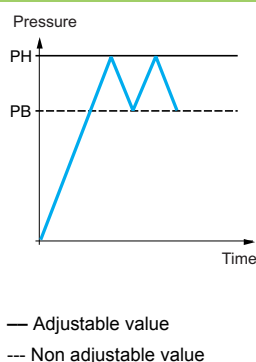
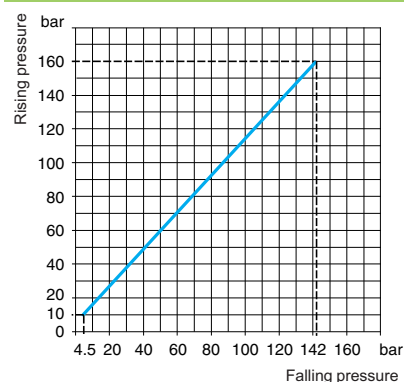
Table 50: Size 160 bar (2320 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 10–160 bar (145–2320 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLA160D2S13 | XMLA160D2C11 | XMLA160D1S13 | XMLA160D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLA160E2S13 | XMLA160E2C11 | XMLA160E1S13 | XMLA160E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLA160N2S13 | XMLA160N2C11 | XMLA160N1S13 | XMLA160N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 5.5 bar (79.75 psi), ±1 bar (±14.5 psi) | | | |
| | At high setting | 18 bar (261 psi), ±3 bar (±43.5 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 200 bar (2900 psi) | | | |
| | Accidental | 360 bar (5220 psi) | | | |
| Destruction Pressure | | 720 bar (10,440 psi) | | | |
| Mechanical life | | 6 x 10 ⁶ operating cycles | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA160D2S13 becomes XMLA160D2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



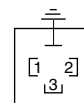
Connection

Terminal model



Connector model

Pressure switch connector pin view

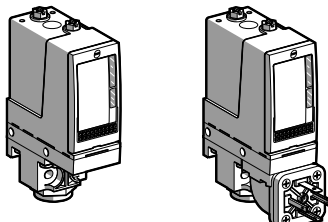
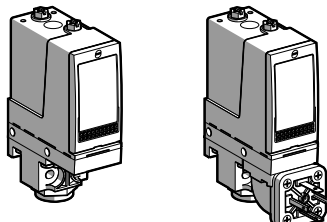


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

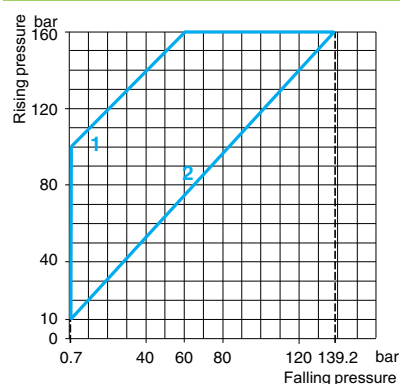
Table 51: Size 160 bar (2320 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|---|---|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 10–160 bar (145–2320 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLB160D2S13 | XMLB160D2C11 | XMLB160D1S13 | XMLB160D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLB160E2S13 | XMLB160E2C11 | XMLB160E1S13 | XMLB160E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLB160N2S13 | XMLB160N2C11 | XMLB160N1S13 | XMLB160N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 9.3 bar (134.85 psi), –1.8 bar, +1.5 bar (–26.1 psi, +21.75 psi) | | | |
| | Min. at high setting | 20.8 bar (301.6 psi), –1.9 bar, +1.6 bar (–27.55 psi, +23.2 psi) | | | |
| | Max. at high setting | 100 bar (1450 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 200 bar (2900 psi) | | | |
| | Accidental | 360 bar (5220 psi) | | | |
| Destruction Pressure | | 720 bar (10,440 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

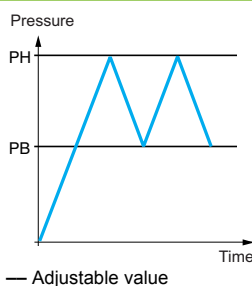
⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB160D2S13 becomes XMLB160D2S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves



