



WN 054777 45532 04 12/03

INSTALLATION / ADJUSTMENT / COMMISSIONING

Electrical installation:



Electrical installation work must only be performed by suitably qualified and trained personnel.

Ensure compliance with local regulations

The electrical installation work (230 V AC \pm 10%, 50/60 Hz) is performed by others.

According to German regulations ¹⁾, an emergency-off pushbutton (VDF 0660, part 207) must be installed in the power supply line (feeder cable) close to the door. Check also local regulations.

The operator (drive unit) is supplied complete with a 2-pole-and-earth mains plug (German Schuko type available). An earthed outlet socket fused at 10 A must be provided by others.

If earthed outlet sockets are not available, the mains feeder cable must be externally positioned to install a lockable main switch. From the main switch the feeder cable is connected to the operator through the baseplate. The main switch must disconnect all poles from the mains.

Fire and smoke rated doors:

The ED 200 is approved for installation on fire and smoke rated doors according to the German Institute for Building Technology, Berlin. An approval certificate for the fire / smoke rated door is additionally required. The ED 200 must be installed in accordance with the approved and certificated drawings and templates provided by the manufacturer of fire and smoke rated door.

If the ED 200 is used in conjunction with hold-open systems, a smoke detector is required (acc. to the German regulations for hold-open systems - check also local regulations). The smoke detectors can be connected directly to the ED 200 with control module B, and powered with a supply of 24 VDC (stabilised).

If the ED 200 is operated with control module A, use only the smoke detector RMZ 2 (power supply 230 V AC).

Further information:



Instruction sheet relating to the use and application for hold open device systems. ²⁾ Guidelines for hold open systems published by the Institute for Building Technology Berlin ²⁾ or equivalent national guidelines.

Fixing to double doors

When fixing to double doors, it is important to ensure that the ED 200 is installed with control module A on the inactive leaf and with control module B on the active leaf.

On-site requirements

The following accessories are available for special on-site installations:

Mounting backplate -

for indirect fixing due to presence of glass panels, narrow frame, etc..

Various sizes of spindle extension -

for overcoming height differentials.

Arm variants -

for accommodating different reveal depths/door types.

ED 200 with standard arm -

- a** Installation on push side (opposite hinge side) ED 200 with slide channel -
- b** Installation on push side (opposite hinge side) ED 200 with slide channel -
- c** Installation on pull side (hinge side)

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Preparation

Remove cover from the operator.

- 1** Dimensional drawing: Installation on push side (opposite hinge side) with standard arm

- 2a** Dimensional drawing: Installation on push side (opposite hinge side) with slide channel

- 2b** Dimensional drawing: Installation on pull side (hinge side) with slide channel

- 2c** Standard setting on delivery is for right-hand (DIN-R, ISO 5, CW closing) doors

- 3** To fit the operator to a left-hand door, the microswitch and the cam must be refitted on the other end of the spindle.

Pull out the plastic nut and unscrew the end cover.

4

Installing the operator

Secure the operator with 2 auxiliary mounting screws and a minimum of a further 6 fixing screws.

When using steel profile sections drill pilot hole of core diameter and tap thread (M 6).

When using LM profiles (aluminium alloy sections), use riv-nuts (M 6).



In the case of fire/smoke rated doors, the ED 200 must be installed in accordance with the approved and certificated drawings and templates provided by the door manufacturer.

Mark out and drill the holes for the auxiliary mounting screws in accordance with the dimensioned drawing and tap the thread if required.

5

Fix the auxiliary mounting screws

Distance between screw head and reveal or frame surface = 6 mm.

Fix the operator to the auxiliary mounting screws.

6

Mark out the holes for the fixing screws through the baseplate onto the frame section.

7a

Remove operator from baseplate.

7b

Mark out the holes for the arm bracket /slide channel in accordance with the dimensioned drawing.

7c

Drill the holes and tap the thread if required.

Re-fit the operator.

Wind in the fixing screws (+ serrated lock washers) and fix tightly.

8

Tighten the auxiliary mounting screws.

Fit the end caps and press in plastic nut.

9

¹⁾ As specified in German guidelines for power-operated windows, doors and gates

²⁾ These documents are only printed in German as they refer exclusively to German markets



WN 054777 45532
05 12/03

Arm installation (opposite hinge side)

- 10a** Connect the two components of the standard arm.
- 11a** Fit spindle extension into arm. Ensure that the position of the square section insert relative to the arm is correct.
Tap the spindle extension home using a rubber mallet, hammer and wooden block or similar.
- 12a** Place the main arm onto the drive spindle so that it is at right angles to the door frame, and secure with washer, spring washer and cheesehead screw.
- 13a** Secure the arm fixing bracket with two screws to the door leaf.
- 14a** Wind or unwind the adjustment screw so that, when the arm sections are connected, the lower arm is at right angles to the door.
Clip main arm and lower arm together.
Secure the adjustment screw with the lock nut.

