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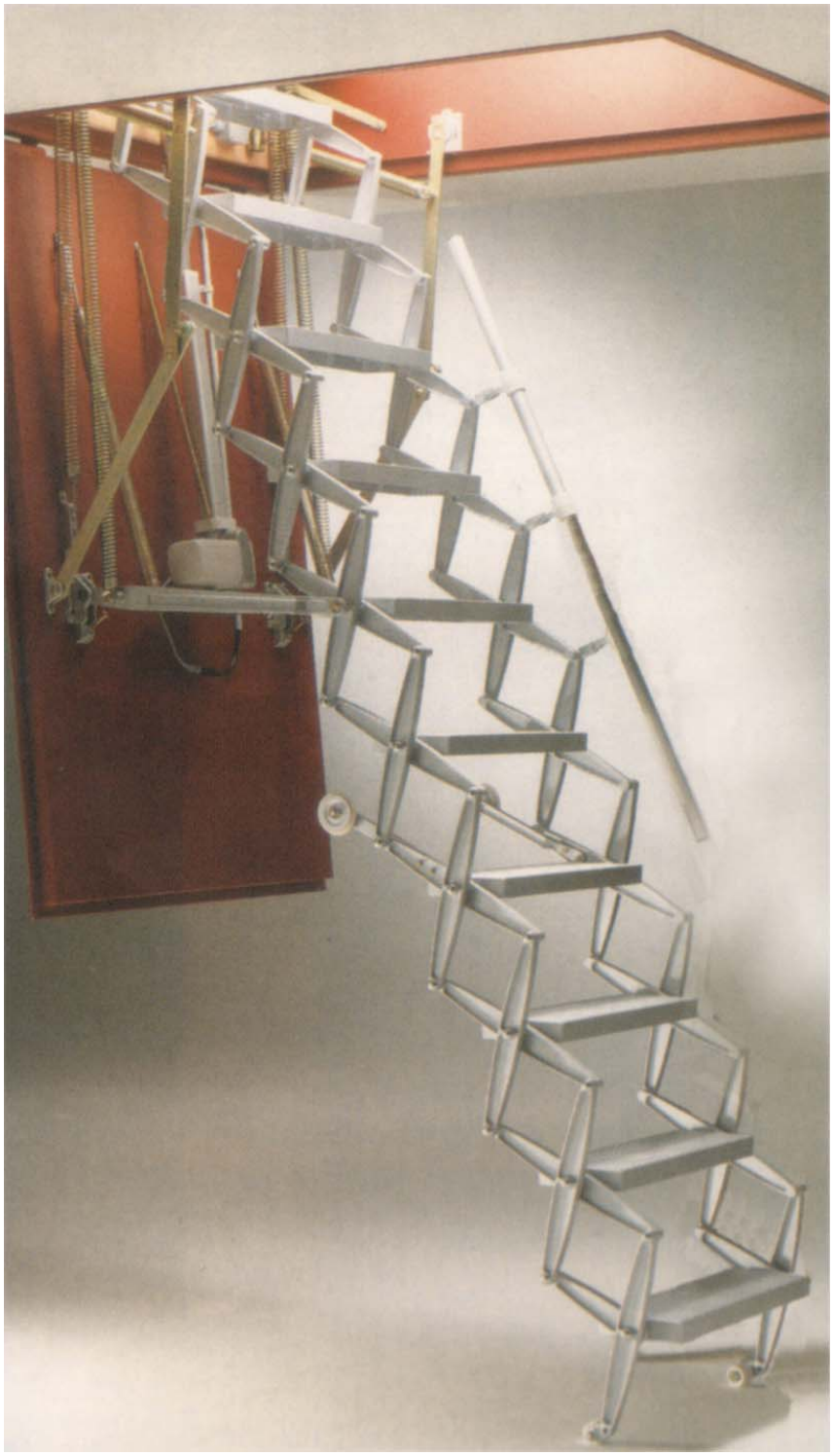
Electrically Operated Folding Stairs