1 Maximum differential
2 Minimum differential



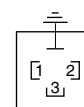
Connection

Terminal model



Connector model

Pressure switch connector pin view

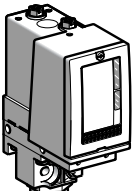


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

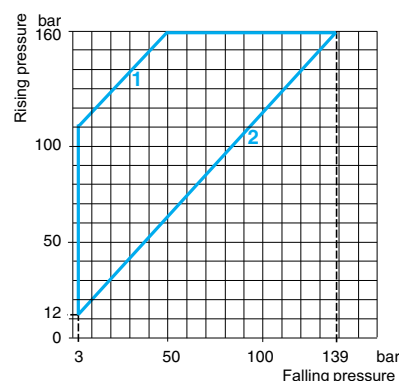
Table 52: Size 160 bar (2320 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLC | | With setting scale |
|---|---|---|
|  | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 12–160 bar (174–2320 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLC160D2S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLC160E2S13 |
| | Corrosive fluids, up to 320 °F (160 °C) | XMLC160N2S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 9 bar (130.5 psi), ±0.9 bar (±13.05 psi) |
| | Min. at high setting | 21 bar (304.5 psi), ±0.9 bar (±13.05 psi) |
| | Max. at high setting | 110 bar (1590 psi) |
| Maximum Allowable Pressure | Per cycle | 200 bar (2900 psi) |
| | Accidental | 360 bar (5220 psi) |
| Destruction Pressure | | 720 bar (10,440 psi) |
| Mechanical life | | 6 x 10 ⁶ operating cycles |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

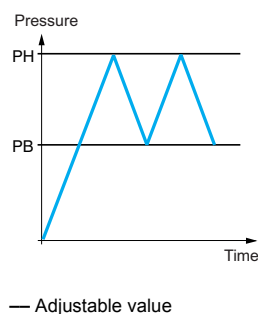
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC160D2S13 becomes XMLC160D2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

Operating Curves

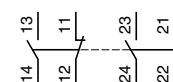


1 Maximum differential
2 Minimum differential



Connection

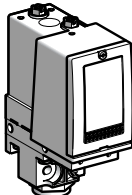
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 53: Size 160 bar (2320 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

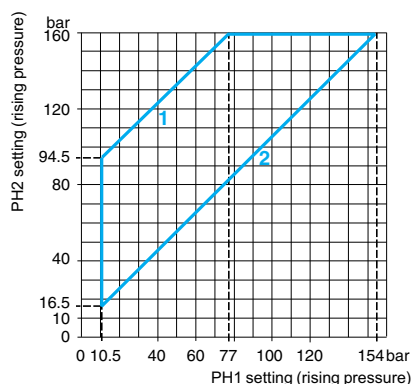
| Pressure Switches, Type XMLD | | Without setting scale |
|--|---|---|
| | |  |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 16.5–160 bar (239.25–2320 psi) |
| | 1st stage operating point (PH1) | 10.5–154 bar (152.25–2233 psi) |
| Spread between the Two Stages (PH2–PH1) | | 6–83 bar (87–1203.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) | Hydraulic oils, up to 320 °F (160 °C) | XMLD160D1S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLD160E1S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLD160N1S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 8.8 bar (127.6 psi), ±1.5 bar (±21.75 psi) |
| | At high setting | 20 bar (290 psi), ±7 bar (±101.5 psi) |
| Maximum Allowable Pressure | Per cycle | 200 bar (2900 psi) |
| | Accidental | 360 bar (5220 psi) |
| Destruction Pressure | | 720 bar (10,440 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD160D1S13 becomes XMLD160D1S11).

⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

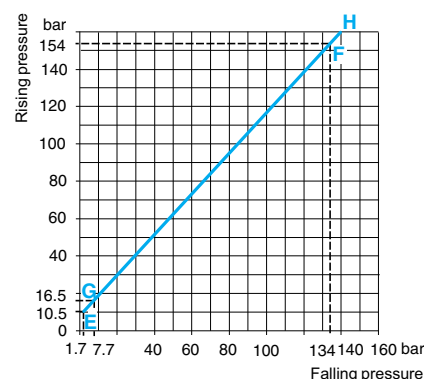
Operating Curves

High setting trip points of contacts 1 and 2

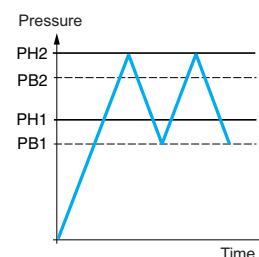


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

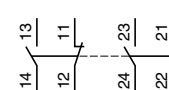


— Adjustable value
--- Non adjustable value

Connection

Terminal model

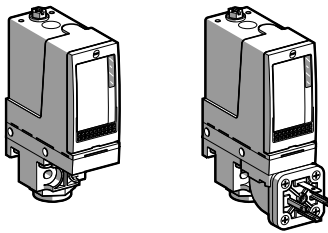
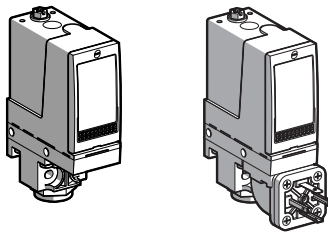
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

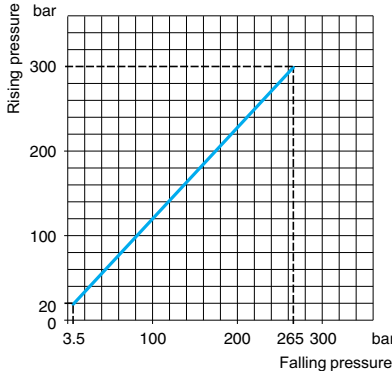

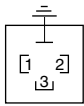
Table 54: Size 300 bar (4350 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 20–300 bar (290–4350 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLA300D2S13 | XMLA300D2C11 | XMLA300D1S13 | XMLA300D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLA300E2S13 | XMLA300E2C11 | XMLA300E1S13 | XMLA300E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLA300N2S13 | XMLA300N2C11 | XMLA300N1S13 | XMLA300N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 16.5 bar (239.25 psi), ±3 bar (±43.5 psi) | | | |
| | At high setting | 35 bar (507.5 psi), ±6 bar (±87 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 375 bar (5437.5 psi) | | | |
| | Accidental | 675 bar (9787.5 psi) | | | |
| Destruction Pressure | | 1350 bar (19,575 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm² minimum, 2 x 2.5 mm² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA300D2S13 becomes XMLA300D2S11).

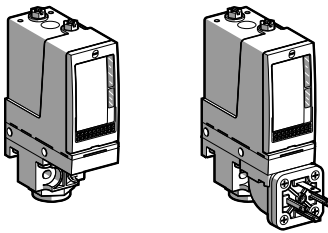
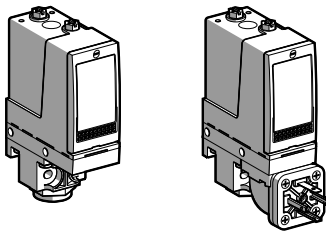
(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

| Operating Curves | Connection |
|---|---|
|  | <p>Terminal model</p>  <p>Connector model Pressure switch connector pin view</p>  <p>1 → 11 and 13 2 → 12 3 → 14</p> |

Other Versions For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 55: Size 300 bar (4350 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

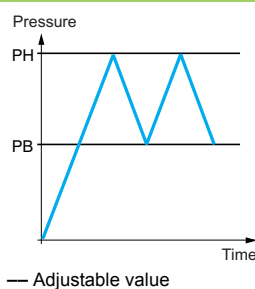
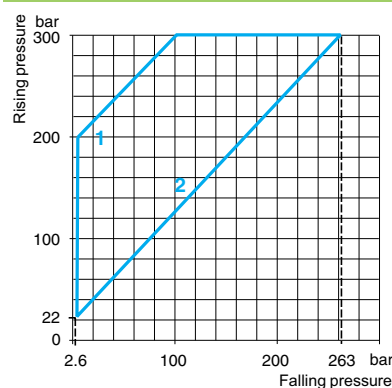
| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|--|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 22–300 bar (319–4350 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLB300D2S13 | XMLB300D2C11 | XMLB300D1S13 | XMLB300D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLB300E2S13 | XMLB300E2C11 | XMLB300E1S13 | XMLB300E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLB300N2S13 | XMLB300N2C11 | XMLB300N1S13 | XMLB300N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 19.4 bar (281.3 psi), –1.5 bar, +1.7 bar (–21.75 psi, +24.65 psi) | | | |
| | Min. at high setting | 37 bar (536.5 psi), –1 bar, +4 bar (–14.5 psi, +58 psi) | | | |
| | Max. at high setting | 200 bar (2900 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 375 bar (5437.5 psi) | | | |
| | Accidental | 675 bar (9787.5 psi) | | | |
| Destruction Pressure | | 1350 bar (19,575 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB300D2S13 becomes XMLB300D2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating Curves



