

# Electric and electronic rotary gear motor series AB1, AB1... E

The AB1 electric and electronic rotary gear motors have been specially designed to be installed on industrial and residential combustion systems.

They are particularly suitable for the control and regulation of modulating valves, butterfly valves, dampers and other fluid regulation systems requiring an angular positioning within 90° or 180°. The AB1 motor is unipolar and bidirectional with high static and maintaining torque, can operate on 3-position in the electric version or be piloted by analogical input signal in current or voltage in the electronic version

Actuators of series AB1 have the **CE** certificate and EMC Electromagnetic Compatibility.



## TECHNICAL FEATURES

<b>Body and cover</b>	Die-cast aluminium	<b>Supply voltage</b>	230V ac, 115V ac, 24V ac 50-60 Hz
<b>Nominal torque</b>	3 ÷ 5 Nm	<b>Nominal load</b>	4 - 7 VA
<b>Maintaining torque</b>	2,5 ÷ 3 Nm	<b>Input signal</b>	4÷20 mA or 0÷10V dc
<b>Rotation time</b>	7.5, 15, 30 and 60s at 50 Hz	<b>Output signal (on request)</b>	0÷10V dc
<b>Rotation angle</b>	Standard 90°	<b>Duty cycle</b>	Continuous 100% ED
<b>On request</b>	Adjustable 20 ÷ 180°	<b>Rating of end and auxiliary switches</b>	0,5 A / 48V dc and ac
<b>Output shaft</b>	Ø 10 mm	<b>Enclosure</b>	IP54 acc. IEC 529, IP65 on request
<b>Installation</b>	in any position	<b>Cable gland</b>	2 x Pg 13,5
<b>Fastening bore</b>	F05 and F07 - ISO 5211	<b>Weight</b>	~ 1,7 Kg

## FEATURES

- Sturdy, compact construction, suitable for industrial applications
- Installation in any position
- Adjustable rotation angle
- Cams easily adjustable through friction
- n. 2 end switches + n.2 adjustable auxiliary micro switches with free electric contacts
- Manual/Automatic control station
- Mechanical position indicator on request
- 180° rotation angle and/or clockwise rotation on request

## AB1 = Rotary gear motor

### Supply voltage

- A** = 24V ac  $\pm$  10% / 50-60 Hz  
**B** = 115V ac + 6% - 10% / 50-60 Hz  
**C** = 230V ac + 6% - 10% / 50 - 60 Hz  
**B / A** = With transformer 115V ac ~ up to 24V ac ~ + 6% - 10% / 50-60 Hz  
**C / A** = With transformer 230V ac ~ up to 24V ac ~ + 6% - 10% / 50-60 Hz

Rotation time for 90° at 50 Hz	Nominal torque Nm	Maintaining torque Nm
<b>0</b> = 7,5 s	3	2,5
<b>1</b> = 15 s	3	2,5
<b>2</b> = 30 s	3	2,5
<b>3</b> = 60 s	5	3

### Feedback Potentiometer (not to be supplied with incorporated transformer)

- 00** = Not foreseen  
**11** = 150 ohm  
**13** = 1 kohm  
**15** = 2,5 kohm  
**16** = 5 kohm (Spectrol)  
**18** = 1 kohm (Spectrol)  
**21** = n. 2 Pot. 150 ohm each  
**23** = n. 2 Pot. 1 kohm each  
**25** = n. 2 Pot. 2,5 kohm each

### Auxiliary Microswitches

- 0** = Not foreseen (only for version 230V-60 s. rotation)  
**2** = nr. 2 (standard)

### Accessories

- S** = Manual/Automatic control station  
**18** = 180° rotation  
**O** = Position indicator on the top cover  
**R1** = Relay control (ON / OFF)  
**DX** = Clockwise rotation  
**Z** = Enclosure IP65

### Control signal

- E2** = Input 4÷20 mA or  
 0÷10V dc / out 0÷10V dc  
**E4** = Input 0÷10V dc  
**E5** = Input 4÷20 mA

