PSV01/50/60/15/16 *SERIES*

PRESSURE CONTROLS

Pressure controls can be used in refrigeration and air conditioning systems to protect the systems from extremely low suction pressure or extremely high discharge pressure. The pressure controls are also used to start or stop the refrigeration compressors and air-cooled condenser fans, to regulate other components in the systems which require pressure control function.

FEATURES

- HIGH PRECISION AND EXCELLENT STABILITY
- LONG LIFE TIME WITH BOTH EXCELLENT ELECTRIC AND MECHANICAL RELIABILITY
- SPDT SWITCH TO ENSURE GOOD CONTACT AND DISCONNECT CONVERSION WITH FAST REACTIONS
- VARIOUS PRESSURE CONTROLLING RANGES
- INSTALLATION PLATE FOR OPTION

GENERAL SPECIFICATION

- Refrigerant: HCFC, HFC, HFO (R134a, R404A/R507, R407C, R22, R407A/F, R448A/449A, R452A, R513A, R450A, R410A); approved A2L[1)] refrigerants: R1234ze, R1234yz, R1234yf, R32, R452B, R454A, R454B, R454C, R455A
- Medium Temperature: -40°C /+120°C
- Ambient Temperature: -30°C/+65°C
- Relative Humidity: 0-95% RH
- Max. Working Pressure: HP: 3.5MPa/4.5MPa; LP: 1.65MPa
- Enclosure: IP30 (IP44 as option)
- Certification:
  - CE acc. LVD 2014/35/EU (EN60730-1:2011 EN60730-2-6:2016)
  - CE acc. PED 2014/68/EU, category IV (EN 12263)
  - UL acc. UL508 (E480941)

Contact load	AC1	AC3	AC15	DC
Rated Voltage (V)	400	400	400	24
Rated Current (A)	16	16	10	8

1) Approved electrical load for selected A2L refrigerants

Voltage	Current	Power factor	Frequency
250 V AC	≤ 4 A	cos φ ≥ 0,4	50/60 Hz
250 V AC	≤ 6 A	cos φ ≥ 0,594	50/60 Hz
250 V AC	≤ 16 A	cos φ ≥ 0,78	50/60 Hz

PRESSURE CONTROLS

MODEL DESIGNATION

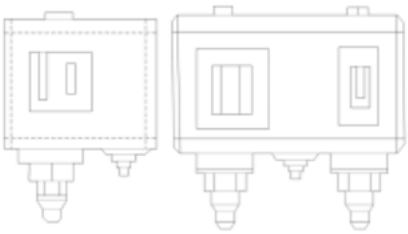
Position Number	Model Designation Legend	
1	**Type**	**Description**
	PSV	Pressure control
2	**Pressure regulating range**	**Description**
	01	LP: -0.5~7 bar(g)
	50	HP: 6~32 bar(g)
	60	HP: 8~42 bar(g)
	15	Dual (LP): -0.5~7 bar(g) / Dual (HP): 6~32 bar(g)
	16	Dual (LP): -0.5~7 bar(g) / Dual (HP): 8~42 bar(g)
3	**Reset Mode**	**Description**
	A	**A**utomatic reset
	M	**M**anual reset
	AA	**A**uto LP/ **A**uto HP
	AM/MA/MM/MC/CA/CM/CC	……
4	**Connection type**	**Description**
	L	Flare
	H	Solder
	M	Capillary
5	**Product design (type)**	**Description**
	S	Standard Model - IP30
	F	Standard Model - IP44
	C	Customized Model
6	**Serial number, Certification type**	**Description**
	0X (01/03/05/…..); X = odd	PED IV Certified, HP Double bellow. Inch or unified Inch & Metric
	0X (02/04/06/…..); X = even	PED IV Certified, HP Double bellow. Metric only
	5X (51/53/55...); X = odd	Ordinary Model, HP Single bellow. Inch or unified Inch & Metric
	5X (52/54/56...); X = even	Ordinary Model, HP Single bellow. Metric only

MODEL DESIGNATION EXAMPLE

Position Number							Model designation example (according above legend)
1	2	3	4	-	5	6	
PSV	15	AA	L	-	S	01	Pressure control
PSV	**15**	AA	L	-	S	01	Dual: LP: -0.5~7 bar(g) / HP: 6~32 bar(g)
PSV	15	**AA**	L	-	S	01	Auto reset HP, Auto reset LP
PSV	15	AA	**L**	-	S	01	Flare connection
PSV	15	AA	L	**-**	**S**	01	Standard Model
PSV	15	AA	L	-	S	**01**	PED IV Certified, HP Double bellows