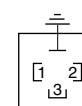
Connection

Terminal model



Connector model

Pressure switch connector pin view

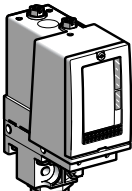


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 56: Size 300 bar (4350 psi)
Adjustable differential, for regulation between two thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

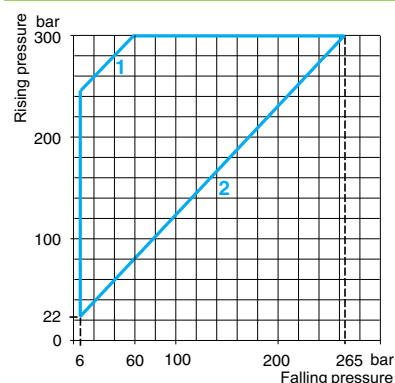
| Pressure Switches, Type XMLC | | With setting scale |
|---|---|---|
|  | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 22–300 bar (319–4350 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLC300D2S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLC300E2S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLC300N2S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 16 bar (232 psi), ±0.9 bar (±13.05 psi) |
| | Min. at high setting | 35 bar (507.5 psi), ±0.9 bar (±13.05 psi) |
| | Max. at high setting | 240 bar (3480 psi) |
| Maximum Allowable Pressure | Per cycle | 375 bar (5437.5 psi) |
| | Accidental | 675 bar (9787.5 psi) |
| Destruction Pressure | | 1350 bar (19,575 psi) |
| Mechanical life | | 3 x 10 ⁶ operating cycles |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC300D2S13 becomes XMLC300D2S11).

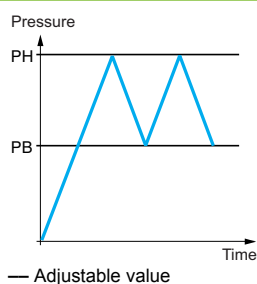
(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating Curves

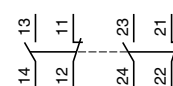


1 Maximum differential
2 Minimum differential



Connection

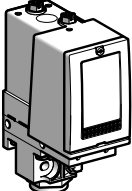
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 57: Size 300 bar (4350 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLD | | Without setting scale |
|---|---|---|
|  | | |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) | 36–300 bar (522–4350 psi) |
| | 1st stage operating point (PH1) | 25–289 bar (362.5–4190.5 psi) |
| Spread between the Two Stages (PH2–PH1) | | 11–189 bar (159.5–2740.5 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLD300D1S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLD300E1S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLD300N1S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 17 bar (246.5 psi), ±2.5 bar (±36.25 psi) |
| | At high setting | 42 bar (609 psi), ±9 bar (±130.5 psi) |
| Maximum Allowable Pressure | Per cycle | 375 bar (5437.5 psi) |
| | Accidental | 675 bar (9787.5 psi) |
| Destruction Pressure | | 1350 bar (19,575 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |

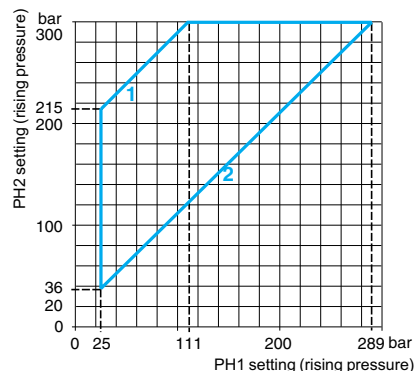
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD300D1S13 becomes XMLD300D1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

