

Instructions for the assembly and operation of the drive type: WM

Models: WM35DS-10/14, WM45DS-20/10



A DC drive with overload detection function, with integrated radio and battery recharged with energy from a solar panel.

The drive is made in two versions:

- WM35DS-10/14 (N-10LER)
- WM45DS-20/10 (N-20LER)

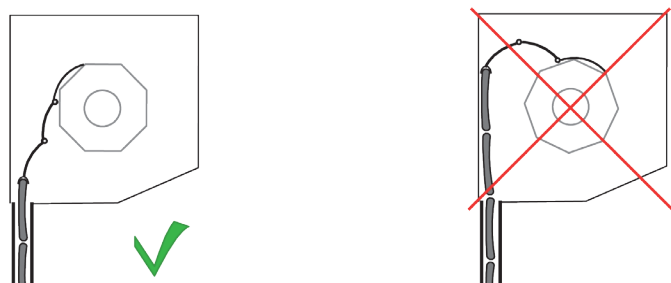


The drive is designed for wireless control of covers.

For correct motor and roller blind interaction, lock hangers on winding tube and stoppers in the bottom slat must be used. In order to improve the comfort of use, stoppers should be located as close to the guides as possible. There must be a sill in the window and the length of the armoring must be adapted to the length of the guides. Before mounting, the drive should be connected to a charger and fully charged. The LED on the charger will change from red to green.

Lock hanger assembly instructions

The roller blind height should be selected so that with the roller blind closed, the top slat of the armoring protrudes from the guide to a maximum of half its height. When a roller blind is too high, its operation may be incorrect or it may even get damaged. The length of the hanger and the height of the roller blind must be selected so that the hanger presses the first slat of the armoring down the guide.



1 Safety instructions

1.1 Basic instructions

The drive is put into operation in a condition enabling its safe assembly and operation, provided that all instructions contained in the operation manual are observed.

No conversions or modifications of the drive are permitted. Guarantee repairs may be carried out only by the producer. Only original spare parts and accessories should be used for post-guarantee repairs. The operational safety of the delivered drive is guaranteed only when used according to the producer's guidelines. The threshold values given in our technical overview must in no case be exceeded.

1.2 Supplementary safety provisions

Applicable safety and accident prevention regulations must be observed with regard to the assembly, start-up or maintenance of the drive. Special attention should be paid to:

1. Fire safety regulations.
2. Accident prevention regulations.

1.3 General notes on hazards and safety measures

The notes in bold are general instructions applicable to the use of INEL devices in combination with other devices. These indications must be strictly observed when assembling and operating these devices.

- Before assembling the drive and setting limit positions, check the fixing of all screw connections.
- Applicable safety and accident prevention regulations must be observed.
- Conductors and cables should be regularly controlled in terms of damaged insulation and wire continuity.
- If conductor damage is found, power supply must be immediately disconnected and damaged conductors replaced.

1.4 Warning

- Don't let children play with the control devices.
- Keep remote control devices out of the reach of children.
- Observe the moving roller blind and keep people away from it until it fully opens or closes.
- Users of the roller blind should be trained in and instructed on how to operate it and informed about hazards connected with its use. Users can be considered trained if the employer, administrator or owner permitted them to start the roller blind and instructed them on how to use it.

2 Assembly instructions

2.1 Safety rules

- The drive may be assembled only by persons with appropriate qualifications.
- The weight of the roller blind may not exceed the drive load capacity specified in the selection table (available at www.inel.gda.pl).
- An appropriate way of routing the cable (loop directed downwards) additionally protects the drive against possible water damage.
- Do not drill holes in the motor housing.
- Protect the motor against contact with any liquids.
- Avoid crushing and impacting the motor and protect it from falling down.

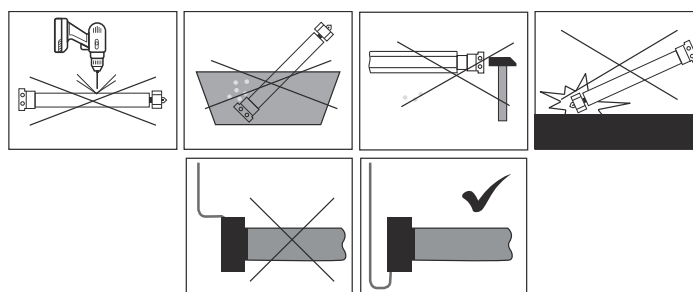


Figure 1.

2.2 Drive assembly

Correct drive assembly:

- Fix the mounting bracket (A) to a side of the roller blind box, connect the adapter (D) to the drive ring of the motor.
- Place the pick-up (E) delivered with the motor on the motor axis and secure it with a pin (F), then insert the entire motor to the winding tube (G).
- Connect the winding tube and the drive pick-up with screws or rivets (H).

