"ESA Control" Ltd

DIGITAL

ANGLE MEASURING CONTROLLERS

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Angles measuring controller

DAC6-1R

Features

The DAC6-1R angles measuring controller has a reverse action and serves to measure the angular displacement, which is displayed in degrees and minutes. The controller indicates positive and negative angles. It has two counting inputs – A and B – and is designed to work with encoders or sensor type OVM1-18.24.F with a two dephased outputs (fig.2). For correct operation of the controller in advance in the memory must be established number of pulses "n" of the encoder, which is connected to the inputs of the controller. The accuracy of the reading of the angular movements can be changed, by changing the factor of interpolation "i" of the input pulses A and B, which can have values 1, 2 or 4. The angles measuring controller is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
DAC6-1R / 220V	220VAC ±10%	16mA (4W)
DAC6-1R / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indicator (green/red), 6 digits	h=10mm (height)
Range of measurement, φ	
a) ”360”	0º00´... 360º00´
b) ”-360”	-360º00´... 360º00´
c) “0”	-999º59´... 9999º59´
Supply voltage, Us	220VAC / 12÷24V ac/dc
Power consumption, P	4W (16mA) / 2W (85mA)
Maximum frequency of input pulses	11kHz
Error of the measuring angles	0,5´
Operating temperature range, Ta	-20º...+50ºC
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113mm

Energy-independent memory for the programmable parameters.
Inputs “A” and “B” - they are meant to operate with encoder or with sensors with a two dephased outputs NPN type (fig.1, fig.2). It is provided constant voltage 11÷23 VDC (40mA) for sensor's supply.

Programmable parameter

Number of pulses per turnover	(n)	1 ÷ 99999
Interpolation factor	(i)	1; 2; 4
Range of measurement	(or)	360; -360; 0

Schemes of connection

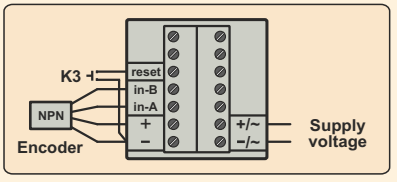


fig.1

Connecting NPN type encoder

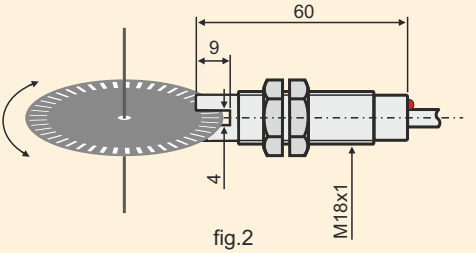


fig.2

Photoelectric sensor OVM1-18.24.F
with two NPN dephased outputs

Angles measuring controller

DAC6-3R

Features

The DAC6-3R angles measuring controller serves to measure the angular displacement, which is displayed in degrees. It has two counting inputs “A” and “B” and is designed to work with encoders. The controller adds or subtracts the pulses received from the encoders, depending on the sequence of receiving from inputs “A” and “B” and converts them into degrees. There is an option to set a limit value “φ”, upon the reaching of which the output relay of the controller (goniometer) is switched off. The accuracy of the reading of the angular movements can be changed, by changing the factor of interpolation "i" of the input pulses A and B, which can have values 1, 2 or 4. The angles measuring controller is designed for installation in a dashboard (panel montage). It is controlled with the help of six buttons located on the front panel of the controller.

Type parameters		
Type	Supply voltage	Consumption
DAC6-3R / 220V	220VAC ±10%	16mA (4W)
DAC6-3R / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indicator (red/green), 6 digits	h=10mm (height)
Range of measurement, φ	0,01º... 9999,99º
Supply voltage, Us	220VAC / 12÷24V ac/dc
Power consumption, P	4W (16mA) / 2W (85mA)
Output - Relay (NO+NC)	4A / 220VAC
Maximum frequency of input pulses	11kHz
Error of the measuring angles	0,5º
Operating temperature range, Ta	-20º...+50ºC
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113mm

Volatile memory of the programmable parameters.

Inputs “A” and “B” - they are meant to operate with encoder or with sensors with a two dephased outputs NPN type (Fig.1, Fig.2). It is provided constant voltage 11÷23 VDC (40mA) for sensor's supply.

Programmable parameters

Limit value, φ	0.01º ÷ 9999.99º
Number of impulses per revolution, n	1 ÷ 99999
Time between 2 next impulses (0.0 = infinity) - t (sec)	0.0 ÷ 999.9
Interpolation factor, i	1; 2; 4
Breakup in the supply voltage, Us:	
- after breakup, automatically continues counting from the current data	Cont
- after breakup, automatically starts counting from the beginning	Full
- after breakup, establishes stop-regime of the current data	Ucc
- after breakup, returns to starting position	Goto
Automatic starting, at first switching on of the supply	noAuto / Auto
Initial stated of output relay when starting (Status), St	⌐¬ / ⌐_¬
When φ is reached: is reset / the output is turned off, counting continues	End G / End C

Schemes of connection

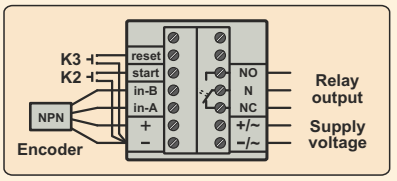


Fig.1

Connecting NPN type encoder

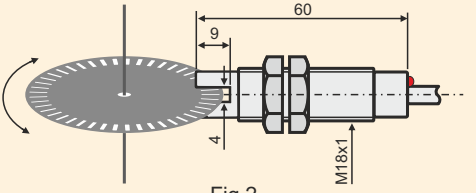
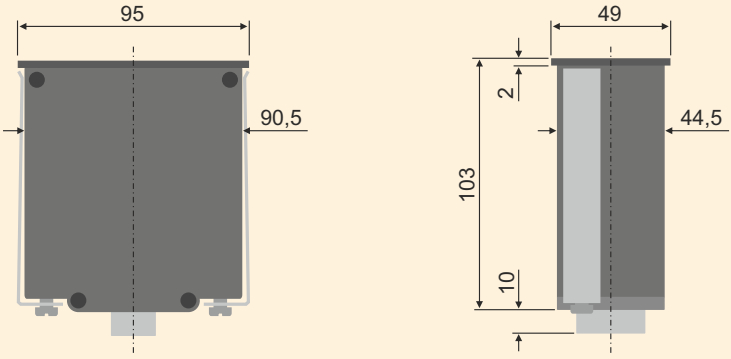
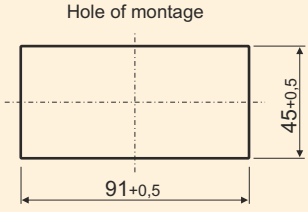


Fig.2

Photoelectric sensor OVM1-18.24.F with two NPN dephased outputs


95
90,5
49
2
44,5
103
10


Hole of montage
45+0,5
91+0,5