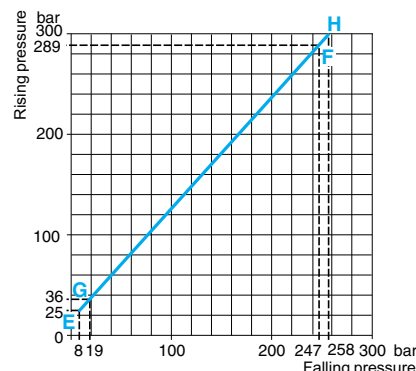
Operating Curves

Pressure Switch Style

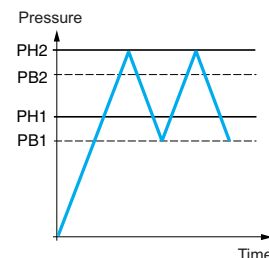


- 1 Maximum differential
2 Minimum differential

Piston



- EF Contact 1 (stage 1)
GH Contact 2 (stage 2)

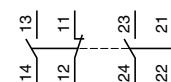


- Adjustable value
--- Non adjustable value

Connection

Terminal model

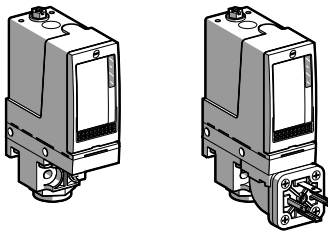
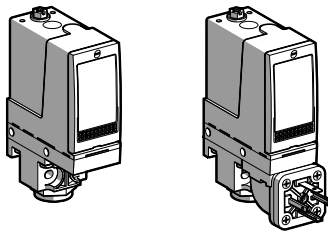
Contact 2 (stage 2) Contact 1 (stage 1)



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 58: Size 500 bar (7250 psi)
Fixed differential, for detection of a single threshold
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

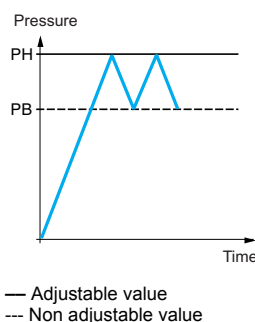
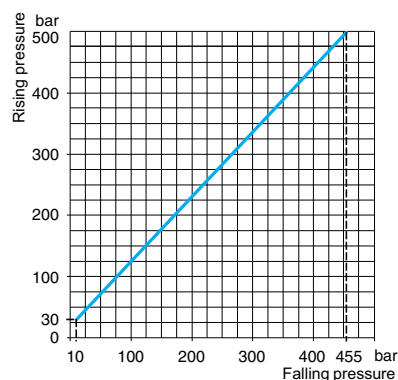
| Pressure Switches, Type XMLA | | With setting scale | | Without setting scale | |
|---|---|--|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 30–500 bar (435–7250 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLA500D2S13 | XMLA500D2C11 | XMLA500D1S13 | XMLA500D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLA500E2S13 | XMLA500E2C11 | XMLA500E1S13 | XMLA500E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLA500N2S13 | XMLA500N2C11 | XMLA500N1S13 | XMLA500N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Inherent Differential (subtract from PH to get PB) | At low setting | 20 bar (290 psi), ±6 bar (±87 psi) | | | |
| | At high setting | 45 bar (652.5 psi), ±10 bar (±145 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 625 bar (9062.5 psi) | | | |
| | Accidental | 1125 bar (16,312.5 psi) | | | |
| Destruction Pressure | | 2250 bar (32,625 psi) | | | |
| Mechanical life | | 3 x 10 ⁶ operating cycles | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLA500D2S13 becomes XMLA500D2S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating Curves

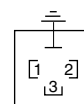


Terminal model



Connector model

Pressure switch connector pin view

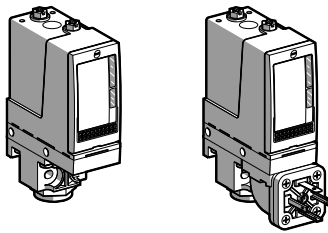
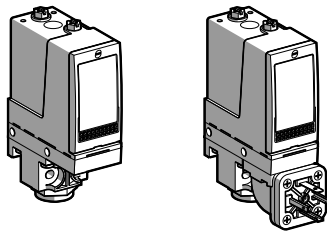


