
Technical Features

- › Decreasing pressure output proportional with increasing DC current input
- › Low hysteresis, accurate pressure control
- › Wide pressure range up to 350 bar
- › Mechanical adjustment of minimum cracking pressure
- › Solenoid electrical terminal option acc. to EN 175301-803-A, AMP Junior Timer or Deutsch DT04-2P
- › 12 or 24 V DC coils
- › Usable as pilot stage of SRN4P1-B2 and SPN4P1-B3 proportional valves
- › 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 direct operated proportional poppet pressure relief valve in the form of a screw-in cartridge. The valve is designed for continuous regulation of system pressure. It is used mostly as a pilot stage. To set the minimum cracking pressure use the adjusting screw (s=5) which incorporates also the air bleed screw. Back pressure on port T becomes additive to the pressure setting of the valve. Air bleeding is necessary for the correct function of the valve. 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 | | 3/4-16 UNF-2A / A2 (C-8-2) | |
| Max. operating pressure (port P) | bar (PSI) | 350 (5080) | |
| Max. operating pressure (port T) | bar (PSI) | 100 (1450) | |
| Max. flow | l/min (GPM) | 1.5 (0.40) | |
| 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) | |
| Hysteresis | % | < 5 | |
| Solenoid data | | | |
| Supply voltage | V | 12 DC | 24 DC |
| Limit current | A | 1 | 0,6 |
| Rated resistance at 20 °C (68 °F) | Ω | 6.5 ± 5 % | 20.6 ± 5 % |
| Duty cycle | % | 100 | |
| Optimal PWM frequency | Hz | 160 - 200 | |
| Quenching diode | | BZW06-19B | BZW06-33B |
| Enclosure type acc.to EN 60529** | | IP65 / IP67 / IP69K | |
| Weight with solenoid | kg (lbs) | 0.44 (0.97) | |
| | Data Sheet | Type | |
| General information | GI_0060 | Products and operating conditions | |
| Coil types | C_8007 | C 19B* | |
| Valve bodies | In-line mounted | SB_0018 | |
| | Sandwich mounted | SB-04(06)_0028 | |
| Cavity details / Form tools | SMT_0019 | SMT-A2* | |
| Spare Parts | SP_8010 | | |
| Compatible control unit | | EL7-E* | |

**The indicated IP protection level is reached only with a properly mounted connector.

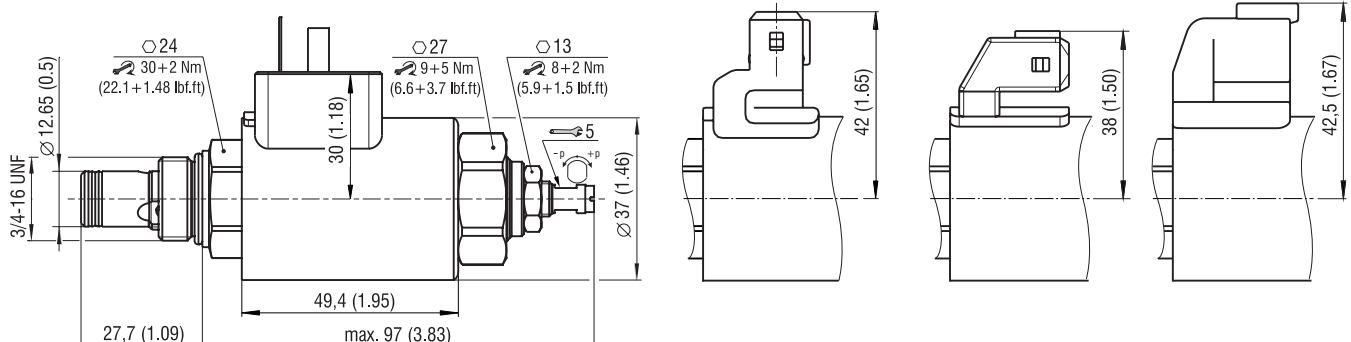
Dimensions in millimeters (inches)
Connector type

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



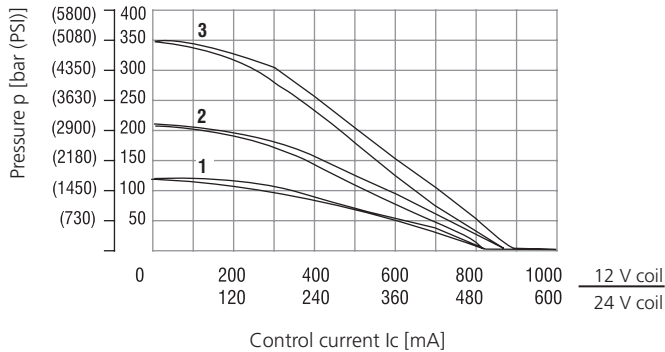
Elektronic control unit EL7

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

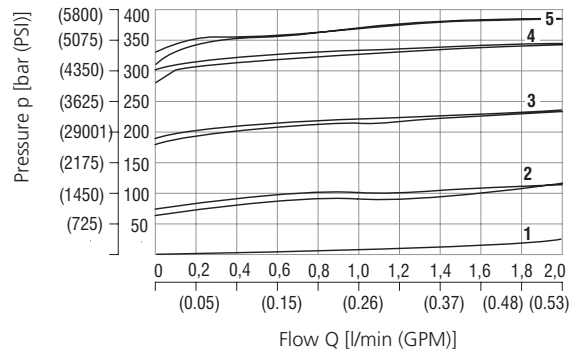
$Q=0.2 \text{ l/min}$ (0.05 GPM), pressure in port T=0 bar, PWM 160Hz



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

Relief pressure related to flow rate

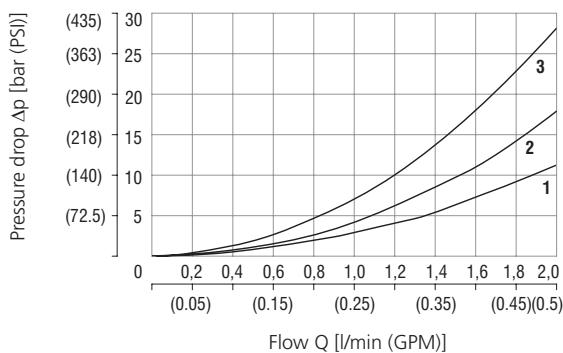
Pressure range 35, various control currents



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



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

Ordering Code

SRN1P1 - A2 / H [] - [] [] [] - []

Proportional pressure control valve, relieving, direct-acting, inverted

Valve cavity
3/4-16UNF (C-8-2)

Model
High performance

Max. regulated pressure
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 A **12**
24 V DC / 0.6 A **24**

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

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

Connector
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 E4A with quenching diode
E12A Deutsch DT04-2P - axial direction
E13A E12A with quenching diode

For other solenoid terminals see data sheet No. 8007