

## PT Pneumatic Timer Instructions

### For PT31/PT41

The PT range is a standard industrial component which is designed for use in systems where pneumatic time logic is required, either because no electrical power is available or for intrinsically safe purposes. You will need to generate a pilot signal to the timer (Port C), and connect mains air to the main valve and connect the valve to the device being controlled. Please read our guidelines about connections, taking care to ensure that no sealing compounds are used to avoid contamination.

The PT timer is equipped with a 3/2 way valve that allows for multiple connection possibilities.

### PT31 OPERATION

By applying compressed air (permanently) to control port C, the directional valve remains in its spring condition and timing commences. The directional valve switches to an energised condition on time-out. The directional valve remains in its energised state while air is connected to control port C. Removal of air to control port C returns the directional valve to its spring position.

### PT41 OPERATION

By applying compressed air (momentarily or permanently) to control port C, the directional valve shifts to an energised position. On removal of compressed air to control port C the directional valve remains in its energised state for the pre-set time, returning to its spring position on time-out. Subsequent inputs to control port C while timing will reinstate the preset time value.

### MOUNTING

Ensure the PT timer is mounted correctly. PT31 & PT41 should be surface mounted on a vertical plane with the rotary adjustment knob positioned at top. Failure to mount the timer in the correct position will result in timing errors.

### ENVIRONMENT

Not suitable for external or harsh environments. Protect from corrosion. General advice is to house within an enclosure or control panel with suitable protection rating for example IP67.

### EXHAUST

Compressed air will exhaust from this device as part of the operating sequence. This could be of sufficient volume and pressure to create risk or introduce problems within an enclosure.

### CAUTION

This component can be used for continuous operation. It is recommended that at least one cycle is operated regularly. This will minimise the risk of sticking where contaminants are present in the air supply.

### AIR QUALITY

Clean, dry, oil free air to instrument quality standards. Please note that at low operating/ambient temperatures air filters alone will not be sufficient. Air driers are recommended to achieve low moisture dew point.

Impulse Automation Limited  
United Kingdom  
Company Registration 665193

## PT Timer Instructions Continued

### For PT31/PT41

### OPERATING LIFE & MTBF

Air quality and duty cycle will affect the operating life of this product. Main valve design life is 1 million cycles. MTBF (Mean Time Before Failure) will also be affected by ambient conditions.

The PT timer is frequently chosen against other, more accurate pneumatic timer products because it will not consume air to operate the time delay sequence, and because of its proven robust design. Operating ambient air temperature range is particularly wide (-30°C to +70°C). The atmospheric timing element is controlled via an adjustable orifice (Adjusted by the dial).

- Part numbers: PT31 or PT41  
Suffix code A to I indicates timing range (Incremented on the control dial)
- Min pressure: 20 psi
- Max pressure: 140 psi
- Temperature: -30°C to +70°C (Subject to moisture removal) -20°F to 165°F
- Flow capacity: 9 CFM @ 100 psi through main valve.
- Timing air consumption: None, Timing uses charged atmospheric pressure.
- Main valve: 3/2 way close proximity steel spool
- Required air quality: 5 micron filtered, dry, non-lubricated air/non-aggressive gas through main valve and pilot.
- Reset time: 60ms
- Repeatability: up to 200 seconds +/- 5%, over 200 seconds +/- 10% of actual set time.
- Time setting: Via front rotary knob, accuracy +/- 10% of the full scale value.

This timer uses a close proximity steel spool valve with no seals or lubricants and by design will leak across the ports, it will never be air tight by design. The allowable tolerance is between 100 - 600 cc/min.

By monitored setting of the dial it is possible to obtain accuracy well within this design tolerance. Once correctly set the timer can be "left alone". It is not possible to view "time elapsed" as with more complex pneumatic timer mechanisms.

- Materials: Zamak housing, polycarbonate knob, aluminium valve with stainless spool, diaphragms Buna N
- Ports: 1/8" NPTF

### IMPORTANT

We recommend the use of self-sealing fittings. This is a fitting that incorporates an NBR sealing ring. Do not use tapered fittings. **Do not use any form of sealing compound.**

### ATEX/HARZARDOUS APPLICATIONS

This product is entirely pneumatic and is considered intrinsically safe because there is no potential source of ignition either by electrical spark or generation of heat when used within design parameters.

