Last version of this manual
IP2395EN • 2022-06-20

Ditec

Ditec DOD

Technical manual

Industrial sectional door automations

(translation of the original instructions)

www.ditecautomations.com

Index

Caption

This symbol indicates instructions or notes regarding safety, to which special attention must be paid.

This symbol indicates useful information for the correct functioning of the product.

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General safety precautions

ATTENTION! Important safety instructions.
Follow these instructions carefully. Failing to follow the instructions contained in this manual may result in serious personal injury or damage to the equipment.
Keep these instructions for future reference.
This manual and the manuals for any accessories can be downloaded at www.ditecautomations.com

This installation manual is intended for qualified personnel only • Installation, electrical connections and adjustments must be carried out by qualified personnel in accordance with Good Engineering Practice and in compliance with the regulations in force • Read the instructions carefully before starting to install the product. Incorrect installation could cause dangerous situations • Check the integrity of the product before starting installation

Packaging materials (plastic, polystyrene, etc.) should not be discarded into the environment or left within the reach of children, as they are potentially dangerous • Do not install the product in an explosive environment or atmosphere. The presence of flammable gases or fumes is a serious safety hazard • Ensure that the operating temperature range indicated in the technical data is compatible with the place of use • Before installing the motorisation, check that the existing structure and the support and guide components have the required strength and stability. Check the stability and smoothness of the guided part and ensure that there is no risk of derailment or falling. Make all structural modifications necessary to create safety barriers and protect or segregate all crushing, shearing, conveyance and danger zones in general. The manufacturer of the motorisation system is not liable for non-compliance with Good Engineering Practice in building the door or gate to be motorised or for any deformation that may occur during use • The safety devices (photocells, sensitive edges, emergency stops, etc.) should be installed in consideration of the standards and directives in force, Good Engineering Practice, the installation environment, the operating logic of the system and the forces created by the motorised door or gate • The safety

devices must protect any crushing, shearing, conveyance and danger zones of the motorised door or gate. Apply the markings provided for by the regulations in force to identify danger zones • Each installation must have visible indication of the identification data for the motorised door or gate • Before connecting the power supply, make sure that the data on the plate correspond to the electricity distribution network data. Provide an omnipolar switch/disconnector on the power network with a contact opening distance of 3 mm or more. Check that, upstream of the electrical system, there is a suitable residual-current device and surge protector, in compliance with Good Engineering Practice and the regulations in force. • When required, connect the motorised door or gates to an effective earthing system as indicated by the safety regulations in force • Before handing over the system to the end user, make sure that the automation is adequately adjusted to meet the operational and safety requirements and that all the command, safety and manual release devices are working correctly.


During maintenance and repair work, disconnect the power supply before opening the cover to access the electrical parts • Only qualified personnel should remove the protective cover for the automation system.


Electronic parts should be handled using grounded anti-static conductive bracelets. The manufacturer of the motorisation is not liable for safety or correct operation if incompatible components are installed • Use only original spare parts for any product repairs or replacements • The installer must provide all information relating to the automatic, manual and emergency operation of the motorised door or gate, and provide the user of the system with the instructions for use and safety.

Declaration of incorporation of partly completed machinery

(Directive 2006/42/EC, Annex II-B)

We,
ASSA ABLOY Entrance Systems AB
Lodjursgatan 10
SE-261 44 Landskrona
Sweden,

declare, under our sole responsibility, that the type of equipment with the name:

Ditec DOD14/14PS 230 V~ automation for sectional doors
Ditec DOITDD1P 230 V~ automation for sectional doors kit

complies with the following directives and their amendments:

2006/42/EC Machinery Directive (MD), regarding the following essential health and safety requirements: 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.2.4.2, 1.2.6, 1.3.9, 1.4.3, 1.7.2, 1.7.3, 1.7.4, 1.7.4.1, 1.7.4.2.
2014/30/EU Electromagnetic Compatibility Directive (EMCD)
2014/53/EU Radio Equipment Directive (RED)
2011/65/EU Restriction of Hazardous Substances (RoHS 2)
2015/863/EU Restriction of Hazardous Substances (RoHS Amendment 2)

Harmonised European standards which have been applied:

EN 61000-6-3:2007 + A1:2011 + AC:2012
EN 61000-6-2:2019
EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019
EN 60335-2-103:2015
EN 60529:1991 + A1:2000 + A2:2013 + AC:2016
EN 62233:2008 + AC:2008
EN ISO 13849-1:2015

Other standards or technical specifications which have been applied:

IEC 60335-1:2010 + C1:2010 + C2:2011 + A2:2013 + C1:2014 + A2:2016 + C1:2016
IEC 60335-2-103:2006 + A1:2010
EN 12453:2017.

The manufacturing process guarantees that the equipment complies with the technical documentation.

Do not put equipment into service until the installed finished Automatic Entrance System has been declared compliant with Directive 2006/42/EC on Machinery.

Responsible for the technical documentation:

Matteo Fino
BSP Ind channel & Gate Automation
Ditec S.p.A.
Largo U. Boccioni, 1
21040 Origgio (VA)
Italy

Signed on behalf of ASSA ABLOY Entrance Systems AB by:

Place	Date	Signature	Position
Origgio	2022-06-20	Matteo Fino	Head of Ind channel & Gate Automation

IP2395EN

UK Declaration of Conformity

We:
ASSA ABLOY Entrance Systems AB
Lodjursgatan 10
SE-261 44 Landskrona
Sweden

Declare under our sole responsibility that the types of equipment with names:

Ditec DOD14/14PS 230 V~ automation for sectional doors
Ditec DOITDD1P 230 V~ automation for sectional doors kit

Comply with the following directives and their amendments:

- Supply of Machinery (Safety) Regulations 2016
- Electromagnetic Compatibility Regulations 2016
- Radio Equipment Regulations 2017
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS)

Harmonized European standards that have been applied:

EN 61000-6-3:2007 + A1:2011 + AC:2012
EN 61000-6-2:2019
EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019
EN 60529:1991 + A1:2000 + A2:2013 + AC:2016
EN 62233:2008 + AC:2008
EN ISO 13849-1:2015

Other standards or technical specifications that have been applied:

IEC 60335-1:2010 + C1:2010 + C2:2011 + A2:2013 + C1:2014 + A2:2016 + C1:2016
EN 12453:2017

The manufacturing process ensures the compliance of the equipment with the technical file.

