ELECTRIC ROTARY GEAR MOTOR
Series SEF (AR2...)

The SEF gear motors are specially designed to be installed in industrial combustion plants. They are particularly suitable to control ball valves, butterfly valves etc. as well as or to air locks and other devices for the regulation of fluids in air conditioning or heating systems.
The electric motor operates bidirectional, with high static and maintaining torques for 3-position control.

TECHNICAL FEATURES

Body and cover	: die-cast aluminium	Supply voltage	: 230V/50-60Hz
Rated torque	: 7 ÷ 20 Nm	On request	: 115 Vac or 24 Vac/50-60 Hz
Maintenance torque	: 7 ÷ 20 Nm	Power consumption	: 7 VA
Rotation time	: 15 ÷ 60 sec. for 90°	Duty cycle	: continuous 100%
Rotation angle	: standard 90°	Aux. switches rating	: 0,5 A / 48 V D.C. and Vac
On request	: from 20° to 180°	Enclosure	: IP54 acc. to IEC 529
Motor shaft	: 9,5 mm square	Cable gland	: 2 x Pg 13,5
Ambient temperature	: -10 ÷ +60 °C	Weight	: ~ 2,5 kg.

FEATURES

- Versatile mounting permits easy fitting to existing equipments.
- Sturdy compact, balanced design, suitable for industrial applications.
- Installation in any position.
- External position indicator.
- Easy adjustment of the clutch-type cams.
- n. 2 End switches + n.2 adjustable auxiliary microswitches with free electric contacts
- Manual/automatic operation and service switch "open/stop/closed"
- Wide range of accessories on request:
  - Feedback potentiometer, 150 ohm to 2,5 kohm;
  - Multiwire connector
  - Aux. extended drive shaft Ø 8 mm or □ 9,5 mm (max. 3 Nm);
  - Relay for phase cut.
  - 180° or clockwise rotation
  - IP65 enclosure

SEF = **Electric rotary gear motor**

Supply voltage

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

		Rotation time at 50Hz [s]	Rated torque	Maintenance torque
0	=	7,5 for 90°	4 Nm	4 Nm
1	=	15 for 90°	7 Nm	7 Nm
2	=	30 for 90°	15 Nm	11 Nm
3	=	60 for 90°	20 Nm	20 Nm
4	=	120 for 90°	20 Nm	20 Nm

Potentiometer

00	=	none
11	=	1 Poti. 150 ohm
13	=	1 Poti. 1 kohm
15	=	1 Poti. 2,5 kohm (Bourns)
16	=	1 Poti. 5 kohm (Spectrol)
18	=	1 Poti. 1 kohm (Spectrol)
25	=	2 Poti. 2,5 kohm

Auxiliary microswitches

0	none
2	2 pc.

Accessories (-- = none**)**

-M	=	Multipolar connectors
-S	=	Control station AUTO/MAN and OpenStop/Closed [standard]
-Z	=	Enclosure IP65
16	=	160° rotation
18	=	180° rotation
A1	=	Auxiliary shaft Ø 8 mm
A2	=	Auxiliary shaft □ 9.5 mm
F4	=	F4 flange
DX	=	Clockwise rotation
R1	=	Relay [ON/OFF]
mix	=	**SM**:**(-M+-S)**, **DM**:**(A1+-S)**