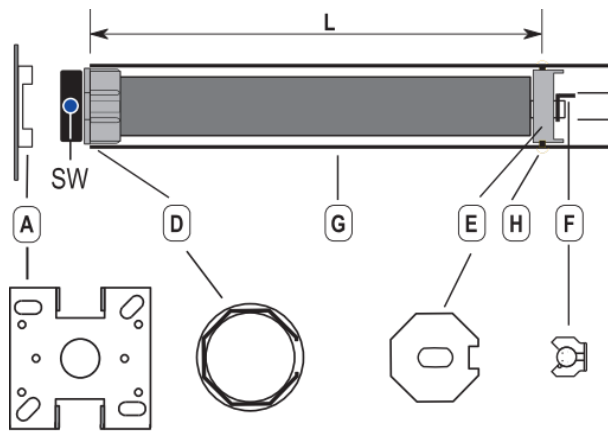


Figure 2.

2.3 Electrical connections

After the drive assembly, install the solar panel in accordance with the attached instructions, and then connect the solar panel plug to the drive socket. Fix the conductors to the side of the box so that they do not come into contact with moving parts.

Before starting/programming the drive, check the condition of the roller blind armouring, guides and box.

The roller blind box and guides should be free of dirt and should ensure free movement of the roller blind armouring along the entire length. Guides that are contaminated with construction materials or too tight may cause damage to the drive and the roller blind that is not covered by the guarantee.

3 Remote control registration

The motor is compatible with:

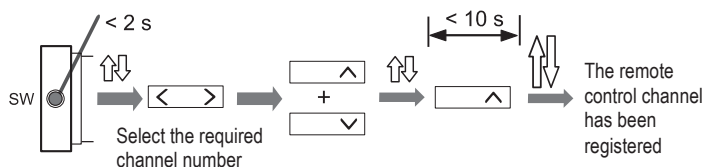
PIL-01/04NS, PIL 01/05/09/19PM, PIL-19/99PMT, PIL-01/05/09/19DL, PIL-19/99DLT, PIL-19/99MMT, PIL-01PT, PIL-99TST.

Remote controls from the wide range offered by Inel (except for key fob remote controls) must be used to control the drive. The remote control should be registered. Remote control registration consists in saving the remote control channel in the drive memory.

3.1 Registration of the first remote control

If the drive is collected from the producer or is lost, the remote control should be registered according to the procedure indicated below.

- Shortly (< 2 seconds) press the SW button on the drive head – the drive will make a short up–down movement.
- Select the required channel on the remote control.
- Simultaneously press the buttons **Λ** and **∇** on the remote control – the drive will make a short up–down movement.
- During the following 10 seconds, press the button **Λ** – the drive will confirm the channel registration by making a long up–down movement.



PLEASE NOTE This procedure results in deleting all previously registered channels from the drive memory. This permits assigning the remote control to the drive if no other remote control is registered (new drive or when the remote control gets lost/stolen).

3.2 Registering another remote control/channel

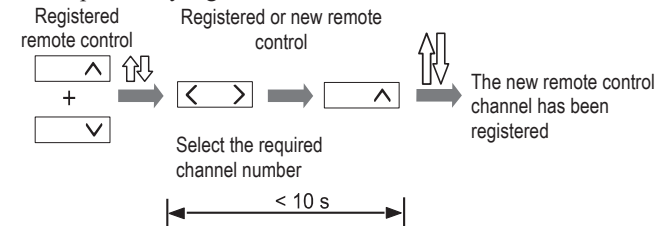
Having a previously registered remote control, subsequent channels of the same or another remote control must be registered without the use of the SW button.

To do this:

- Simultaneously press the buttons **Λ** and **∇** on the registered remote control – the motor will make a short up–down movement. The drive will remain in the registration mode for the next 10 seconds. To register a new channel of the same or another remote control, do the following during that time:

- Select the required channel on the remote control.
- Press the button **Λ** – the drive will make a long up–down movement to confirm the selection.

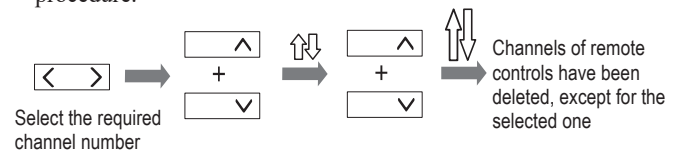
This method permits assigning any channel to any drive, but only if we have a previously registered remote control.