Responsible for technical file:

Matteo Fino
BSP Ind channel & Gate Automation
Ditec S.p.A.
Largo U. Boccioni, 1
21040 Origgio (VA)
Italy

Signed for and on behalf of ASSA ABLOY Entrance Systems AB by:

Place	Date	Signature	Position
Origgio	2022-06-20	Matteo Fino	Head of Ind channel & Gate Automation

1. Technical data

	Ditec DOD14	Ditec DOITDD1P	Ditec DOD14PS
Power supply	230 V~ 50 / 60 Hz		
Absorption	3 A		
Motor power	350 W		
Torque	60 Nm		
Holding torque	300 Nm		
Revolution transmission shaft	22 rpm		
RPM controlled by limit switch	27.5		
Capacitor	22 µf		
Service class	4 - INTENSIVE		
Continuous operating time (S2)	30 min		
Intermittence (S3)	50%		
Temperature	-20°C +55°C (-35°C +55°C with **NIO enable**)		-20°C +55°C
Degree of protection	IP40		
Weight	15 kg		
Control panel	LCA85	LCA85B	-

1.1 Application

Service class: 4 (minimum 100 cycles a day for 10 years or 200 cycles a day for 5 years)
Use: INTENSIVE (For pedestrian accesses with intensive use).

- The operating performance specifications refer to the recommended weight (about 2/3 of maximum allowed weight). Use with maximum allowed weight could reduce the above performance specifications in tecnhical data.
- The service class, operating times and number of consecutive cycles are merely approximate. These have been statistically determined in average conditions of use and are not certain for each single case.
- Each automatic entrance features variable factors such as: friction, balancing and environmental conditions that can substantially change both the duration and operating quality of the automatic entrance or part of its components (including automatic system). It is up to the installer to adopt adequate safety coefficients for each single installation.

ATTENTION: DOD14 geared motors may be used for operating sectional doors only if correctly balanced.
The sectional doors can only be manually moved by means of a handle (installing the DODSBV release device) or a chain (installing the DODSBC release device).

The given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

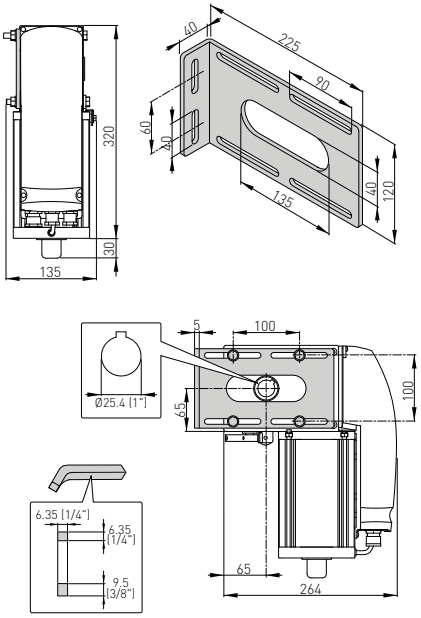
1.2 Machinery Directive

According to the Machinery Directive (2006/42/EC), the installer who motorises a door or gate has the same obligations as the manufacturer of a machine, and as such must:

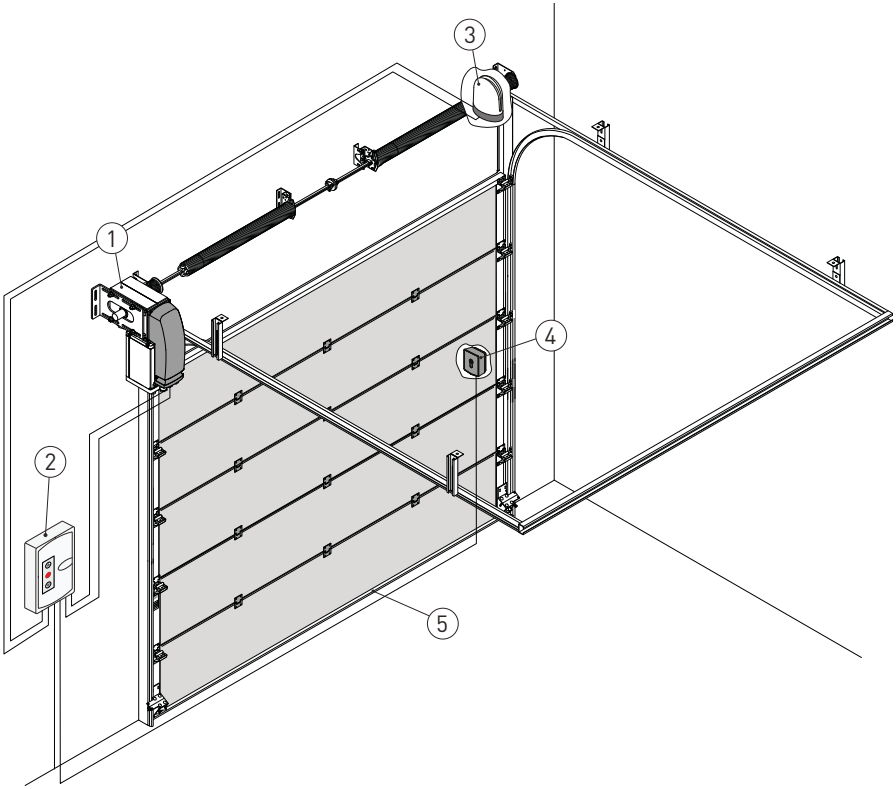
- prepare the technical documentation, which must contain the documents indicated in Annex V of the Machinery Directive;
  (the technical documentation must be kept and made available to the competent national authority for at least ten years, starting from the date of construction of the motorised door);
- draw up the EC statement of conformity according to Annex II-A of the Machinery Directive and hand it over to the customer;
- affix the CE marking to the motorised door in accordance with point 1.7.3 of Annex I of the Machinery Directive.

