

ELECTRIC ROTARY GEAR MOTOR

Series AB1...

The AB1 electric 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 electric motor is unipolar and bidirectional with high static and maintaining torque for 3-position operation.



TECHNICAL FEATURES

Body and cover	: die-cast aluminium	Supply voltage	: 230Vac/ 50 - 60Hz
Nominal torque	: 3 ÷ 5 Nm	On request	: 110 Vac / 50 - 60 Hz
Maintaining torque	: 2,5 ÷ 3 Nm		24 Vac / 50 - 60 Hz
Rotation time	: 7,5÷120 sec. for 90° at 50 Hz	Nominal load	: 4 - 7 VA
Rotation angle	: standard 90°	Duty cycle	: continuous 100% ED
On request	: 20° ÷ 180°	Rating of end and auxiliary switches	: 0,5 A / 48 V D.C. and Vac
Output shaft	: Ø 10 mm	Enclosure	: IP54 acc. to IEC 529
Installation	: in any position	Cable gland	: 2 x Pg 13,5
Fastening bore	: ISO 5211 [F05], F07	Weight	: ~1,7 kg
Ambient temperature	: -10 ÷ +60 °C		

FEATURES

- Interchangeability with the most available gear motors.
- Sturdy, compact construction, suitable for industrial applications.
- Installation in any position.
- Adjustable rotation angle.
- Cams easily adjustable through friction.
- Relay for phase cut
- Wide range of accessories on request:
 - adjustable auxiliary microswitches with free electric contacts [max. 2]
 - 1 or 2 potentiometer - range: 150 ohm to 2.5 kohm
 - manual/automatic operation and service switch "open/stop/closed"
 - mechanical position indicator

AB1 = Rotary gear motors

Supply voltage

- A** = 24Vac ± 10% / 50-60Hz
- B** = 115Vac +6 -10% / 50-60Hz
- C** = 230Vac +6 -10% / 50-60Hz

	Rotation time at 50Hz [s]	Rated torque	Maintenance torque
0 =	7,5 for 90°	3 Nm	2,5 Nm
1 =	15 for 90°	3 Nm	2,5 Nm
2 =	30 for 90°	3 Nm	2,5 Nm
3 =	60 for 90°	5 Nm	3,0 Nm
4 =	120 for 90°	5 Nm	3,0 Nm

Potentiometer

- 00** = none
- 11** = 1 Poti. 150 ohm
- 13** = 1 Poti. 1000 ohm
- 15** = 1 Poti. 2,5 kohm
- 21** = 2 Poti. 150 ohm
- 23** = 2 Poti. 1 kohm
- 25** = 2 Poti. 2,5 kohm

Auxiliary microswitches

- 0** = none
- 2** = 2 pc.

