

Drive installation and operation manual, type: GM

Model: GM35LER-10/09 (N-10LER)

DC drive **GM35LER-10/09 (N-10LER)** with overload detection, integrated radio and battery charged by solar panel.



Drive with integrated battery, recharged by energy from a solar panel. The drive is designed for wireless control of guards. In order for the motor to work correctly with the roller shutter, it is necessary to use hanger-locks on the winding tube and stoppers in the bottom bar. The stoppers should be placed as close to the guides as possible to improve comfort. A sill must be fitted to the window and the length of the guard must match the length of the guides.

Before installing the drive, connect it to the charger and charge the battery for 6 hours.

Locking hanger – assembly guidelines

The shutter height should be selected to make sure that with the shutter closed the uppermost slat of the curtain protrudes from the guide up to half of its height at maximum.

Excessive shutter height may cause faulty operation or even damage. The hanger length and shutter height must be selected so that the hanger presses on the first slat of the curtain downwards the guide.



1 Safety instructions

1.1 Basic guidelines

The drive is handed over in a condition for safe installation and use, provided that all instructions in the operating manual are complied with. Conversion or changes to the drive are not permitted. Warranty repairs may only be carried out by the manufacturer. Only original spare parts and accessories should be used for post-warranty repairs. Safe operation of the supplied drive is only guaranteed when used in accordance with the manufacturer's specifications. The limits given in the technical data must not be exceeded under any circumstances.

1.2 Supplementary safety provisions

Important safety and accident prevention regulations must be observed when installing, commissioning and maintaining the drive. The following provisions require special attention:

1. Fire regulations.
2. Accident prevention regulations.

1.3 General comments on hazards and safety measures

The comments listed are general guidelines when using INEL equipment in combination with other equipment. These indications must be strictly adhered to when installing and operating the equipment.

- Before installing the drive and setting the end positions, check the tightening of all screw connections.
- The applicable safety and accident prevention regulations must be observed.
- Wires and cables should be checked regularly for insulation damage and conductor continuity.
- If the cables are found to be damaged, the damaged cables must be replaced after the power supply has been switched off immediately.

1.4 Warning

- Do not let children play with the control devices.
- Keep remote control devices out of the reach of children.
- Watch the roller shutter moving and keep bystanders clear until it is fully open or closed.
- Users of the roller shutter must be trained and instructed on how to operate the roller shutter and on the dangers involved in its use. People can be considered trained if the employer, administrator or owner has allowed them to operate the roller shutter and instructed them on how to use it.

2 Assembly instructions

2.1 Safety rules

- Inst Installation of the drive must only be carried out by suitably qualified persons.
- The weight of the roller shutter must not exceed the load capacity of the drive as indicated in the selection table (table available at www.inel.gda.pl).
- The proper way of laying the cable (loop facing downwards) further protects the drive from possible water damage.
- Do not drill holes in the motor housing.
- Protect the motor from contact with any fluid.
- Avoid crushing, impact to the motor and protect the motor from falling.

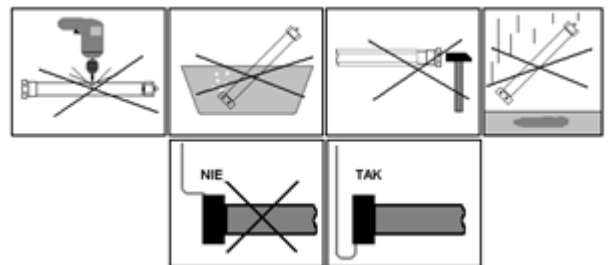


Figure 1

2.2 Assembly of the drive

- Attach the mounting bracket (A) to the side of the roller shutter box, connect the adapter (D) to the motor drive ring.
- Place the dog (E) supplied with the motor on the motor shaft and secure it with the pin (F), then slide the entire drive into the winding tube (G).
- Connect the winding tube and the drive dog with screws or rivets (H).