2. Dimensions

NOTE: Unless otherwise specified, all measurements are in mm.



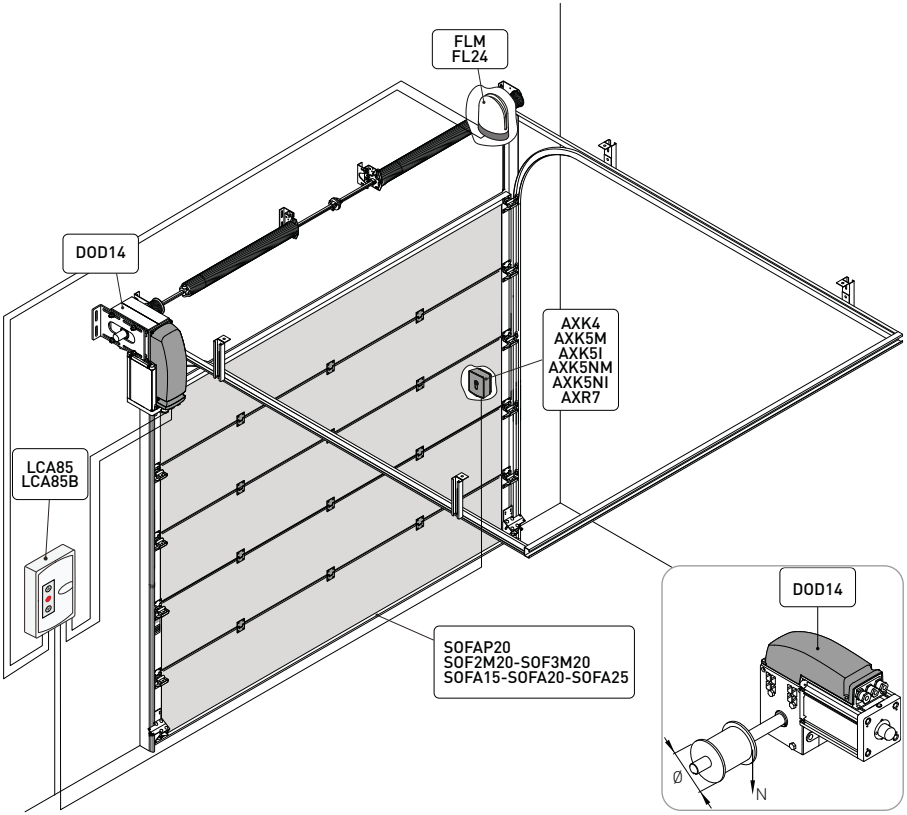
3. Installation type



Ref.	Code	Description	Cable
1	DOD14	Actuator (motor)	4 x 1.5 mm²
		Extra low voltage limit switch unit	3 x 0.5 mm²
2	LCA85/LCA85B	Control panel	3G x 1.5 mm²
3	FLM FL24	Flashing light 230 V Flashing light 24 V	2 x 1mm²
		Antenna (integrated in the flashing light)	RG-58 coax cable (50 Ω)
4	AXK4 AXK5M AXR5I AXK5NM AXK5NI AXR7	Digital combination wireless keypad Key metal burglar-proof semi-recessed selector switch Key metal burglar-proof wall-mounted selector switch Key metal burglar-proof wall-mounted selector switch Key metal burglar-proof semi-recessed selector switch Transponder	/ 4 x 0.5 mm²
5	SOFAP20 SOF2M20-SOF3M20 SOFA15-SOFA20-SOFA25 GOPAV	Safety edge Safety edge Safety edge Safety signal's radio transmission system	/

⚠ Connect the power supply to an omnipolar approved switch with an opening distance of the contacts of at least 3 mm (not included). The connection to the mains must be done on an independent channel separate from the connections to the command and safety devices.

4. Ditec DOD14 axle installation

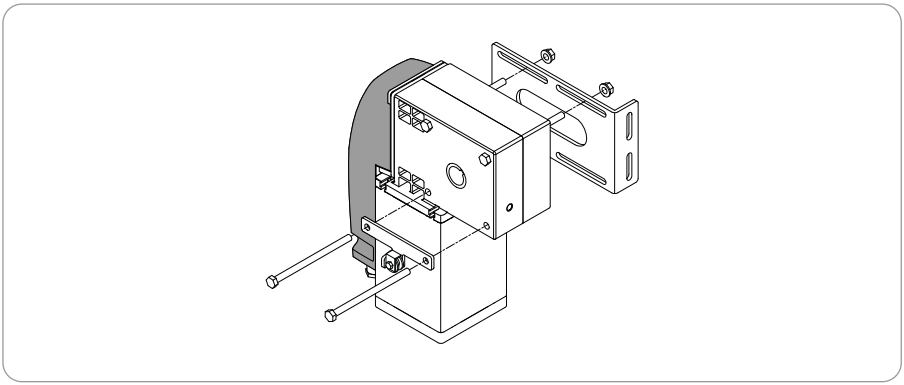


WARNING: For correct operation we advise to move the door at a speed lower than 0.2 m/s.