Slide channel arm installation (opposite hinge side)

- 10b** Marking on spindle:
L = Spindle extension for left-hand (ISO 6, CCW closing) doors
R = Spindle extension for right-hand (ISO 5, CCW closing) doors
Fit spindle extension into arm. Ensure that the position of the square section insert relative to the arm is correct.
Tap the spindle extension home using a rubber mallet, hammer and wooden block or similar.
Prepare sliding track for installation.
- 11b** Close valves 3 and 4.
Position arm at an angle of 45° to door frame and fit over operator spindle and fix with cheesehead screw, washer and spring washer.
- 12b** Fit slide channel over slide shoe.
- 13b** Fix end caps on slide channel.
Fix slide channel and adapter plate to door leaf. (adapter plate isn't applicable when using soundproof version)
Open valves 3 and 4.

Slide channel arm installation (hinge side)

- 10c** Marking on spindle:
L = Spindle extension for left-hand (ISO 6, CCW closing) doors
R = Spindle extension for right-hand (ISO 5, CCW closing) doors
Fit spindle extension into arm. Ensure that the position of the square section insert relative to the arm is correct.
Tap the spindle extension home using a rubber mallet, hammer and wooden block or similar.
Prepare sliding track for installation.
- 11c** Close valves 3 and 4.
Position arm at an angle of 45° to door frame and fit over operator spindle with cheese head screw to prevent it from slipping off.
Rotate arm 90° in hinge direction (preload).
Leave arm in this position.
- 12c** Remove arm from spindle, refit at original position (45° to door leaf) and fix with cheesehead screw, washer and spring washer.
- 13c** Fit slide channel over slide shoe.
Open valves 3 and 4.
Slide channel is automatically pushed against door leaf.
- 14c** Fix end caps on slide channel.

- 15** Fix slide channel and adapter plate to door leaf (not applicable when using soundproof version).
Set closing force using adjustment screw on side of operator (not size EN 7).
If the ED 200 has a factory-fitted control module, this may have to be detached.
Maximum force at main closing edge must not exceed 150 N ¹⁾



Forces higher than 150 N can cause injury.

- 16** Adjust closing speed in the range of 115° - 25° by valve 3.
- 17** Adjust closing damping in the range of 25° - 0° by valve 4.

ED 200 operator with factory-fitted control module:

In the case of double doors, link the control modules by interconnecting cable.
Connect any auxiliary components and accessories to the control module as appropriate. See relevant terminal assignment and connection diagrams.
Continue from Fig. 20.

Fixing of controlboard

- 18** Control module A = Standard control
Control module B = Enhanced control
Fix control module plus transformer with two screws to operator cylinder unit. Adjust wires so that cover can be fitted without damaging them.
- 19A** Fit connectors to control module.
- 19B** Consult individual terminal assignments/connection diagrams in performing the following operations.
Connect programme switch wires to control module.
In the case of double doors, link the control modules by interconnecting cable.
Connect any auxiliary components and accessories to the control module as appropriate.
- 20** Adjust door opening angle: Move door leaf to required open position and adjust black cam using pin supplied until the cam activates the microswitch. Fix cam in this position.



Switch must be activated at an angle less than 115° (max. door opening angle) to allow motor pump to switch off.

- 21** If using control module "B" adjust mode switch
A = single door mode
B = double door mode
C = application with motor lock
- 22** Set both mains ON/Off switch 1 and program switch 2 to "OFF".
Connect to mains.
Unlatch emergency button (usually next to door).
Set mains On/Off switch 1 to "ON".
Set programme switch 2 to "Automatic".
Activate operator by means of eg. radar or pushbutton, and check performance. Adjust settings as necessary.

¹⁾ As specified in German guidelines for power-operated windows, doors and gates



WN 054777 45532
06.12.03

23 Opening speed adjustable at valve 1 in the range 0° - 75°.

24 Delayed action adjustable at valve 2 in the range 75° - 115°.

25 Adjust hold open time by potentiometer in the range from 0 - 30 secs.

Note: For the door to reach the open position, the hold-open time must be adjusted to a larger value than the total time set at valves 1 and 2. The hold-open time starts with the activation signal.

