Binary Counter Valve

Catalogue PDE2308TCUK-ab

Home

Binary counter valve

1 Signal= 2 functions

Type TD 210-GR - pneumatic actuated
TD 213-GR - electrical actuated

Technical description

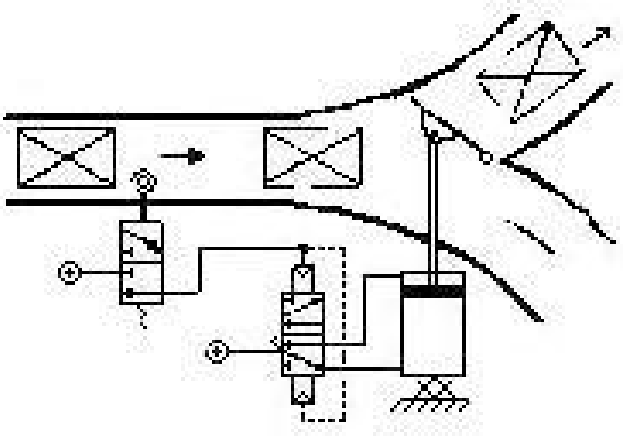
As a completion of the existing valve program, Parker Pneumatic has developed a new Binary Counter Valve.

This new binary counter is available in both a pneumatic actuated version, as well as, an electrically actuated version. The 5/2 way main valve has a flow capacity of 460 l/min. This gives the valve the ability to operated a compressed air cylinder with bore diameter up to 80 mm.
An air-pilot actuated version is also available upon request.

The binary counter is pulse operated. Each control signal means that the both outlet ports will be alternately energized and exhausted.

The binary counter has been designed utilizing existing Parker components and manufacturing techniques.This valve contains no mechanical binary counter parts, but rather is based on an integrated sequence operation. With the absence of mechanical parts, the friction on the inside of the valve is reduced to almost zero. By using existing components and sealing techniques, the product reliability is on the same high level as other Parker products. Up to 10 million cycles may be achieved with this valve under certain conditions and with proper installation.

The binary counter is suitable for numerous pneumatic applications. The simple control function of the valve, along with materials and compact size, make this product ideal for transport and food applications. This valve has the capabilities to control slides, flaps, doors, and locks for conveyor systems to name few. A typical transport application would be controlling a bus door.



Home

Binary counter valve

General information

Binairy counter valve is a pulse operated 5/2-way valve.
This means each control signal outlet and inlet ports will alernately energized and exhauted.

Way of controlling the binairy counter valve can be both, electrical and pneumatical with one single switch or button. Actuation the valve happens with a puls. By actuation a control button or switch the valve will change positions, controlling the same button or switch the valve returns into start position.

Controlling this valve is based on a internal integrated sequence system. Actuation happens with two pilot spools and a main spool fully intergrated in an aluminium valveblock. No 'common' mechanical parts, ball-point principle,are used in this binairy counter valve. Under right conditions and proper installation 10 million of cycles can be achieved.

Ordering codes

Binairy counter valve
- – pneumatic actuated : **2147900** drawing: 810443
- – electric actuated* : **2147950** drawing: 810518

* Standard delivery without solenoid.
Standard Parker solenoid P2E series can be ordered separately. Look under Parker P2E solenoid valve series for ordering codes.

Technical information valve

Medium:	Compressed air, filtered to min. 50µ, lubricated or non-lubricated, dried or non-dried, above drewpoint
Air pressure:	4 bar – 10 bar
Temperature range:	0°C up to 70°C.
Flow:	460 Nl/min

Used materials

Body:	Anodised aluminium
Spool:	Brass
Seals:	NBR and PTFE
Others:	Steel

Mounting

Drilled mounting holes on monting plate, suitable for bolts M4

Connections

Pneumatical

Air connection (1):	G1/4"
Exhaust (3, 5) and outlet ports (2,4):	G1/4"
Actuation port:	G1/8"

Electrical

Air connection (1):	G1/4"
Exhaust (3, 5) and outlet ports (2,4):	G1/4"
Electrical connection:	P2E-solenoid, DIN 43650 form C

