

Pressure Controls Series CS3

Technical Bulletin

CS3 product series are a safety pressure controls with fixed switch-point settings for R744 applications.

Features

- Pressure Range 8/Q:
 - Versions with fixed factory cut-out settings available between 60 bar to 140 bar
 - Maximum Working Pressure of 140 bar
 - Factory Test Pressure of 154 bar
 - Narrow differential (approx. 6 bar) between cut-out and cut-in (in Microswitch version)
- Pressure Range 7/P:
 - Versions with fixed factory cut-out settings available between 40 bar to 70 bar
 - Maximum Working Pressure of 90 bar
 - Factory Test Pressure of 100 bar
 - Narrow differential (approx. 4 bar) between cut-out and cut-in (in Microswitch version)
- Manual reset versions available
- Precise switching and repeatability; Snap Action Contacts => Chatter Free (Bounce free) and Accurate Operation
- Contacts are designed as SPDT (Single pole double throw) for control function and alarm/status reporting
- 2 million cycles reliability (TÜV EN 12263 approved)
- Direct compressor mounting with adapter option
- IP65 protection if used with PS3-Nxx with plug
- (acc. EN 175301-803), no additional gasket required (molded into plug)



CS3

Applied Standards /Markings:

- **CE** per LVD & PED
- Manufactured and tested to VDE standards on our own responsibility
- **UL** Underwriter Laboratories (File No. E85974)

Selection table

Pressure Range 8/Q

Type	Part No. (Multi pack 60 pcs)	Fixed setting (bar)		Reset	Electrical Switch	Pressure connection
		Cut-out	Cut-in			
Pressure Limiter for high pressure protection PSH EN 12263						
CS3-WQS	814015M	72	Approx.67	Automatic	Micro switch	7/16"-20 UNF female thread with Schrader opener
CS3-WQS	814018M	81	Approx.74			
CS3-WQS	0718008M	106	Approx. 100			
CS3-WQS	0718000M	106	Approx.103			
CS3-WQS	0718010M	108	Approx.102			
CS3-WQS	814007M	114	Approx.107			
CS3-WQS	0718013M	117	Approx.110			
CS3-WQS	814024M	123	Approx.117.5			
CS3-W8S	0718003M	106	75		Standard switch	
CS3-W8S	0718009M	106	80			
CS3-W8S	0718014M	108	85			
CS3-W8S	814002M	120	95			
CS3-W8S	814003M	126	80			
CS3-W8S	814003M	126	80			
Pressure Cut-out for high pressure protection PZH EN 12663						
CS3-B8S	0718001M	108	Approx. 25 bar below cut-out	External manual	Standard switch	7/16"-20 UNF female thread with Schrader opener
CS3-B8S	814012M	112				
CS3-B8S	814016M	115				
CS3-B8S	814022M	120				
CS3-B8S	814023M	122				
Safety Pressure Cut-out for high pressure protection PZHH EN 12663						
CS3-S8S	814026M	72	Approx. 25 bar below cut-out	Internal manual	Standard switch	7/16"-20 UNF female thread with Schrader opener
CS3-S8S	0718002M	108				
CS3-S8S	0718011M	130				

Note1: Cables with plug must be ordered separately (see page 4).

Note2: Permissible tolerances as per EN 12263 please see Technical Data page 3.

Pressure Controls Series CS3

Pressure Range 7/P

Type	Part No. (Multi pack 60 pcs)	Fixed setting (bar)		Reset	Electrical Switch	Pressure connection
		Cut-out	Cut-in			
Pressure Limiter for high pressure protection PSH EN 12263						
CS3-WPS	814013M	41	Approx.37	Automatic	Micro switch	7/16"-20 UNF female thread with Schrader opener
CS3-WPS	814021M	45	Approx.41			
CS3-WPS	814020M	45,5	Approx.50			
CS3-WPS	0718012M	46	Approx.42			
CS3-WPS	814014M	48	Approx.44			
CS3-WPS	814009M	50	Approx.45			
CS3-WPS	0718007M	54	Approx. 50			
CS3-W7S	814025M	40	27		Standard switch	
CS3-W7S	814017M	45	32			
CS3-W7S	0718006M	54	41			
Pressure Cut-out for high pressure protection PZH EN 12663						
CS3-B7S	814001M	42	Approx. 13 bar below cut-out	External manual	Standard switch	7/16"-20 UNF female thread with Schrader opener
CS3-B7S	814010M	43				
CS3-B7S	814008M	47				
CS3-B7S	814011M	50				
CS3-B7S	0718004M	54				
CS3-B7S	814004M	56				
CS3-B7S	814005M	57				
CS3-B7S	814006M	58				
Safety Pressure Cut-out for high pressure protection PZHH EN 12663						
CS3-S7S	814019M	47	Approx. 13 bar below cut-out	Internal manual	Standard switch	7/16"-20 UNF female thread with Schrader opener
CS3-S7S	0718005M	54				

Note1: Cables with plug must be ordered separately (see page 4).

Note2: Permissible tolerances as per EN 12263 please see Technical Data page 3.

