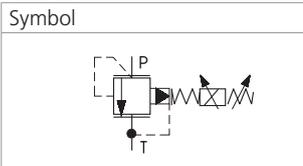
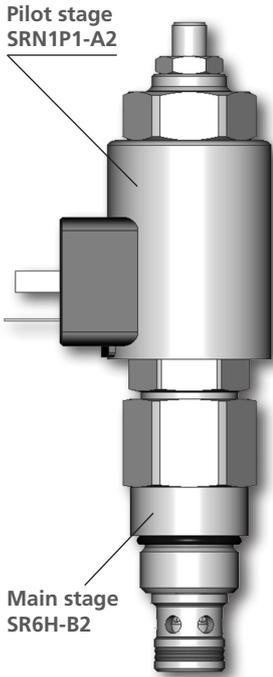


Proportional Pressure Control Valve, Relieving, Pilot Operated, Inverted

**SRN4P1-B2**

7/8-14 UNF •  $Q_{max}$  80 l/min (21 GPM) •  $p_{max}$  350 bar (5100 PSI)



**Technical Features**

- › Decreasing pressure output proportional with increasing DC current input
- › Low hysteresis, accurate pressure control and low pressure drop
- › Wide pressure range up to 350 bar
- › Mechanical adjustment of cracking pressure
- › High flow capacity
- › Solenoid electrical terminal option acc. to EN 175301-803-A, AMP Junior Timer, or Deutsch DT04-2P
- › 12 or 24 V DC coils
- › In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227.  
Enhanced surface protection for mobile sector available for the steel parts (ISO 9227, 520 h salt spray)

**Functional Description**

A pilot operated proportional pressure relief spool valve in the form of a screw-in cartridge. The valve is designed for continuous regulation of system pressure. The complete valve consist of pilot stage SRN1P1-A2 and main stage with connection 7/8-14 UNF. To set the cracking pressure of valve use the screw with internal HEX 4 after loosening the lock nut (s=13). For the valve to function properly, it is necessary to air bleeding by loosening the internal screw with internal HEX 2 socket (1 turn is sufficient). Back pressure on port T becomes additive to the pressure setting of the valve. The air bleeding is done using the nozzle in this air bleeding screw. After Air bleeding the internal screw is tightened again with a torque of 1,1+0,1Nm.  
Installation: When possible, the valve should be mounted below the reservoir oil level. This will keep oil in the actuator at all times, preventing instability caused by air enclosures. If this is not possible, mount the valve for best results vertically downward with proper air bleeding.

**Technical Data**

| Valve size / Cartridge cavity     |             | 7/8-14 UNF-2A / B2 (C-10-2)                |           |
|-----------------------------------|-------------|--|-----------|
| Max. operating pressure (port P)  | bar (PSI)   | 350 (5100)                                 |           |
| Max. operating pressure (port T)  | bar (PSI)   | 100 (1450)                                 |           |
| Max. flow                         | l/min (GPM) | 80 (21.1)                                  |           |
| Fluid temperature range (NBR)     | °C (°F)     | -30...+80 (-22...+176)                     |           |
| Fluid temperature range (FPM)     | °C (°F)     | -20...+120 (-4...+248)                     |           |
| Ambient temperature range         | °C (°F)     | -30...+80 (-22...+176)                     |           |
| Min. setting pressure             | bar (PSI)   | 7 bar (101.5 PSI) for 5 l/min (1.32 GPM)   |           |
| Hysteresis                        | %           | < 5  |           |
| <b>Solenoid data</b>              |             |  |           |
| Supply voltage                    | V           | 12 DC                                      | 24 DC     |
| Limit current                     | A           | 1  | 0.6       |
| Rated resistance at 20 °C (68 °F) | Ω           | 6.5  | 20.6      |
| Duty cycle                        | %           | 100  |           |
| Optimal PWM frequency             | Hz          | 160  |           |
| Quenching diode                   |             | BZW06-19B                                  | BZW06-33B |
| Enclosure type acc. to EN 60529** |             | (acc.to terminal type) IP65 / IP67 / IP69K |           |
| Weight with solenoid              | kg (lbs)    | 0.58 (1.28)                                |           |
|                                   | Datasheet   | Type                                       |           |
| General information               |             | HA 0060                                    |           |
| Coil types                        |             | HA 8007                                    |           |
| Valve bodies                      |             | In-line mounted HA 0018                    |           |
| Cavity details / Form tools       |             | HA 0019                                    |           |
| Spare parts                       |             | HA 8010                                    |           |
| Compatible control unit           |             | EL7-E*                                     |           |

\*\* The specified IP rating applies only in the case of correctly connected connectors (male + female) with the corresponding IP rating.