Ordering codes

Pneumatic actuated

Description:	TD210-GR
Codenumber:	**2147900**
Drawing number:	810443

Electric actuated

Description:	TD213-GR*
Codenumber:	**2147950**
Drawing number:	810518

* Without solenoid and cable plug

Electric actuated complete with solenoid and cable plug

Description:
- Binairy counter valve TD213-GR complete with solenoid and cable plug
- Solenoid: P2E-KV32C1 (24VDC) manual override, non locking
- Cable-plug: P8C-H (without LED,VDR and REC)

Codenumber:
- Binairy counter valve: **2147950**
- Solenoid and cableplug has to be ordered separately
- Solenoid: **P2E-KV32C1**
- Cable plug: **P8C-H**

Caution

When a speed regulation system is needed, do not fit this part in the outlet of the binairy counter valve, but fit this part in connection direct in cylinder. By fitting the speed regulator direct in the outlet port of binairy counter valve a unreliable function can occure.

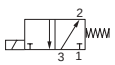
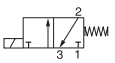
Binary counter valve

Order key, solenoid valves

P 2 E - **K** **V** **3** **2** **C** **1**

	Valve family
P2E	Solenoid valves

	Subfamily
	Solenoid valve, 15 mm wide Electric connection acc. to DIN 43650, form C El/supply connection on opposite side
K	Standard version
M	Mobile version
Q	Food industry version

	Valvetype/Function
1	 3/2 valve, normally open(NO) For standard "K"
3	 3/2 valve, normally closed (NC)

	Type of current
1	AC 50 Hz
2	DC
4	AC 50/60 Hz
5	Mobile and wide band only

	Voltage
B	12 V
C	24 V
D	48 V
F	115 V*
J	230 V*
W	37,5 V**
T	72 V**
Y	78 V**
V	96 V**
E	110 V**

	Overriders
0	Without
1	Non locking (blue)
2	Locking (yellow)
3	Extended non locking (blue)
4	Extended locking (yellow)

* For standard "K" and food type "Q" only
** For mobile "M" version only

Technical data

	NC, Standard	NO, Standard	NC, Food[1)]	NC, Mobile[2)]
Working pressure	0 to10 bar	0 to 10 bar	0 to 10 bar	1 to 10 bar
Working temperature	-15 °C to +60 °C	-15 °C to +50 °C	-15 °C to +60 °C	-40 °C to +70 °C
Orifice	1,0 mm	1,1 mm	1,0 mm	1,0 mm
Flow Qmax	33 Nl/min	33 Nl/min	33 Nl/min	22 Nl/min
Power, hold	DC 1,2 W / AC 1,6 VA	DC 1,8 W / AC 2,4 VA	DC 1,2 W / AC 1,6 VA	DC 1,4 W
Power, surge	DC 1,2 W / AC 3,5 VA	DC 1,8 W / AC 5,5 VA	DC 1,2 W / AC 3,5 VA	DC 1,4 W
Connection time	100%	100%	100%	100%
Voltage tolerance	+10%/–15%	+10%/–15%	+10%/–15%	+25%/–30%
Electric connection:	DIN 43650 form C			
Port pattern:	To future CNOMO standard			
Protection:	IP 65 - IP 67, depending on type of cable plug			
Approval:	Some valves are UL-approved and marked with the following symbol Ⓤ			
Working media:	All neutral media, such as compressed air, water, hydraulic oil and many gases.			
1) Design:	Completely smooth exterior, suitable for food industry.			
2) Mobile standard	According to European standard EN 50 155.			

Transients

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavourable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All cable plugs with a yellow LED also incorporate such protection.

Service life

With compressed air at 6 bar, 20 °C and complying with the requirements for compressed air quality as set out in ISO8573-1 norm (class 4 for dry and class 5 for filtered), the valves should have a life of at least 50 million operations.

