WARNINGS FOR THE INSTALLER

GENERAL SAFETY REQUIREMENTS

1. ATTENTION! It is important for the safety of persons to follow all the instructions carefully. Incorrect installation or incorrect use of the product could cause serious harm to people.

2. Read the instructions carefully before installing the product.

3. The packaging materials (plastic, polystyrene, etc.) must not be left within reach of children as they are potential sources of danger.

4. Keep these instructions for future reference.

5. This product was solely designed and built for the use described in this document. Any other use, not specifically described, could compromise the integrity of the product and/or be a source of danger.

6. FAAC disclaims all liability deriving from improper use or use other than that for which the automation is intended.

7. Do not install the equipment in an explosive atmosphere: the presence of flammable gas or fumes is a serious safety hazard.

8. Mechanical constructive elements must be in accordance with the provisions of EN 12604 and EN 12605 standards.

For non-EU countries, in addition to the national standard references, the above mentioned standards must be complied with in order to achieve an adequate level of safety.

9. FAAC is not responsible for failure to comply with Good Technical Practice when constructing the closing elements that are to motorise or for any deformation that may occur during use.

10. Installation must be carried out in accordance with EN 12453 and EN 12445 standards.

For non-EU countries, in addition to the national standard references, the above mentioned standards must be complied with in order to achieve an adequate level of safety.

11. Before performing any operation on the system, disconnect the power supply.

12. The power mains of the automation system must be fitted with a multi-pole power switch with a switch-contact gap of at least 3 mm. It is advisable to use a 6A circuit breaker with a multi-pole power switch.

13. Verify that there is a differential switch with a 0.03 threshold upstream of the system.

14. Verify that the earthing system is perfectly constructed and connect the metal closing parts.

15. The safety devices (EN 12978 standard) protect any danger zones from risks of mechanical movement, such as crushing, dragging, shearing and lifting.

16. For each system, it is recommended to use at least one light indicator (e.g. flashing light), as well as an adequately secured warning sign.

17. FAAC declines all liability concerning safety and the correct operation of the automation system, if system components not manufactured by FAAC are used.

18. Only use original FAAC parts for maintenance.

19. Do not modify the components of the automation system in any way.

20. The installer must supply the user all information concerning the manual operation of the system in case of an emergency.

21. Do not allow children or adults to stay near the product during operation.

22. Keep radio controls or other pulse generators out of the reach of children to prevent the automation system from being activated involuntarily.

23. Transit is only permitted when the automation system is stopped.

24. The user must not attempt any kind of repair or direct intervention and must only contact qualified personnel.

25. Maintenance: check the efficiency of the system at least every 6 months, especially the efficiency of the safety devices (including, where applicable, the operator thrust force) and the release devices.

26. Anything not specifically stipulated in these instructions is not permitted.
Automated systems R180N / R280N are designed to handle roller shutters. Avoid uses other than those stated in the manufacturer's technical specifications. The motor is reversible. Only models equipped with an electric brake ensure position maintenance in case of defective movement balancing.

1. DESCRIPTION (Fig.1)

1. Movement crown
2. Reduction assembly
3. Single phase motor
4. Thrust capacitor
5. Limit switch unit
6. Cable gland (power cable not supplied)

1.1 TECHNICAL FEATURES Tab.1

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<thead>
<tr>
<th>Model</th>
<th>R180N</th>
<th>R280N</th>
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<tr>
<td>Power supply voltage</td>
<td>230V~(+6%-10%)</td>
<td>50/60Hz</td>
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<td>Absorbed Current</td>
<td>2.4 A</td>
<td>4.4 A</td>
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<td>Max. Drive Torque</td>
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<tr>
<td>Lifting Capacity</td>
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<td>Winding Speed</td>
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<td>Winding Flange (A) Ø</td>
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<td>Roller Shutter Shaft (B) Ø</td>
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<td>Max. Roller Shutter Height</td>
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<tr>
<td>Max. Roller Shutter Width</td>
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<tr>
<td>Operator Weight</td>
<td>8.7 Kg</td>
<td>12.5 Kg</td>
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<td>R.O.T (at 25°C)</td>
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<td>120 sec.</td>
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* Use suitable adapters

** Use appropriate reductions (accessory supplied separately)

2. AUTOMATION SYSTEM INSTALLATION

2.1 INSTALLATION REQUIREMENTS

The structure condition directly influences the reliability and safety of the automation system. Check the following roller shutter requirements:
- Sturdy roller shutter structure, in a good state of preservation.
- Pivot pins and moving elements in good condition.
- Smooth and friction-free movement for the entire stroke.
- Proper balancing: the unlocked roller shutter must not tend to open and close by itself.

