



IS118 Rev.08 09/04/2020

Serie BH30

Automazione per cancelli scorrevoli
Sliding gates automations
Automatisierung für Schiebetore
Automatisme pour portails coulissants
Automatismos para cancelas correderas
Automações para portões deslizantes



ISTRUZIONI E AVVERTENZE PER L'INSTALLATORE
INSTRUCTIONS AND RECOMMENDATIONS FOR THE INSTALLER
ANWEISUNGEN UND HINWEISE FÜR DEN INSTALLATEUR
INSTRUCTIONS ET AVERTISSEMENTS POUR L'INSTALLATEUR
INSTRUCCIONES Y ADVERTENCIAS PARA EL INSTALADOR
INSTRUÇÕES E AVISOS PARA O INSTALADOR



WARNING: IMPORTANT SAFETY INSTRUCTIONS THESE INSTRUCTIONS MUST BE FOLLOWED TO GUARANTEE THE SAFETY OF THE PERSONS PRESERVE THESE INSTRUCTIONS

This installation manual is intended for qualified personnel only.

Failure to observe the information included in this manual may result in personal injury or damage to the equipment.

ROGER TECHNOLOGY cannot be held responsible for any damage or injury due to improper use or any use other

than the intended usage indicated in this manual.

The installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with best practices and in compliance with applicable regulations.

Read the instructions carefully before installing the product.

Incorrect installation may pose risks.

Before installing the product, make sure it is in perfect condition: In case of doubts, do not use the product and refer exclusively to professionally qualified personnel.

Do not install the product in explosive environment and atmosphere: inflammable gas or vapours constitute serious danger for safety.

Before installing the motor, make all structural modifications related to the safety precautions and to the protection or segregation of areas involving crushing, shearing, dragging risks or any other risks.

WARNING: check that the existing structure fulfils the required resistance and stability specifications.

ROGER TECHNOLOGY is not liable for failure to observe the good practices in the construction of fixtures to be motorised or for deformations that may occur during use.

The safety devices (photocells, sensing edges, emergency stops, etc.) must be installed taking into consideration the following: the regulations and directives in force, the good practices criteria, the installation environment, the operating logic of the system and the forces generated by the motorised door or gate.

The safety devices must protect any areas where there is crushing, shearing, dragging or any other danger in general generated by the motorised door or gate; the installer is advised to check that the moving wings do not have sharp edges or anything that may pose shearing and/or dragging risks.

If it is deemed necessary based on the risk analysis, install sensing edges on the mobile part.

It should be noted that, as provided by the UNI EN 12635 standard, all requirements of the EN 12604 and EN 12453 standards must be fulfilled and, if necessary, also checked.

The European standards EN 12453 and EN 12445 define the minimum safety requirements for the operation of automatic doors and gates. In particular, these standards require the use of force limiting and safety devices (sensing ground plates, photocell barriers, hold-to-run operation, etc.) intended to detect persons or objects in the operating area and prevent collisions in all circumstances.

The installer is required to measure impact forces and select on the control unit the appropriate speed and torque values to ensure that the door or gate remains within the limits defined by the standards EN 12453 and EN 12445.

ROGER TECHNOLOGY cannot be held responsible for any damage or injury caused by the installation of incompatible components which compromise the safety and correct operation of the device.

If the hold-to-run function is active, the installer will have the obligation to check the maximum stop distance or the alternative use of the rubber deformable edge, the closing speed or the gate and in general all aspects indicated by the applicable regulations. Moreover, please not that if the command means is fixed, it must be located in a position guaranteeing the automation system control and operation and the command type and the use type must comply with the UNI EN 12453 standard, prospectus 1 (with the following restrictions: type A or B command or type 1 or 2 use).

In case of hold-to-run operation, remove any potential persons away from the range of action of the automation system's moving parts; the direct commands must be installed at a minimum height of 1.5 m and must not be accessible to the public; moreover, unless the device is key operated, they must be located with a direct view to the motorised part and far from the moving parts.

Apply the signs indicated by the regulations in force for the identification of the dangerous areas.

Each installed device must have a visible indication of the motorised door or gate identification data, in accordance with the EN 13241-1:2001 standard or subsequent revisions

A switch or an omnipolar cut-off switch with a contact opening of at least 3 mm must be installed on the mains power line; put the cut-off switch in OFF position and disconnect any buffer batteries before performing any cleaning or maintenance operations.

Ensure that an adequate residual current circuit breaker with a 0.03 A threshold and a suitable overcurrent cut-out are installed upstream the electrical installation in accordance with best practices and in compliance with applicable legislation.

