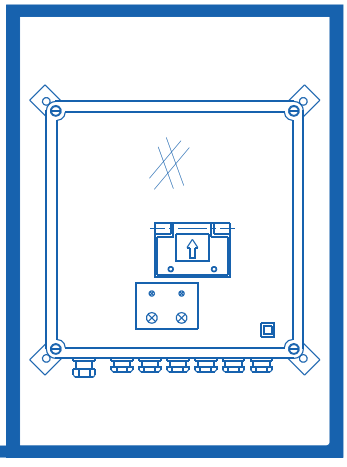
CONTROL UNIT
SAS Type



Control unit SAS

Control unit SAS

Application

The control unit is designed for automatic or manual control of the two-way force feed oiling systems and to signal their states of working or failure.
Depending on the variety, it may be used in a lubrication system with an electromagnetic or hydraulic control distributor. It may also be used in industrial automatics systems to control device operation versus time function.

Construction

The control unit has control and power systems which perform the following functions:

- activating the lubricating pump motor at preset time intervals,
- stopping the pump motor after the lubrication cycle is completed,
- stopping the pump motor in the case of a failure,
- applying voltage to the electromagnet coils while the distributor is reset,
- signalling the stage of work or failure of the lubricating system.

The above functions are performed with time relays, electromagnetic (auxiliary) relays, cam connector, contactors and signal lamps. Control and electromagnetic systems are protected with overvoltage and overload moulded-case circuit breakers.
Electrical elements are installed on the plate located in the device housing, accessible from the front side, after opening the cover. The device housing is made of grey polyester (RAL 9002) and the cover of transparent polyester. It is possible to mount the control unit housing on a wall.
na ścianie.

Operation

The power supply is switched on and type of control is selected with an “S” cam connector by setting it in the “A” position (automatic control) or “I/II” position (manual control).
Before switching the control unit on, it is necessary to preset the lubrication cycle time in relays K21 and K22 and in relay K23, after which time the pump motor stops in an emergency, if it does not stop after completing the lubrication cycle.
The moment the automatic control switches on, the pump motor activates and timing of the lubrication cycle starts. The pump forces grease to one of the two main lubrication conduit lines and then to the dosing feeders. After the lubricant is fed to the reception points and the pressure increases up to the preset value, the following take place:

- in the system with an electromagnetic distributor (and the SAS 41 control device), the pump motor stops and voltage is applied to the electromagnet coil in order to reset the distributor. The signal to stop the motor and reset the electromagnet is applied by the pressure relay installed at the end of the lubrication main conduit line;
- in the system with a hydraulic distributor (and the SAS 42 control device), resetting of the distributor takes place automatically and the signal to stop the pump motor is applied by the limit switch working with the distributor.

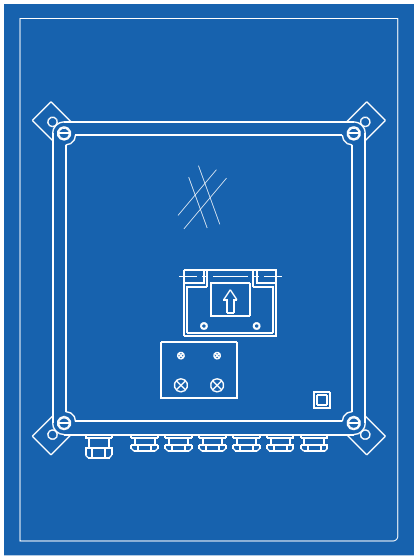
After the time-lag preset with the time relay, the pump motor is activated again and the operation cycle repeats analogically with the other lubrication main conduit line.
In the case of manual control, each time the pump is activated with a cam connector positioned to „I” or „II”. Activation of the pump motor and distributor operation is analogical to the automatic control operation.
If the time limit planned for the line pressure increase is exceeded (e.g. due to leakage), the light or sound (if it exists) emergency signal is activated and the pump motor stops. The control unit is also equipped with visual signalling of the lubrication system working states.

Technical details
(acc. to Table 1)

Variations and symbols
The control unit is made in variations listed in Table 2.The marking includes the following symbols: type of device, type of distributor in the lubricating system, conventional symbol of rated voltage range and conventional symbol of the pump engine power.

Examples of symbols
Control unit to control a pump with hydraulic distributor, with a motor of 500V voltage and 0.75 kW power.