Type	Pinion	Crown	Reduction ratio	Torque [Nm]	Rotating speed [RPM]	Door cable pulley [Ø mm]	Door speed [m/s]	Max Run [m]	Max force [N]
DOD 14	-	-	1:1	60	22	102 124 158 226 Ø	0,12 0,14 0,18 0,26 =Ø:868	8,7 10,6 13,6 19,4 =Ø:11,66	1176 968 759 531 =120000:Ø

4.1 Motor assembling

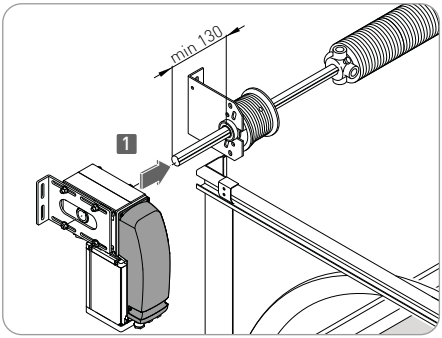
Mount the DOD14 motor onto the wall bracket and release idle bracket as shown in figure.

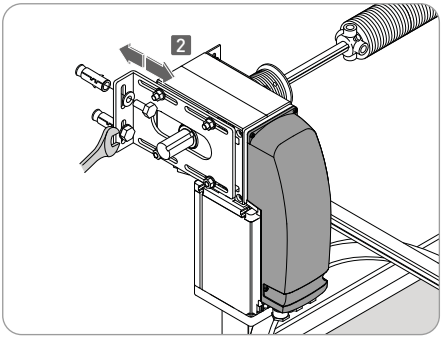


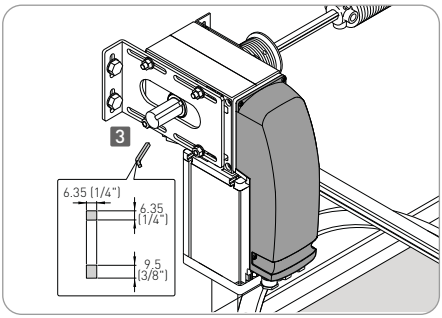
4.2 Installation

- Fit the DOD14 motor onto the drive shaft.
- After having determined the position of the wall bracket, drill the holes and secure the bracket in place with dowels (not supplied).
- Insert the appropriate cotter according to shaft cavity length.
- Secure the metal clamp so as to prevent the risk of the cotter coming out of the shaft.

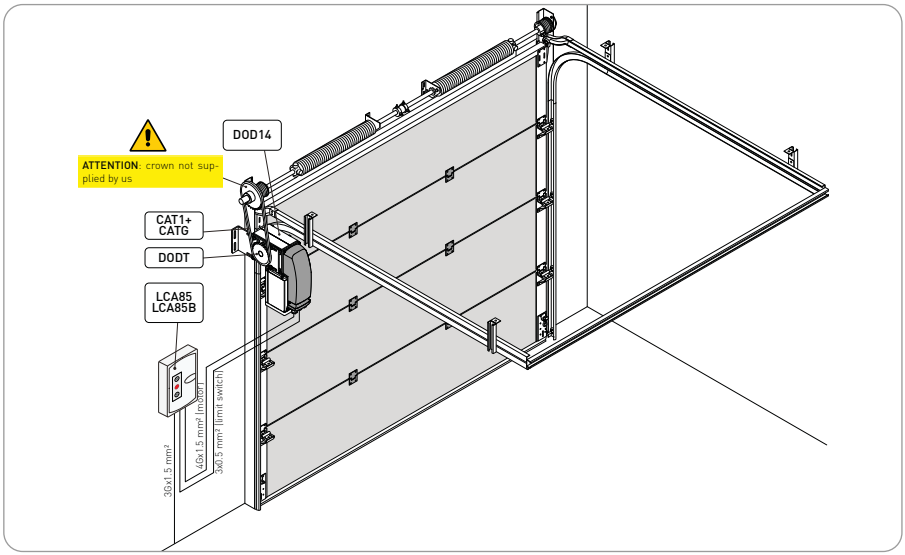
ATTENTION: firmly tighten down all fastening screws.







5. Ditec DOD14 chain link-up installation

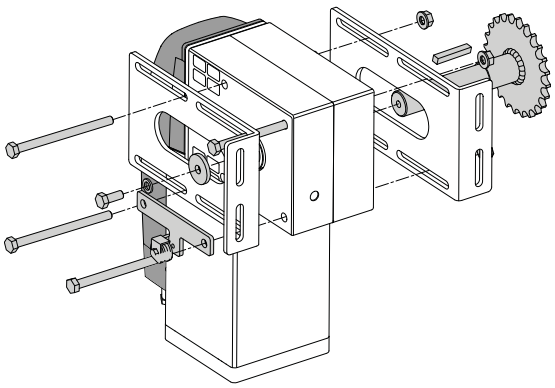


NOTE: DODT - Drive shaft with Z24 pinion and key

Type	Pinion	Crown	Reduction ratio	Torque [Nm]	Rotating speed [RPM]	Door cable pulley [Ø mm]	Door speed [m/s]	Max Run [m]	Max force [N]
DOD 14	DODT 1/2"x5/16" Z= 24	1/2"x5/16" Z= 30	1:1,25	75	17,6	102 124 158 226 Ø	0,09 0,11 0,15 0,21 = Ø:1085	7,0 8,5 10,8 15,5 = Ø:14.57	1470 1210 949 664 =150000:Ø
	DODT 1/2"x5/16" Z= 24	1/2"x5/16" Z= 39	1:1.625	97.5	13.5	102 124 158 226 Ø	0.07 0.09 0.11 0.16 = Ø:1410.5	5.4 6.5 8.3 11.9 = Ø:18.95	1912 1573 1234 863 =195000:Ø
	DODT 1/2"x5/16" Z= 24	1/2"x5/16" Z= 45	1:1.875	112.5	11.7	102 124 158 226 Ø	0.06 0.08 0.10 0.14 = Ø:1627.5	4.7 5.7 7.2 10.3 = Ø:21.86	2206 1815 1424 996 =225000:Ø