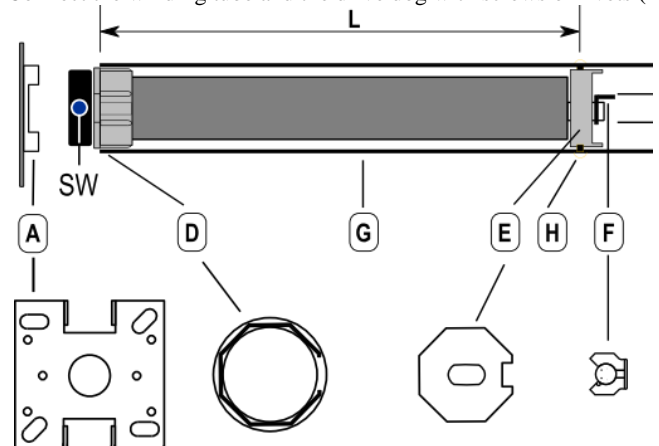


Figure 2

2.3 Electrical connections

After starting, the motor increases its speed until it reaches the optimum speed.

Check the condition of the guard, guides and roller shutter box before starting / programming the drive.

The roller shutter box and the guides should be free of dirt and ensure free movement of the roller shutter guide along its entire length. Guides that are contaminated with construction material or too tight may cause damage to the drive and the roller shutter, which is not covered by warranty.

3 Registering the remote control

The drive is compatible with the next remote controls: PIL-01/04NS, PIL 01/05/09/19PM, PIL-19/99PMT, PIL-01/05/09/19DL, PIL-19/99DLT, PIL-19/99MMT, PIL-01PT.

Use remote controls from Inel's extensive range (except key fobs) to control the drive. The remote control must be registered. Registering the remote control involves memorizing the remote control channel in the drive's memory.

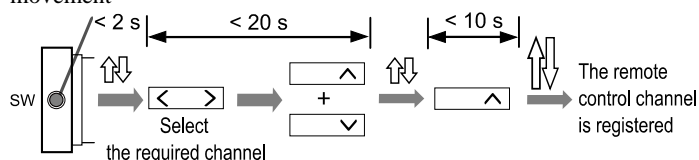
3.1 Registering the first remote control

For drives received from the manufacturer or if the remote control is lost, the remote control must be registered using the following procedure:

- briefly press (< 2 seconds) the SW button on the drive head – the drive makes a short up-down movement
- within 20 seconds select the desired channel on the remote control and press the **Λ** and **V** keys simultaneously - the drive will make a short up-down movement

The 20 second limit applies to all operations with simultaneous pressing of the **Λ and **V** keys.**

- press the key **Λ** the next 10 seconds – the drive will confirm the channel registration by making a long up-down confirmation movement



NOTE: The procedure will erase all previously registered channels from the drive memory. This allows the registration of a remote control for the drive when no registered remote control is available (new drive or case of lost / stolen remote control).

3.2 Registering another remote control / channel

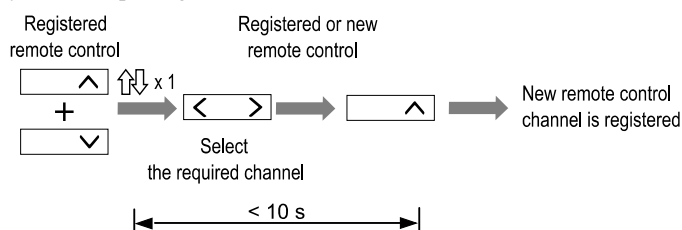
When you have a previously registered remote control, further channels of the same or another remote control must be registered without using the SW button.

To this end:

- on the registered remote control simultaneously press the keys **Λ** and **V** – the motor makes a short up-down movement
- For the next 20 seconds, the drive remains in registering mode. To register a new channel of the same or a different remote control, proceed as follows within that time:

- select the desired channel on the remote control
- press the key **Λ** – the drive will make a long confirmatory up-down movement

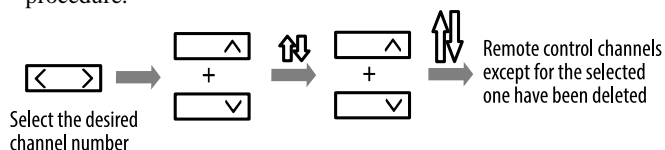
With this method, you can register any channel to any drive, but only if you have a pre-registered remote control.



3.3 Deleting memorised channels

To delete memorised channels, proceed as follows:

- select channel on registered remote control
- press simultaneously the keys **Λ** and **V** – the drive makes a short up-down movement
- once again press simultaneously the keys **Λ** and **V** – the drive will make a long confirmatory up-down movement – all channels will be erased except for the channel of the remote control used in the erasing procedure.