Carry out metalwork before the installation.

2.2 MECHANICAL ARRANGEMENTS (Fig.3)

1. Unroll the roller shutter and identify the shaft midpoint.
2. Drill the identified point as shown in Fig. 3 to run the power cable and a possible release cable (optional).
3. Detect pulley (A) and winding shaft (B) diameter measurements (Fig. 3).

2.3 INSTALLATION DIMENSIONS (Fig.4)

Assemble the operator placing the electric motor on the shaft right side.
- For installation dimensions see Fig. 4.
- For roller shutters larger than 4.5 m with two operators see Fig.23.

Clean the roller shutter shaft before taking measurements.

2.4 OPERATOR INSTALLATION

1. Assemble the operator (Fig. 5 steps 1-5).
2. If the shaft diameter is 42 or 48 mm, mount reductions (Fig. 6).
3. Recover the flange play by tightening screws and lock nuts WITH CAUTION (Fig. 5 ref. /L54706/L54720/L54709).
4. Drill through-hole and assemble fixing screw (Fig. 7).
5. Assemble roller bearing and crown, and fasten the parts (Fig. 8 steps 3-5).

The roller bearing closing on the flange is final. Any opening attempt may result in coupling breaking, thus impairing functionality.

6. For winding pulleys with a 220 mm diameter, mount the adapters on the crown (Fig. 9).
7. Drill the roller shutter in line with the hole on the drive crown gear, and secure it with the screw and washer provided (Fig. 10 steps 1-3).

3. ELECTRICAL CONNECTIONS

Arrange the system (Fig. 11)
1. Motorisation FAAC R180N / R280N
2. Electric brake (if available)
3. Key selector
4. Junction box
5. Low voltage cable:
   3x0.5 mm² (key selector)
6. High voltage cables:
   2x1.5 mm² + earth (power supply)
   3x1.5 mm² + earth (motor cable)
7. Electronic control board

1. With the roller shutter fully lowered, insert the cut-to-length power cable into the hole on the winding shaft (Fig. 3), taking it out on the motion commands side.
2. Remove the limit switch casing and plug the
power cable into the cable gland Fig. 12.
3. For connections refer to Fig. 13.

For the installation of two units R180N R280N on the same shaft refer to Fig. 24 for electrical connections.

Operators R180N / R280N can be controlled with 200 BT and 200 MPS devices.

3.1 CONTROL UNITS
The 200BT equipment (Fig. 14) allows you to control the automation with 2 separate buttons. The 200MPS equipment offers a wide range of operation logics. For further details, refer to the instructions for the selected equipment.

4. LIMIT SWITCH UNIT (Fig.15)
1. Opening limit switch ring-nut
2. Closing limit switch ring-nut
3. Rotary limit lever
4. Opening microswitch
5. Closing microswitch

Before operating the automation, it is necessary to perform the procedure for adjusting the roller shutter stop positions.

5. STARTING UP THE SYSTEM
The automation enables the automatic positioning of limit switches with a single operation (opening and closing).

The limit switch unit comes with pre-positioned limit switches.

Do not act in any way on the limit switches before carrying out the adjustment operation.

Make sure the electric brake is released (Chap. 6.1) or not installed and proceed with the following procedure:
1. Lift the roller shutter manually and open it completely (desired height).

If the roller shutter cannot be lifted manually, disconnect the power and move the opening microswitch connection (Fig. 15 ref. ④) as shown in Fig. 16 ref. ①. Reconnect the power and control the roller shutter electrically.

2. Fully lower the roller shutter.

In case of electrical command operation, restore the connection of the opening microswitch as shown in Fig. 16 ref. ② after disconnecting the power.

3. At the end of the procedure, perform some movements to assess the opening and closing stop positions. If necessary, change the limit switch settings (par. 5.1).

4. After the adjustments fully lower the roller shutter and secure the limit switch housing, paying attention not to crush the cables.

5. Close the front casing (Fig. 18) only after the limit switch adjustment in order to maintain the positions acquired.

5.1 CHANGING THE LIMIT SWITCH SETTINGS
To change/fine-tune the opening and closing positions set with the previously described procedure:
1. Move the roller shutter to its fully closed position in order to have full access to the limit switch unit.
2. Rotate the limit switch ring-nuts clockwise or counterclockwise in order to delay or bring forward the actuation of the opening or closing microswitches (Fig. 17).
3. Make some assessment movements and if necessary repeat the process until stopping in the desired positions.