AB1

C/A

2

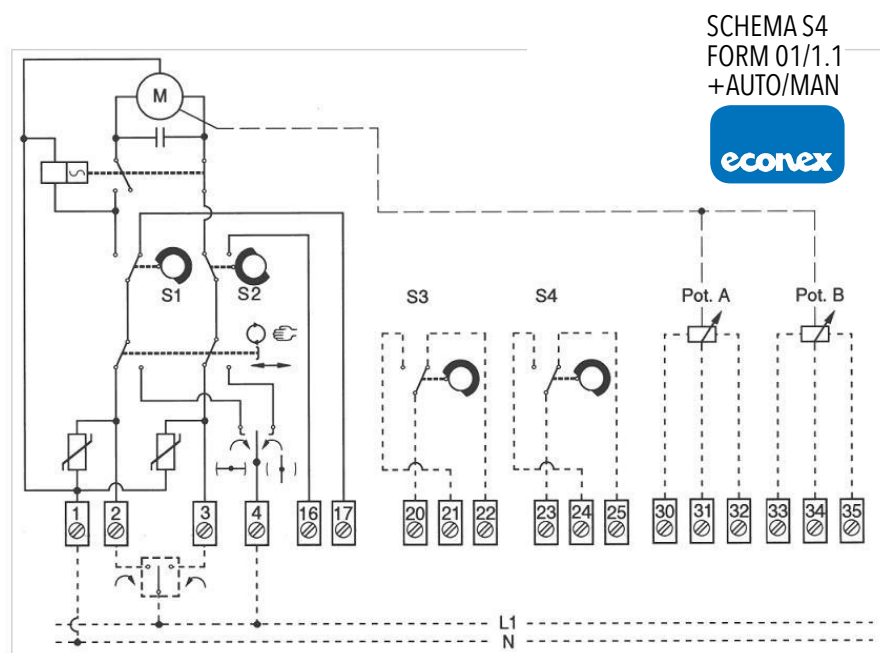
00

2

S

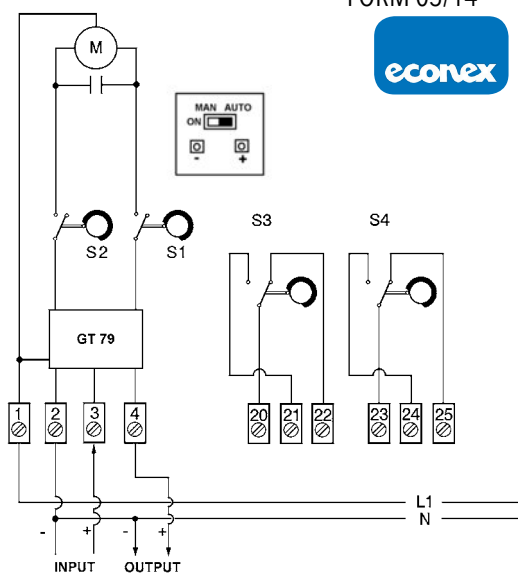
E5

## ELECTRIC FLOATING VERSION



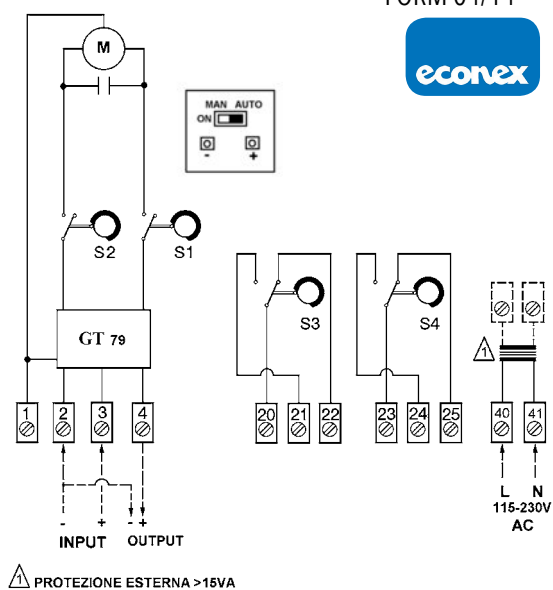
## ELECTRONIC ANALOGIC VERSION 24V

SCHEMA GT 79  
FORM 03/14



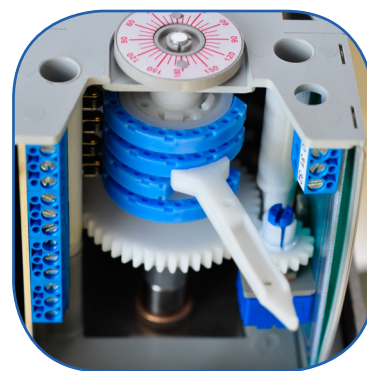
## ELECTRONIC ANALOGIC VERSION 115V - 230V

SCHEMA GT 79  
FORM 04/14



## CAM ADJUSTMENT

For cam adjustment, the proper lever supplied with the gear motor equipment is to be used. Use the lever from the right side, introducing the pin into one of the bores on the sides of the blue cam and lever it to the desired position. If the blue cam is in a behind position, use the lever on its curved side to move the blue cam to a more suitable position to perform adjustment. Adjustment is possible in both directions along the whole rotation angle of the cam shaft. Remove the lever before servicing.



## DIMENSIONS