2. Customer specific types (Minimum order quantity 60 pcs)

Other settings upon request and within technical capabilities of the product

- Pressure Range 8/Q: Versions with fixed factory cut-out settings available between 60 bar to 140 bar
- Pressure Range 7/P: Versions with fixed factory cut-out settings available between 40 bar to 70 bar

Type code CS3

CS 3 - W 8 S

Product Name

CS3: Compact fixed setting pressure switch

Pressure Connector

S = 7/16"-20 UNF female, Schrader depressor (with snubber)

Function

W = Pressure limiter, automatic, type approval EN 12263, PSH
 B = Pressure cut-out, external manual reset type approval, EN 12263, PZH
 S = Safety pressure cut-out, internal manual reset type approval, EN 12263 PZHH

Pressure Range / Contacts

Standard Contacts

8 = 60...140 bar
 7 = 40...70 bar

Microswitch

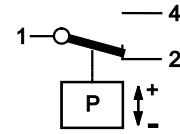
Q = 60...140 bar
 P = 40...70 bar

Pressure Controls Series CS3

Design features

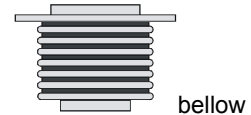
1. Electrical

CS3 are equipped with a SPDT snap action contact, switching from 1-2 to 1-4 on rising pressure and from 1-4 to 1-2 on falling pressure (see diagram). The CS3 is factory preset according to customer's specification and is not adjustable.



2. Mechanical

Single pressure element Bellow (stainless steel) is able to resist to > 2 Mio. cycles between 50% and 100% of the maximum operating pressure (see 4.6.1 of EN 12263).



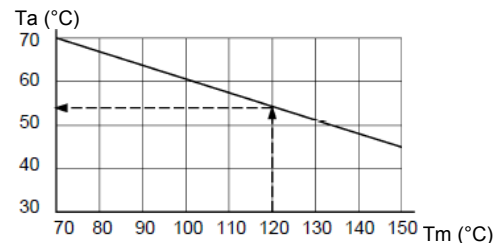
Technical Data

Protection class acc. to EN 60529	IP 65 with PS3-Nxx IP00 without appliance socket	Vibration resistance	4g (at 10...250 Hz)
Max. working pressure PS	Pressure Range 8/Q: 140 bar Pressure Range 7/P: 90 bar	Medium compatibility	R744 Note: CS3 are not released for use with flammable refrigerants!
Factory Test pressure PT	Pressure Range 8/Q: 154 bar Pressure Range 7/P: 100 bar	Temperatures Storage, transport & ambient (housing)*	-40°C...+70°C
Tolerances (as per EN 12263) - Only for Standard types (See page 1 and 2)	<u>Pressure Range 8/Q</u> Tolerance: 0 to -8% <u>Pressure Range 7/P</u> Tolerance: 0 to -8%	Medium temperature*	-40°C...+150°C
Note: Tolerances are valid between -20...+55°C.		Marking	CE acc. Low voltage Directive CE 0035 acc. To PED 2014/68/EU cRU File No. E85974

*) **Note:** For high temperature applications, i.e. medium temperatures between 70°C and 150°C, the maximum ambient temperature must be determined as per drawing.

E.g.: On medium temperature 120°C the ambient temperature of 55°C around the switch housing should not be exceeded.

T_m = Medium temperature
T_a = Ambient temperature



Electrical Data

	Standard (SPDT)	Micro switch (SPDT)
Inductive load (AC15)	3A / 230VAC	1.5A / 230VAC
Inductive load (DC)	0.1A / 230VDC	0.1A / 230VDC
Motor rating amps (FLA)	6A / 120 / 240VAC	2.5A / 120 / 240VAC 1.5A / 120 / 240VAC (UL approval)
Lock rotor amps (LRA)	36A / 120 / 240VAC 18A / 120 / 240VAC (UL approval)	15A / 120 / 240VAC 10A / 120 / 240VAC (UL approval)

Pressure Controls Series CS3

Accessories

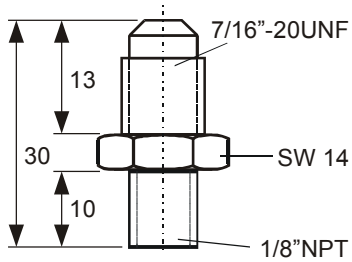
Cables Assemblies

Type	Part No.	No of leads	Diameter of leads	Temperature Range (°C)	Cable length (m)
PS3-N15	804580	3	0.75 mm ²	-50...+80	1.5
PS3-N30	804581				3.0
PS3-N60	804582				6.0



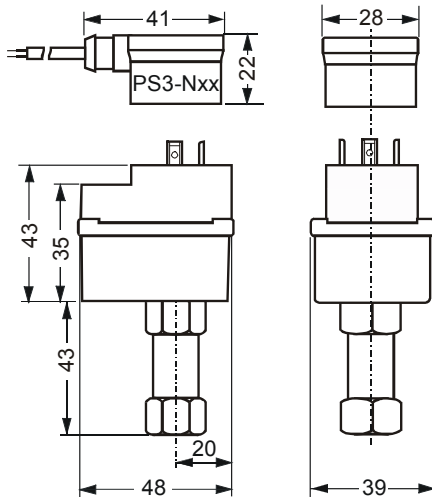
Plug according to EN75301	Part No.
PG9	801012
PG11	801013

Other Accessories



Adapter 1/8" NPT (male) - 7/16" - 20 UNF - (male)
(for compressor direct mounting)
Part No.: 800316

Dimensions (mm)



Connection S

7/16-20 UNF female with Schrader valve opener