**Dimensions** in millimeters (inches)

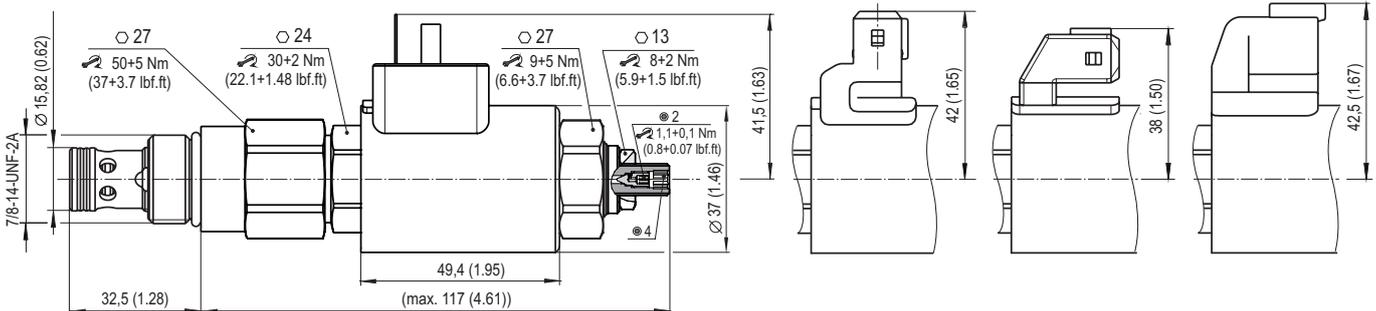
**Connector type**

E1, E2 - IP65  
EN 175301-803-A

E3, E4 - IP67  
AMP Junior Timer  
- radial

E3A, E4A - IP67  
AMP Junior Timer  
- axial

E12A, E13A  
- IP67 / IP69K  
Deutsch DT04-2P



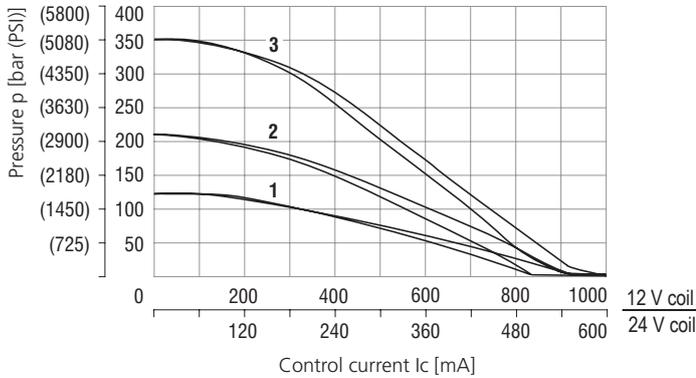
**Elektronic control unit EL7**

An electronic control unit (ECU) EL7 is used for the valve control. The ECU converts the input command signal into an output current control PWM signal for solenoid coils. The ECU EL7 is available as external for connection to the DIN rail (EL7-E, see datasheet HA 9152) or integrated on the valve in the form of connector plug (EL7-I, see datasheet HA 9151).

**Characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$  (156 SUS)

**Relief pressure related to control signal**

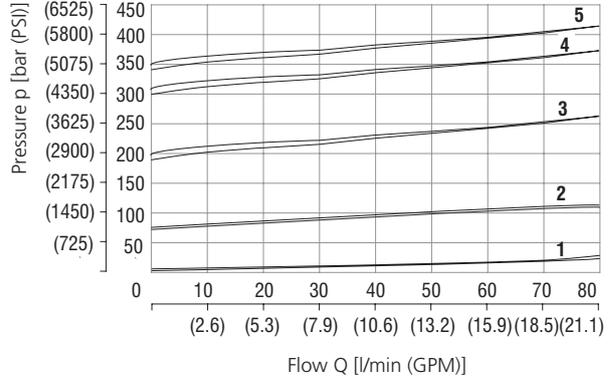
Q=5 l/min (1.32 GPM), pressure in port T=0 bar, PWM 160 Hz



|                |    |    |    |
|----------------|----|----|----|
| Pressure range | 12 | 21 | 35 |
|                | 1  | 2  | 3  |

**Relief pressure related to flow rate**

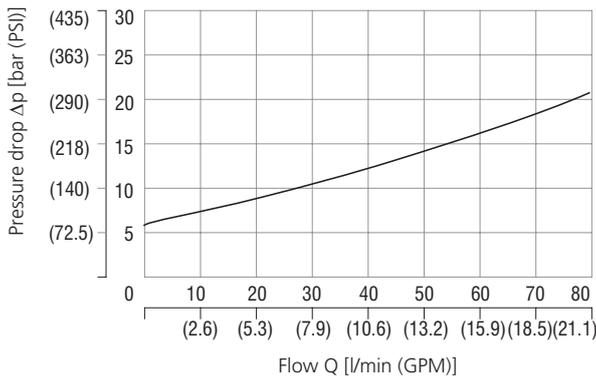
Pressure range 35, various control currents



|                 |                 |                |                |                |               |
|-----------------|-----------------|----------------|----------------|----------------|---------------|
| Control current | 1               | 2              | 3              | 4              | 5             |
|                 | 100 % $I_{max}$ | 75 % $I_{max}$ | 50 % $I_{max}$ | 25 % $I_{max}$ | 0 % $I_{max}$ |

**Pressure drop related to flow rate**

100 % of control current, P-T direction



**Ordering Code**

SRN4P1 - B2 / H [ ] - [ ] [ ] [ ] - [ ]

**Proportional pressure control valve, relieving, pilot operated, inverted**

**Valve cavity**  
7/8-14 UNF-2A (C-10-2)

**Model**  
High performance

**Pressure range**  
up to 120 bar (1740 PSI) **12**  
up to 210 bar (3046 PSI) **21**  
up to 350 bar (5076 PSI) **35**

**Supply voltage / limit current**  
12 V DC / 1.0 A **12**  
24 V DC / 0.6 A **24**

Main stage ordering key: SR6H-B2/HV

**Surface treatment**  
**A** zinc-coated (ZnCr-3), ISO 9227 (240 h)  
**B** zinc-coated (ZnNi), ISO 9227 (520 h)

**No designation**  
**V** **Seals**  
NBR  
FPM (Viton)

**Connector type**  
EN 175301-803-A  
**E1** E1 with quenching diode  
**E2** AMP Junior Timer - radial direction (2 pins; male)  
**E3** E3 with quenching diode  
**E4** AMP Junior Timer - axial direction (2 pins; male)  
**E3A** E3A with quenching diode  
**E4A** Deutsch DT04-2P - axial direction  
**E12A** E12A with quenching diode  
**E13A**

For other solenoid terminals see datasheet No. 8007