CONTROL TIMER

AP3

APPLICATION

The electronic control and checking device, control unit AP3, is used to control and check operation of multi-line central lubrication systems and systems fitted with progressive distributors. It is applied in lubrication circuits with electrically driven lubrication pumps, e.g. ACF, PMP, ANC and progressive distributors of the PRA, PRB and BVA series, which can be furnished with proximity switches.
The AP3 control device is very universal and can be connected regardless of the lubrication circuit construction or the total number of lubricated points. The building block design enables easy customization for more complicated functions of the lubrication circuit.

DESCRIPTION

The AP 3 control timer consists of a plastic housing with an openable cover with IP56 or IP65 protection. A soft-touch keypad with a display is located on the housing cover.
In the IP56 version, the F2.5A/35A fuse holder is located on top of the cabinet's housing. The lower part of the box is provided with a six-pin connector for input and output cables – supply voltage, connection of the electric motor of the lubrication pump, connection of the cycle's sensor and minimum level signal. On the right side of the cabinet there is a rocker switch that is used to select the program.
In the IP65 version, the fuse holder, rocker switch and terminals are located inside the housing. The lower section of the box is provided with two glands for incoming and outgoing cables. The device is supplied with an F2.5A/35A fuse for use with lubrication pumps with 24V DC motors and an F4A/40A fuse for use with lubrication pumps with 12V DC motors.
The control panel of the compactly built-in device with display is equipped with buttons, LED indicators and a double seven-segment LED display.

The control timer has a fixed memory, which stores information about the status of the lubrication cycle and set values of time even after disconnecting the lubrication pump from the power supply. When power is restored the saved values are read from memory and the program continues from the state where it was interrupted. If the appropriate value in memory meaningless (outside the range of valid values), it is automatically replaced. When the device is turned on, voltage oscillation may occur, causing the control timer programme to "hang" (the display shows meaningless values). This condition is corrected after max. 2 seconds by automatic reset and the time values are reread from memory.

OPERATION

Control timer electronically checks and controls pump operation in two independent modes. On the film control panel the operator adjusts the specific value of the lubrication period and the pause or pause period and the number of lubricating cycles for a lubrication circuit with progressive distributors.

The basic mode is the LUBRICATION PERIOD – PAUSE PERIOD program. If the lubrication circuit contains a progressive distributor with an electronic operation indication (proximity switch), which is connected to the control timer, the control timer is automatically set in the NUMBER OF CYCLES – PAUSE PERIOD program.

1. LUBRICATION PERIOD – PAUSE PERIOD
In this connection program, the lubrication period, which is the interval when the lubrication pump is in operation, and the pause period, which is the interval when the pump is not operated, are set.