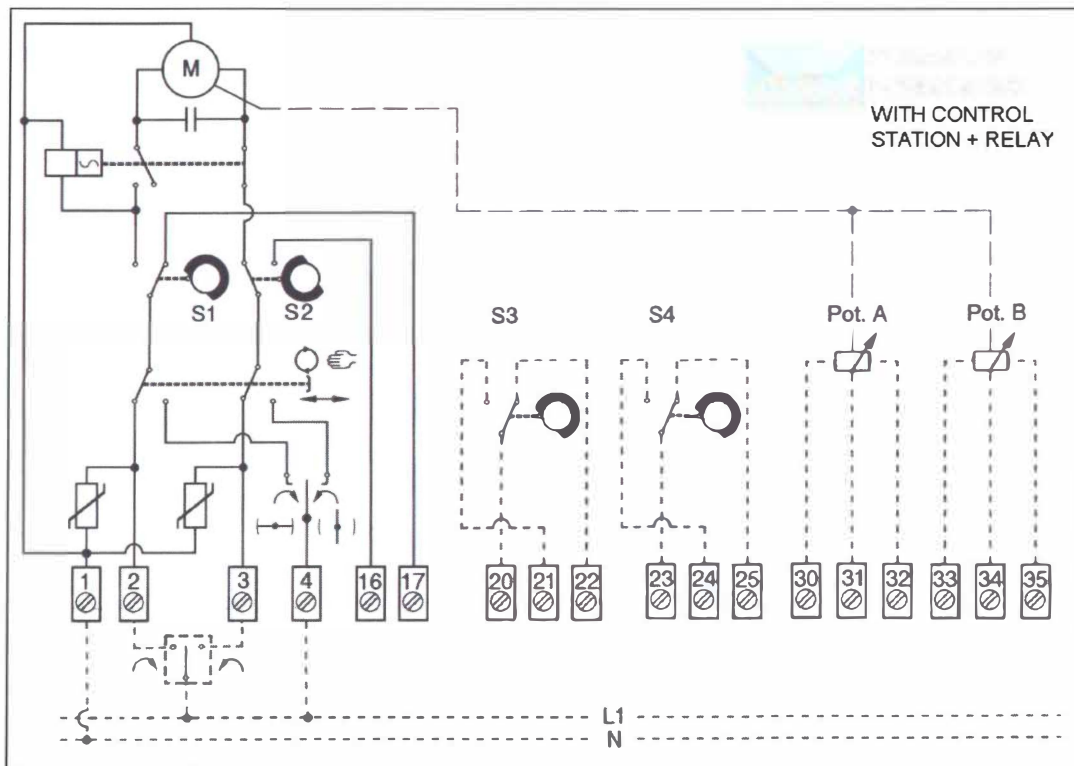
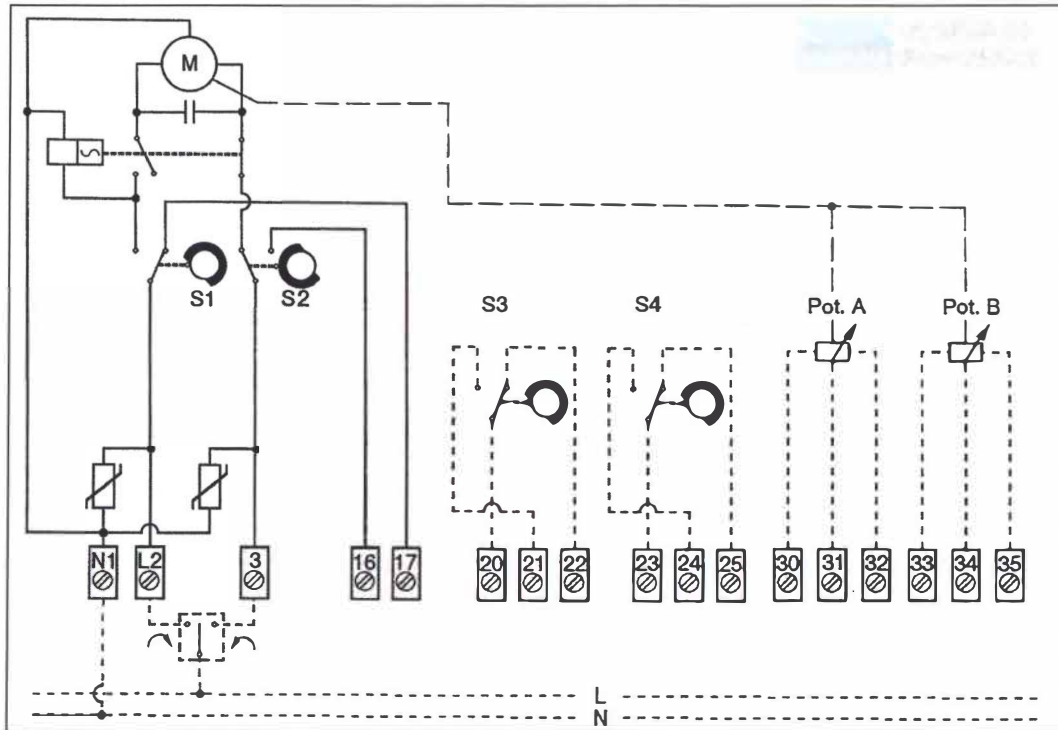
Accessories

- S** = Control station AUTO/MAN
and Open/Stop/Close
- 18** = 180° Rotation
- O** = Position indicator on the top cover
- R1** = Relay control [ON/OFF]
- DX** = Clockwise rotation
- Z** = Cable gland [IP65]

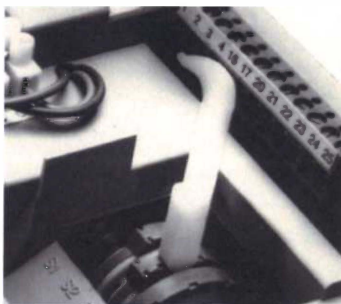
AB1 **C** **3** **00** **2** - **S**

NOTE Max. torque on auxiliary shaft is 3 Nm less than rated torque.