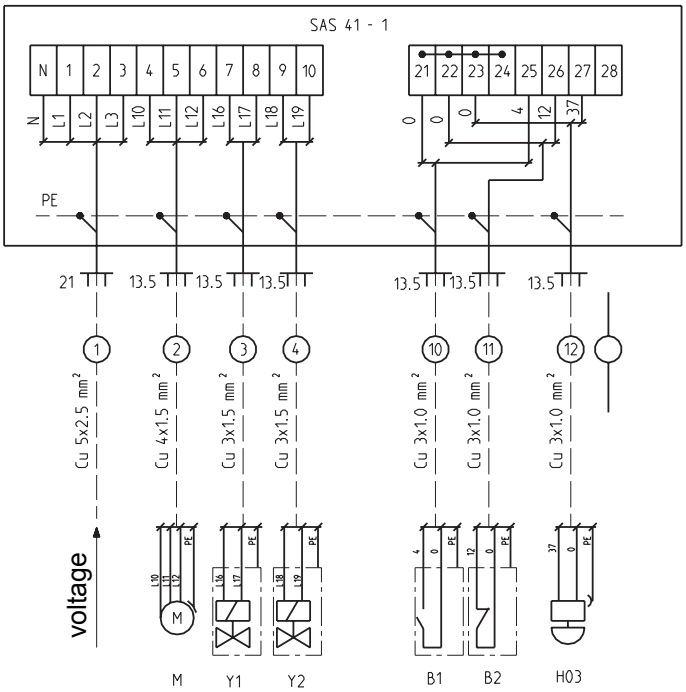
CONTROL UNIT SAS 42-2A



Manufacturer and Distributor
Zakłady Automatyki „Polna” S.A.
37-700 Przemyśl, 23 Obozowa St.
telephone: +48 16-678-66-01
fax.: +48 16-678-65-24, +48 16-678-37-10
www.polna.com.pl
e-mail: marketing@polna.com.pl

Type of control unit	SAS 41		SAS 42			
Type of central lubricating system	with electromagnetic distributor		with hydraulic distributor			
Execution	SAS 41-1	SAS 41-2	SAS 42-1		SAS 42-2	
Variation	-	-	A	B	A	B
Type of the pump	PD20 -1	PD20 -2	PD31 -1	PD40 -1	PD31 -2	PD40 -2
Three-phase motor Power [kW]	1.1	1.1	0.75	0.37	0.75	0.37
Voltage supply [V] +/- 5%	400V 50Hz TN-S or TN-C	500V 50Hz IT or TT	400V 50Hz TN-S or TN-C		500V 50Hz IT or TT	
Max cycle time	200 h					
Cable / terminals	Cu 2.5 mm² / 2.5 mm² , Un=660 V , In=30 A					
Control voltage [V]	230 V 50 Hz	230 V 50 Hz	230 V 50 Hz		230 V 50 Hz	
Main protections [A]	overvoltage type S193 B BA	overvoltage type M250 M2.5	overvoltage type S193 B 6A		overvoltage type M250 M2.5	
Power absorbed [kW]	1.1	1.1	0.75	0.37	0.75	0.37
Electric shock protection for outlet	quick trip-out, PE connection – terminals 4 mm² acc. to wiring diagrams					
Critical temp. of box accessories operation	temperate climate - 10°C ± +55°C					
Altitude over sea level [m]	1000					
Transport conditions storage	between -25°C and +55°C					
Weight [kg]	8	10	7		9	