When requested, connect the automation to an effective earthing system that complies with current safety standards. The electronic parts must be handled using anti-static conductive wrist straps with grounding wire.

Only use original spare parts when repairing or replacing products.

The installer must provide the user with complete instruction for using the motorised door or gate in automatic, manual and emergency modes, and must hand the operating instructions to the user of the installation upon completion. Keep away from hinges and moving parts.

Keep out of the area of action of the motorised door or gate while it is moving.

Never try to stop the motorised door or gate while it is moving as this may be dangerous.

The motorised door or gate may be used by children aged 8 and above, by persons with diminished physical, sensory or mental capacity and by persons without the necessary experience and knowledge provided that they are supervised or have received adequate instruction on using the device safely and to ensure that they understand the dangers involved in its operation.

Children must be supervised at all times to ensure that they do not play with the device and that they keep out of the

area of action of the motorised door or gate.

Keep remote controls and any other control devices out of the reach of children to prevent the risk of the motorised door or gate being operated unintentionally.

Failure to observe these instructions may lead to danger.

Any repair or technical interventions must be performed by qualified personnel.

The cleaning and maintenance operations must be performed exclusively by qualified personnel.

Check the system frequently and check if there are any mechanical imbalances and wear signs, any damage to the cables, springs and support pieces.

In the event of a fault or malfunction of the product, turn the main power switch off and have the installation serviced by qualified personnel and refrain from attempting to repair or perform any direct intervention yourself.

Lubrificare e tener puliti i punti di snodo (cerniere) e di attrito (guide di scorrimento).

Pedestrian openings on the gate leaves to be automated are forbidden and if they already exist, ensure an efficient locking system during movement.

Perform the gate leaves locking and unlocking operations with the engine stopped.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

Dispose of and recycle the packaging items according to the provisions of the laws in force.

These instructions must be kept and must be made available to any other persons authorised to use the installation.

2 Symbols

The symbols and their meaning in the manual or on the product label are indicated below.

	Generic danger. Important safety information. Indicates operations and situations in which the personnel involved must pay close attention.
4	Dangerous voltage risk. Indicates operations and situations in which the personnel involved must pay close attention to dangerous voltages.
	Hot surfaces risk. Indicates danger due to hot surfaces or which anyway have high temperatures (risk of burns)
f	Useful information Indicates useful information for the installation.
	Refer to the Installation and use instructions. Indicates the obligation to refer to the manual or original document, which must be available for future use and must not be damaged in any way.
	Protective earth connection point.
11	Indicates the admissible temperature range.
\sim	Alternating current (AC)
===	Direct current (DC)
	Symbol for the product disposal according to the WEEE directive.

3 Product description

ROGER TECHNOLOGY cannot be held responsible for any damage or injury due to improper use or any use other than the intended usage indicated in this manual.

We recommend using only ROGER TECHNOLOGY accessories and control and safety devices.

For further information, refer to the installation manual of the B70/1DC control unit.

Codo	Motor	Personintian	Power supply		
Code	type	Description	230 V	115 V	
BH30/603/HS	RAPID	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates up to 600 kg with built-in digital controller B70 series, mechanical limit switch	√		
BH30/603/HS/115	RAPID	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates up to 600 kg with built-in digital controller B70 series, mechanical limit switch		√	
BH30/604/HS	RAPID	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates up to 600 kg with built-in digital controller B70 series, magnetic limit switch	√		
BH30/604/HS/115	RAPID	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates up to 600 kg with built-in digital controller B70 series, magnetic limit switch		✓	
BH30/803		Electromechanical BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates from 800 to 1000 kg. with built-in digital controller B70 series,	√		
BH30/803/115		meversible ideal for sliding gates from 800 to 1000 kg. with built-in digital controller 670 series, mechanical limit switch.		√	
BH30/804		Electromechanical BRUSHLESS motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates from 800 to 1000 kg. with built-in digital controller B70 series,	√		
BH30/804/115		magnetic limit switch.		√	
BH30/804/R		Electromechanical BRUSHLESS - REVERSIBLE - motor, low voltage, super intensive use, with native encoder onboard, irreversible ideal for sliding gates up to 800 kg with built-in digital controller B70	√		
BH30/804/R/115	(3)	series, magnetic limit switch.			