Installation and Operating Instructions



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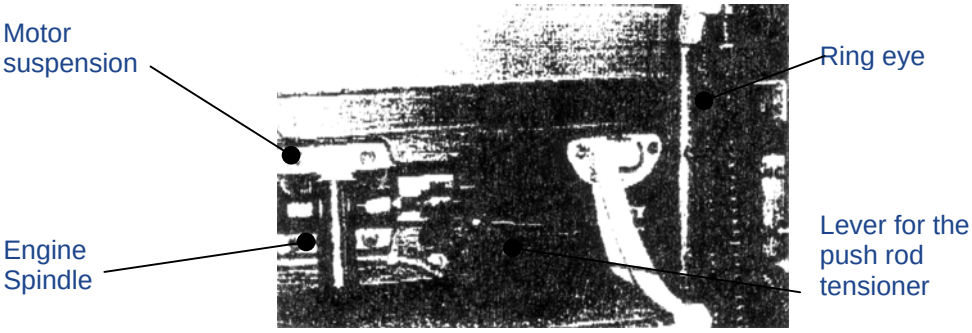
1. Operating Instructions

1. The electrically operated stairs are fitted with a microprocessor and are driven by a 24 Volt supply. The unit switches off if there is an overcurrent and can be operated by using the built-in roller blind switch (dead man switching), the infrared remote control system or an external detector (e.g. smoke detector).

2. The control system will automatically switch over to battery operation if there is a power cut; this will allow the stairs to make a further 15 double movements (up and down). The working life of the battery is approximately 4 - 5 years. Check the condition of the battery regularly (displayed by the LEDs on the control unit housing). If the battery also fails there is still the option of manually opening the stairs.

   a) From below: Pulling on the ring eye will cause the engine shaft in the upper motor suspension to be released; pull the hatch cover downwards using the pulling bar or a similar device and move the stairs by hand.

   b) From above: Switching over the lever on the push rod tensioner of the motor suspension or pulling on the ring eye above causes the engine shaft to be released. Push the stairs or the hatch cover downwards using the pulling bar or a similar device and push out the stairs.



Emergency opening can operable from above and below if there is a power cut.

Once manual unlocking has been achieved, the engine shaft must be fastened to the motor suspension by hand. This is done by moving the motor spindle out with the electrical drive (while ensuring that the motor spindle does not collide with anything), or turn it out by hand until it can be inserted again into the motor suspension.

Switch the push rod tensioner lever over the pressure point until it reached the stop point. Please ensure that the push rod tensioner interlocks into its end position (some force is needed). Not ensuring this may result in the motor spindle slipping out of its bearings resulting in motor damage. This operation also makes manual opening possible again.

3. The electrical stairs can also be operated by hand if the engine is disengaged. This can be done by removing the motor spindle from the screw spindle motor completely and attaching the motor to the hatch cover, to stop it swinging out or by removing it completely.

Removing the screw spindle motor

- Loosen motor cable on the coupling point.
- Initiate manual emergency unlocking.
- Remove motor bearing on stair shaft. Do this by removing cylindrical screws M6x30 DIN 912 using hexagon wrench key SW5.
- Remove the motor completely.

Installing the screw spindle motor

- Loosely fix the motor bearing onto the stairs shaft (can be shifted to the side).
- Move the motor spindle out and engage it in the suspension.
- Align the engine bearing at a right angle and locate in place firmly with the fastening bolts (max. Ma = 6 Nm) Connect the motor cables.

4. In the case of a fire, the stairs can be automatically opened by a sensor such as a smoke detector. If the stairs are still needed after they have been closed by the smoke detector, they can still be opened at any time using the built-in roller blind switch or the infrared remote control system. If the smoke detector is still active, the stairs will be closed again automatically one minute after they were manually opened. This process can be repeated up to five times. If no further signals are being received from the smoke detector to the sensor input on the control system the acknowledgement button on the control unit housing should be pressed to re-activate the control system (Red LED lamp for smoke alarm on control unit housing).

   If the stairs control system operates over the smoke detector, it is accompanied by an acoustic signal if the smoke detector is no longer active. Please ensure that a 9 Volt battery is installed in the smoke detector; this must be checked every 3 - 4 years. Because the control unit housing can be placed in any location, it and its feed lines for hatches must be protected to achieve a certain fire resistance period and also protect against burning so that the emergency closing function is not disabled by a destroyed control unit or cable.

2. Maintenance:

WARNING: THE MAINTENANCE OF THIS EQUIPMENT SHOULD BE CARRIED OUT AT THE INTERVALS AND IN THE MANNER PRESCRIBED IN THE TEXT. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE EQUIPMENT AND / OR INJURY!

- The screw spindle motor and its control system are maintenance-free (other than the battery in the control system and that in the smoke detector).
- All mechanical moving parts in the folding stairs must be oiled or greased once a year and checked for wear.
- The tightness of all bolts and nuts should be checked once every 2 years.

