

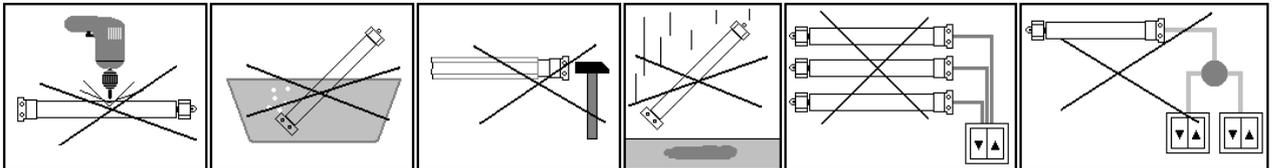
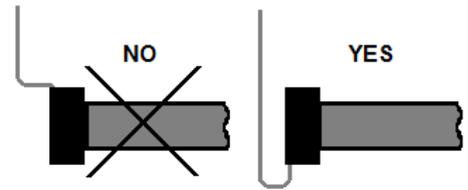
## Drives - operating and installation instructions



### Safety rules:

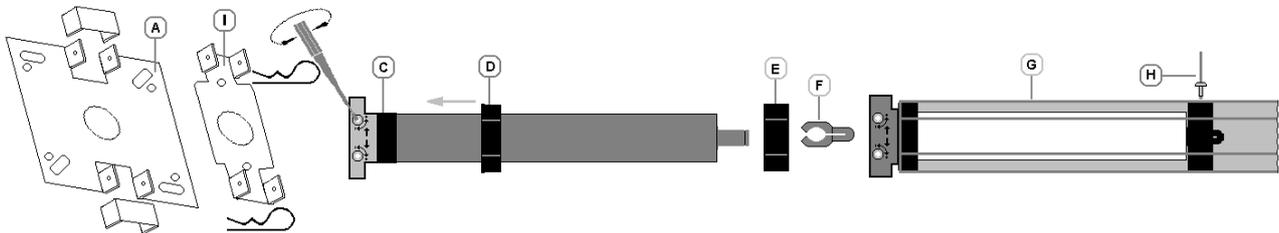
This product should only be installed by qualified personnel.

1. Roller shutter mass should be appropriate for the power of the drive.
2. Routing the cable properly will protect the drive against any water damage.
3. Do not puncture the motor along its entire length.
4. Protect the motor against contact with any liquids.
5. Avoid crushing and impacting the motor, protect the motor against shock.
6. Do not connect more than one motor to a single on/off switch and more than one on/off switch to a single motor.



### Motor installation

1. Fix mounting bracket to the side of the roller shutter (**A**), connect adapter to motor drive ring (**C/D**).
2. Place the driver on the motor axis, secure it with a pin (**E/F**) and slide the entire motor to the roller tube (**G**).
3. Connect roller tube and driver with screws or rivets (**H**).



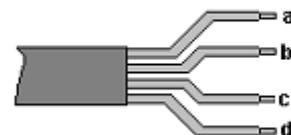
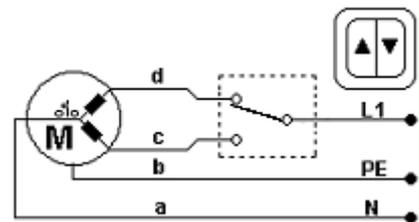
### WARNING !

The motor is fitted with an internal thermal cut-out which allows the roller shutter to work continuously for ca. 4 min. After this time the temperature inside the motor will exceed the permissible value, which will cause power cut-out. Subsequent vertical movement of the roller shutter will only be possible after the motor cools down (it can take up to twenty minutes). Using this cut-out greatly increases the life of the drive.

### Electrical connections:

Switch the power off prior to making electrical connections of any sort. Connect L1 (phase) through the changeover blind switch or driver with relays.

- a- blue (N neutral)
- b- yellow/green (PE protective)
- c- brown (clockwise)
- d- black (counter-clockwise)



### Limit switch adjustment:

In order to set limit positions for the roller shutter you must adjust the electromechanical limit switches. This is performed with knobs located in the motor head. The arrows placed next to the knobs mark the motor direction and the adjustment screw for that direction. If the roller shutter is located on the other side of the motor in relation to the installer (normal situation), then the knob marked  $\uparrow$  (up arrow) adjusts the lower position of the shutter, and the knob marked  $\downarrow$  (down arrow) adjusts the upper position of the shutter. Rotating the knob towards {+} will increase movement range towards that direction, whereas rotating it towards {-} will decrease the range.