This product will be used with other components to create a system. The system builder is responsible for ensuring that the final system meets any hazardous zone, Ex or ATEX requirements. This product is **NOT** independently ATEX certified.

### WARNING

On exhausting compressed air potentially hazardous movement may take place. We recommend that you pipe the exhaust away from the timer to avoid possible contamination.

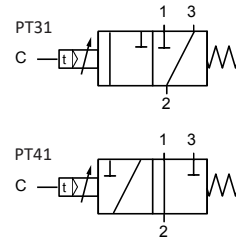
### DISCLAIMER

Impulse Automation Limited accepts no responsibility for the application of this product.

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website: [www.impulseautomation.co.uk](http://www.impulseautomation.co.uk)

### VALVE CONNECTION OPTIONS:

3 AS INPUT - Closed/Open  
2 AS INPUT - Diverter  
1 AS INPUT - Closed/Open



# Instructions

## Pneumatic Timer

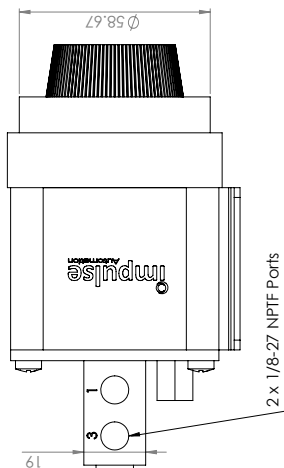
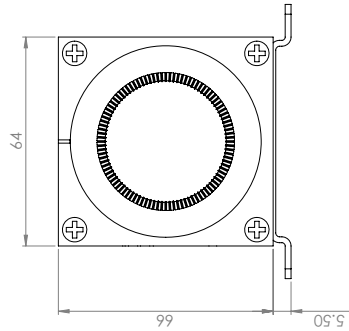
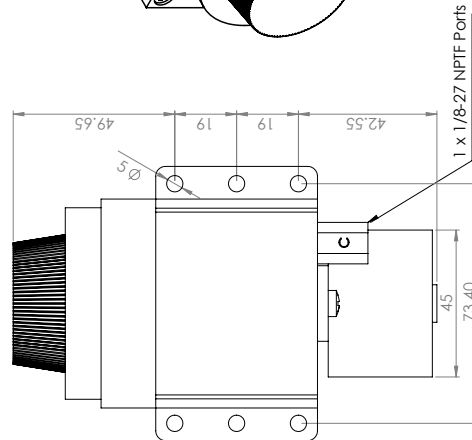
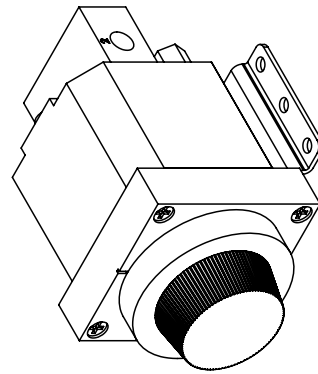
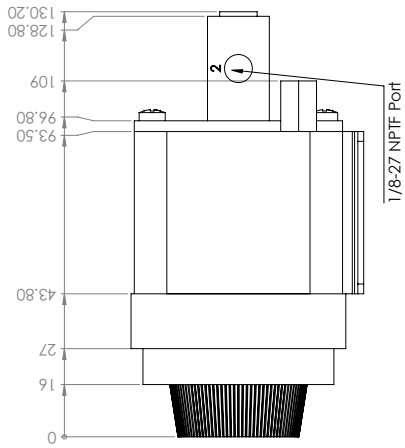
### PT31 & PT41

## Vertical Surface Mount



The information shown within these pages is for guidance purposes only. No liability is accepted for errors or omissions. The designer or user is solely responsible for safely and correctly using the parts, assemblies or equipment described. Please always refer to our website for latest updated instruction information. This instruction manual is not available in other languages.

PT Pneumatic Timer Drawing



Available Time Ranges	
A	0.1 - 1 Second
B	0.5 - 5 Seconds
C	1.5 - 15 Seconds
D	5 - 50 Seconds
E	20 - 200 Seconds
K	1 - 300 Seconds
F	1 - 10 Minutes
H	3 - 30 Minutes
I	6 - 60 Minutes

**Specify time range in part number eg for 0.1 - 1 seconds specify PT31A | PT41A**