



Cert. No. LRQ 0963008

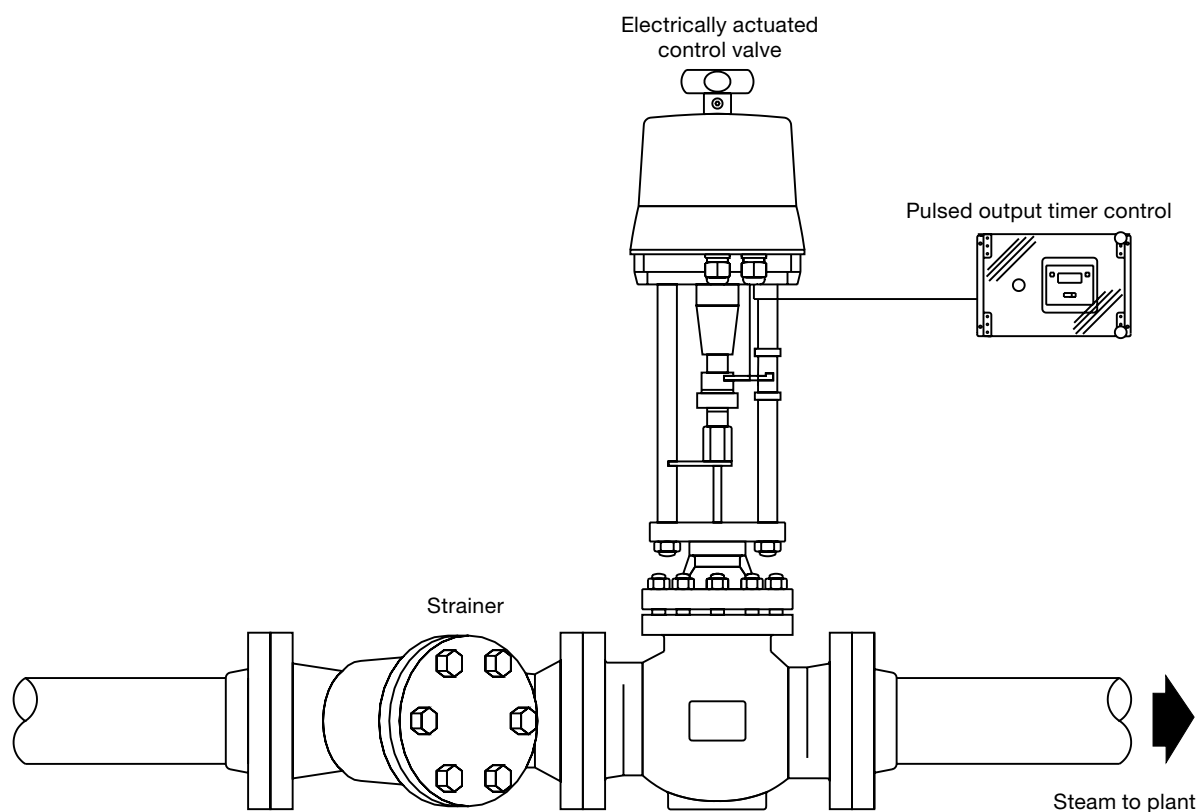
ISO 9001

# spirax/sarco

## TC10

### Pulsed Output Timer Control for Steam Main Warm-up

TI-P320-59  
CH Issue 1



#### Description

The TC10 pulsed output timer control is intended for the timed opening and closing of an electrically actuated steam isolating valve. It includes an adjustable slow opening feature, used for gently warming through steam mains in order to avoid waterhammer. The pulsed output timer control consists of a wall-mounting enclosure with transparent cover.

The system saves energy by shutting down the steam main when not required.

#### Principal features:

- A 7 day time clock 230 Vac. Used for setting the valve open (ON) and valve close (OFF) times over a 7 day cycle. Up to 6 different ON and OFF times may be set, and applied to the different days of the week.
- DIN rail mounted cycling timer with universal supply. Used for setting the speed at which the valve opens. The speed is controlled by a series of opening pulses, followed by a pause time, so the valve actually opens in small steps.
- Power on indicator.
- Labelled terminal strip.
- Cable entry gland with lock-nut (can be moved to alternative blanked position).