### Setting lower position:

1. Start the roller shutter movement towards the closing direction and wait until it stops at the factory set limit position. If the roller shutter does not stop before reaching the lower limit position, stop the drive, raise the shutter, rotate the knob marked  $\uparrow$  a few dozen times towards {-} and try again. In extreme cases you might need to do this several times.
2. Rotate the knob (marked with the  $\uparrow$  arrow) towards {+} to achieve the desired position of the shutter.
3. If the desired position is exceeded, raise the roller shutter, rotate the knob several times towards {-} and repeat the procedure starting from the first step.

### Setting upper position:

1. Start the roller shutter movement towards the opening direction and wait until it stops at the factory set limit position. If the roller shutter does not stop before reaching the upper limit position, stop the drive, lower the shutter, rotate the knob marked  $\downarrow$  a few dozen times towards {-} and try again. In extreme cases you might need to do this several times.
2. Rotate the knob (marked with the  $\downarrow$  arrow) towards {+} to achieve the desired position of the shutter.
3. If the desired position is exceeded, lower the shutter, rotate the knob several times towards {-} and repeat the procedure starting from the first step.

### Tubular motor selection table:

The following table facilitates the selection of the appropriate tubular motor. It states the maximum mass of the roller shutter that can be handled by specific INEL motors. This mass depends on the type of motor and tube diameter, as specified in the table:

| Motor, adapter $\Phi$ / roller shutter length | 1.5 m | 2 m   | 2.5 m  | 3 m    | 3.5 m  | 4 m    | 5 m    |
|---|-------|-------|--------|--------|--------|--------|--------|
| <b>N-6</b> $\Phi=40\text{mm}$                 | 12 kg | 11 kg | 10 kg  | 9 kg   |        |        |        |
| <b>N-10</b> $\Phi=40\text{mm}$                | 20 kg | 19 kg | 18 kg  | 17 kg  | -      | -      | -      |
| <b>N-20</b> $\Phi=50\text{mm}$                | 46 kg | 44 kg | 41 kg  | 39 kg  | -      | -      | -      |
| <b>N-20</b> $\Phi=60\text{mm}$                | 42 kg | 40 kg | 38 kg  | 36 kg  | -      | -      | -      |
| <b>N-40</b> $\Phi=60\text{mm}$                | 83 kg | 79 kg | 72 kg  | 69 kg  | -      | -      | -      |
| <b>N-40</b> $\Phi=70\text{mm}$                | 70 kg | 68 kg | 66 kg  | 64 kg  | -      | -      | -      |
| <b>N-50</b> $\Phi=60\text{mm}$                | 88 kg | 84 kg | 81 kg  | 78 kg  | -      | -      | -      |
| <b>N-50</b> $\Phi=70\text{mm}$                | 82 kg | 80 kg | 77 kg  | 74 kg  | -      | -      | -      |
| <b>N-100NHK</b> $\Phi=70\text{mm}$            | -     | -     | 117 kg | 110 Kg | 105 kg | 100 kg | -      |
| <b>N-100S</b> $\Phi=70\text{mm}$              | -     | -     | 117 kg | 110 Kg | 105 kg | 100 kg | -      |
| <b>N-140NHK</b> $\Phi=70\text{mm}$            | -     | -     | -      | 150 kg | 145 kg | 140 kg | 130 kg |
| <b>N-140NHK</b> $\Phi=102\text{mm}$           | -     | -     | -      | 140 kg | 135 kg | 130 kg | 120 kg |

These calculations also apply to wireless motors. The parameters given are only estimates - they depend on numerous factors (correct installation, co-efficient of friction of the curtain, atmospheric conditions etc.)



It is not permitted to dispose of waste equipment together with other waste. Dispose only in specially designated areas. The household plays a key role in the recycling of waste equipment. By correct sorting of waste, including waste equipment and batteries, household members ensure that the equipment is not disposed together with household waste, but in specially designated areas, and thus may be used again after recycling.