3.3 Deleting saved channels

In order to delete saved channels, do the following:

- Select the channel on the registered remote control.
- Simultaneously press the buttons **Λ** and **∇** – the drive will make a short up–down movement.
- Simultaneously press the buttons **Λ** and **∇** again – the drive will confirm the selection by making a long up–down movement and all channels will be deleted, except for the channel used in the deletion procedure.



PLEASE NOTE All remote controls and other channels of this remote control will be deleted.

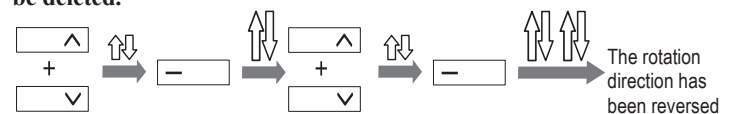
4 Change of rotation direction

If after pressing the button **Λ** the roller blind moves upwards, the direction of the drive rotation is correct and limit positions can be set.

If the rotation direction is contrary, it has to be reversed as follows:

- Simultaneously press the buttons **Λ** and **∇** on the remote control – the drive will make a short up–down movement.
- Press the button **—** (STOP) on the remote control – the drive will make a long up–down movement.
- Simultaneously press the buttons **Λ** and **∇** on the remote control – the drive will make a short up–down movement.
- Press the button **—** (STOP) on the remote control – the drive will make 2 long up–down movement to confirm the selection.

PLEASE NOTE After reversing the direction, the limit positions will be deleted.



5 Setting the limit positions (LPs)

It is not necessary to set the LPs manually. The drive can set them automatically. To do this, run 3 cycles of full opening/closing of the roller blind. The drive has an overload detection function. After stopping on an obstacle (a window sill, stoppers) 3 times at the same place, it sets an increased sensitivity zone at that place. The drive will stop in this zone with increased sensitivity. When entering that zone, the motor will slow down, gently reach the obstacle, and stop.

After moving the drive to another window or changing the roller blind length, the drive will set new limit positions after performing the three roller blind closing/opening cycles.

Manual setting of LPs is described below.

The order of setting the LPs is irrelevant. It is possible to set both LPs, only one of them, or not setting any LP.

LPs cannot be set too close to each other. When attempting at such a setting, the drive will make a short up–down movement.

5.1 Setting the top limit position (TLP)

To set the top limit position (TLP):

- Set the roller blind at the required TLP (using the buttons **▲**, **▼**, **—** (STOP)) on the remote control.
- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **▲** on the remote control – the drive will make a long up–down movement.
- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **▲** on the remote control – the drive will make 2 long up–down movements – the TLP has been set.



5.2 Setting the bottom limit position (BLP)

To set the bottom limit position (BLP):

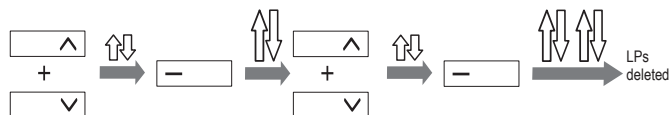
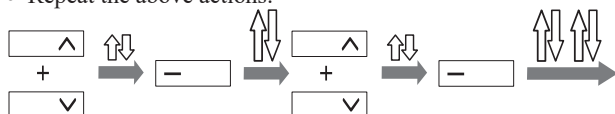
- Set the roller blind at the required BLP by using the buttons **▲**, **▼**, **—** (STOP) on the remote control.
- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **▼** on the remote control – the drive will make a long up–down movement.
- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **▼** on the remote control – the drive will make 2 long up–down movements – the BLP has been set.



5.3 Deleting the limit positions (LPs)

In order to delete the limit positions (LPs), repeat the procedure for reversing the rotation direction **twice**:

- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **—** (STOP) on the remote control – the drive will make a long up–down movement.
- Simultaneously press the buttons **▲** and **▼** on the remote control – the drive will make a short up–down movement.
- Press the button **—** (STOP) on the remote control – the drive will make 2 long up–down movements.
- Repeat the above actions.



6 Operating guidelines

6.1 Battery

The producer delivers the drive with the battery fully charged. After mounting the drive, the battery is recharged with electricity from the solar panel.

If the time period between purchasing and mounting the drive is long, the battery should be charged using the charger (to be purchased from the producer). The charger should be connected to the drive instead of the solar panel. Full charge time can last up to 8 hours.

If the charge level is too low, the drive stops when trying to start it, and makes 2 short up–down movements.

When the battery needs to be charged with the use of the charger too frequently, check the condition of the solar panel. If the panel is clean and well lit with sunlight, probably the battery has worn out.

7 Troubleshooting

Problem: The motor does not react to commands

Cause: The battery is discharged.

Solution: Charge the battery.