Materials

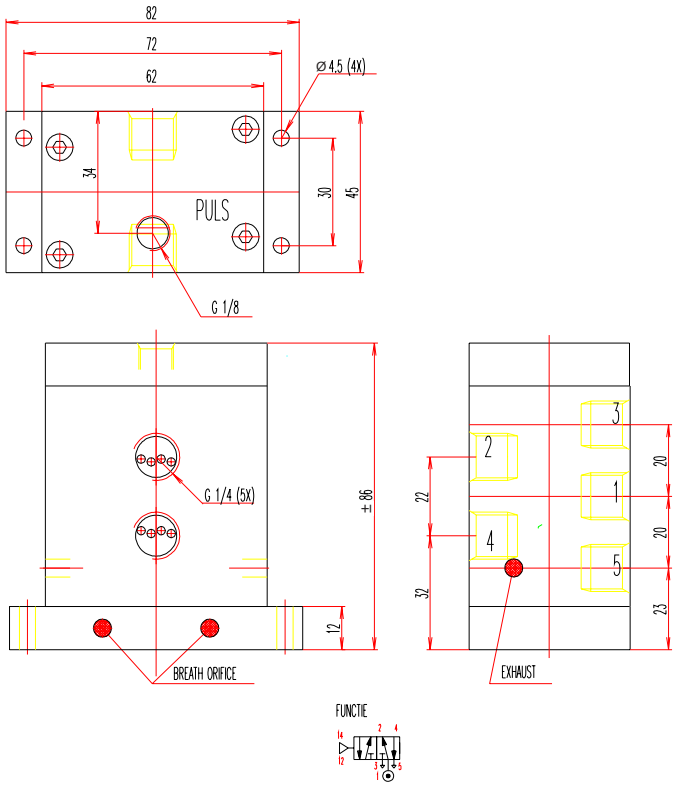
Valve

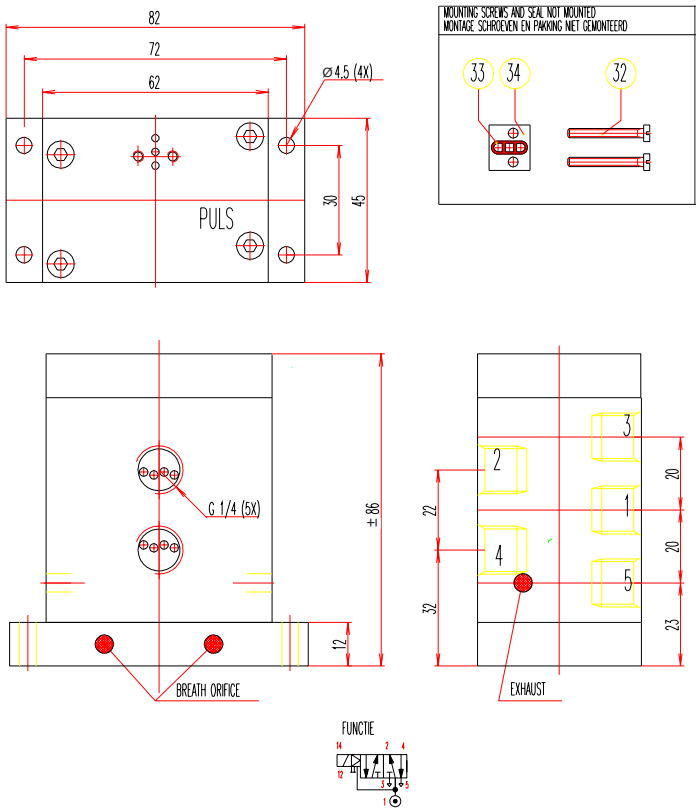
Body, coil casing	Thermoplastic
Internal metal parts	Steel
Screws	Stainless steel
Bottom plug	Thermoplastic
Sealing materials	FPM (Viton™) and nitrile rubber

Cable head

Sheath	Thermoplastic
Retaining screw	Stainless steel, zinc-plated steel

Binary counter valve





Technical data:

Medium: Compressed air, lubricated or non-lubricated
(Once lubricated air is supplied, this must be maintained)
Working pressure: 4 bar to 10 bar
Ambient temperature range: 0°C up to +70°C

Materials:

Covers: Aluminium anodized
Body: Aluminium anodized
Seats: NBR and Plastic