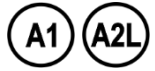


# CS1 Series

## Pressure Controls

### General information

CS1 is an adjustable safety pressure for application in refrigeration systems in compliance with standard EN 378.



### Features

- Narrow adjustable differential
- Range and differential pointer in units bar and psig
- High rated SPDT contacts for all versions
- Chatter resistant bounce free contacts
- Captive terminal and cover screws
- 2 million cycles reliability (TÜV approved according to EN 12263 to meet requirements of EN 378)
- Locking plate and mounting screws included

### Options

- Customer specific types available, minimum order quantity 100 pieces

### Standards

- CE acc. PED 2014/68/EU & LVD 2014/35/EU



CS1

### Type code

<b>Product Name</b> CS1: Adjustable high pressure switch	CS 1	-	△	△	△	<b>Pressure Connector</b> A 7/16"-20 UNF male
<b>Function</b> W High Pressure limiter, automatic, EN 12263, PSH						<b>Pressure Range</b> 6 10...45 bar 7 15...65 bar

### Selection Table

Type	Part No.	Adjustment Range		Lowest Setpoint (bar)	Factory Setting (bar)	Max. allowable pressure PS (bar)	Test Pressure (bar)	Pressure Connection
		Upper Setpoint (bar)	Differential Setpoint (bar)					


Pressure Limiter for high pressure protection EN 12263 PSH (automatic reset)

CS1-W6A	812004/ 812004M*	10...45	4...10	6	28 / 20	70	77	7/16"-20 UNF male
CS1-W7A	812005/ 812005M*	15...65	5...10	10	40 / 32	70	77	

NOTE: \*) M = Multipack = 20 pcs

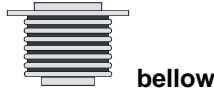
NOTE: For assistance with selection, please contact your local Copeland Sales offices.

## Selection Table Accessories

Type	Part No.	Description	Illustration
Mounting bracket angle	803799	incl. screws	See Dimensions
Mounting plate for units with hood	803801	incl. screws	See Dimensions
Extension bracket	803800	incl. screws	See Dimensions
Universal mounting bracket	803798	incl. screws	See Dimensions
Locking plate	803783	incl. 2 mounting screws, 20 pcs	

### Design feature

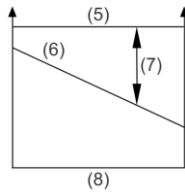
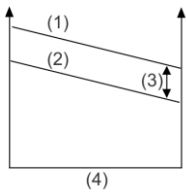
Single pressure element Bellow (stainless steel) is able to resist over 2 Mio. cycles between 50 % and 100 % of the maximum operating pressure acc. EN 12263.



### Switch Points

The cut-out and differential are adjustable with internal adjustment spindles. The cut-out spindle allows presetting the *upper switch point* together with the *lower switch point*. The differential spindle is used to preset the *cut-in*. The dependency between upper and lower set point is as follows:

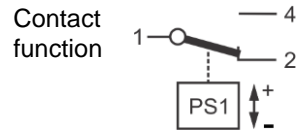
$$\text{lower set point} = \text{upper set point} - \text{differential}$$



- (1) Upper setpoint
- (2) Lower setpoint
- (3) Differential
- (4) Turning range spindle
- (5) Upper setpoint
- (6) Lower setpoint
- (7) Differential = variable
- (8) Turning differential spindle

### Electrical contacts

CS1 pressure controls are equipped with high rated double snap action contacts for chatter-free and reliable operation. It is designed as Single Pole Double Throw (SPDT) contacts.



Contacts on pressure control CS1 are labeled 1-2-4

- '1', refer to the common pole.
- '2', refer to the lower setpoint and
- '4', refer to the upper setpoint.

### Automatic reset

On pressure rise above the upper setpoint, contacts 1-2 open and contacts 1-4 close. On decreasing pressure below lower setpoint contacts 1-4 open and contacts 1-2 close.

### Accessory

The standard mounting holes for mounting brackets are equipped with a universal thread to fit both, M4 and UNC 8-32 screws.



Locking Plate

The standard wholesale package includes two mounting screws.

Several hole patterns for surface mounting are provided, see "Dimensions" on page 4.

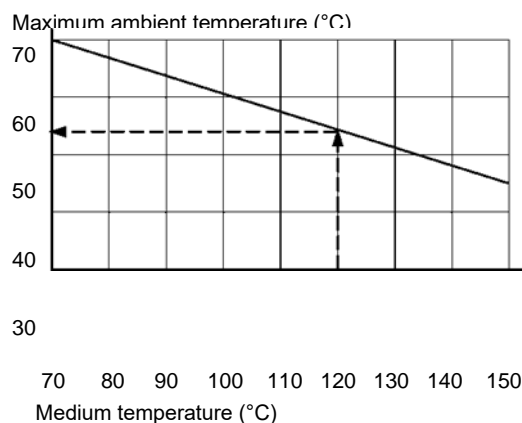
## Technical Data

Temperatures TS Storage / Transport Ambient Medium*	-50 °C...+70 °C -25 °C...+70 °C (housing) -25 °C...+150 °C
Housing materials cover frame	Polycarbonate (PC) Steel (with anti corrosion protection)
Materials Pressure Connections with medium contact  (A) / bellows	Stainless steel
Released Refrigerants  <b>Fluid group II</b>  <b>Fluid group I</b>	R410A, R744 (A1) R32, R452B, R454B, (A2L)