KEY:



HIGH SPEED MOTOR

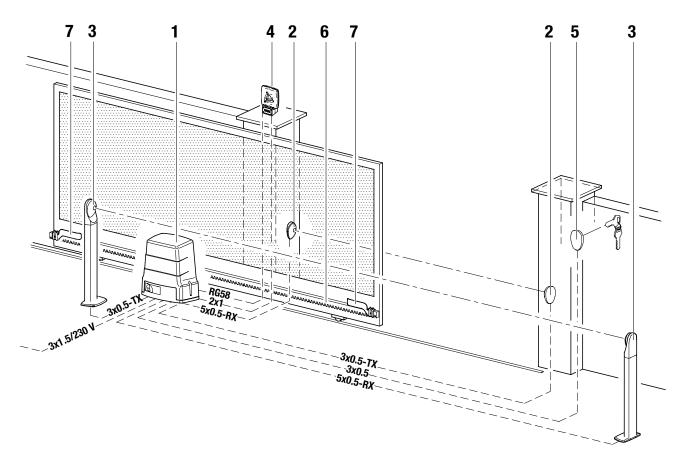


REVERSIBLE MOTOR

	BH30/603/HS BH30/604/HS	BH30/603/HS/115 BH30/604/HS/115	BH30/803 BH30/804	BH30/803/115 BH30/804/115	BH30/804/R	BH30/804/R/115
MAINS POWER SUPPLY	230V~ 50 Hz	115V~ 60 Hz	230V~ 50 Hz	115V~ 60 Hz	230V∼ 50Hz	115V~60 Hz
BRUSHLESS MOTOR POWER SUPPLY	24V 	24V 	24V 	24V 	24V 	24V
DRIVE TYPE	IRREVERSIBLE	IRREVERSIBLE	IRREVERSIBLE	IRREVERSIBLE	REVERSIBLE	REVERSIBLE
MAXIMUM POWER ABSORPTION	140W	140W	140W	140W	140W	140W
START-UP POWER ABSORPTION	350W	350W	450W	450W	400W	400W
MAX. START-UP FORCE	500N	500N	800N	800N	600N	600N
RATED FORCE SERVICE 50% (-20°C - +50°C)	150N	150N	300N	300N	180N	180N
RATED FORCE SERVICE 50% (+50°C - +55°C)	50N	50N	100N	100N	60N	60N
RATED FORCE SERVICE 100% (-20°C - +50°C)	50N	50N	100N	100N	60N	60N
RATED FORCE SERVICE 35% (+50°C - +55°C)	150N	150N	300N	300N	150N	150N
MAXIMUM SPEED	24 m/min	24 m/min	12 m/min	12 m/min	20 m/min	20 m/min
RATED SPEED	20 m/min	20 m/min	12 m/min	12 m/min	18 m/min	18 m/min
MAXIMUM LEAF WEIGHT	600 kg	600 kg	1000 kg	1000 kg	800 kg	800 kg
MAXIMUM LEAF LENGHT	12 m	12 m	12 m	12 m	12 m	12 m
DOOR MAXIMUM FRICTION AT START (*)	50N	50N	150N	150N	60N	60N
OPERATING CYCLES PER DAY (IN TEST) (**)	250.000	250.000	250.000	250.000	250.000	250.000
USE	INTENSIVE	INTENSIVE	INTENSIVE	INTENSIVE	INTENSIVE	INTENSIVE
DEGREE OF PROTECTION	IP44	IP44	IP44	IP44	IP44	IP44
WORKING TEMPERATURE	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C
SOUND PRESSURE DURING USE	<70 dB(A)	<70 dB(A)	<70 dB(A)	<70 dB(A)	<70 dB(A)	<70 dB(A)
MAXIMUM ADMISSIONED GRADIENT	0,5%	0,5%	0,5%	0,5%	0,5%	0,5%
EXIT GEAR	Z15/module 4	Z15/module 4	Z15/module 4	Z15/module 4	Z15/module 4	Z15/module 4
CONTROL UNIT	B70/1DC	B70/1DC	B70/1DC	B70/1DC	B70/1DC	B70/1DC
FORCE TO BE APPLIED ON THE MECHANICAL RELEASE	130N	130N	130N	130N	130N	130N

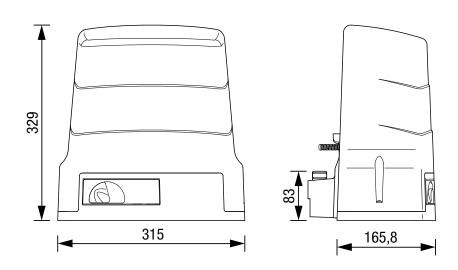
^(*) To measure with dedicated instrument. (**) Internal test verified at the nominal values with a 6 m gate at environmental temperature of 20° C. The value shown is not the maximum value.