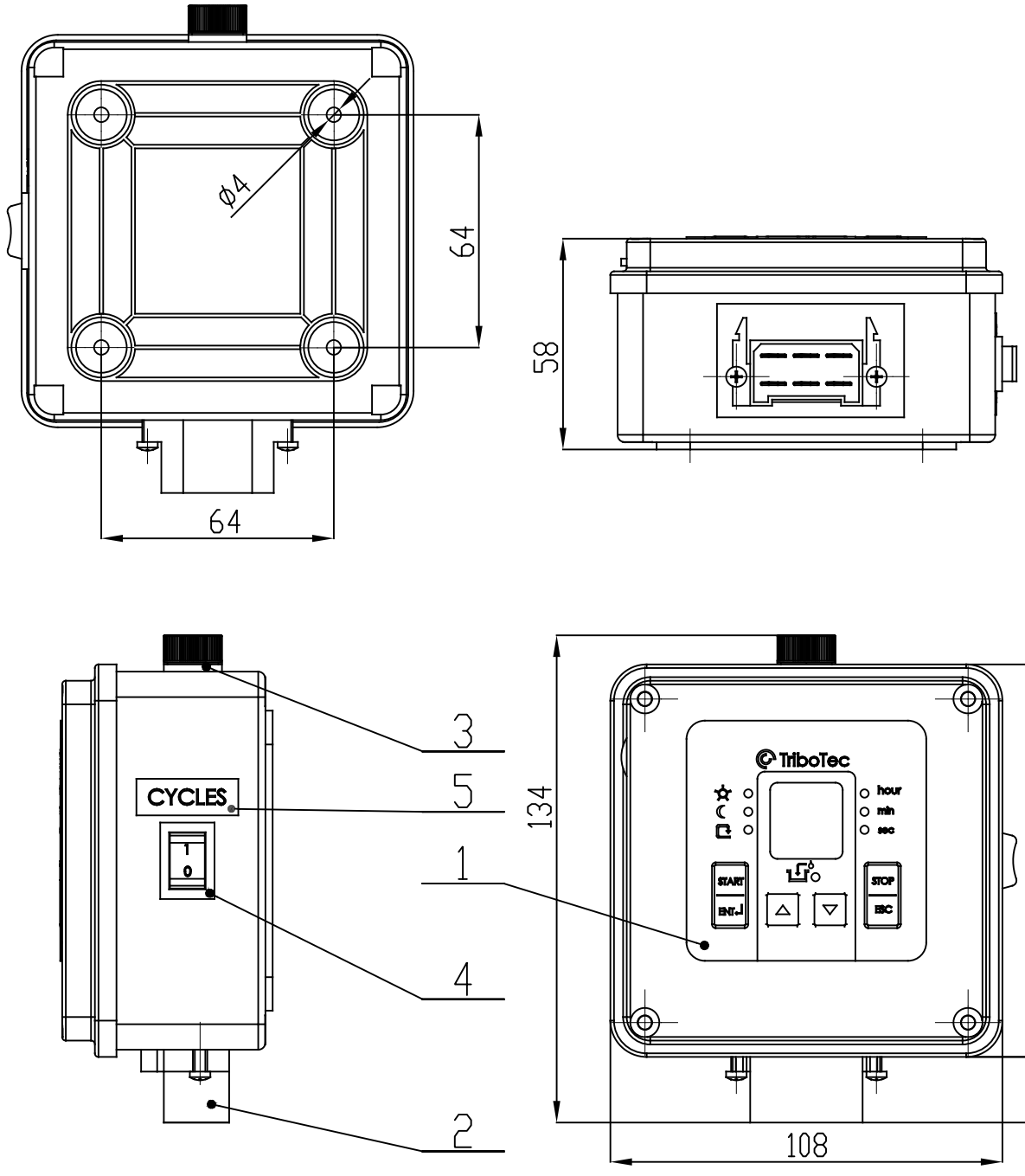
2. NUMBER OF CYCLES – PAUSE PERIOD
In this program, the pause period, which is the interval when the pump is not operated, is set accordingly as for program No. 1. The lubrication period is specified by the number of lubricating cycles. The number of cycles is defined by the number of the triggering control proximity switch, which is placed on one of the progressive distributors. The lubrication pump operates continuously up to the time when the specified number of cycles is reached. For lubricating circuit operation check there is also set the maximum period during which the control sensor shall trigger. If no trigger occurs during this interval, i.e. the lubrication cycle is not finished, an alarm displays (E1 sign on the screen).

Furthermore, it is possible to connect indication of the minimum lubricant level in the lubrication pump reservoir (red light flashing). In the pause mode, with the START button you can at any time perform an inter-lubrication cycle. The inter-lubrication cycle shall always be used after the reservoir lubricant filling, when the lubricant minimum level was broken and its alarm was triggered or when performing any repairs on the lubrication circuit after the control sensor alarm was triggered (E1 alarm).

TECHNICAL DATA

Operating voltage	12V DC, 24V DC
Protection	IP56 IP65
Operating time	1 to 59 sec., increment 1 sec. 1 to 99 min., increment 1 min.
Pause time	1 to 59 min., increment 1 min. 1 to 99 hours, increment 1 hour
Adjustment of the check time of cycles	1 to 99 min.
Number of adjustable cycles	1 to 99
Temperature of the working environment	-10 to 60°C
Dimensions w x h x d	134 x 108 x 58
Weight	0.2 kg
Installation position	Any