PRESSURE CONTROLS

SELECTION AND ORDERING



PSV01, PSV50, PSV60, PSV15, PSV60 Flare Connection										
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified[1)]	Ordering Code	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Flare Connection 7/16-20UNF (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code
LP	PSV01	-0.5~7	0.7~5	—	—	Auto	—	√	PSV01AL-S01	10660012102
LP	PSV01	-0.5~7	0.7~5	—	—	Auto	—	√	PSV01AL-F01	PSVX0000602
LP	PSV01	-0.5~7	0.7	—	—	Man	—	√	PSV01ML-S01	10660013102
HP	PSV50	—	—	6~32	3~15	—	Auto	×	PSV50AL-S51	10660012902
HP	PSV50	—	—	6~32	3~15	—	Auto	×	PSV50AL-F51	PSVX0001102
HP	PSV50	—	—	6~32	3	—	Man	×	PSV50ML-S51	10660013002
HP	PSV50	—	—	6~32	3	—	Man	×	PSV50ML-F51	PSVX0001502
HP	PSV50	—	—	6~32	4~15	—	Auto	√	PSV50AL-S01	10660014202
HP	PSV50	—	—	6~32	4~15	—	Auto	√	PSV50AL-F01	PSVX0001002
HP	PSV50	—	—	6~32	4	—	Man	√	PSV50ML-S01	10660018402
HP	PSV50	—	—	6~32	4	—	Man	√	PSV50ML-F01	PSVX0001202
HP	PSV60	—	—	8~42	5~15	—	Auto	√	PSV60AL-S01	10660014302
HP	PSV60	—	—	8~42	5~15	—	Auto	√	PSV60AL-F01	PSVX0001602
HP	PSV60	—	—	8~42	5	—	Man	√	PSV60ML-S01	10660019202
HP	PSV60	—	—	8~42	5	—	Man	√	PSV60ML-F01	PSVX0001802
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Auto	×	PSV15AAL-S51	10660012302
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Auto	×	PSV15AAL-F51	PSVX0000802
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Man	×	PSV15AML-S51	10660012202
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Man	×	PSV15AML-F51	PSVX0001402
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Auto	√	PSV15AAL-S01	10660014402
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Auto	√	PSV15AAL-F01	PSVX0000702
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Man	√	PSV15AML-S01	10660016702
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Man	√	PSV15AML-F01	PSVX0000902
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Auto	×	PSV16AAL-S51	10660018602
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Man	×	PSV16AML-S51	10660019402
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Auto	√	PSV16AAL-S01	10660014102
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Auto	√	PSV16AAL-F01	PSVX0001702
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Man	√	PSV16AML-S01	10660018702

PRESSURE CONTROLS

PSV01, PSV50, PSV60, PSV15, PSV16 Solder Connection												
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certi-fied[1)]	Ordering Code		Ordering Code	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Solder ODF 1/4 in.		Solder ODF 6mm	
		[bar]	[bar]	[bar]	[bar]	LP	HP		Model	U11 Code	Model	U11 Code
LP	PSV01	-0.5~7	0.7~5	—	—	Auto	—	√	PSV01AH-S01	10660021702		
LP	PSV01	-0.5~7	0.7~5	—	—	Auto	—	√			PSV01AH-F02	PSVX0000502
HP	PSV50	—	—	6~32	3~15	—	Auto	×	PSV50AH-S51	10660020802		
HP	PSV50	—	—	6~32	4~15	—	Auto	√	PSV50AH-S01	10660020702		
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Auto	×	PSV15AAH-S51	10660021302		
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Man	×	PSV15AMH-S51	10660020302		
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Auto	√	PSV15AAH-S01	10660020102		
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Auto	√			PSV15AAH-F02	PSVX0001902
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Man	√	PSV15AMH-S01	10660020202		
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Auto	×	PSV16AAH-S51	10660022502		
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Man	×	PSV16AMH-S51	10660022402		
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Auto	√	PSV16AAH-S01	10660020402		
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Man	√	PSV16AMH-S01	10660020502		