26 Option IRS safety sensor on hinge-side.

If necessary use white cam to adjust the blanked range of the IRS sensor (i.e. area for which sensor is disabled). Turn the cam with the pin supplied until the microswitch is activated. Ensure that the position of the black cam remains unchanged.

Note: As the door opens to this point, the hinge-side IRS sensor ceases to operate so that the door is not tripped by obstacles in the blanked range.



Ensure that the white cam, once adjusted, does not also activate the limit switch in the "Door Closed" position.

Sensors in accordance with the relevant fixing instructions.

Functional checks

Possible programme switch settings:

Programme switch integrated in ED200:

Automatic - OFF - Permanent open

External programme switch:

OFF - Exit only - Permanent open - Automatic

(only possible with control module B).

Check internal activator.

Door opens after signal emission in "Automatic" and "Exit only" modes, and closes after hold-open time.

Check external activator.

Door opens after signal emission in "Automatic" and "Exit only modes" and closes after hold open time.

Option: "Opening Assist"

(Control module A and B).

Once door has been slightly moved from its closed position, operator moves leaf to fully open position and closes door after preset hold-open time.

Option: "Night Bank" activator

(only available with control module B)

Door unlocks and opens on signal emission with programme switch set to "OFF". After approx. 5

seconds, door closes again automatically.

Option: IRS Sensor

Hinge-side:

If the IRS detects an obstacle (person) in its detection range

- doors stops moving during the opening cycle

- door stays closed if already in closed position

Once the detection range is free, the operator is re-enabled and continues operation in the preset mode.

Opposite hinge side:

If the IRS detects an obstacle (person) in its detection range

- door reverses during closing cycle

- door stays open if already in open position

Once the detection range is free, the operator is re-enabled and continues operation in the preset mode. The IRS on the opposite hinge side is switched off automatically by control module B after 5 sec. and reactivated only when door starts moving again.

Option: Locking system (electric strike plate), fail safe, fail secure

Door is locked in closed position. If operator is activated, door will unlock and move leaf to open position (fixed unlocking signal pulse duration of 1 sec.)

Option: Motorlock SVP 2xxx

(only available with control module B).

Door is locked in closed position. If operator is activated, motor lock unlocks and operator opens the door.

Completion

27 Connect earthing cable

Install cover and fix with two screws.

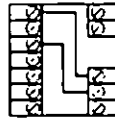
Fix DORMA and ED 200 labels



Pay attention to protecting the secondary closing edge during installation

User familiarisation

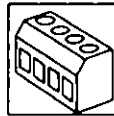
After commissioning and adjustment of the operator and accessories, the operating instructions must be handed to the owner/user and the owner/user properly familiarised with the system.



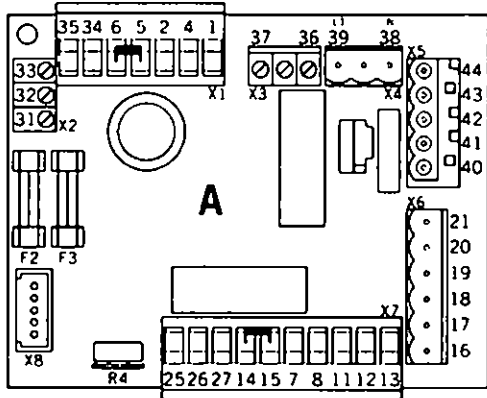
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	(D)	(GB)	(F)	(I)	(NL)	(S)	(E)
WH	Weiß	white	blanc	bianco	wit	vit	blanco
BN	Braun	brown	marron	marrone	bruin	brun	marrón
GN	Grün	green	vert	verde	groen	grön	verde
YE	Gelb	yellow	jaune	giallo	geel	gul	amarillo
GY	Grau	grey	gris	grigio	grijs	grå	gris
PK	Rosa	pink	rose	rosa	roze	rosa	rosa
BU	Blau	blue	bleu	blu	blauw	blå	azul
RD	Rot	red	rouge	rosso	rood	röd	rojo
BK	Schwarz	black	noir	nera	zwart	svart	negro
VT	Violett	violet	violet	viola	paars	lila	violeta
GYPK	Grau-rosa	grey-pink	gris-rose	grigio-rosa	grijs-roze	grå-rosa	gris-rosa