3. Installation Instructions

IMPORTANT: THESE INSTRUCTIONS MUST BE READ THROUGH VERY CAREFULLY BEFORE INSTALLING THE STAIRS. ALL INSTRUCTIONS MUST BE FOLLOWED CAREFULLY!

IMPORTANT: WORK ON THE ELECTRICAL CONTROL SYSTEM, CONNECTION TO THE MAINS POWER SUPPLY SYSTEM AND THE LAYING OF CABLES, MUST ONLY BE UNDERTAKEN BY AUTHORISED SKILLED PERSONNEL. ENSURE THAT THE POWER SUPPLY IS SWITCHED OFF BEFORE WORKING ON THE CONTROL SYSTEM, THE MOTOR, OR WHEN CONNECTING THE ROLLER BLIND SWITCH OR THE SMOKE DETECTOR.

DO NOT APPLY ANY EXTERNAL VOLTAGE TO THE PLUG CONNECTOR OUTPUTS ON THE CONTROL UNIT HOUSING.

THE STAIRS MUST NOT BE USED IF THERE ARE PEOPLE OR OBJECTS LOCATED ON THE FOLDING STAIRS OR IN THEIRAREA OF OPERATION.

THE STAIRS MAY ONLY BE MOUNTED IF THE HATCH COVER IS COMPLETELY OPEN, THE ROD IS AGAINST THE STOP AND THE STAIRS ARE STANDING SECURELY ON THE GROUND.

ANY ALTERATION OF THE PRODUCT OR ANY INAPPROPRIATE USE OF THE STAIRS WILL LEAD TO CANCELLATION OF THE WARRANTY OFFERED BY THE MANUFACTURER.

Electrical cables are not supplied with the stairs.

1) All operating elements must be outside the area of movement or the area of inspection of the stairs.
2) The required electrical cables must be laid on-site according to the equipment installed on the stairs.
3) Connect up control unit housing and junction box. Remove test line "2-pin" between junction box on the fascia (see "*Schematic diagram*") and control unit housing and replace with the cable NYM 3x1.5 mm^2 with a 2-pin plug provided on-site, see "*Wiring diagram*".
4) Connect roller blind switch above 1 (surface-mounted - concealed roller blind switch) and control unit housing, screened line J-T St Y2x2x0.6 mm^2 with the "6-pin" plug, 3-lines per button, see "*Wiring diagram*". Connect button below 2. See button 1 for the procedure.
5) Open the hatch by pressing on the roller blind switch until the folding stairs are firmly standing on the floor. The guiding rod must be located at the stop on the cover. Support the swivelling arm with the round head bolt, Position 12, and secure with the hexagonal nut, Position 13.