Table 1

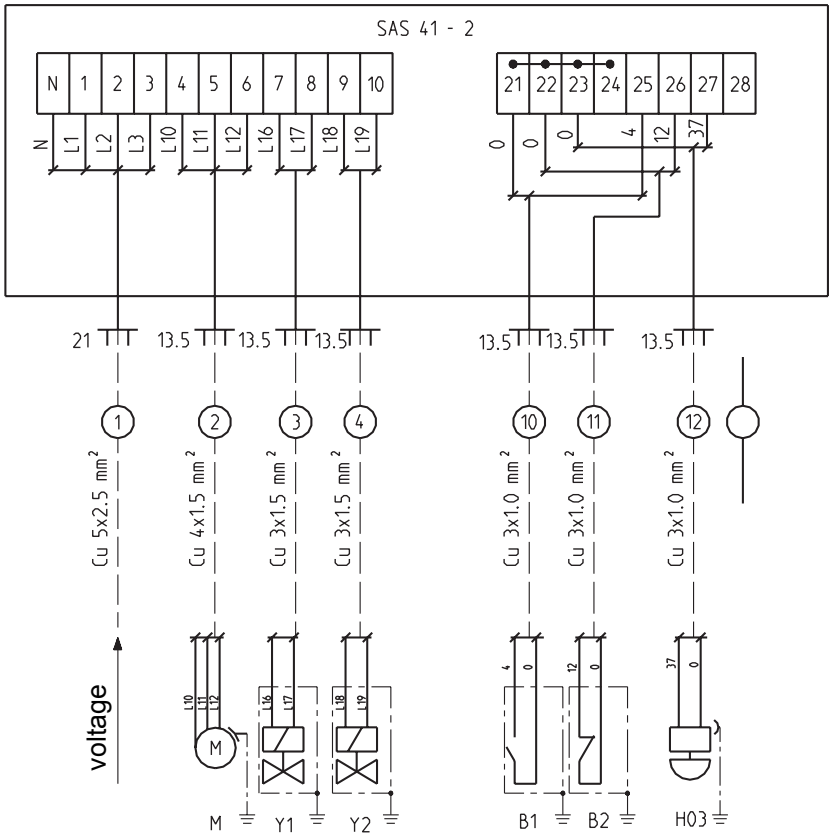


EXPLANATIONS:

PE – protection terminals
N – neutral terminal
M – pump engine

X1 + 28 – terminals of power and control circuits
Y1, Y2 – distributor electromagnets' coils
B1, B2 – pressure switches
H03 - bell

Fig. 1 Wiring diagram of control unit SAS 41-1

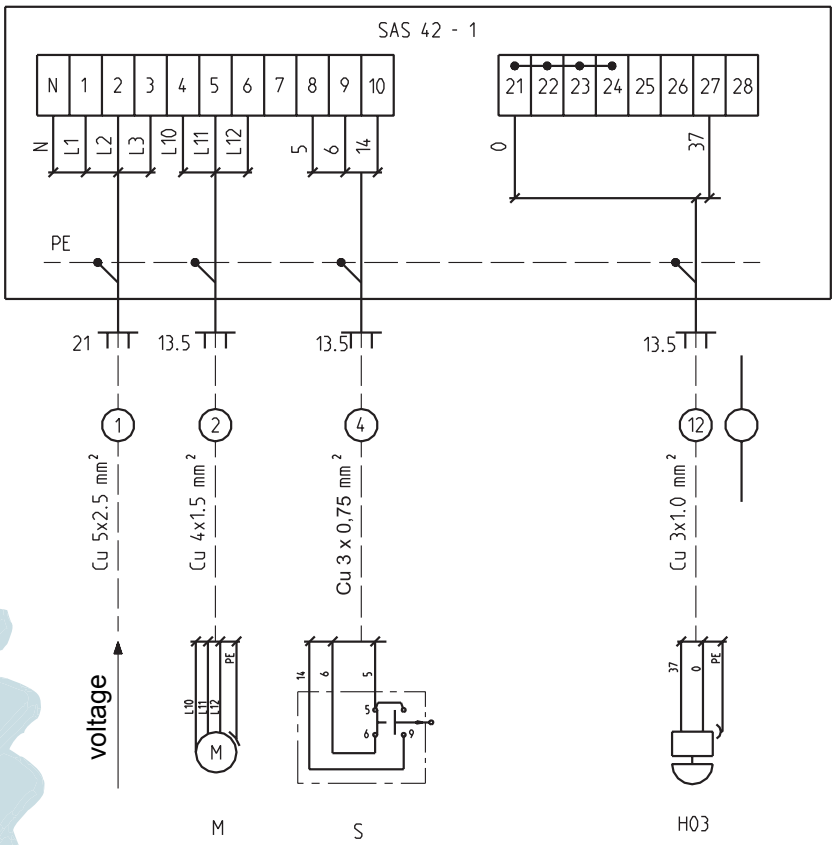


EXPLANATIONS:

N – neutral terminal
M – pump engine

X1 + 28 – terminals of power and control circuits
Y1, Y2 – distributor electromagnets' coils
B1, B2 – pressure switches
H03 - bell