Änderungen vorbehalten
Subject to change without notice



WN 054778 45532
06/04



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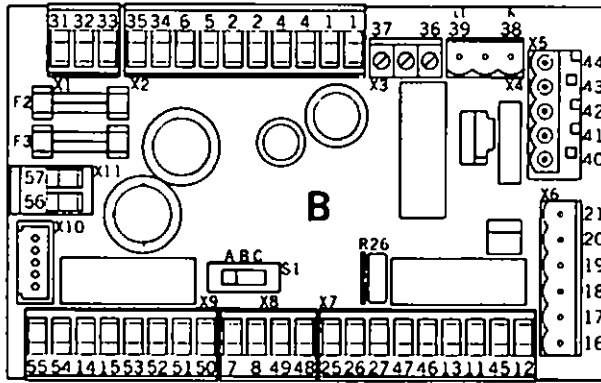
Technical data

Power supply: 230 VAC ±10%, 50/60 Hz
 Fuse F2: 1 0.8 A at 24 VAC
 Fuse F3: 1 0.8 A at 12 VAC

Connection blocks Control board A

- X1**
 1 2 3 4 5 6 34 35
 Power supply to external loads, e.g. electro-mechanical lock or radar detector
 1+2 = 24 VAC. 2+4 = 12 VAC.
 Drive unit disabling contact for e.g. smoke detector input; jumper if not used
 34 - 24 VDC
 35 + 24 VDC
 Power supply to external loads, e.g. electro-mechanical lock or radar detector (max. 400 mA) → max. 700 mA
- X2**
 31 32 33
 24 V
 12 V
 0 V
 Secondary side, transformer
- X3**
 36 37
 Primary side, transformer
- X4**
 38 39
 N
 L1
 Incoming power supply 230 VAC ±10%, 50/60 Hz
- X5**
 40 41 42 43 44
 U
 V
 W
 5µF
 Motor
 Capacitor
- X6**
 16 17 18 19 20 21
 „Door open“ limit switch
 GND
 +24 VDC Solenoid valve
 „Door closed“ limit switch (cam)
 Switches off the hinge-side safety sensor (e.g. IRS)
- X7**
 13 12 11 8 7 15 14 27 26 25
 Automatic OFF (GND) Permanent open } Programme switch
 Activators (internal detector, external detector, IRS sensor on opposite hinge-side)
 Hinge-side safety device (e.g. IRS sensor); jumper if not used
 C
 NO
 NC
 Electro-mechanical lock: Floating contact (change over contact), fixed pulse duration of 1 sec.
- X8**
 5-pin interface block for connection cable linking two control modules for coordinated double-leaf operation
 Control module B (master/ active leaf) controls module A (slave/ inactive leaf).
- R4**
 Hold open time 0-30sec.

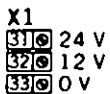
WN 054778 45532
06/04



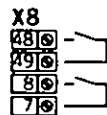
Technical data

Power supply: 230 VAC ±10%, 50/60 Hz
Fuse F2: T 1,6 A at 24 VAC
Fuse F3: T 1,6 A at 12 VAC

Connection blocks Control board B

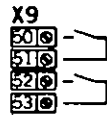
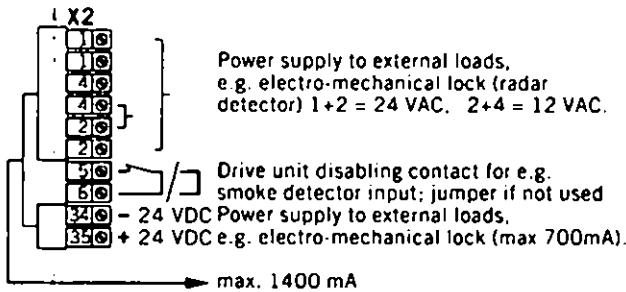


Secondary side, transformer



Night-bank activator

Internal activator



External activator

Safety sensor (e.g. IRS), opposite hinge-side

Safety sensor hinge-side active leaf; jumper if not used

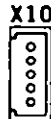
Operating mode B (double-leaf mode): Safety sensor hinge-side inactive leaf

Operating mode A (single leaf mode): Open Assist (via auxiliary switch)

Jumper if not used



Primary side, transformer



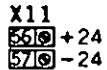
5-pin interface block for connection cable linking two control modules for coordinated double-leaf operation

Control module B (master/ active leaf)

controls module A (Slave/ inactive leaf).

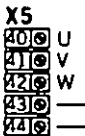


Incoming power supply: 230 VAC ±10%, 50/60 Hz



Stabilized power supply for smoke detector (max. 100mA) - not switched off by drive unit disabling contact at terminal 5/6

limit switch



Motor

Capacitor



Hold open time 0 - 30 sec.