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 59: Size 500 bar (7250 psi)
Adjustable differential, for regulation between two thresholds
Switches with 1 C/O single-pole contact
Pressure connection 1/2" NPT or 1/4" BSP

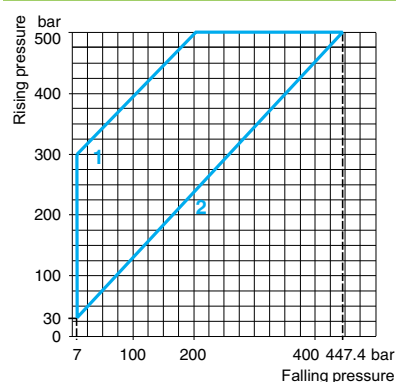
| Pressure Switches, Type XMLB | | With setting scale | | Without setting scale | |
|---|--|---|---------------|---|---------------|
| | |  | |  | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 30–500 bar (435–7250 psi) | | | |
| Electrical Connection | | Terminals | DIN connector | Terminals | DIN connector |
| Catalog Numbers ⁽¹⁾ | | | | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLB500D2S13 | XMLB500D2C11 | XMLB500D1S13 | XMLB500D1C11 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLB500E2S13 | XMLB500E2C11 | XMLB500E1S13 | XMLB500E1C11 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLB500N2S13 | XMLB500N2C11 | XMLB500N1S13 | XMLB500N1C11 |
| Weight, lb (kg) | | 1.65 (0.750) | 1.72 (0.780) | 1.65 (0.750) | 1.72 (0.780) |
| Supplementary Specifications (not shown under general specifications) | | | | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 23 bar (333.5 psi), –2.6 bar, +3.8 bar (–37.7 psi, +55.1 psi) | | | |
| | Min. at high setting | 52.6 bar (762.7 psi), –14.8 bar, +11.2 bar (–214.6 psi, +162.4 psi) | | | |
| | Max. at high setting | 300 bar (4350 psi) | | | |
| Maximum Allowable Pressure | Per cycle | 625 bar (9062.5 psi) | | | |
| | Accidental | 1125 bar (16,312.5 psi) | | | |
| Destruction Pressure | | 2250 bar (32,625 psi) | | | |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. | | | |
| Connector Type for Connector Models | | DIN 43650A, 4-pin male. For suitable female connector, see page 73. | | | |
| Pressure Switch Style | | Piston | | | |

⁽¹⁾ For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLB500D2S13 becomes XMLB500D2S11).

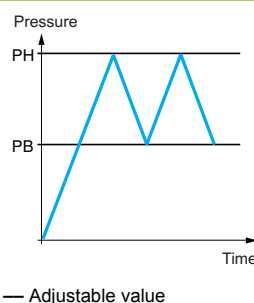
⁽²⁾ Component materials of units in contact with the fluid, see pages 77–78.

⁽³⁾ Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating Curves



1 Maximum differential
2 Minimum differential



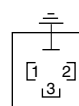
Connection

Terminal model



Connector model

Pressure switch connector pin view

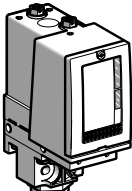


1 → 11 and 13
2 → 12
3 → 14

Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 60: Size 500 bar (7250 psi)
Adjustable differential, for regulation between 2 thresholds
Switches with 2 C/O single-pole contacts
Pressure connection 1/2" NPT or 1/4" BSP

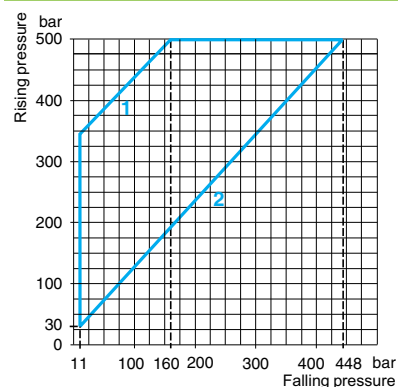
| Pressure Switches, Type XMLC | | With setting scale |
|---|---|---|
|  | | |
| Adjustable Range of Operating Point (PH) (Rising pressure) | | 30–500 bar (435–7250 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLC500D2S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLC500E2S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLC500N2S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Possible Differential (subtract from PH to get PB) | Min. at low setting | 19 bar (275.5 psi), ±0.9 bar (±13.05 psi) |
| | Min. at high setting | 52 bar (754 psi), ±0.9 bar (±13.05 psi) |
| | Max. at high setting | 340 bar (4930 psi) |
| Maximum Allowable Pressure | Per cycle | 625 bar (9062.5 psi) |
| | Accidental | 1125 bar (16,312.5 psi) |
| Destruction Pressure | | 2250 bar (32,625 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLC500D2S13 becomes XMLC500D2S11).

