

Last update: 04-2022

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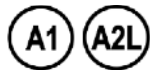
Ref: TI_CS1_A1_A2L_EN_Rev04

Application Engineering Europe

PRESSURE CONTROLS CS1 SERIES

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

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



CS1

Type code

| | | | | | | | | | |
|--|--|-------------|---|---|---|---|--|--|--|
| Product Name CS1: Adjustable high pressure switch | | CS 1 | - | △ | △ | △ | Pressure Connector A 7/16"-20 UNF male | | |
| Function W High Pressure limiter, automatic, EN 12263, PSH | | | | | | Pressure Range 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

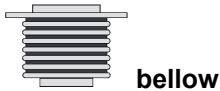
NOTE: For assistance with selection, please contact your local Emerson Sales offices.

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

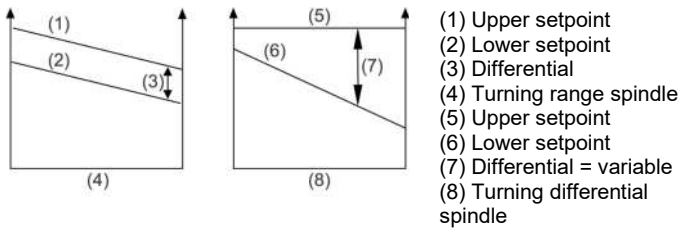
Single pressure element Bellow (stainless steel) is able to resist over 2 Mio. cycles between 50 % and 100 % of the maximum operating pressure acc. EN 12263.



Switch Points

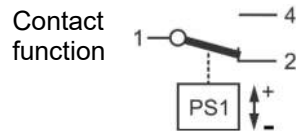
The cut-out and differential are adjustable with internal adjustment spindles. The cut-out spindle allows presetting the *upper switch point* together with the *lower switch point*. The differential spindle is used to preset the *cut-in*. The dependency between upper and lower set point is as follows:

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



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.

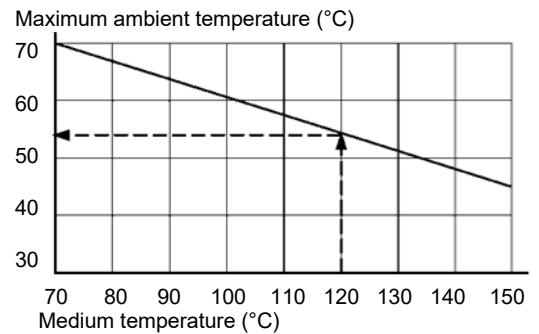
Technical Data

| | |
|---|--|
| 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 Fluid group II Fluid group I | 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 all types | CE 0035 CE EAC UK CA (in progress) |

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.



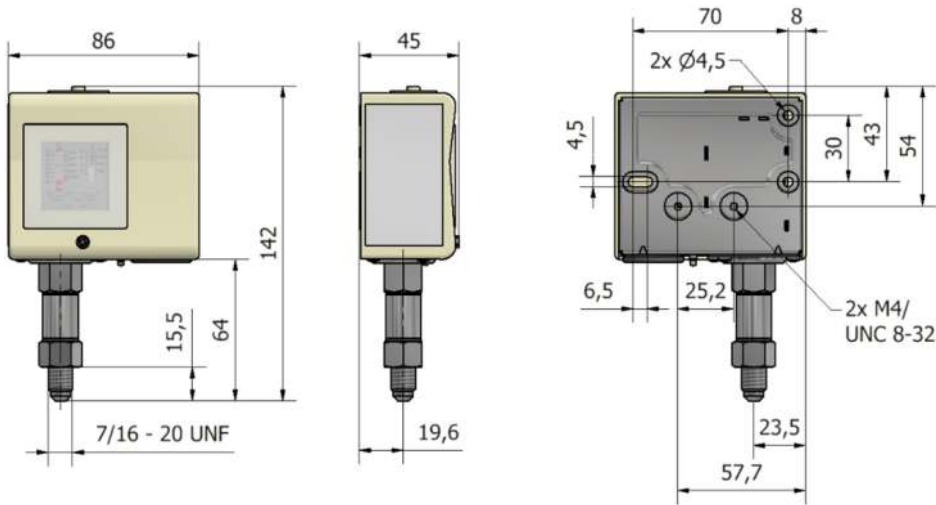
Electrical Data

| | | |
|------------------|------------------------------|---|
| 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 |

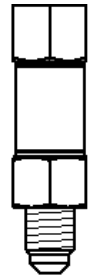
| | | |
|---------------------------|------------------------------|--|
| Contact material standard | CuAg3 | |
| (A2L) | Resistive load (AC1) | 10 A / 230 VAC* |
| | Inductive load (AC15) | 1 A / 230 VAC* 10 A / 24 VAC* |
| | Inductive load (DC13) | 0.1 A / 230 VDC* 3 A / 24 VDC* 6 A / 12 VDC* |
| |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

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

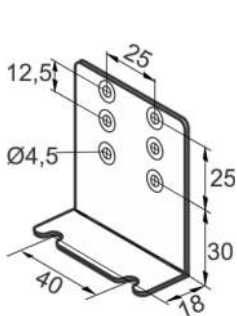
Dimension (mm)



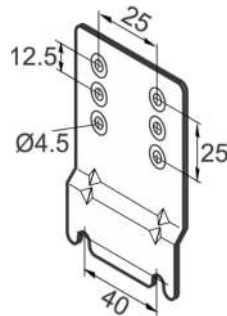
Pressure Connection
7/16"-20 UNF
male



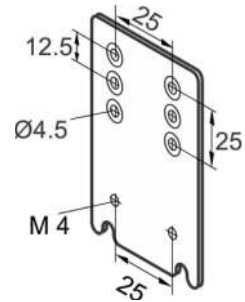
Accessories



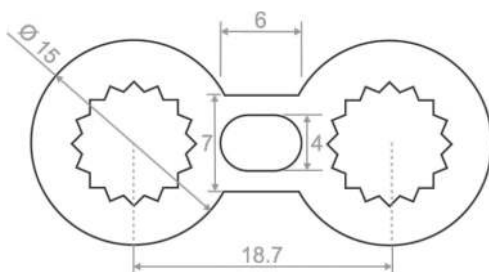
Mounting bracket angle



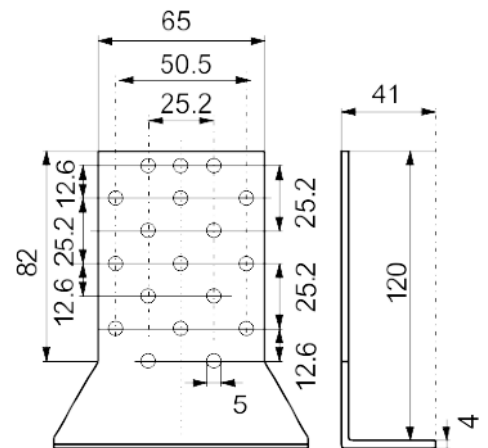
Mounting plate for units with hood



Extension bracket



Locking Plate



Univ. mounting bracket

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