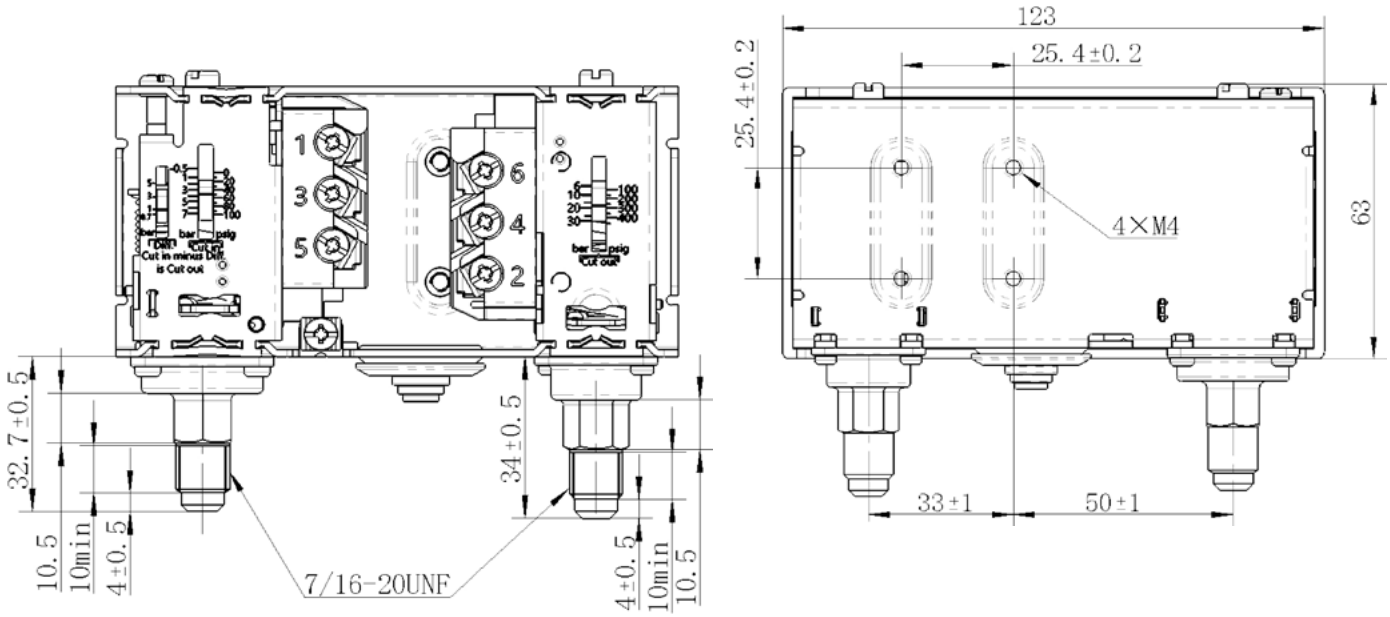
PRESSURE CONTROLS

PSV01, PSV50, PSV15, Capillary with nut										
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU Certified	Ordering Code	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Capillary+Nut 7/16-20UNF (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code
LP	PSV01	-0.5~7	0.7~5	—	—	Auto	—	√	PSV01AM-S01	10660012802
LP	PSV01	-0.5~7	0.7	—	—	Man	—	√	PSV01MM-S01	10660019502
HP	PSV50	—	—	6~32	3~15	—	Auto	×	PSV50AM-S51	10660012702
HP	PSV50	—	—	6~32	3	—	Man	×	PSV50MM-S51	10660019702
HP	PSV50	—	—	6~32	4~15	—	Auto	√	PSV50AM-S01	10660016502
HP	PSV50	—	—	6~32	4	—	Man	√	PSV50MM-S01	10660019602
HP	PSV60	—	—	8~42	5~15	—	Auto	√	PSV60AM-S01	10660019802
HP	PSV60	—	—	8~42	5	—	Man	√	PSV60MM-S01	10660020602
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Auto	×	PSV15AAM-S51	10660018502
Dual	PSV15	-0.5~7	0.7~5	6~32	4	Auto	Man	×	PSV15AMM-S51	10660022702
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Auto	√	PSV15AAM-S01	10660021602