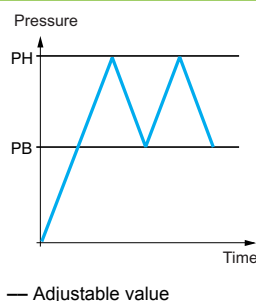
(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

Operating Curves

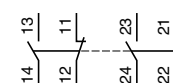


1 Maximum differential
2 Minimum differential



Connection

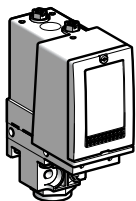
Terminal model



Other Versions

For switches with alternative tapped cable entries (such as NPT), consult your local sales office.

Table 61: Size 500 bar (7250 psi)
Dual-stage, fixed differential, for detection at each threshold
Switches with 2 C/O single-pole contacts (one per stage)
Pressure connection 1/2" NPT or 1/4" BSP

| Pressure Switches, Type XMLD | | Without setting scale |
|--|--|---|
| | |  |
| Adjustable Range of Each Operating Point (Rising pressure) | 2nd stage operating point (PH2) 1st stage operating point (PH1) | 41–500 bar (594.5–7250 psi) 25–484 bar (362.5–7018 psi) |
| Spread between the Two Stages (PH2–PH1) | | 16–244 bar (232–3538 psi) |
| Electrical Connection | | Terminals |
| Catalog Numbers ⁽¹⁾ | | |
| Fluids Controlled (2) (3) | Hydraulic oils, up to 320 °F (160 °C) | XMLD500D1S13 |
| | Fresh water, sea water, up to 320 °F (160 °C) | XMLD500E1S13 |
| | Corrosive fluids, air, up to 320 °F (160 °C) | XMLD500N1S13 |
| Weight, lb (kg) | | 1.65 (0.750) |
| Supplementary Specifications (not shown under general specifications) | | |
| Inherent Differential (subtract from PH1/PH2 to get PB1/PB2) | At low setting | 21 bar (304.5 psi), ±3 bar (±43.5 psi) |
| | At high setting | 65 bar (942.5 psi), ±10 bar (±145 psi) |
| Maximum Allowable Pressure | Per cycle | 625 bar (9062.5 psi) |
| | Accidental | 1125 bar (16,312.5 psi) |
| Destruction Pressure | | 2250 bar (32,625 psi) |
| Cable Entry and Wire Size for Terminal Models | | 1/2" NPT, 1 x 0.2 mm ² minimum, 2 x 2.5 mm ² maximum. |
| Pressure Switch Style | | Piston |

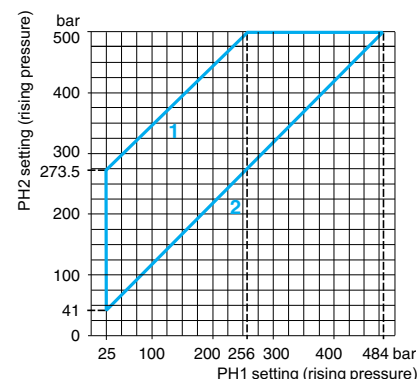
(1) For 1 entry tapped for PG 13.5 conduit/cable entry, replace **S13** with **S11** (example: XMLD500D1S13 becomes XMLD500D1S11).

(2) Component materials of units in contact with the fluid, see pages 77–78.

(3) Only for control of group 2 fluids, in accordance with directive 97/23/EEC.