6. ELECTRIC BRAKE INSTALLATION
The electric brake allows you to lock the roller shutter in any position. By locking the motor shaft, the electric brake prevents manual handling or loss of position as a result of the compensating springs being imbalanced.
1. Assemble the electric brake (Fig. 19).
2. Couple the electric brake on the motor shaft (Fig. 20 ref. ①).

Avoid excessive curves of the sheath that would prevent the cable from sliding in its interior.

3. Remove the limit switch casing.
4. Connect the electric brake (Fig. 13).
5. Reposition the limit switch casing.
6. Run the electric brake cable into the hole previously drilled on the shaft (Fig. 21).
7. Assemble the release knob (Fig. 22). The controller (Fig. 22 ref. ①) must be fully screwed.
8. Pull the cable and firmly tighten the clamp (Fig. 22 ref. ②).

6.1 RELEASE OPERATION
In the event of a power failure, the electric brake must be first unlocked to manually lift the roller shutter.
• For the unlocking mechanism to be actuated, retain the upper part of the knob and rotate clockwise the lower part.
• To relock the gear motor, retain the upper part of the knob and rotate counterclockwise the lower part.

7. INSTALLATION OF TWO R180N/R280N
For roller shutters larger than 4.5 metres, it is recommended to install two operators R180N or R280N. Install the operators in the positions shown (Fig. 23) following the instructions of Chap. 2.4 and Chap. 3.
7.1 SLAVE MOTOR CONNECTION

1. Open the casing of both limit switch units.
2. Connect the power cable of the SLAVE motor to the MASTER motor terminal board as shown in Fig. 24.
3. Close the casing of both limit switch units; continue the installation as per Chapter 4 by adjusting the limit switches only on the MASTER motor (Chap. 4).

For the installation of two R180N/ R280N, the electric brake can be assembled on the MASTER or SLAVE motor.

---

**EC DECLARATION OF CONFORMITY**

The Manufacturer

Company name: FAAC S.p.A.
Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares that the following products:

Description: Roller shutter winding unit
Model: R180N-R280N

comply with the following applicable EU legislations:

- EMC Directive 2004/108/EC
- ROHS Directive 2 2011/65/UE

Furthermore, the following harmonised standards have been applied:

- EN EN 60335-2-97:2006
- EN ISO 12100:2010
- EN 61000-6-2:2005
- EN 61000-6-3:2007

Bologna, 01-10-2014

CEO
A. Marcellan

---

**DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY**

(2006/42/CE ANN.II P.1, LETT. B)

Manufacturer and person authorised to prepare the relevant technical documentation

Company name: FAAC S.p.A.
Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares that for the partly completed machinery:

Description: Roller shutter winding unit
Model: R180N-R280N

the essential requisites of the Machinery Directive 2006/42/EC (including all applicable amendments) applied and met are:

RESS 1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.1.6, 1.2.1, 1.3.1, 1.3.2, 1.5.1, 1.5.4, 1.5.9, 1.5.13, 1.6.3, 1.7.1, 1.7.2, 1.7.4

and that the relevant technical documentation has been compiled in compliance with part B of Annex VII.

Furthermore, the following harmonised standards have been applied:

- EN ISO 12100:2010
- EN 60335-1:2013
- EN 60335-2-97:2006

It is also hereby declared that the partly completed machinery identified above may not be commissioned until the final machine - into which it will be incorporated - has been declared to conform to the provisions of the above mentioned Machinery Directive 2006/42/EC.

Bologna, 01-10-2014

CEO
A. Marcellan
Elettrofreno/Electro-brake/Électrofrein/Electrofreno
Elektobremse/Elektrische rem

Fig./Abb. 13

230 V~

Fig./Abb. 14

Fig./Abb. 15

Fig./Abb. 16

Fig./Abb. 17

Fig./Abb. 18

Fig./Abb. 19
Elettrofreno/Electro-brake/Électrofrein/ Electrofreno/Elektrobremse/Elektrische rem

Fig./Abb.20

Fig./Abb.21

Fig./Abb.22

Fig./Abb.23

Fig./Abb.24

MASTER

SLAVE

b Blu•Bleu•Azul•Blau•Blauw

m Marrone•Brown•Brun•Marrón•Braun•Bruin

n Nero•Black•Noir•Negro•Schwarz•Zwart

g Grigio•Grey•Gris•Grau•Grijs

r Rosso•Red•Rouge•Rojo•Rot•Rood

g/v Giallo/verde•Yellow/Green/Jaune/ vert•Amarillo/verde•Gelb/grün•Geel/groen

230V~
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