	DESC	RECOMMENDED CABLE	
1	BH30 Automation	Power supply	H07RN-F 3x1,5 mm2 double insulated cable
2	External photocell F4ES/F4S - Transmitter	Power supply 24Vac 50Hz, 24Vdc	Cable 3x0,5 mm² (max 20 m)
	External photocell F4ES/F4S - Receiver	Power Supply 24vac 50Hz, 24vac	Cable 5x0,5 mm ² (max 20 m)
3	Internal photocell F4ES/F4S - Transmitter	cell F4ES/F4S - Transmitter Power supply 24Vac 50Hz, 24Vdc	Cable 3x0,5 mm ² (max 20 m)
3	Internal photocell F4ES/F4S - Receiver	Power Supply 24vac 50Hz, 24vac	Cable 5x0,5 mm² (max 20 m)
4	Flashing light	Power supply 24Vdc a LED (25 W max, power consumption 50%)	Cable 2x1 mm² (max 10 m)
	Antenna		Cable 50 Ohm RG58 (max 10 m)
	Key selector R85/60		Cable 3x0,5 mm² (max 20 m)
5	Keypad H85/TTD - H85/TDS	board DECODER H85/DEC: Power supply 12-24Vdc H85/DEC/2: Power supply 24Vdc	Cable 2x0,5 mm² (max 30 m)
6	Rack		/
7	Limit switch bracket		/

6 Dimensions



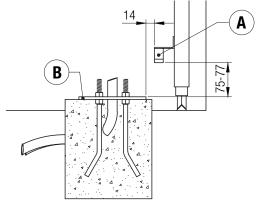
7 Preliminary checks and installation of the foundation plate

PRELIMINARY CHECKS BEFORE INSTALLATION

- Before proceeding with the installation, move the gate manually to check the mechanical conditions and if the movement is regular and friction-free.
- Check that the gate is structurally sound and check that the gate leaf is stable. The gate may cause injury or damage to property in the event of derailing
- The guide rail must be securely fixed to the ground and must be perfectly straight, with no kinks or other irregularities which may obstruct the movement of the gate leaf, and must not have a gradient greater than 0.5%
- Check that the guide rails are in good condition and adequately greased.
- Always install mechanical stops in the gate open and gate closed positions, anchored securely to the ground and with elastic damper elements (e.g. rubber buffer) to attenuate the impact of the gate leaf against the stop.
- Check that, when the motor is unlocked, the door doesn't move if left in any position.

INSTALLING FOUNDATION PLATE

- The automation system may be installed on the right or left hand side.
- Fit the four 10MA nuts onto the anchor bolts included, tightening along the full length of the thread
- Fit the anchor bolts into the 4 holes in the foundation plate and fasten with the 4 nuts as shown in figure 1.
- Referring to the measurements given in the figure, cast a slab of cement with the base plate sunk into the cement. The plate must be perfectly level and
- The distances between the foundation plate [B] and the rack [A] must be as indicated.
- The flexible conduits of the electrical system must exit from the hole on the right hand side of the foundation plate (seen from the inner side).



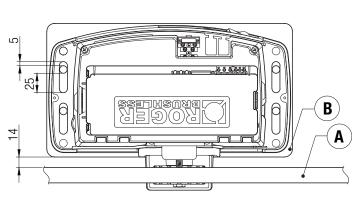
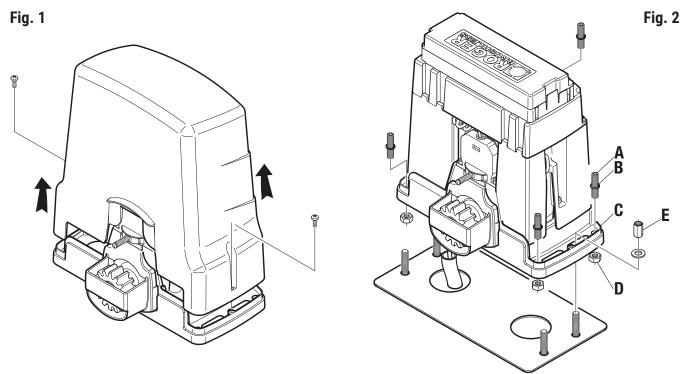


Fig. 2 Fig. 1

8 Installation drive unit

- Undo the screws of the cover and remove the lid by lifting up as shown in fig. 1. Check that the six adjuster feet do not protrude from the base of the gearmotor.