Dual	PSV15	-0.5~7	0.7~5	6~32	5	Auto	Man	√	PSV15AMM-S01	10660021502
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Auto	×	PSV16AAM-S51	10660022102
Dual	PSV16	-0.5~7	0.7~5	8~42	5	Auto	Man	×	PSV16AMM-S51	10660021902
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Auto	√	PSV16AAM-S01	10660021402
Dual	PSV16	-0.5~7	0.7~5	8~42	6	Auto	Man	√	PSV16AMM-S01	10660019902

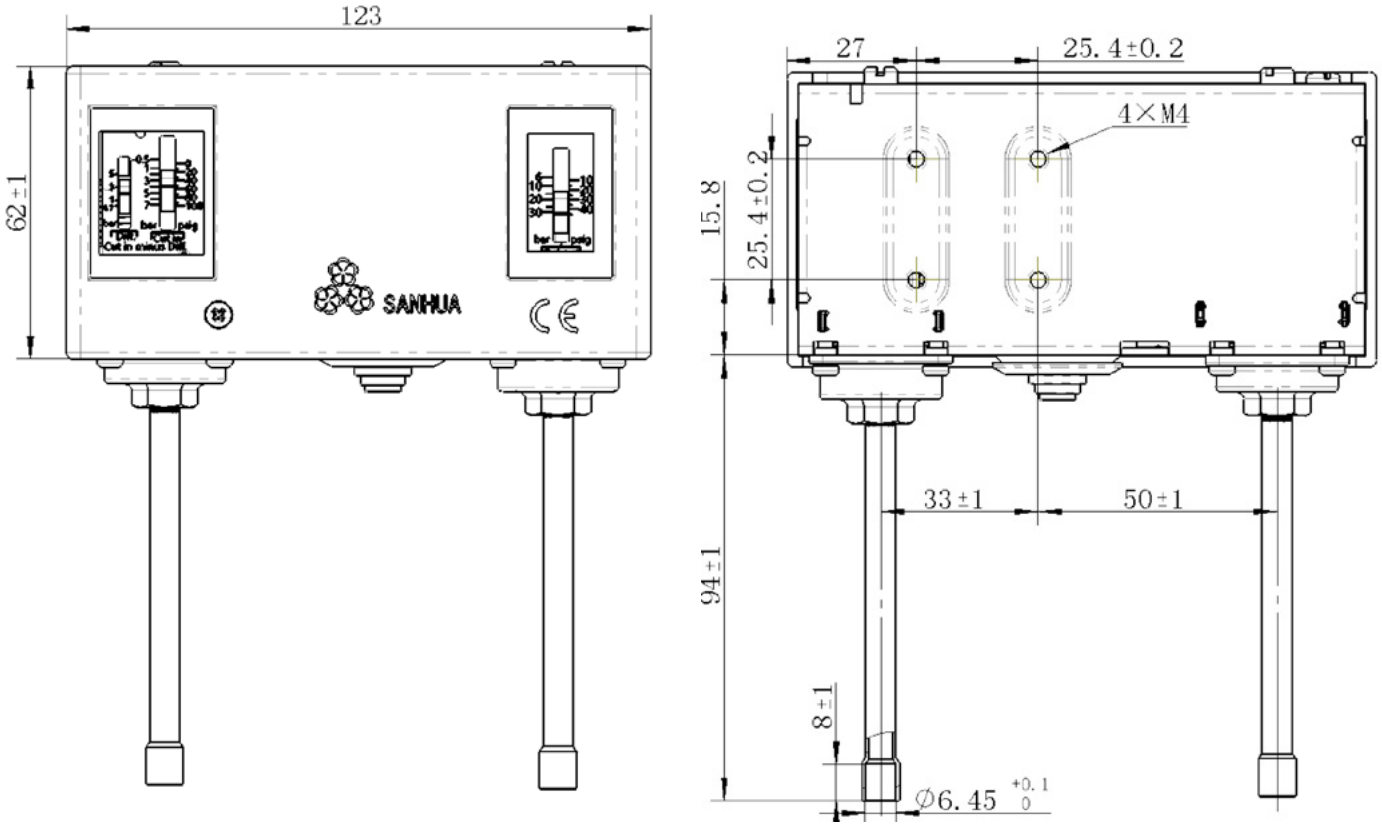
Tips: Pressure controls which are certified by TÜV, Rheinland acc. to PED 2014 68/EU, EN12263 are designed with double bellows at high pressure, and they provide “fail-safe” function.
The double bellows system prevents loss of charge in the event of the inner bellow rupture.
A rupture in the inner bellow will cause the control cut-out pressure to fall about 3 times less the set value and the compressor will stop.
A rupture in the outer bellows will cause the control cut-out pressure to fall to about 3 bar under the set value and providing the so-called “fail-safe” function.