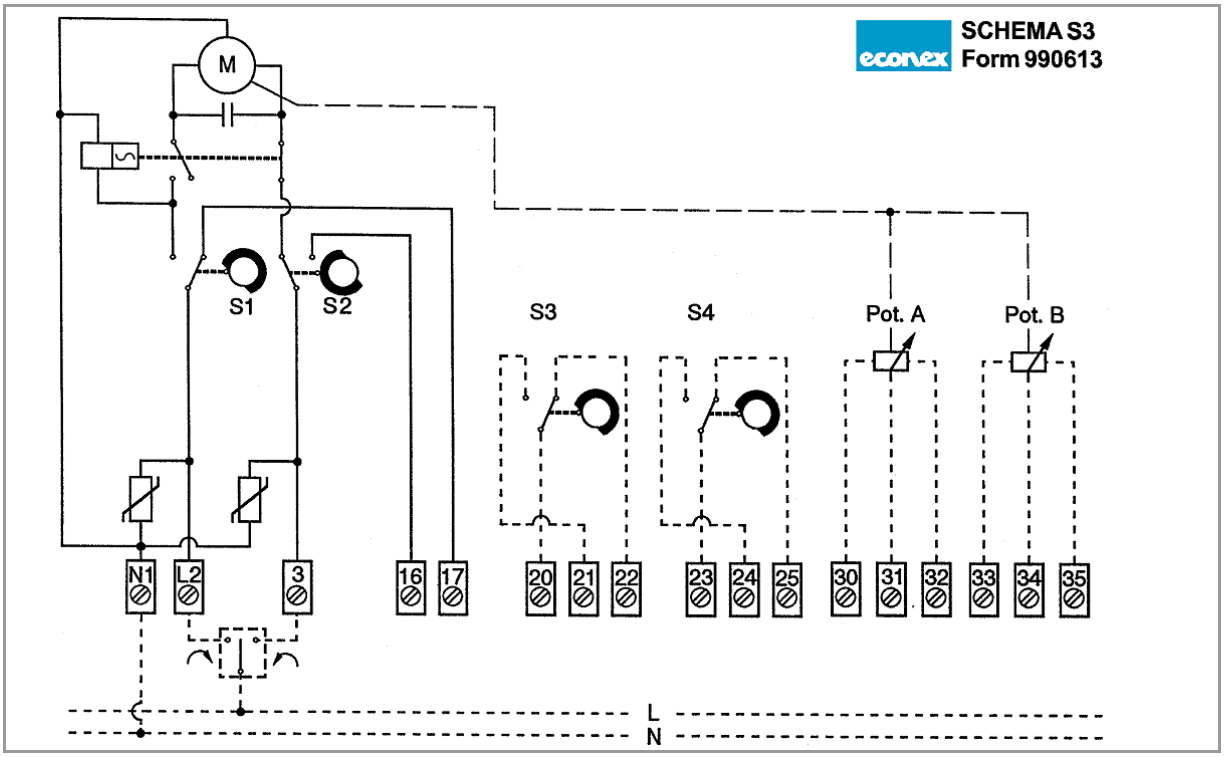
SEF **A** **0** **00** **2** **-S**

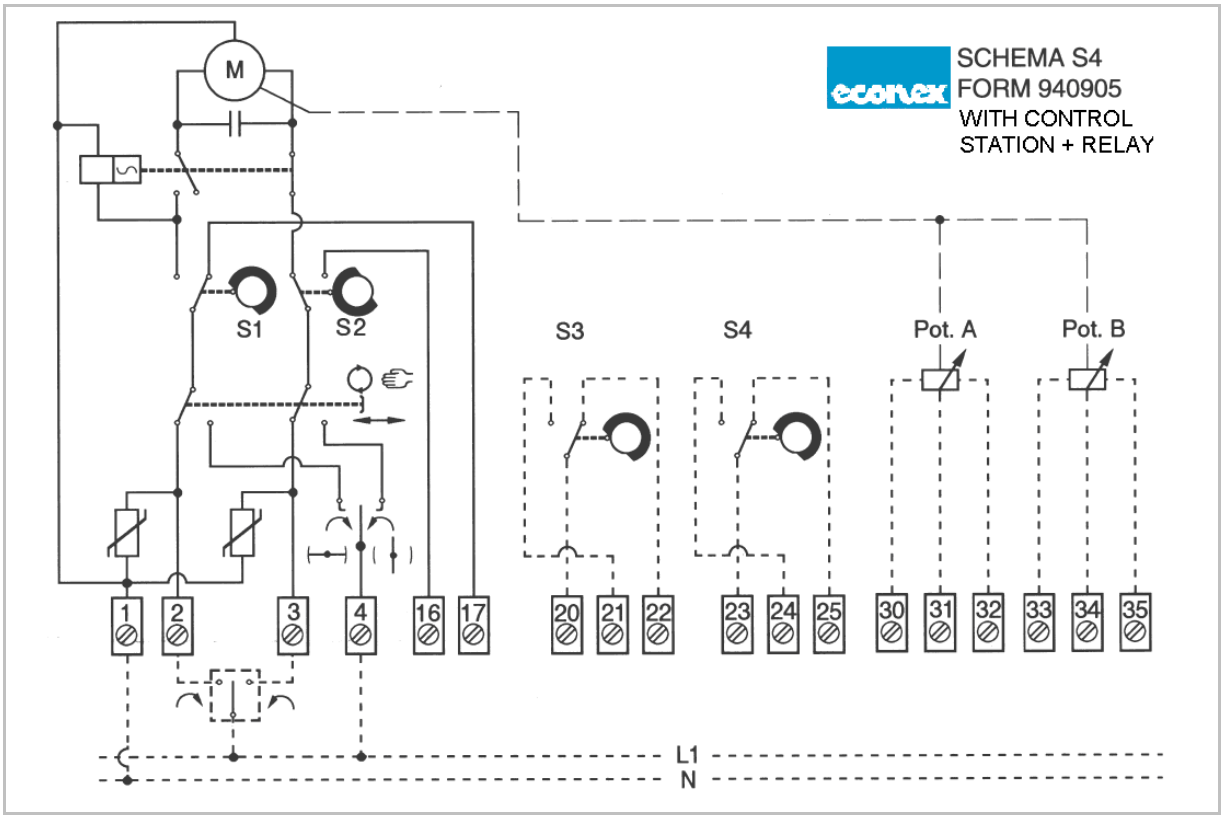
MODELS

Models	Rated and maintenance torque [Nm]	Rotation time for 90° [50 Hz]	Power consumption [VA]	Weight [kg]
SEFA0000	4	7	7	2,5
SEFA1000	7	15		
SEFA2000	15 / 11	30		
SEFA3000	20	60		
SEFA4000	20	120		