5.1 Assembly of DODT drive shaft with Z24 pinion

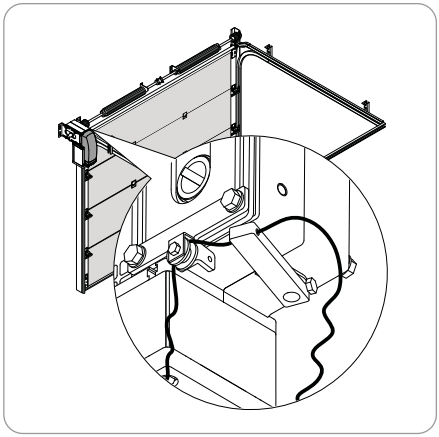
Fasten the wall fixing brackets and the release idle bracket onto the Ditec DOD14 motor and put the shaft with the pinion into the position required for traction (on one of the two sides of the motor).

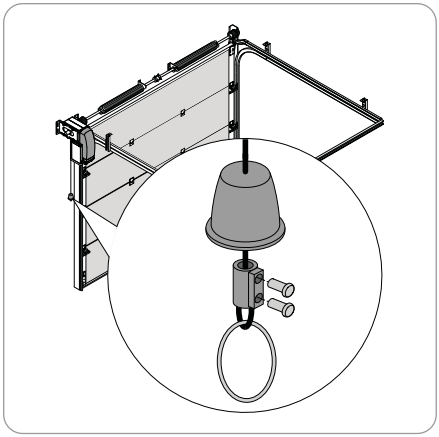


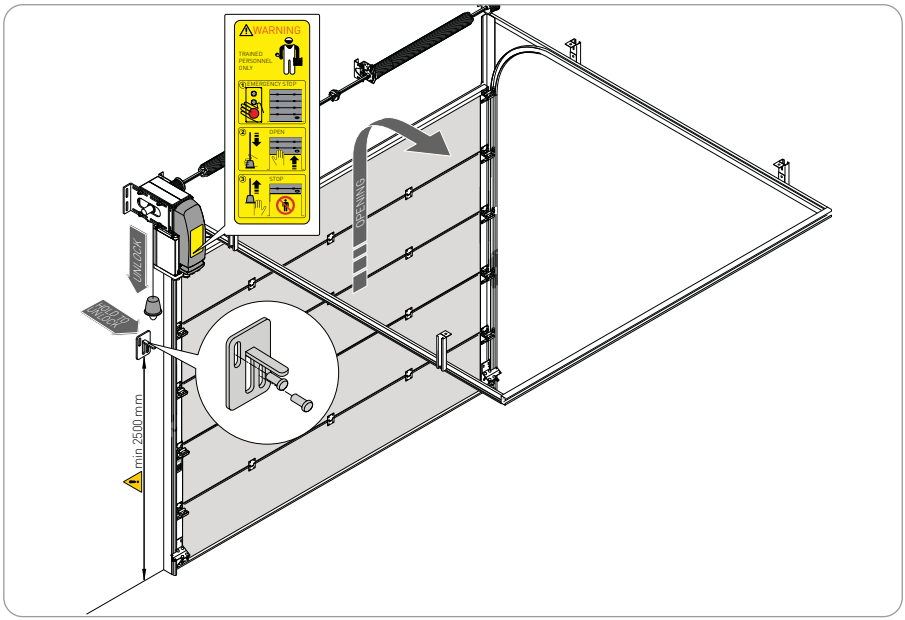
6. Cord release installation

The cord release on the sectional doors should only be used by skilled personnel, for adjusting the door balancing springs during the installation and maintenance phases. DO NOT USE TO MOVE THE SECTIONAL DOORS MANUALLY.

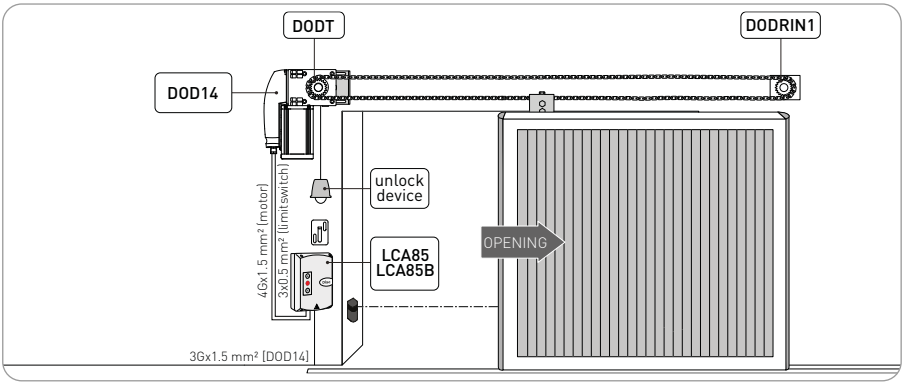
- Fasten the brackets to the gearmotor, then pass the release cord.
- Connect the ring and the handle to the release cord.
- Fasten the cord connection bracket at a height of at least 2.5 m from the ground, to avoid any improper use by unauthorised persons. Attach the WARNING label to the motor.