„Door open“ limit switch

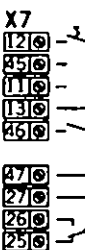
GND Solenoid valve +24 VDC

„Door closed“ limit switch (cam) Switches off the hinge-side safety sensor (e.g. IRS)



Mode selector:

- A Single-leaf mode
- B Double-leaf mode
- C Motor lock mode



OFF (GND) Exit only Permanent open } Programme switch

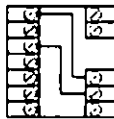
Automatic

„Door closed“ limit switch (switches off the safety sensor on the opposite hinge-side jumper if not used.)

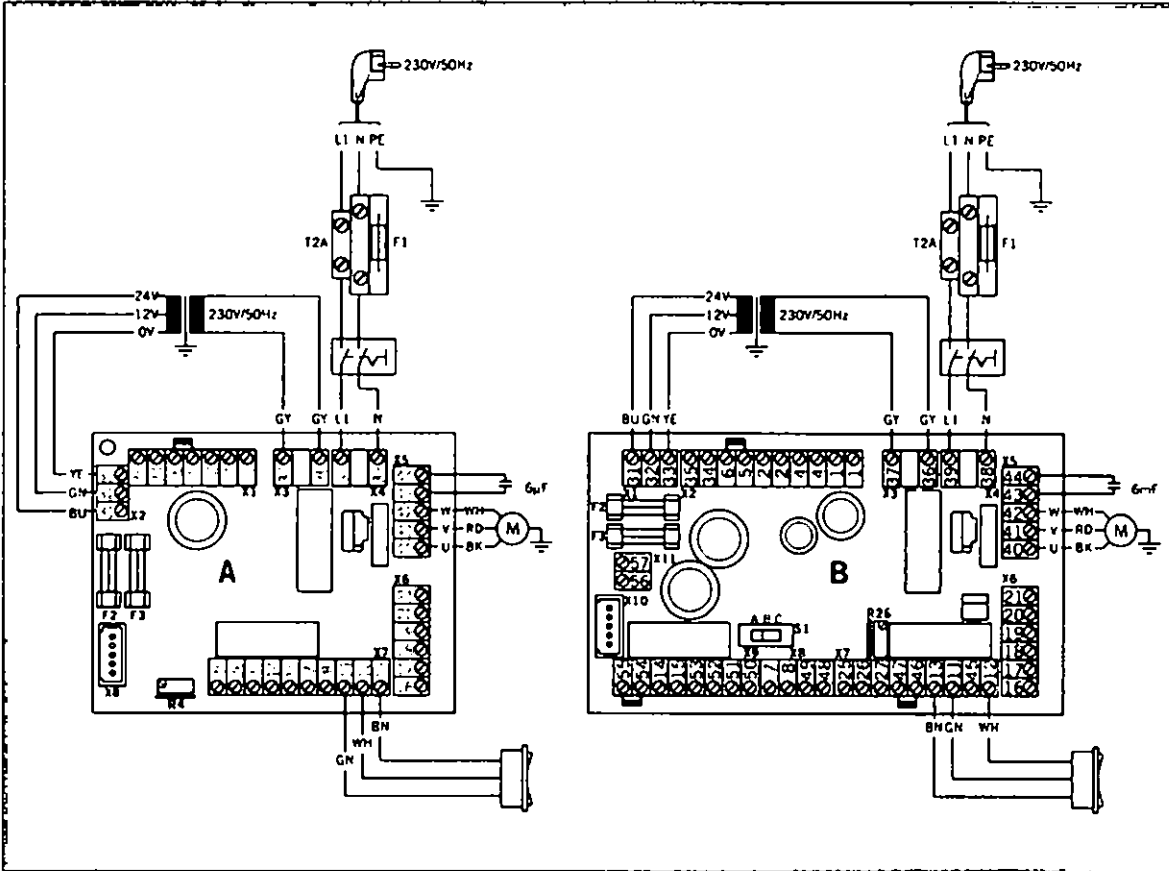
Electro-mechanical lock:

NO Floating contact (change over contact), fixed pulse duration of 1 sec. 1 sec.

Subject to change without notice



WN 054779 45532
01 06/04



Ruhestromverriegelung

24 V DC

stromlos öffnend

Active locking system

24 V DC

Fail save

Verrouillage par rupture de courant

24 V DC

Ouverture sans courant

Bloccaggio a circuito aperto

24 V CC

Chiusura in mancanza di corrente

Rustroomvergrendeling

24 V DC

spanningsloos ontgrendeld

Elslutbleck (aktiv)

24 V DC

Strömlöst öppet

Electrocerradura (activa)

24 V c.c.

Desbloqueo sin corriente