Problem: The battery needs to be recharged several times a year

Cause: The battery has worn out.

Solution: Replace the drive.

8 Technical overview

	WM35DS-10/14	WM45DS-20/10
Power supply	12 DC	12 DC
Torque	10 Nm	20 Nm
Power	42 W	55 W
Rotational speed	14 rpm	10 rpm
Protection class	IP 44	IP 44
Continuous operation time	4 min	4 min
Motor length	655 mm	740 mm
Mass	1.55 kg	2.5 kg

9 Motor selection table

		Roller blind length			
		1.5 m	2.0 m	2.5 m	3 m
Torque	Winding tube diameter	Permissible roller blind mass for the above lengths			
N-10 Nm	Φ = 40 mm	20 kg	19 kg	18 kg	17 kg
N-20 Nm	Φ = 50 mm	46 kg	44 kg	41 kg	39 kg
N-20 Nm	Φ = 60 mm	42 kg	40 kg	38 kg	36 kg

The above data are estimates – they depend on many factors (correct assembly, armouring friction coefficient, atmospheric conditions and other).

10 Handling of waste equipment



Placing used equipment with other waste is forbidden. Dispose of waste equipment at a place intended for this purpose. Households play an important role in waste equipment recycling. Through appropriate segregation of waste, including waste equipment and batteries, householders ensure that the waste equipment does not end up in municipal waste but at a place specially designated for this purpose and that it may be reused as a raw material for reuse after recycling.



Przedsiębiorstwo Informatyczno-Elektroniczne INEL Sp. z o.o., address: ul. Mostowa 1, 80-778 Gdańsk, as the producer, hereby declares that the drive described in these instructions and used in the manner described herein is compliant with the basic requirements of appropriate EU directives, in particular Directive 2006/42/EC, Directive 2014/35/EU and Directive 2014/30/EU.

The full text of the EU declaration of conformity is available at the web address www.inel.gda.pl

Instructions for the assembly and operation of the solar panel: 3.8 W, 18 V

Model: 470*60



The solar panel is designed for use with the drives WM35DS-10/14 ((N-10LER) and WM45DS-20/10 (N-20LER). The panel converts solar radiation energy into electric energy used for charging the battery banks inside the drive.

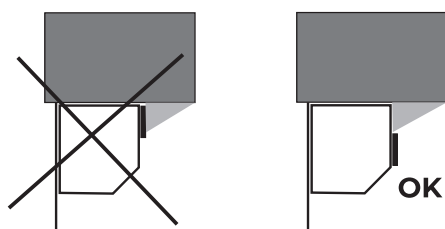
1 Safety instructions

Do not drill holes in the panel.
When fixing the panel on the roller blind box, do not apply excessive force in order not to damage the panel.
Do not cover the panel with paint.

2 Assembly instructions

2.1. Selection of the location

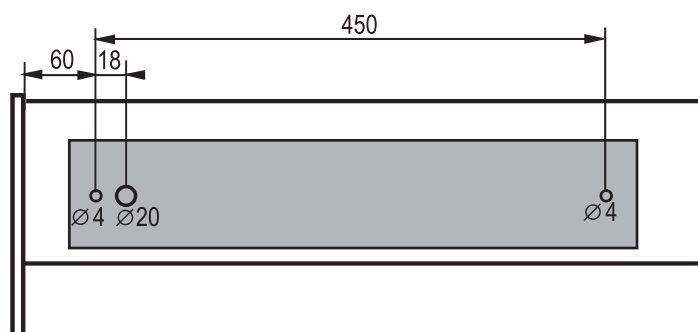
The panel should be placed on the cover of the roller blind box at a place with the best sunlight.



2.2. Fixing of the panel

To fix the panel correctly, proceed in the following order:

- Drill two holes with the diameter of 3 mm in the roller blind box, as shown on the figure below, to fix the panel, and one hole with the diameter of 20 mm to pass a cable. Smooth the edges of this hole.
- Pass the panel cable through the hole to the inside of the box.
- Fix the solar panel with aluminium rivets (4.0 mm in diameter) or screws (max. 15 mm in diameter) in both drilled holes with special care.



2.3. Electrical connections

Connect the solar panel plug to the drive socket. Fix the conductors to the side of the box so that they do not come into contact with moving parts.

3 Maintaining cleanliness

The solar panel needs to be maintained clean. Wash it with clean water and a soft cloth.

Prevent leaves or snow from covering the panel.

4 Troubleshooting

Problem: The battery needs to be recharged several times a year

Cause: The solar panels is not sufficiently lit.

Solution: Remove the obstacles, wash the panel.

Cause: The solar panel is damaged.

Solution: Replace the solar panel.

5 Handling of waste equipment



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