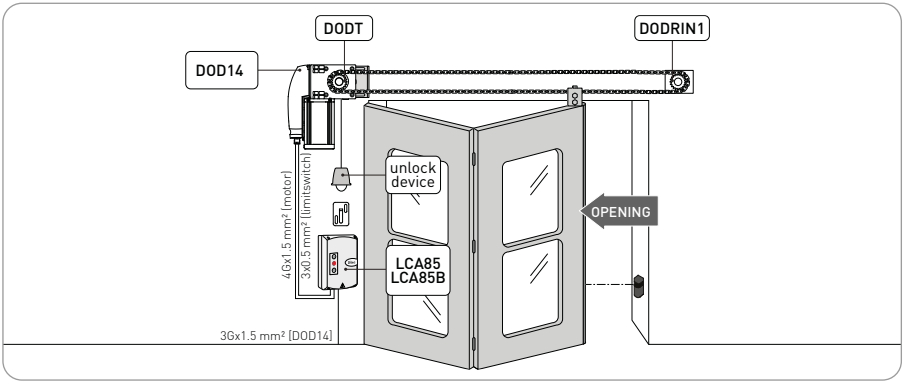


7. Ditec DOD14 installed on sliding door



Type	Pinion	Crown	Reduction ratio	Torque [Nm]	Rotating speed [RPM]	Door speed [m/s]	Max Run [m]	Max Force [N]
DOD14	DODT (Z24)	DODRIN1 (Z24)	1:1	60	22	0,11	8,35	1200

8. Ditec DOD14 installed on sliding door



Type	Pinion	Crown	Reduc-tion ratio	Torque [Nm]	Rotating speed [RPM]	Door speed [m/s]	Max Run [m]	Max Force [N]
DOD14	DODT (Z24)	DODRIN1 (Z24)	1:1	60	22	0,11	8,35	1200

NOTE: for proper operation the door shall be equipped with a derailment device and the chain fastening bracket on the wing must be rotating.

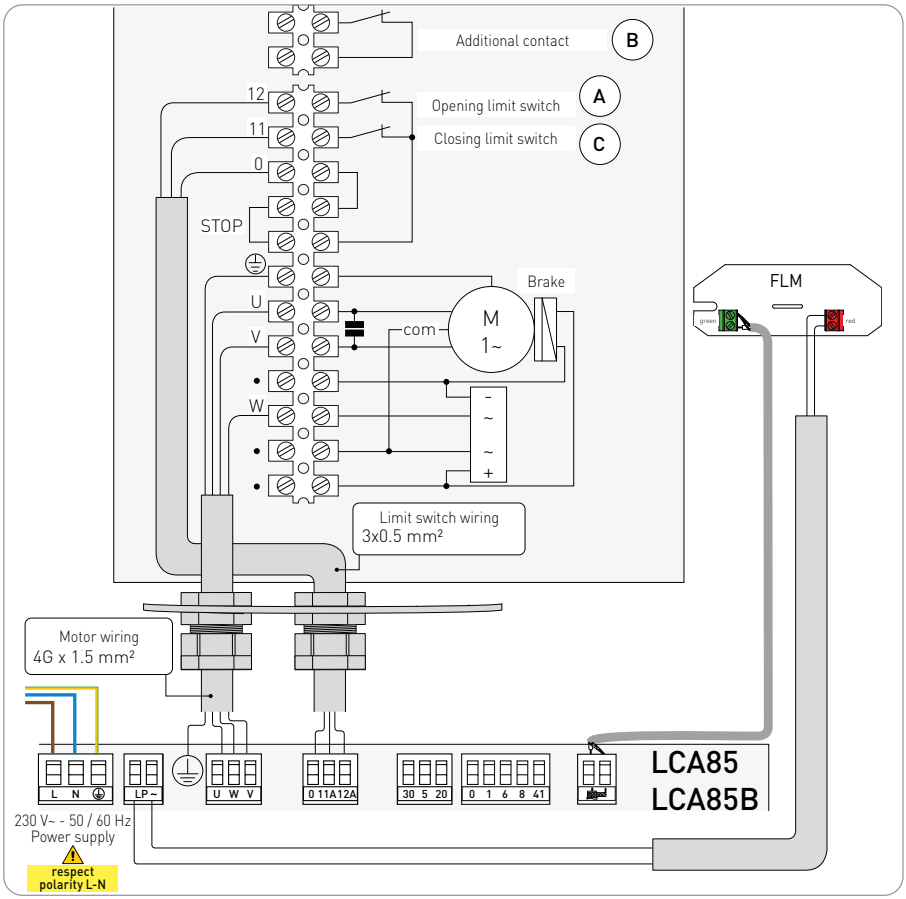
9. Electrical connections

Before connecting the power supply, make sure the plate data correspond to those of the mains power supply.
An omnipolar disconnection switch with a contact opening distance of at least 3 mm must be fitted on the mains supply.
Check there is an adequate residual current circuit breaker and overcurrent cut-out upstream of the electrical system.
Connect the motor wires to the respective control panel terminals.

WARNING: connect the motor earth wire to the power supply earth.

Connect the limit switch wires to the respective control panel terminals.
Secure the cable using a special cable clamp.
Make sure there are no sharp edges that may damage the power supply cable.
Connection to the mains power supply (in the section outside the automation) is made on an independent channel, separated from the connections to the control and safety devices.