PRESSURE CONTROLS

DIMENSIONAL DRAWING

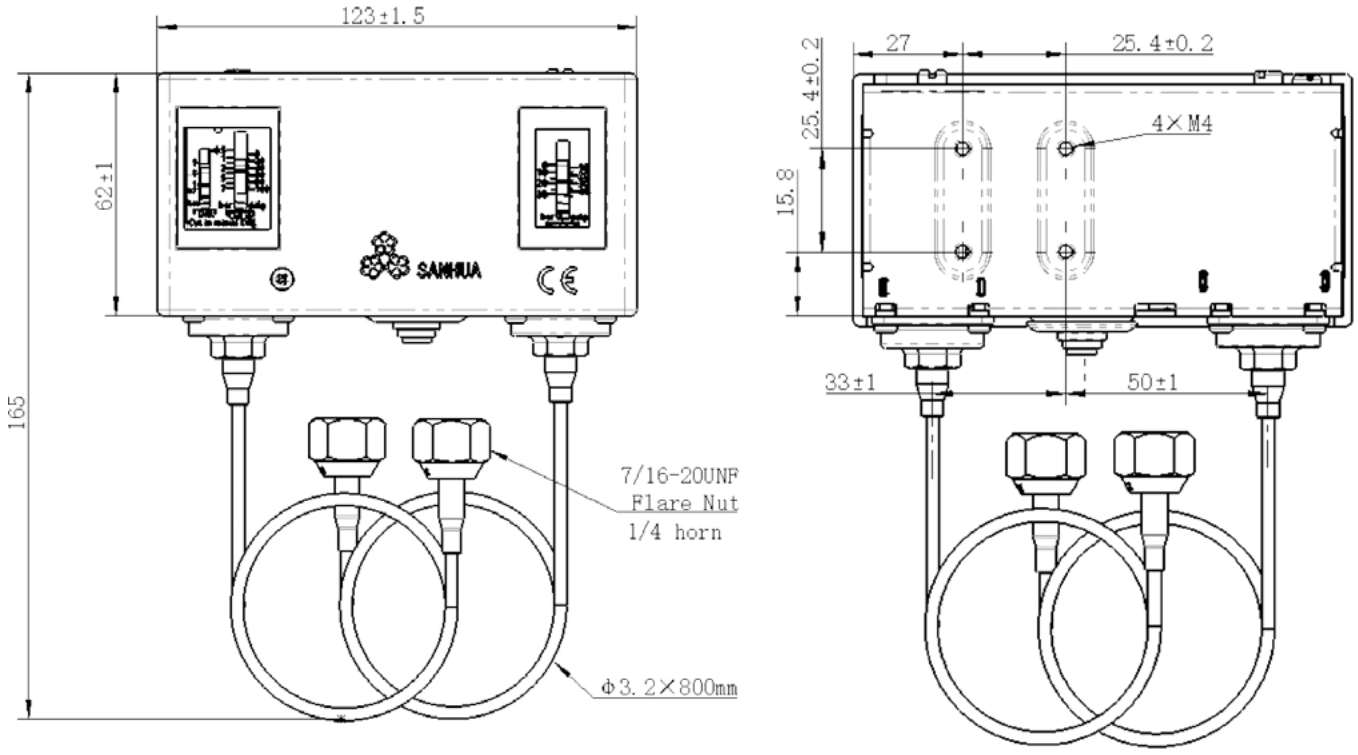


PSV15/16××L

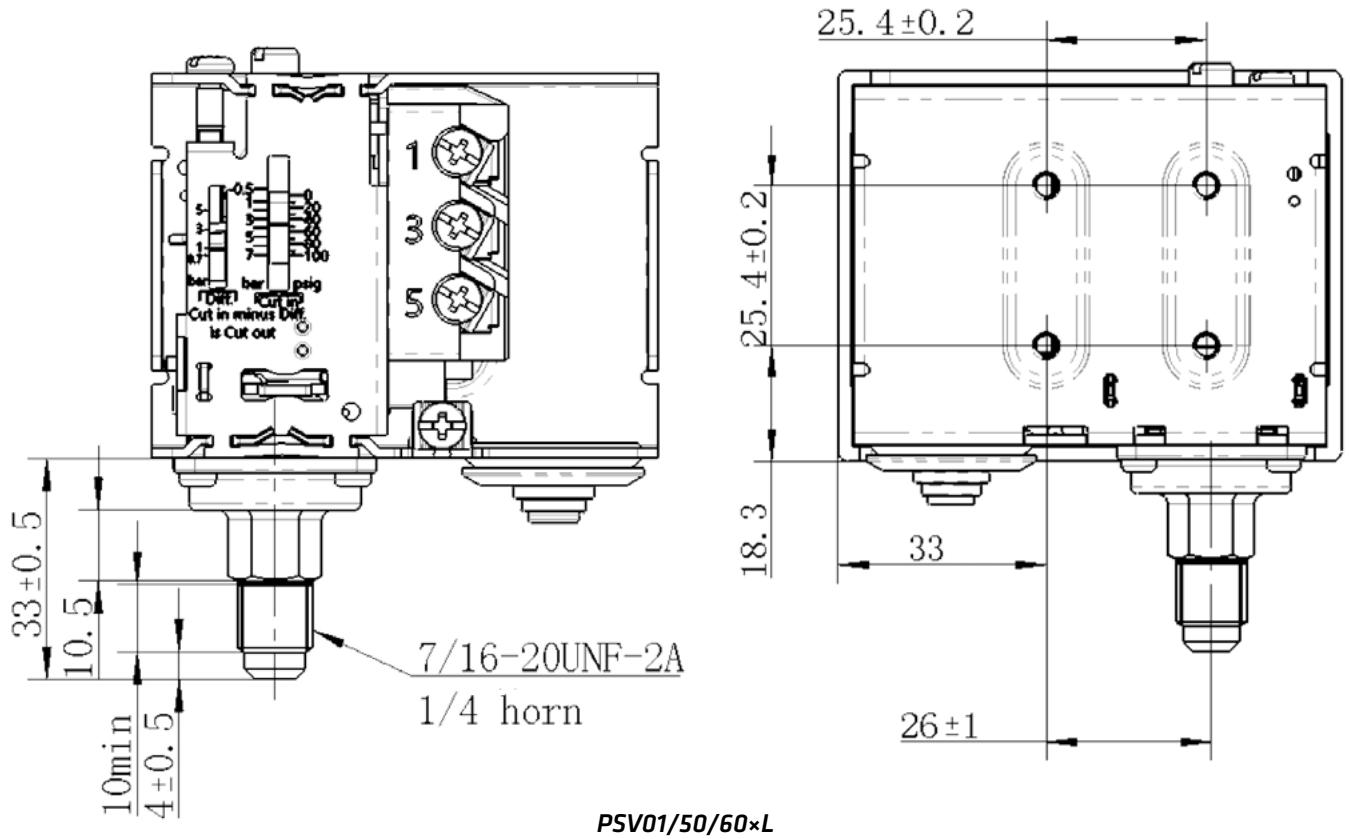


PSV15/16 ××H

PRESSURE CONTROLS

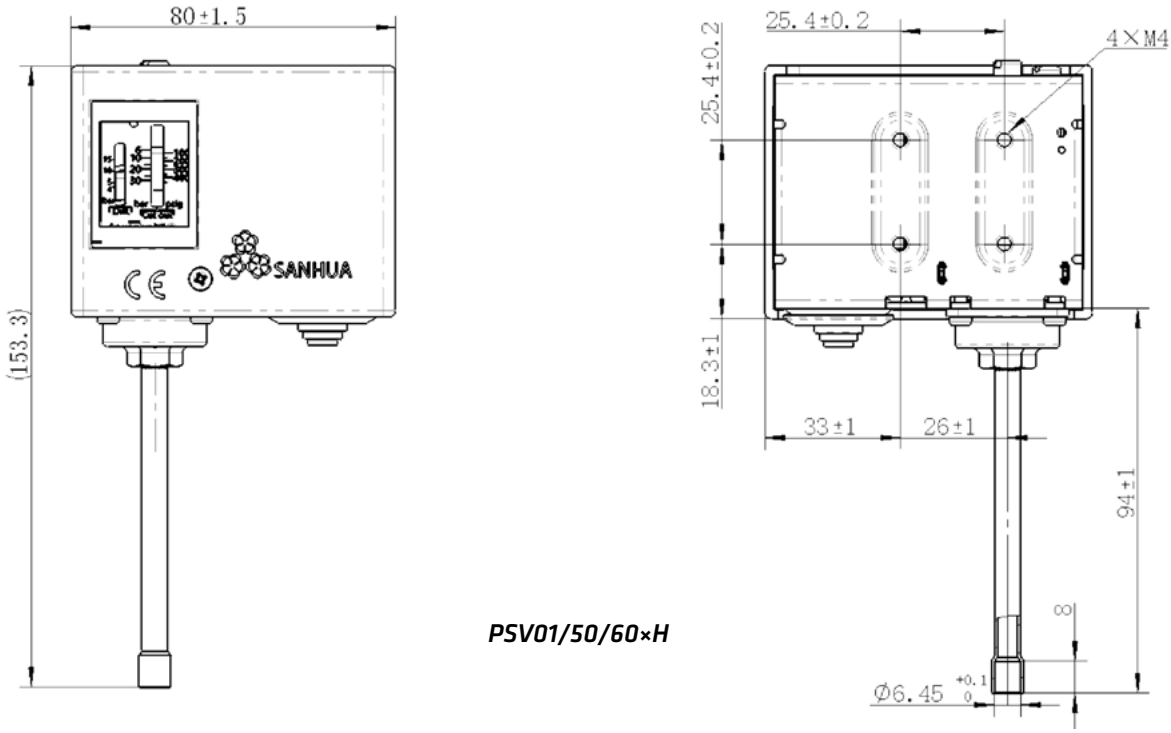


PSV15/16 ××M

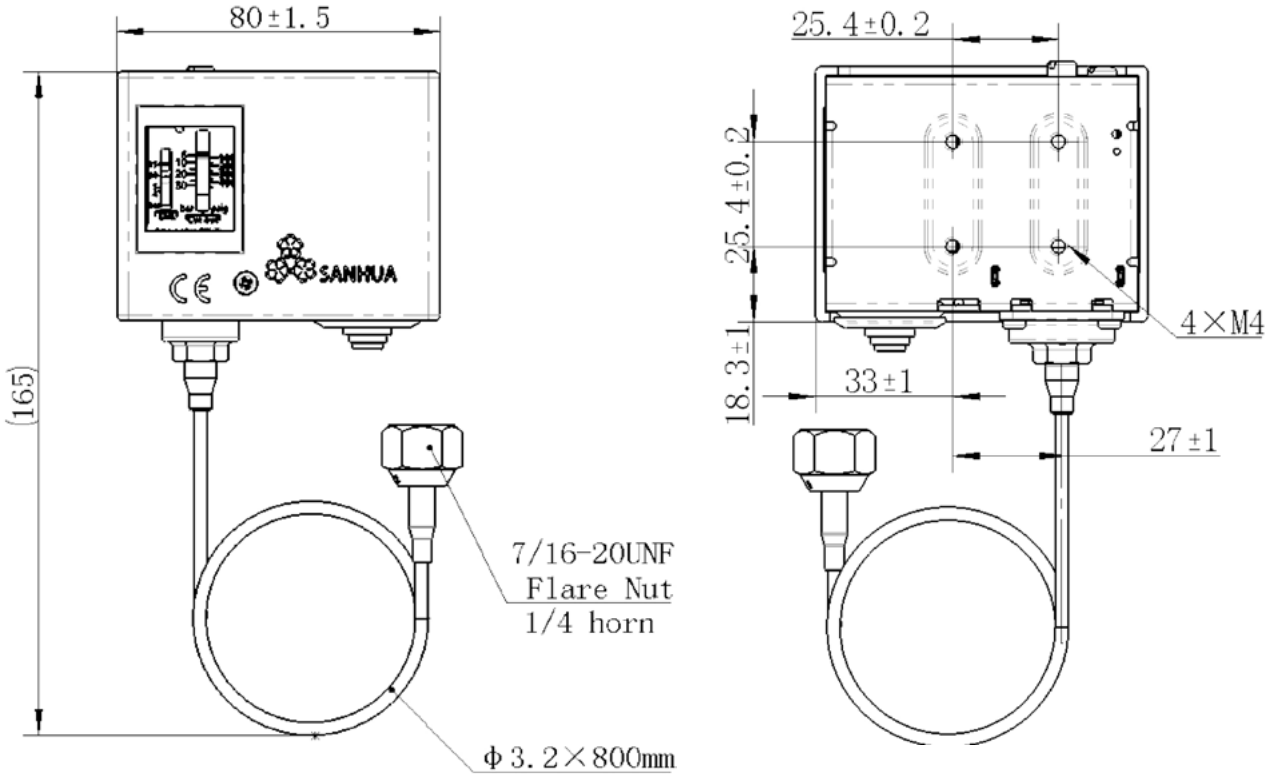


PSV01/50/60×L

PRESSURE CONTROLS



PSV01/50/60×H

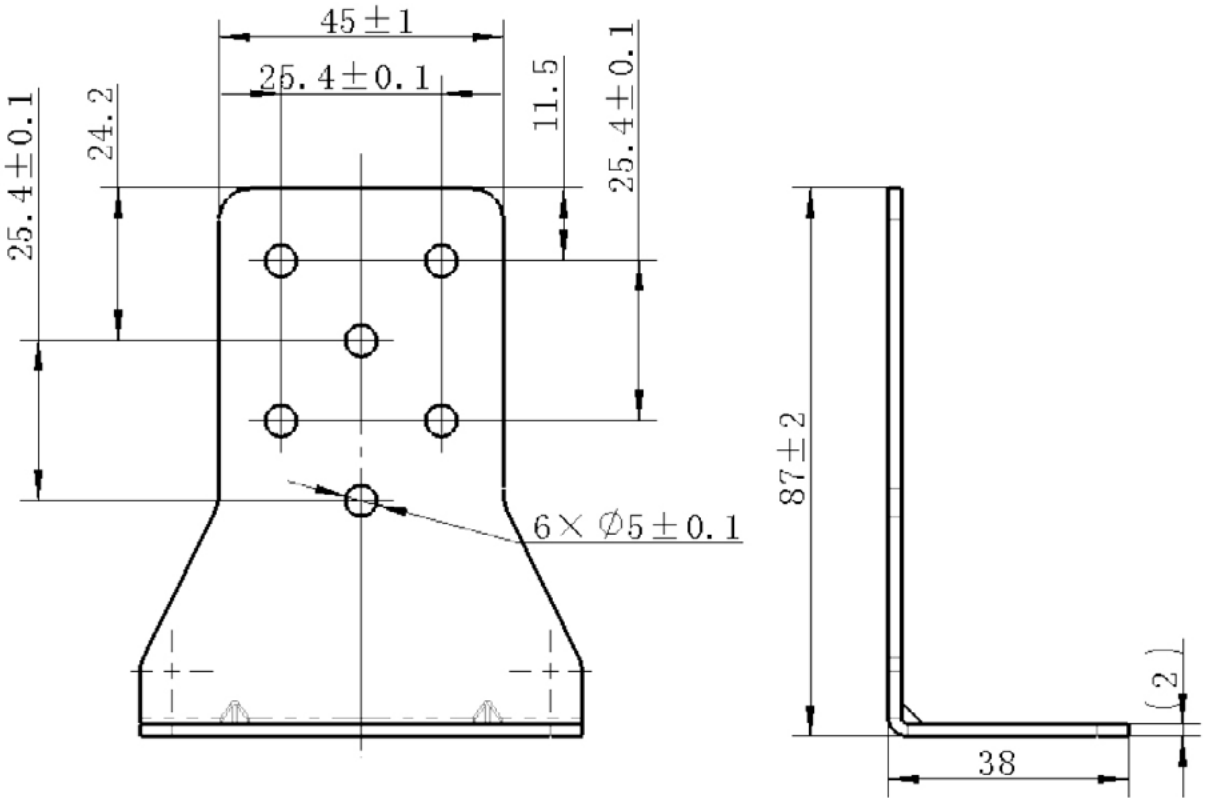


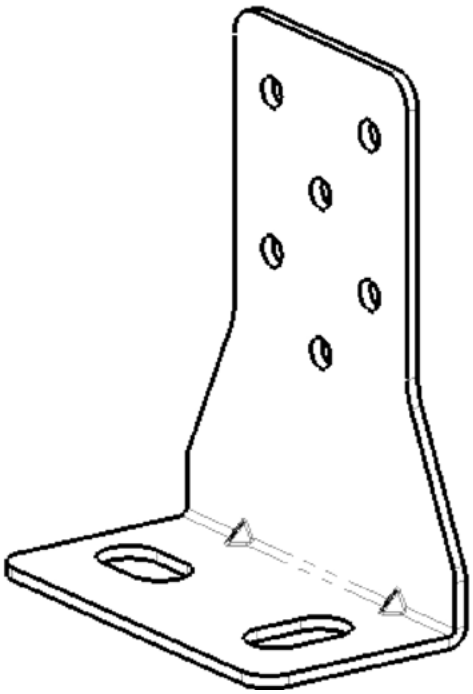
PSV01/50/60×M

PRESSURE CONTROLS

INSTALLATION PLATE