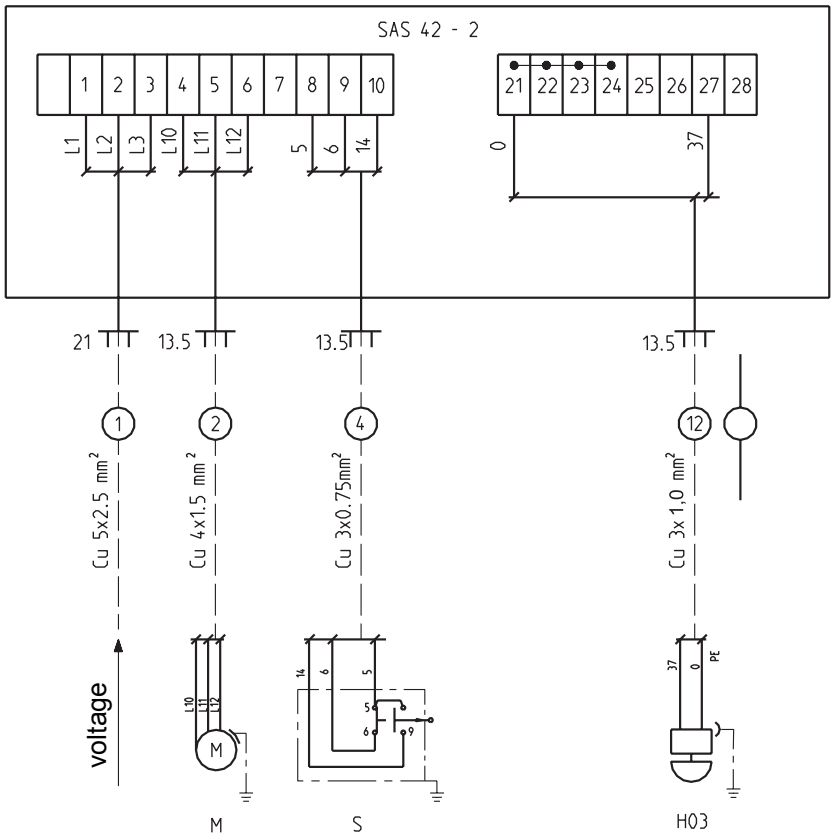
Fig. 2 Wiring diagram of control unit SAS 41-2



EXPLANATIONS:

PE – protection terminals
N – neutral terminal
M – pump engine
X1 + 28 – terminals of power and control circuits
S – limit switch
H03 - bell

Fig. 3 Wiring diagram of control unit SAS 42-1



EXPLANATIONS:

X1 + 28 – terminals of power and control circuits
M – pump engine
H03 – bell
S – limit switch

Fig. 4 Wiring diagram of control unit SAS 42-2

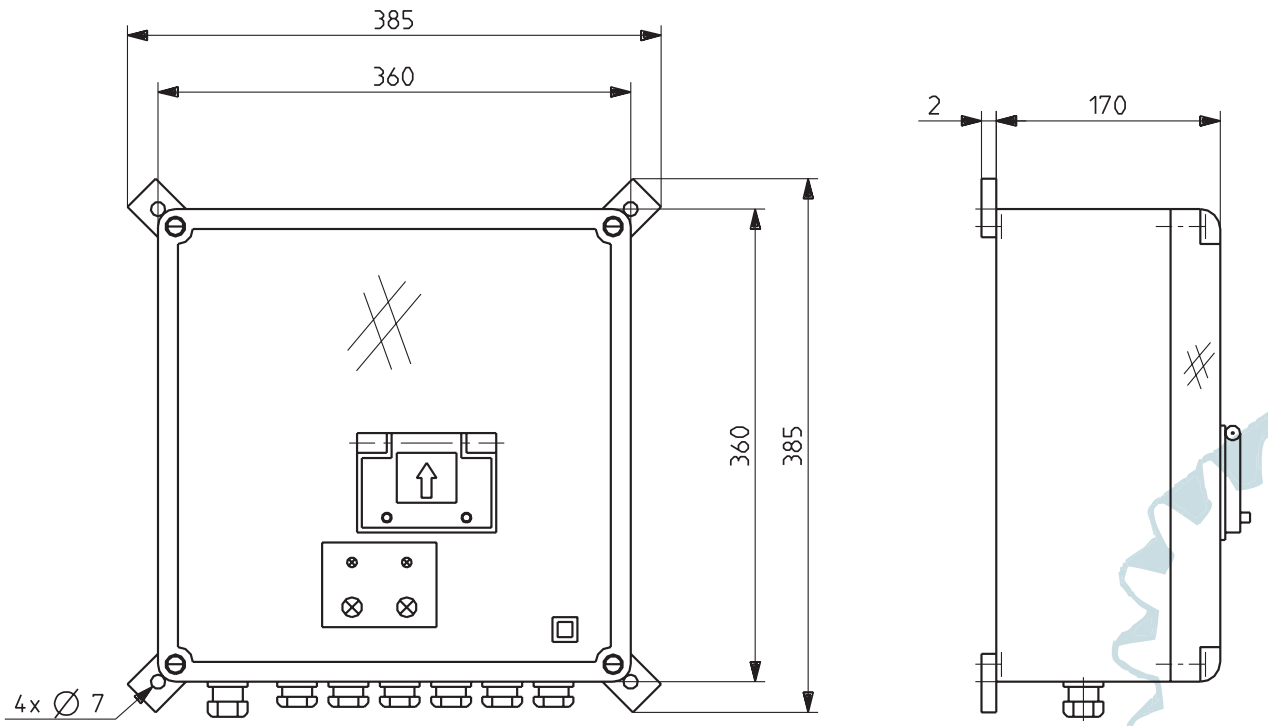


Fig. 5 Overall and linkage dimensions of SAS41; 42