9.1 Ditec DOD14 - DOITDD1P electrical connections



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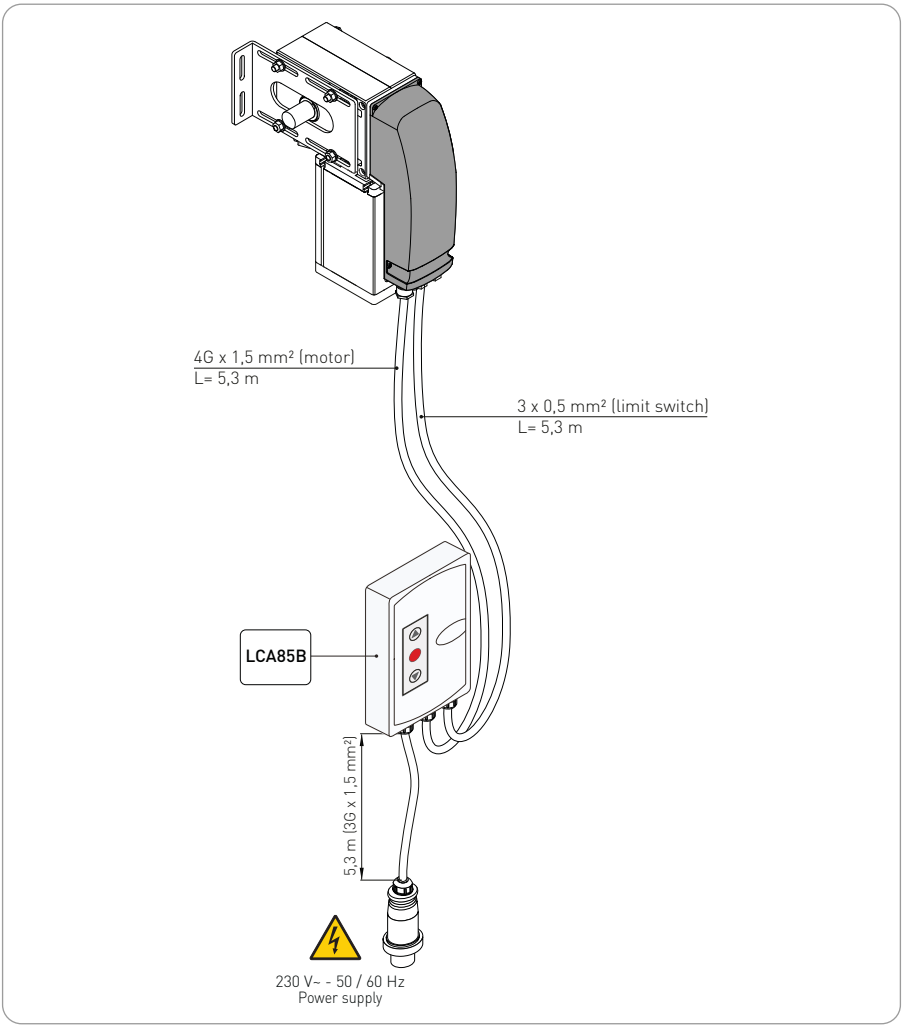
9.1.1 Ditec DOITDD1P wiring diagram



9.2 Product start-up

ATTENTION: if the control panel is used to replace an identical control panel which is faulty, the last automation configuration can be reset by inserting the old control panel storage module into the new control panel and loading the last set configuration using the menu sequence SF → RL.

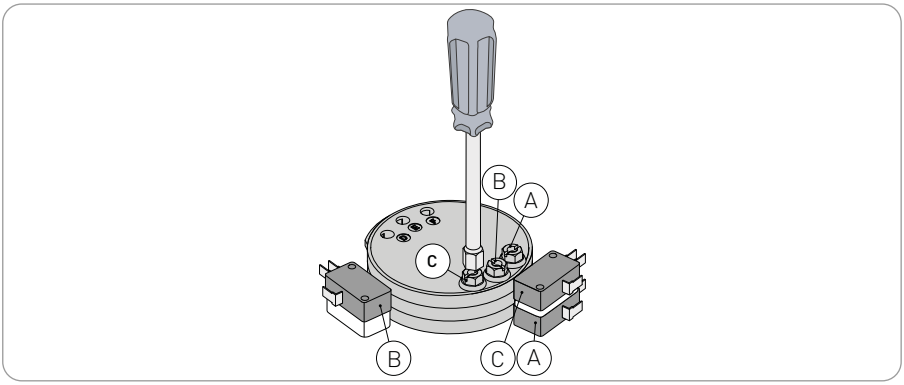
ATTENTION: before using the automation, make sure that the operating forces of the gate wings comply with the EN 12453:2017 standard and subsequent revisions.

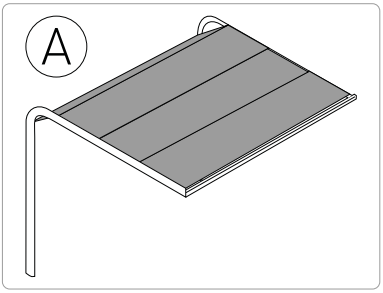
1. Turn on the power
2. Activate the WZ configuration wizard menu. Select the parameter A5 value of **01** for operating without slow-down, or **04** to activate deceleration during opening and closing. Deactivate automatic closing by setting parameter AC to OF. Select the specific installation. Make sure the opening direction parameter is correct (parameter DM).
3. Make a jumper for the safety contacts 1-6, 1-8 and 1-9. If not deactivated via the menu parameters AP → D6, AP → D8 and AP → R9.
4. The limit switches must be set so that they intervene near the mechanical opening and closing stop. To set the limit switches, see paragraph 7.3.
5. Perform a complete opening (keys ENTER + UP) and closing (keys ENTER + DOWN) cycle and check that the automation performs the corresponding operation and stops when each limit switch is activated (self-learning).
6. Adjust parameters AP → TU and AP → TV to regulate the extra operating time after activation of the limit switches during opening and closing in order to precisely define the desired final position. Several attempts may be required.
7. Activate automatic closing if necessary (parameter BC → AC) and adjust the desired delayed automatic closing (parameter BA → TC).
8. Connect the safety devices after removing the jumpers 1-6, 1-8 and 1-9, or reactivating the corresponding inputs using the menu parameters AP → D6, AP → D8 and AP → R9. Make sure the various safety devices are operating correctly.