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

WIRING DIAGRAM



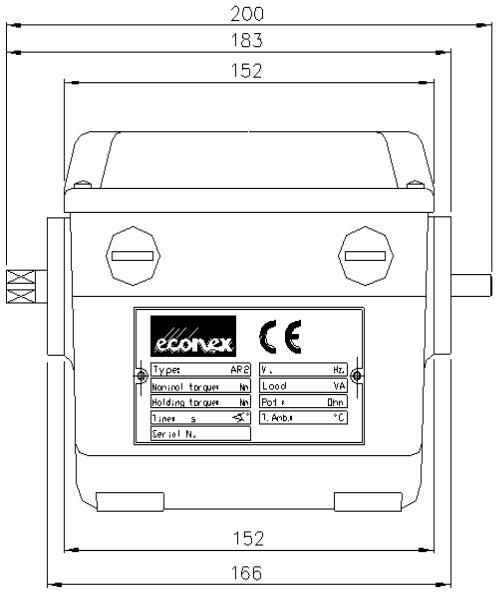


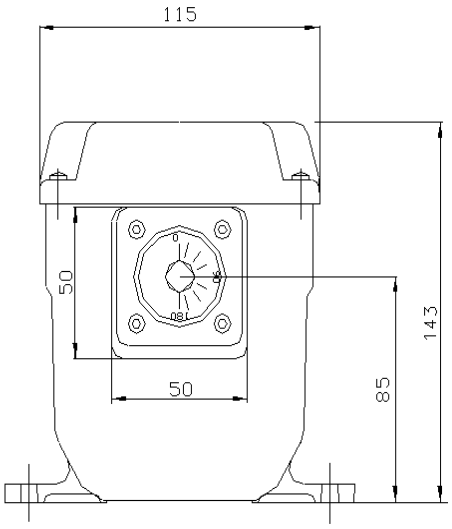
CAM ADJUSTMENT

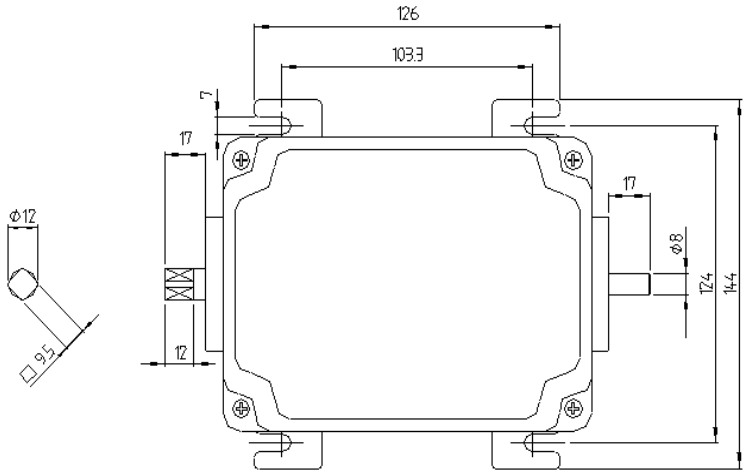
Use the proper lever supplied with the gear motor equipment for cam adjustment. Use the lever from the right side, introducing the pin into one of the bores on the sides of the blue cam and lever it to the desired position. If the blue cam is in a behind position, use the lever on its curved side to 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.

DIMENSIONS







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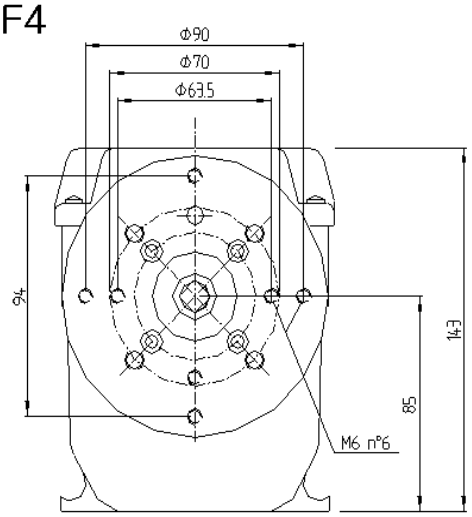

All the reported data are subject to be changed without notice.