Model	U11 code
PS50-50001	20660018502

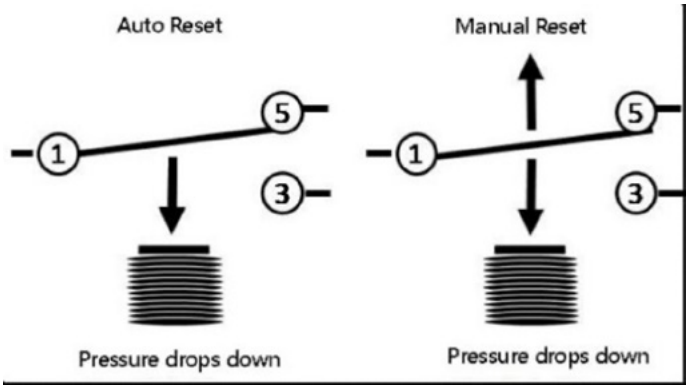




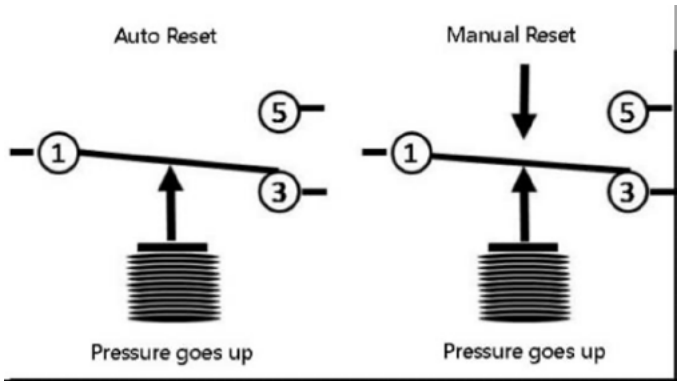
PRESSURE CONTROLS

CONTACT SYSTEM

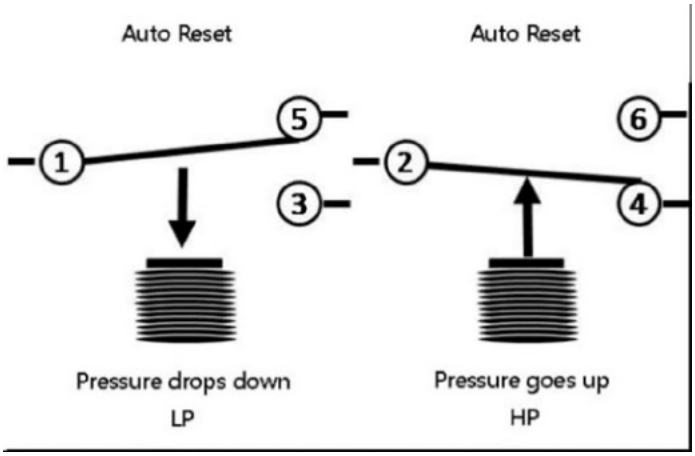
Single PSV01



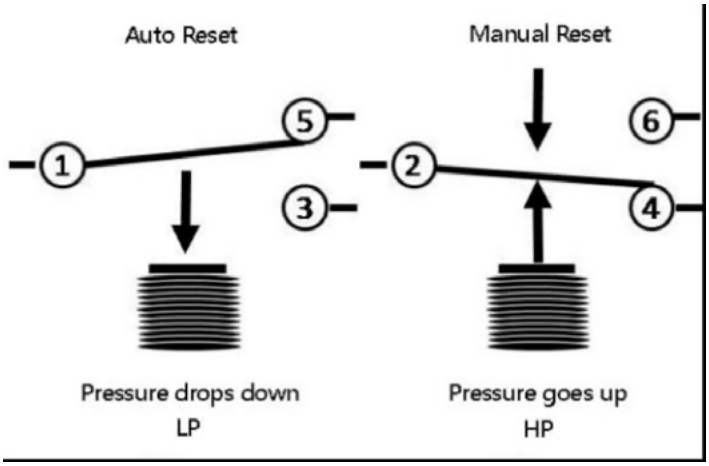
Single PSV50/60



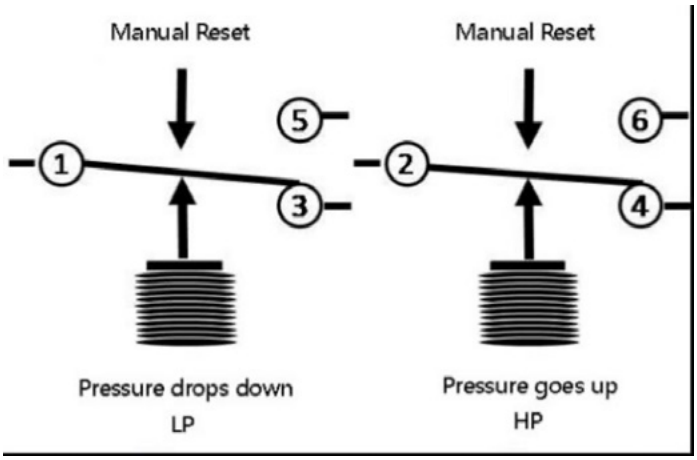
Dual PSV15/16AA



Dual PSV15/16AM



Dual PSV15/16MM



PRESSURE CONTROLS

Requirements for usage with approved A2L refrigerants (R1234ze, R1234yz, R1234yf, R32, R452B, R454A, R454B, R454C, R455A):

- Only trained and experienced personnel can work with flamable refigerants and make instalation, handling and service of PSV pressure switches in such systems with appropriate tools
- It is strictly forbidden to exceed declared electrical loads for PSV
- PSV has to be used as integrated component into the system with necessary protection against unautorized access
- Necessary to avoid extreme working conditions which can cause damage of presure switch or its critical mulfunctioning : e.g. excessive vibration, contact with water, external mechnical impact which can destroy PSV, corrosive environment
- System has to be designed in a way to avoid very frequent cycling of pressure switch (by setting resonable on/off pressures, differential, etc)
- Design of complete system should prevent accumulation and storage of high concentration of refigerant around pressure switch.