



## DESCRIPTION

The electronic  $\Delta p$  - PIPE-CLEANER is a 2-fold pneumatic, time-controlled 3/2-way solenoid valve switch with integrated micro-electronics and adjustable times: PULSE, PRESSURE-DROP and INTERVAL as well as a relay output with which connected measuring instruments, e.g. our SENSOR-TRANSMITTER DMQ or REGLER-REGULATOR DPQ, or downstream evaluation units, e.g. PLC, can be instructed to suspend measurement acquisition during the cleaning pulse. The cleaning process can also be triggered manually via a built-in wide-range input by applying a voltage of 24...48 VDC or 24...255 VAC.

**Examples:** wherever pneumatic differential pressure, pressure or vacuum measuring lines can become blocked by contamination.

Expensive system malfunctions are avoided by the  $\Delta p$  - PIPE-CLEANER.

Two measuring lines can be connected directly from the measuring point e.g. a filter etc. to the  $\Delta p$  - PIPE-CLEANER (connection ++ and --) and from there on e.g. to a differential pressure controller DPQ (connection + and -) or another measuring instrument. During the **INTERVAL**, adjustable from **10 - 999 minutes**, the two measuring lines have passage from the measuring point to the measuring device, e.g. the differential pressure at the measuring point is then measured by the externally connected measuring device. 2 s before the **PULSE time**, adjustable from **1 - 20 s**, the two measuring lines from the measuring points to the measuring device are closed in the  $\Delta p$  - PIPE-CLEANER and the measuring points are connected to the internal compressed air valve and then compressed air (min. 4 bar, max. 6 bar), which must be dry, clean and oil-free, is blown into both measuring lines and thus cleaned. A relay output is active during this PULSE time and the subsequent PRESSURE-DROP time DA-t. With the relay signal, an external evaluation unit can hide the  $\Delta p$  measurements made during the cleaning process, since the  $\Delta p$  value measured by the measuring device will change depending on the PULSE duration and the duration of the PRESSURE-DROP time DA-t, and these measured values are usually unusable. If the  $\Delta p$  - PIPE-CLEANER has finished the compressed air blowing process and thus the cleaning, the device still waits with the return of the two measuring lines from the measuring points to the measuring device, until a **TIME DA-t**, adjustable from **5 - 30 s**, has expired. The time required for pressure reduction depends on the length of the measuring lines to the measuring point and can be determined empirically, then adjusted and controlled and additionally influenced via a manual valve adjustable on the front panel with the air outlet DA. A wide range input 24...48 VDC, 24...255 VAC is available for manual activation of the cleaning process.

## FEATURES

- 2-fold pneumatic, time-controlled 3/2-way solenoid-valve
- **PULSE** : 1 - 20 seconds, adjustable, LED green
- **INTERVAL**: 10 - 999 minutes, adjustable, LED red
- Hand-valve DA for additional pressure drop
- **DA-t time** : 5 - 30 seconds pressure drop time, adjustable, LED yellow
- Range of ambient temperature: +5 °C up to + 60 °C
- Wide range input 24...48 VDC, 24...255 VAC for manual activation of the cleaning process
- Relay output for control purposes during PULSE time and DA-t time
- Housings with Ex-protection available
- High reliability due to "burn-in"

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# TECHNISCHE DATEN / TECHNICAL DATA