#### Standards

The pulsed output timer control components are CE marked and comply with the low voltage and EMC directives.

## The system

A typical system consists of an electrically actuated control valve used for isolating the steam system at times when steam is not required. Heat losses are therefore dramatically reduced. The pulsed output timer control incorporates a 7-day time clock to initiate the opening of the valve. The valve is opened in a series of short pulses, followed by longer pauses, so that it slowly lets steam back into the system to warm it through steadily.

### Other items that may be required include:

- Upstream manual isolation, condensate drainage and strainer.
- Downstream, good condensate drainage and air venting from the whole system will speed up the warm-through and help to avoid waterhammer.

## The valve

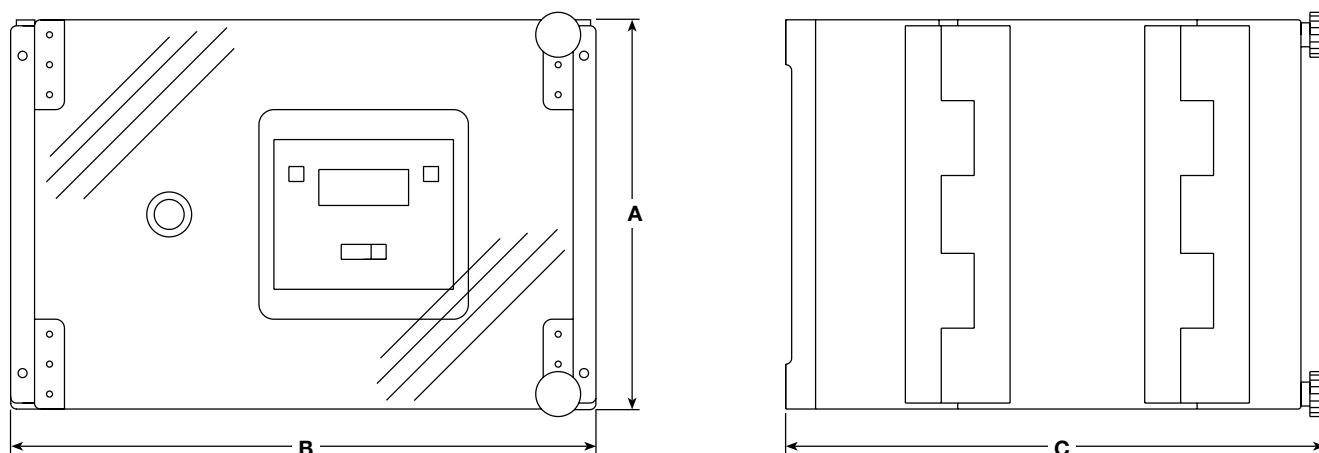
The valve would typically be from the Spirax Sarco range of control valves. A pipeline sized control valve is usual, unless the steam pipework is oversized. Depending on the pipeline size the actuator may be single-phase or three-phase. For three-phase systems an actuator with integrated motor controls is usually more convenient. The electric actuator typically incorporates a manual override.

## Technical data

Enclosure protection	IP65
Ambient temperature range	-10°C to +50°C
Supply voltage for time clock	230 Vac, 50 Hz
Supply voltage for actuator control	115 V to 230 Vac and 24 Vac / dc
Time clock setting resolution	1 minute
Time clock battery back-up time	1 000 hours
Fastest valve opening time	Actuator speed
Slowest valve opening time	Virtually unlimited
Valve closing time	Actuator speed

## Dimensions and weights (approximate) in mm and kg

Wall-mounting enclosure	A	140 mm
	B	215 mm
	C	195 mm
	Weight	2.2 kg



## Typical specification

Wall-mounting enclosure with clear hinged front cover incorporating a 7-day time clock, pulse timer, mains-on indicator and terminals. Up to 6 different ON and OFF times may be set and applied to the different days of the week. Manual override switch. Provision for external frost thermostat or other external switch to override the time clock and open the control valve.

## How to order

**Example:** 1 off Spirax Sarco TC10 pulsed output timer control.