WIRING DIAGRAM



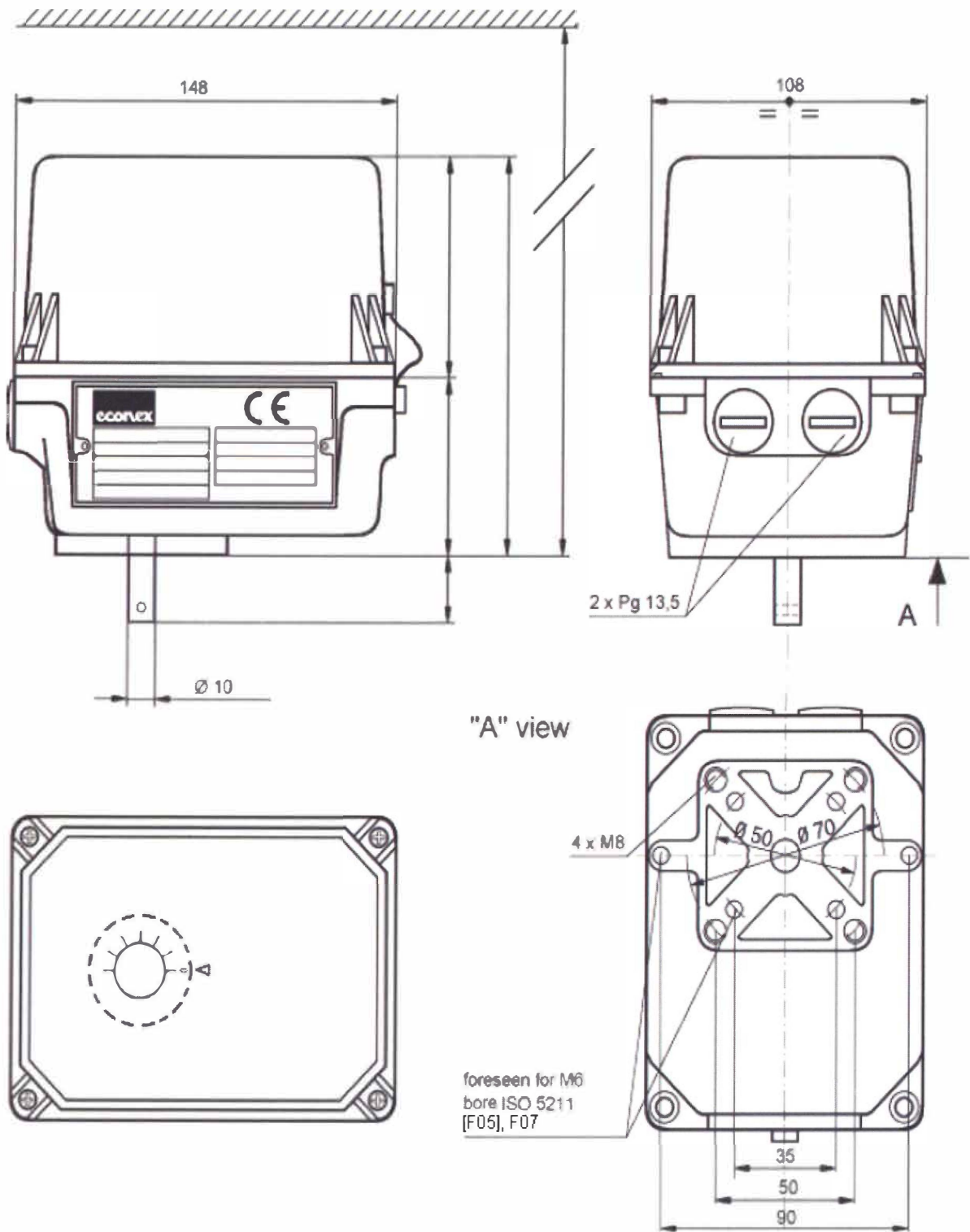
CAM ADJUSTMENT



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.

Note If a potentiometer is installed it is necessary to reset its friction gear to 0 setting.

DIMENSION



All the reported data are subject to be changed without notice.

Form 110328