- Druckbereich** : 4 - 6 bar  
 Pressure range
- Zeitbereiche** : **IMPULS / PULSE** : 1 s - 20 s, grüne Leuchtdiode / green LED  
 Time range **PAUSE / INTERVAL** : 10 min - 999 min, rote Leuchtdiode / red LED  
**DA-Zeit / DA-time** : 5 s - 30 s, gelbe Leuchtdiode / yellow LED  
 DA = Druck-Abbau. DA = Pressure drop.
- Ventilausgänge** : 2x 3/2-Wege Magnet-Ventil. 2x 3/2-port directional control valve.  
 1x Hand-Stellventil für zusätzlichen Luftauslass DA.  
 1x hand-adjusting valve für additional pressure reducing at outlet DA.
- Signalausgänge** : Grüne Leuchtdiode für IMPULS / green LED for PULSE  
 Signal output Rote Leuchtdiode für PAUSE / red LED for INTERVAL  
 Gelbe Leuchtdiode für DA-Zeit (Druckabbauzeit) / yellow LED for DA-time (pressure-drop-time)  
 Rote Leuchtdiode für Zeiteinheit Sekunden / red LED for time unit seconds  
 Rote Leuchtdiode für Zeiteinheit Minuten / red LED for time unit minutes  
 Gelbe Leuchtdiode für Relais aktiv / yellow LED for active relay  
 Grüne Leuchtdiode für Eingang freigegeben / green LED for input unlocked  
 Rote Leuchtdiode für Eingang / red LED for input
- Eingang** : 1x Weitbereichs-Eingang 24...48 VDC, 24...255 VAC für manuelles Auslösen des Reinigungsvorganges  
 Input : 1x wide-range input 24...48 VDC, 24...255 VAC for manual activation of the cleaning process
- Relaisausgang** : 1x Umschalter potentialfrei, Schließerkontakt während IMPULS und DA-t geschlossen.  
 Kontakbelastung: ≥ 24 VDC, 10 mA. ≤ 250 V AC, 100 mA.  
 Relayoutput : 1x change-over switch, NO contact closed during IMPULS (PULSE) and DA-time.  
 Switch load: ≥ 24 VDC, 10 mA. ≤ 250 V AC, 100 mA.
- Druckmedium** : Saubere, trockene und ölfreie Druckluft mit min. 4 bar, max. 6 bar PN6. Luftbedarf: **6 m<sup>3</sup> / h**  
 für die Reinigung Filter für Partikelgröße ≤ 0,1 mm verwenden, siehe Zubehör.  
 Cleaning media : Compressed air, filtered, dry and oilfree, min. 4 bar, max. 6 bar PN6. Airvolume **6 m<sup>3</sup> / h**.  
 Use filter for particle sizes ≤ 0,1 mm. Look at accessories.
- Druckanschlüsse** : Prüfdruck 10 bar, 1x Schlauchverschraubung für Schlauch Da = 6 mm, Di = 4 mm  
 pressure connection : test pressure 10 bar, 1x hose fitting with union nut, size of tube OD = 6 mm, ID = 4 mm,  
**Druckabbau DA** : 1x Schlauchverschraubungen mit Überwurfmutter / 1x hose fitting with union nut  
 Pressure-drop connector : Schlauchgrößen / hose sizes: Da/OD = 6 mm, Di/ID = 4 mm
- Messmedium** : Nicht brennbare, nicht aggressive Gase, Luft.  
 Measurement media Non-flammable, non-aggressive gases, air.
- Δp-Messanschluss** : 4x Schlauchverschraubungen mit Überwurfmutter / 4x hose fitting with union nut:  
 Δp-measurement Schlauchgrößen: Da/OD = 6 mm, Di/ID = 4 mm :.....**ORDER-INDEX: -64-**  
 connection : hose size : Da/OD = 8 mm, Di/ID = 6 mm :.....**ORDER-INDEX: -86-**  
 4x Schlauchtüllen / 4x hose nozzles:  
 Schlauchgrößen: Di / ID = 5 mm - 6 mm :.....**ORDER-INDEX: -T5-**  
 Schlauchgrößen: Di / ID = 6 mm - 7 mm :.....**ORDER-INDEX: -T6-**  
 size of tube Di / ID = 8 mm - 10 mm :.....**ORDER-INDEX: -T8-**  
**nur für Ex / only for Ex:** 4x Messing Klemmringverschraubung mit Überwurfmutter für / 2x brass compression  
 fitting with union nut brass tube for: Rohr / hose size: Da/OD = 6 mm, Di/ID = 4 mm.....**ORDER-INDEX: -64MS-**
- Betriebstemperatur** : +5°C bis +60°C  
 +5°C bis +40°C Gerät für den Einsatz in Ex-Zonen.  
 Operating temperature : +41°F to +140°F  
 +41°F to +108°F device for use in Ex zones.
- Stromversorgung** : 240 V<sub>≈</sub>, 50 - 60 Hz umschaltbar auf / switchable to: 120 V<sub>≈</sub>, 50 - 60 Hz..... **ORDER-INDEX: -240-AC-**  
 Power supply : 24 VDC..... **ORDER-INDEX: -24-DC-**
- Nennleistung** : 120/240 V<sub>≈</sub>: 35 VA  
 Nominal power : 24 VDC: 25 W
- Elektr. Anschluss** : Schraubklemmen, max. Drahtquerschnitt 2,5 mm<sup>2</sup>  
 Electric connection : Screw terminal, max. cross section of wire AWG 14
- Gehäuse 1** : Abmessungen / dimensions: 140 x 220 x 120 mm, B x H x T  
 Housing 1 Material / material : ABS. Farbe / colour: grau / grey. Gewicht / weight : 1200 g  
 Schutzart / protection class : IP 65:.....**ORDER-INDEX: -AB-**
- Zubehör** : 3x Kabelverschraubung M20 x 1,5. 3x cable gland M20 x 1,5.  
 Accessories FILTER FT-... für Druckluft / FILTER FT-... for compressed air.
- Gehäuse 2** : Abmessungen / dimensions: 278 x 188 x 130 mm, B x H x T / Width x Height x Depth  
 Housing 2 : Material / material : **Polycarbonat**. Farbe / color: grau / grey. Gewicht / weight : 2500 Gramm  
 Schutzart / protection class : IP 65, ATEX **Ex-Zone 22** .....**ORDER-INDEX: -PG22-EEEx-tD-II-T6**  
**mit Herstellerbescheinigung / with Manufacturer Certificate.** Eine EG-Baumusterprüfbescheinigung ist  
 nicht erforderlich / an EC-Type Examination Certificate is not required.
- Zubehör** : 2x Ex-Kabelverschraubung M20 x 1,5 / 2x Ex-cable gland M20 x 1,5  
 Accessories FILTER FT-... für Druckluft / FILTER FT-... for compressed air.
- Vorschriften / Rules** : EN 60 204-1, EN 61010, EN 61000, DGUV Vorschrift/Regulation 3

Bestell-Nr.	: PPC 12 - Volt - AC - Anschluss - Relaisausgang - Gehäuse - 0 - CE
ORDER-INDEX	: PPC 12 - Volt - AC - Connection - Relay output - Housing - 0 - CE
<b>Beispiel 1 / example 1</b>	<b>: PPC 12 - 240 - AC - 64 - R - AB - 0 - CE</b>
<b>Beispiel 2 / example 2</b>	<b>: PPC 12 - 24 - DC - 86 - R - PG22-EEEx-tD-II-T6 - 0 - CE</b>