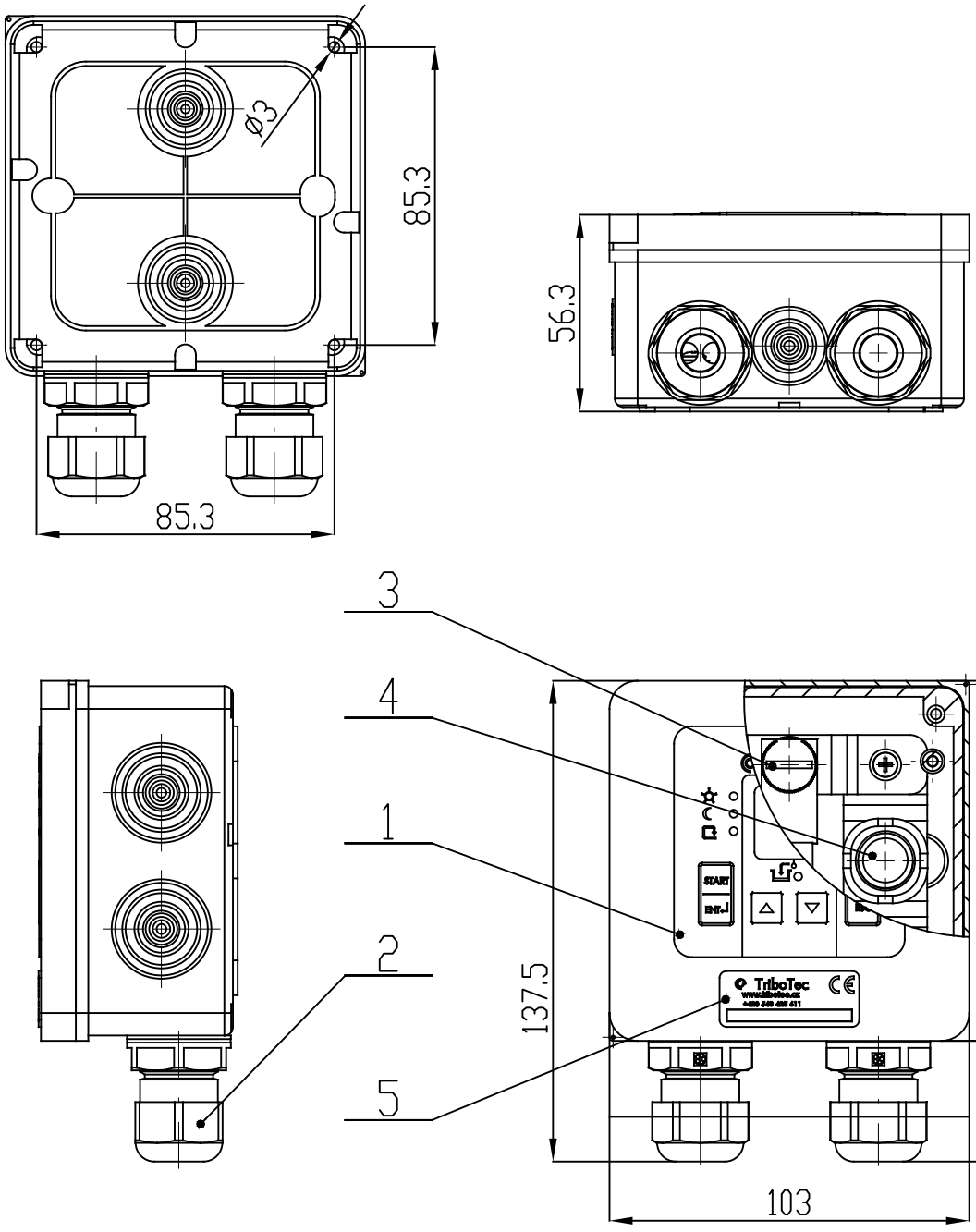
Rear view



Pos.	Name
1.	Keypad
2.	Connector
3.	Fuse holder
4.	Program switch
5.	Label

Name	**CONTROL TIMER**	**TriboTec s.r.o.** **Košuličova 4 Brno** **www.tribotec.cz** **+420 543 425 611**
Type	**AP 3**	
Code	**9 55 0566**	

Rear view



Pos.	Název
1.	Keypad
2.	Cable gland
3.	Fuse holder
4.	Program switch
5.	Label

Name	**CONTROL TIMER**	**TriboTec s.r.o.** **Košuličova 4 Brno** **www.tribotec.cz** **+420 543 425 611**
Type	**AP 3 IP 65**	
Code	**9 55 0816**	