NOTE: all remote controls and other channels of this remote control will be deleted.

4 Change of direction of rotation

If, after pressing the key **Λ** the roller shutter moves upwards, the direction of rotation of the drive is correct and you can proceed to set the end positions.

If the direction of rotation is opposite, it should be changed as follows:

- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key (STOP) on the remote control – the drive makes a long up-down movement
- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key (STOP) on the remote control – the drive makes 2 long confirmatory up-down movements

NOTE: the end positions will be erased when the direction is changed.



5 Setting of end positions (EP)

Manual EP setting is not necessary, as the drive can set it automatically. For this purpose, 3 cycles of full opening / closing of the roller shutter are required. The drive has an overload detection function; after stopping 3 times at an obstacle (parapet, stopwatch) in the same place, it sets a zone of increased sensitivity there. Subsequent stops in this zone will occur with greater sensitivity – as you enter the zone, the motor slows down, gently reaches the obstacle and stops.

After moving the drive to another window or after changing the length of the roller shutter, it is enough to make 3 cycles of closing/opening the roller shutter for the drive to set the new end positions

The drive starts at 100% when moving downwards, and at 50% when moving upwards and accelerates to 100% after 2 s

The manual setting of the EP is described below.

The order in which the EPs are set is irrelevant; you can set both EPs, only one of them or not set an EP at all.

The EPs cannot be set too close together; the drive will make a short up-and-down movement when attempting to do so.

5.1 Setting the upper end position (UEP)

To set the upper end position (UEP):

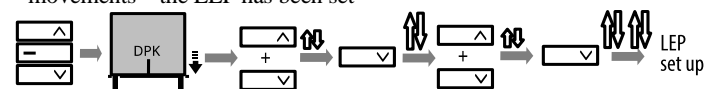
- set the roller shutter to the desired UEP (with the **Λ**, **V**, — (STOP) keys on the remote control
- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key **Λ** on the remote control – the drive makes a long up-down movement
- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key **Λ** on the remote control – the drive makes 2 long up-down movements – the UEP has been set



5.2 Setting the lower end position (LEP)

To set the lower end position (LEP):

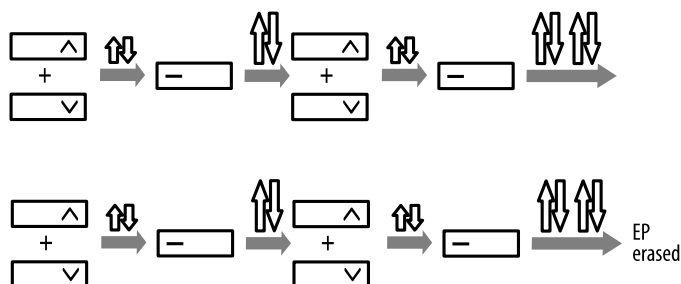
- set the roller shutter to the desired LEP (with the **Λ**, **V**, **—** (STOP) keys on the remote control
- press simultaneously the keys **Λ** and **V** on the remote control
- the drive makes a short up-down movement
- press simultaneously the keys **Λ** and **V** on the remote control
- the drive makes a short up-down movement
- press the key **Λ** on the remote control – the drive makes 2 long up-down movements – the LEP has been set



5.3 Erasing end positions (EP)

To erase end positions (EP): execute **twice** the procedure for reversing the direction of rotation

- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key **—** (STOP) on the remote control – the drive makes a long up-down movement
- press simultaneously the keys **Λ** and **V** on the remote control – the drive makes a short up-down movement
- press the key (STOP) button on the remote control – the drive makes 2 long up-down movements
- repeat the above steps



ATTENTION! Pressing the SW button while the roller shutter is moving will also delete the end positions.

6 Operating instructions

6.1 Battery

The manufacturer supplies the drive with a charged battery. Once the drive is installed, the battery is recharged with electricity from the solar panel.

If there is a long period between purchase and installation of the drive, the battery should be charged using a charger (sold separately by the manufacturer). The charger should be connected to the drive in place of the solar panel. The time to full charge is approximately 8 hours.