6) Special accessories

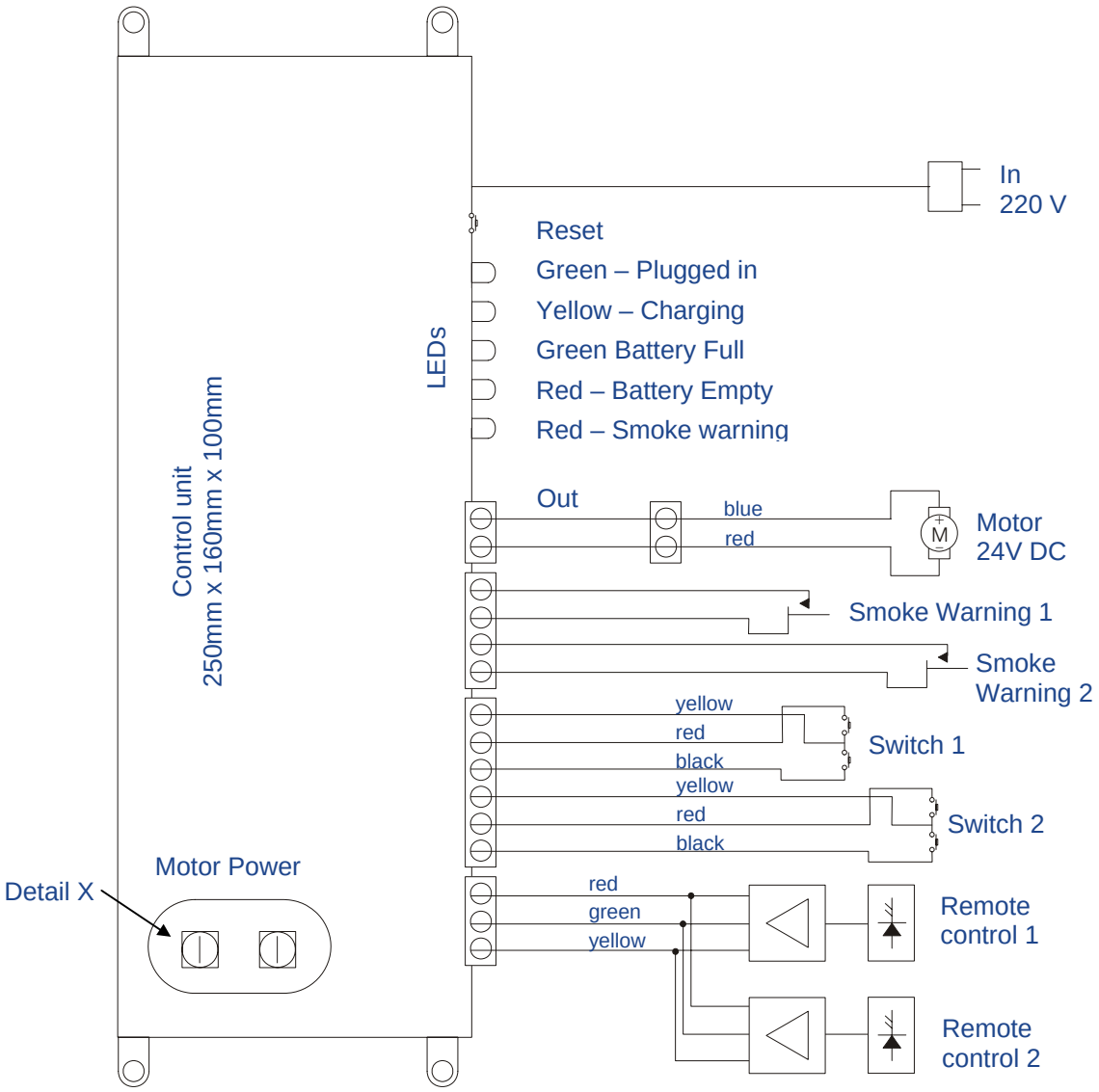
   Infra-red remote control
   "IR hand-held unit VIF/CM6 with reduced range; IR pre-amplifier PA38333."

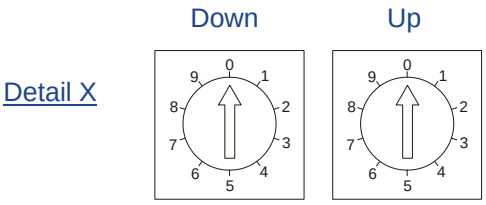
   Connect IR pre-amplifier 1 (concealed receiver) and control unit housing with screened line J-Y (St) Y 2x2x0.6 mm^2 with the "3-pin" plug, see "*Wiring diagram*".
   Connect IR pre-amplifier 2. Clamp the lines IR pre-amplifier 1 and the lines IR pre-amplifier 2 together, see "*Wiring diagram*".
   The electrical cables from the existing roller blind switch can be used when retro-fitting the infra-red remote control. The lines need to be connected to the slot on the IR pre-amplifier on the control unit housing using a "3-pin" plug, see "*Wiring diagram*".

7) Smoke detector "Gira 69500 white"

   Connect smoke detector 1 and the control unit housing using the cable provided on-site plastic coated bell wire YR 2x0.6 mm^2 with the "4-pin" plug, 2 lines per smoke detector, see "*Wiring diagram*".
   To connect smoke detector 2 refer to above procedure.

4. Wiring Diagram





Wooden hatchbox control.
Adjusted by factory

Wooden hatchbox: arrow on 2 or 4
Steel hatchbox: arrow on 4 or 6

5. Control unit housing LEDs and their function

Messages:

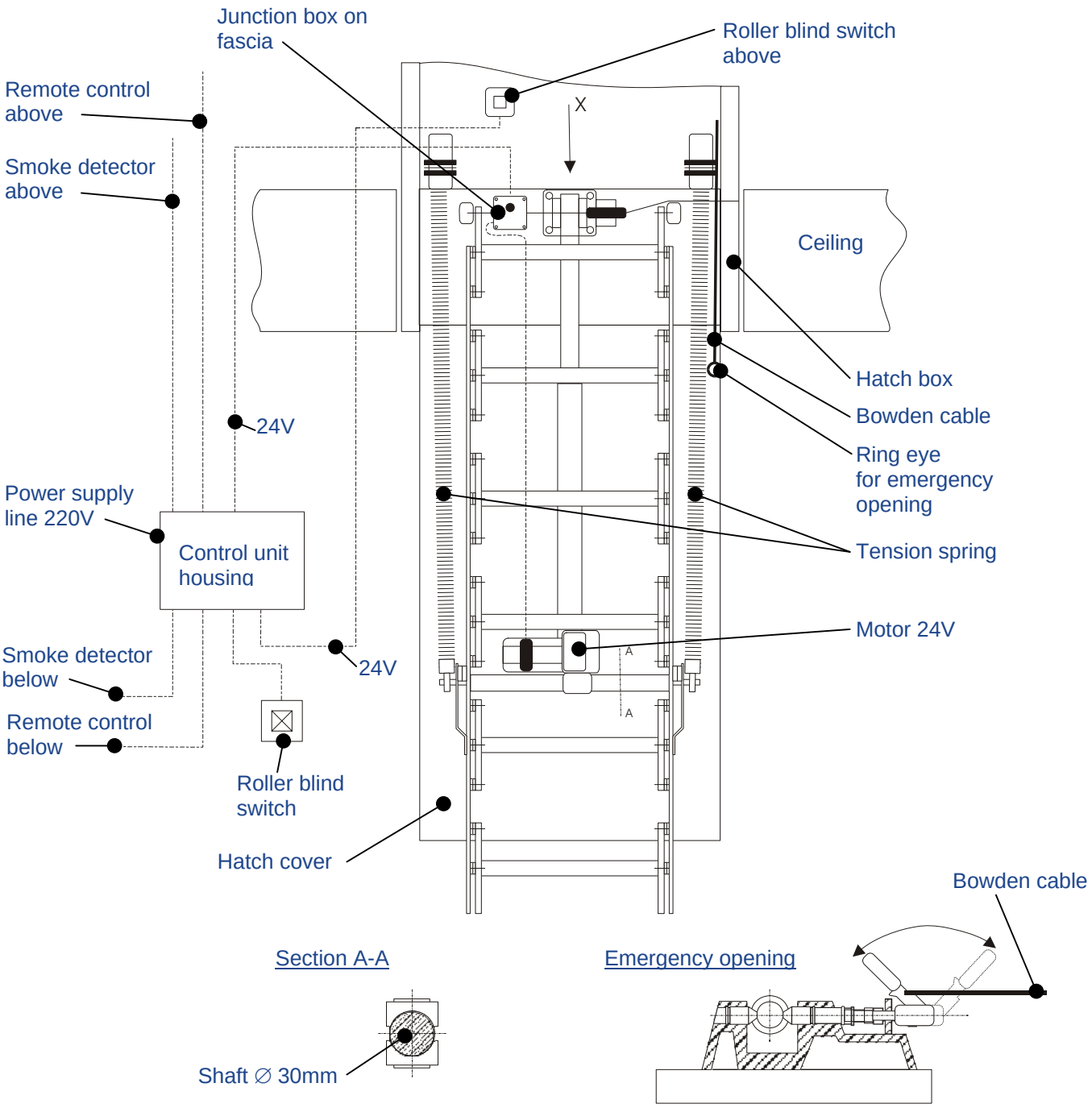
Message acknowledgement	Actuate if the control unit was triggered by a sensor (e.g. total discharge of the battery, smoke detector) to reset to its original condition.
Mains power, LED green	Shows whether mains voltage is available.
Rapid charging, LED yellow	Indicates rapid charging of the battery.
Battery full, LED green	Battery is full.
Total discharge, LED red	Lights up for 1 minute when battery is exhausted. Flashes if the battery is faulty.
Smoke alarm, LED red	Indicates that the external sensor input was actuated. Can be reset by pressing the message acknowledgement button.

Smoke alarm	Battery exhausted	Battery full	Rapid charging	Mains power	Nominal condition
⦿	○	●	○	●	Mains power available, battery full
⦿	○	○	●	●	Mains power available, rapid charging active
⦿	○	●	○	○	Mains power not available, battery full
⦿	●	○	○	○	Mains power not available, total discharge (lights up for 1 min.)
⦿	○	○	○	○	Mains power not available, battery empty
⦿	◎	○	○	⦿	Battery or safety defective
●	⦿	⦿	⦿	⦿	Message was active

Legend

○ LED off
● LED on
◎ LED flashes
⦿ LED can be on or off

6. Schematic Diagram



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Because of developments in technology, these data or procedures may be subject to change. Consequently, we advise users to review their continuing validity annually.

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