Protection Class (EN 60529)	IP33 Control mounted flush against wall
Vibration Resistance (EN 12263)	1 g (10...150 Hz)
Max. relative humidity	95% non-condensing
Standards / Directives	- EN 12263 - PED 2014/68/EU, Cat. IV for all devices with TÜV approval under EN12263 - LVD 2014/35/EU, EN 60947-1, EN 60947-5-1
Markings  for devices under PED  for devices under LVD  all types	CE 0035 CE PE

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

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



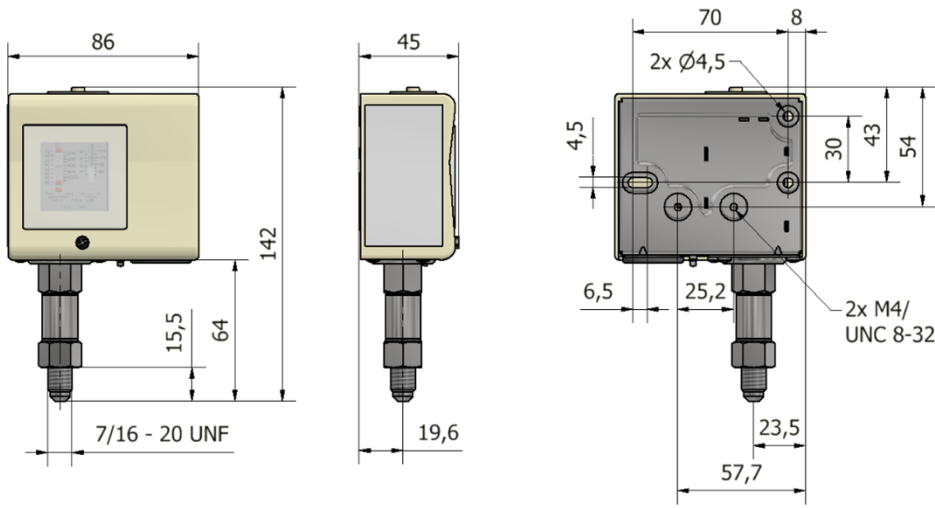
## Electrical Data

Type of contacts	CS1	1 x SPDT contact
(A1)	Resistive load (AC1)	24 A / 230 VAC
	Inductive load (AC15)	10 A / 230 VAC
	Inductive load (DC13)	0.1 A / 230 VDC 3 A / 24 VDC 6 A / 12 VDC
	Startup / Locked Rotor (AC3)	144 A / 120 VAC / 230 VAC
	Motor rating UL (FLA)	24 A / 120 VAC / 240 VAC
	Locked rotor (LRA)	144 A / 120 VAC / 240 VAC

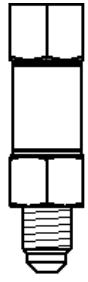
Contact material standard	CuAg3	
(A2L)	Resistive load (AC1)	10 A / 230 VAC*
	Inductive load (AC15)	1 A / 230 VAC* 10 A / 24 VAC*
	Inductive load (DC13)	0.1 A / 230 VDC* 3 A / 24 VDC* 6 A / 12 VDC*
	Startup / Locked Rotor (AC3)	-
	Motor rating UL (FLA)	-
	Locked rotor (LRA)	-

**NOTE: \*) acc. IEC 60335-2-40 max. electrical load = 2.5 kVA**

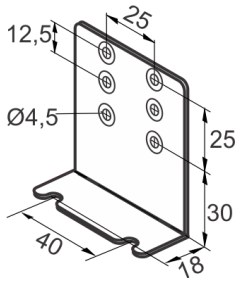
## Dimension (mm)



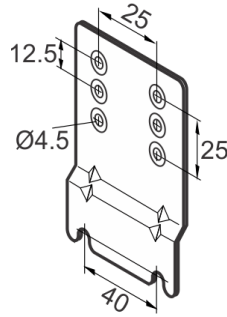
**Pressure Connection**  
7/16"-20 UNF  
male



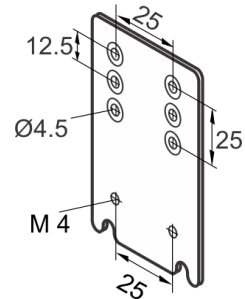
## Accessories



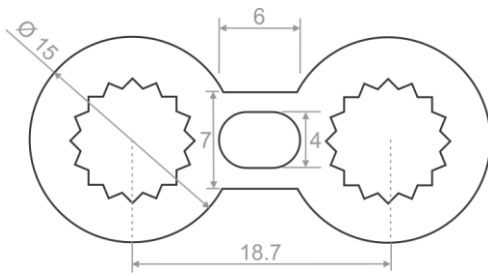
Mounting bracket angle



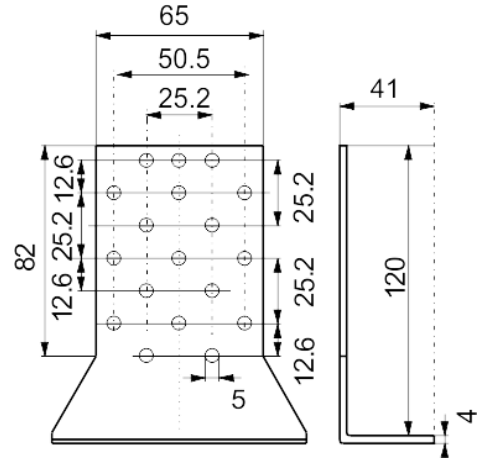
Mounting plate for units with hood



Extension bracket



Locking Plate



Univ. mounting bracket

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