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

When the need to charge the battery with the charger occurs too frequently, check the condition of the solar panel. If the panel is clean and sunlight reaches it unobstructed, the battery is probably worn down.

7 Troubleshooting

Problem: Motor does not respond to commands

Reason: Battery is discharged

Solution: Charge the battery

Problem: Battery requires recharging several times a year

Reason: Battery is worn out

Solution: Replace the drive

8 Technical data

	GM35LER-10/9 (N-10LER).
Power supply	12 DC
Torque	10 Nm
Power	21,6 W
Rotation speed	9 obr./min.
IP rating	IP 44
Operating time	100 s
Length	655 mm
Weight	1,55 kg

9 Tubular motor selection table

		Roller blind length			
		1,5 m	2,0 m	2,5 m	3 m
Rotation Speed	Tube diameter	Permissible roller shutter weight for the above heights			
N-10 Nm	Φ = 40 mm	20 kg	19 kg	18 kg	17 kg

The parameters given are only estimates - they depend on numerous factors (correct installation, co-efficient of friction of the blind, atmospheric conditions and other).

10 Handling of waste equipment



Do not dispose of with household waste. Dispose only in specially designated areas. Households play a key role in the recycling of waste electrical and electronic equipment.

Waste sorting, including waste equipment and batteries, guarantees that the equipment is not disposed of with household waste but is handed over to a designated collection point for the recycling of waste electrical and electronic equipment.



Przedsiębiorstwo Informatyczno-Elektroniczne INEL Sp. z o.o., ul. Mostowa 1, 80-778 Gdańsk, as the manufacturer of the product, hereby declares that the drive described in this manual and used in the manner specified herein complies with the essential requirements of the relevant EU directives, in particular Directive 2006/42/EC and Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at the following internet address: www.inel.gda.pl

Installation and operation manual for solar panel: 3,8W, 18V

Model: GC8005



The solar panel is designed for the application with the GM35LE-10/09 (N-10LER) drive. The panel converts solar energy into electrical energy used to charge battery packs located inside the drive.

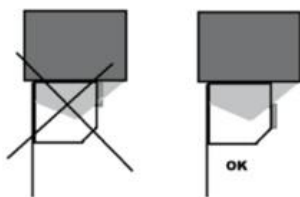
1 Safety tips

- Do not drill holes in the solar panel.
- When attaching the solar panel to the shutter box, do not use excessive force to avoid solar panel damage.
- Do not cover the panel with paint.

2 Installation

2.1 Site selection

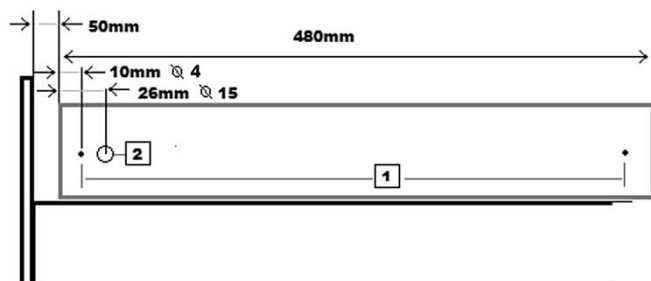
Place the panel on the shutter box cover in the area with the highest sun exposure.



2.2 Solar panel fixing

In order to fix the solar panel properly, please follow the steps listed below in the following sequence:

- drill two 3 mm holes in the shutter box, as shown in the figure below, to attach the solar panel and a 15 mm hole to insert the cable, smooth the edges of this hole.
- thread the panel cable through the hole into the box interior.
- fix the solar panel with aluminium rivets (with a diameter of 4.0mm) or screws (max length 15mm) in both drilled holes, taking special care



2.3 Electrical connections

The connector, which is terminated by the solar panel cable, should be connected to the socket located on the motor cable. The wires should be attached to the side of the box so that they do not come into contact with moving parts.

3 Cleaning

Keep the solar panel clean. Use clean water and a soft cloth for cleaning. Do not allow the panel to be covered with leaves or snow.

4 Troubleshooting

Problem:	<u>Battery requires recharging several times a year</u>
Reason:	Solar panel is insufficiently illuminated
Solution:	Remove obstructions, clean the panel.
Reason:	Solar panel is faulty
Solution:	Replace the solar panel

5 Handling of waste equipment



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