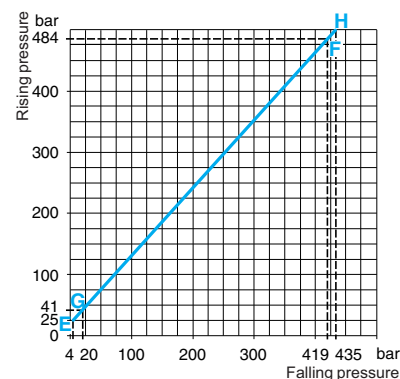
Operating Curves

High setting trip points of contacts 1 and 2

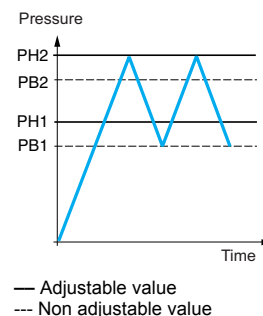


1 Maximum differential
2 Minimum differential

Inherent differential of contacts 1 and 2



EF Contact 1 (stage 1)
GH Contact 2 (stage 2)



— Adjustable value
--- Non adjustable value

Connection

Terminal model

Contact 2 (stage 2) Contact 1 (stage 1)

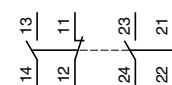


Table 62: Accessories for Pressure Switches and Vacuum Switches

| Description | | Specific characteristics | For use with switches | Catalog number | Weight lb (kg) |
|--|-----------------------|--------------------------|---|----------------|----------------|
| Rear fixing bracket for vibrations > 2 gn | | — | XML•L35 XML•001 | XMLZL006 | 0.51 (0.230) |
| Additional top support bracket for vibrations > 4 gn | | — | XMLAM01 XML•M05 XMLA004 XML•010 to XML•500 | XMLZL002 | 0.04 (0.020) |
| Knurled adjustment knob, Ø 36 mm fits over adjustment screw(s) to facilitate setting | | — | All models | XMLZL003 | 0.022 (0.010) |
| Fixing plate for replacing an XMJA or XMGB switch by an XML switch | | — | XMLAM01 XML•M05 XMLA004 XML•010 to XML•500 | XMLZL004 | 0.024 (0.110) |
| Lead sealable protective cover to prevent unauthorized access to adjustment screws and fixing screw of switch cover | | — | XMLA XMLB | XMLZL001 | 0.08 (0.035) |
| Lead sealable protective cover to deter unauthorized access to the adjustment screws | | — | All models | XMLZL011 | 0.07 (0.030) |
| Indicator modules and associated covers, 2 LEDs (orange and green) | Without setting scale | 24/48 Vac/Vdc | XMLA/B | XMLZZ024 | 0.20 (0.090) |
| | | 110/240 Vac | XMLA/B | XMLZZ120 | 0.20 (0.090) |
| | With setting scale | 24/48 Vac/Vdc | XMLA | XMLZA024 | 0.20 (0.090) |
| | | | XMLB | XMLZB024 | 0.20 (0.090) |
| | | 110/240 Vac | XMLA | XMLZA120 | 0.20 (0.090) |
| | | | XMLB | XMLZB120 | 0.20 (0.090) |
| Hydraulic block for base mounting directly onto fluid manifold | | — | All models | XMLZL005 | 0.53 (0.240) |
| Female connector, DIN 43650A | | — | XML•.....C11 | XZCC43FCP40B | 0.08 (0.035) |
| Jumper cables, DIN 43650 A - M12, straight, male for splitter boxes (for connections, see catalog 9014CT0201) | | L = 1 m | XML•.....C11 | XZCR1523062K1 | 0.18 (0.080) |
| | | L = 2 m | XML•.....C11 | XZCR1523062K2 | 0.024 (0.110) |
| Adapter, G 1/4" – G 3/8" male/female | | — | All models | XMLZL012 | 0.29 (0.130) |

Table 63: Renewal Parts

| Description | Specific characteristics | For use with switches | Catalog number | Weight lb (kg) |
|----------------|--------------------------|-----------------------|-----------------|----------------|
| Sealing gasket | For sizes ≥ 300 bar | XMLA/B/C/D | XMLZL010 | 0.03 (0.015) |
| Diaphragms | — | XML•S35 | XMLZL013 | 0.13 (0.060) |
| | | XML•S02 | XMLZL014 | 0.09 (0.040) |
| | | XML•S04 | XMLZL015 | 0.07 (0.030) |

XZCC43FCP40B Connector Pinout