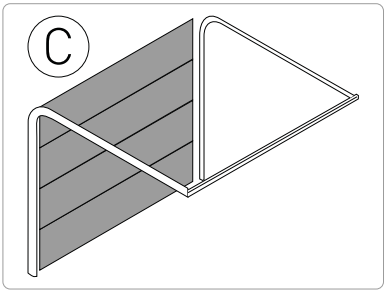
9.3 Limit switch adjustment

With door open, adjust screw [A] so as to cause the associated cam to trigger the opening limit switch.
With door closed, adjust screw [C] so as to cause the associated cam to trigger the closing limit switch.
You can decide to adjust the nut [B] so that the relative cam triggers the supplementary contact.

WARNING: the supplementary contact can be used for different purposes (i.e. as a safety in order not to exceed maximum stroke in closing and opening, as an exclusion of the sensitive edge after the closing limit switch has been triggered, or for possible acoustic signals or traffic lights).

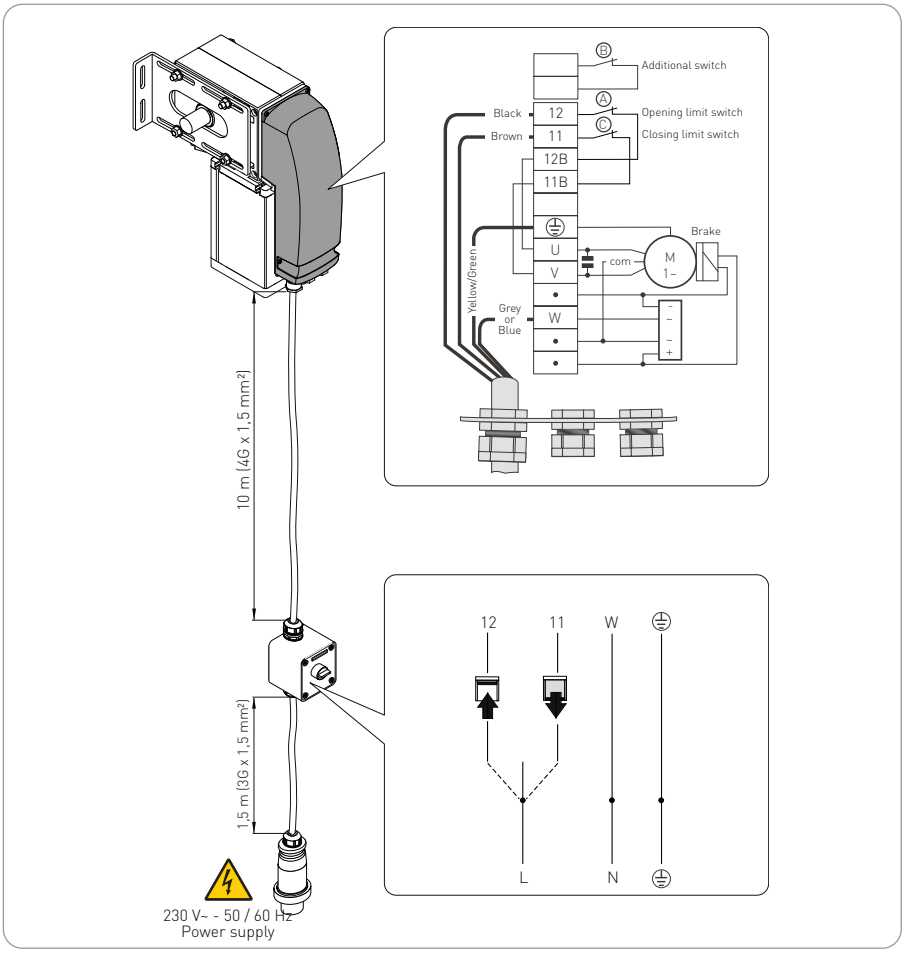






9.4 Ditec DOD14PS electrical connections

With the provided push button the control panel isn't necessary, the automation works as "hold to run" function.



10. Routine maintenance plan

Perform the following operations and checks every 6 months according to intensity of use of the automation.

Disconnect the power supply, 230 V~:
- Maintenance and lubrication of the mechanical parts must be carried out with the door closed (fully lowered).
- Make sure that cable and spring breakage device is in perfect working order.
- Check that the lifting cables are not worn.
- Make sure that the cables run smoothly in the drums.
- Periodically grease the hinges, ball-bearings, wheel pins, and torsional springs.
- Check for any obstacles that may hinder the wheels from properly running in the guides.
- To check the correct balancing of the sectional automation.
- Make sure that the overhead sliding structure is firmly fastened to the ceiling and perfectly free from any defects, bending or buckling.
- Make sure that there are no loose bolts or screws.
- Absolutely avoid making any changes to the hoisting and/or sliding system.

Connect the power supply 230 V~:
- Limit switches are working properly;
- All control and safety functions are in good working order.

NOTE: for spare parts, see the spares price list.

For repairs or replacements of products only original spare parts must be used.
The installer shall provide all information relating to automatic, manual and emergency operation of the motorised door or gate, and provide the user with operating instructions. The installer must prepare the maintenance log, which will indicate all the interventions of ordinary and extraordinary maintenance carried out.

The crossed-out wheelie bin symbol indicates that the product should be disposed of separately from normal household waste. The product should be recycled in accordance with local environmental regulations for waste disposal. By separating a product marked with this symbol from household waste, you will help reduce the volume of waste sent to incinerators or land-fill and minimise any potential negative impact on human health and the environment.

ASSA ABLOY Entrance Systems AB
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SE-261 44, Landskrona
Sweden