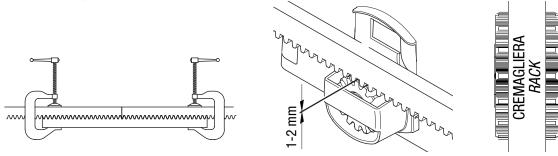
 Put the O-ring (B) onto each screws M10x40 (A). Insert the screws in the gearmotor corners (C) and secure them with the nuts M10 (D).
- Fit the BH30 on the 4 anchor bolt, as shown in fig. 2. If necessary, undo the nuts on the foundation plate.
- Adjust the horizontal position of the gearmotor by sliding along the slots on the foundation plate.
- When adjusting the vertical position, also consider the correct fastener measurements for the rack. See paragraph 9.
- Fit the spacer M10 (E).
- Fit the cover.



9 Fixing The Rack

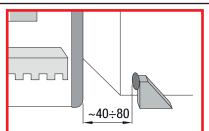
N.B.: The BH30 gearmotor may be used with racks with a teething module of 4.

- Unlock the gearmotor (see *User Guide*) and move the gate into the open position.
- Place the rack on the pinion, then fasten the entire length of the rack, sliding the gate to allow access to the fasteners.
- To ensure that subsequent sections of rack are aligned correctly and maintain the correct tooth pitch, we recommend installing the rack sections with
- Ensure that there is a clearance of at least 1 2 mm between the pinion and the rack. If necessary, adjust the height of the gearmotor or, if possible, of the rack. Manually check that the gate slides smoothly and without impediment.
- Fasten the gear motor definitively.



10 Fastening the micro-switch mechanical limit switch or magnetic limit switch

- Move the gate into the fully open position and then into the fully closed position, and fasten the limit switch brackets onto the rack, ensuring that they are turned the right way around.
 - With mechanical limit switches: **R = RIGHT**; **L = LEFT** (fig. 1)
 - With magnetic limit switches, the arrows must point towards the middle of the rack (fig. 2). ATTENTION: the magnet can be adjusted by a maximum of 8 mm by loosening the two screws ATTENTION: between magnet and limit switch bracket there must be a distance of 10 mm at most.
- Perform a few open/close manoeuvres then adjust the positions of the limit switch brackets so that the gate stops 40 to 80 mm before the mechanical stop. The stopping distance depends on the weight of the gate, friction, the control unit used and weather conditions.
- The gate must not come into contact with the mechanical stops when opening and closing.



MICROSWITCH MECHANICAL LIMIT SWITCH

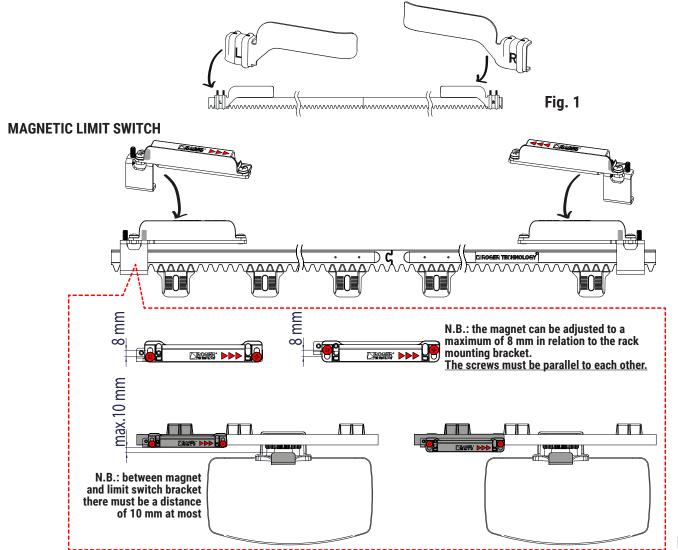


Fig. 2

11 Electrical connections



A switch or an omnipolar cut-off switch with a contact opening of at least 3 mm must be installed on the mains power line; put the cut-off switch in OFF position and disconnect any buffer batteries before performing any cleaning or maintenance operations.

Ensure that an adequate residual current circuit breaker with a 0.03 A threshold and a suitable overcurrent cut-out are installed upstream the electrical installation in accordance with best practices and in compliance with applicable legislation.

For power supply, use a H07RN-F 3G1.5 type electric cable and connect it to the terminals L (brown), N (blue), ((yellow/green), located inside the automation system.

Strip the insulation from the ends of the power cable wires which will be connected to the terminal (see ref. A), and secure the cable with the cable retainer.

Measure the voltage on the primary mains power connection with a tester.

For the Brushless automation system to function correctly, the mains power voltage must be 230Vac (115 Vac) ±10%.

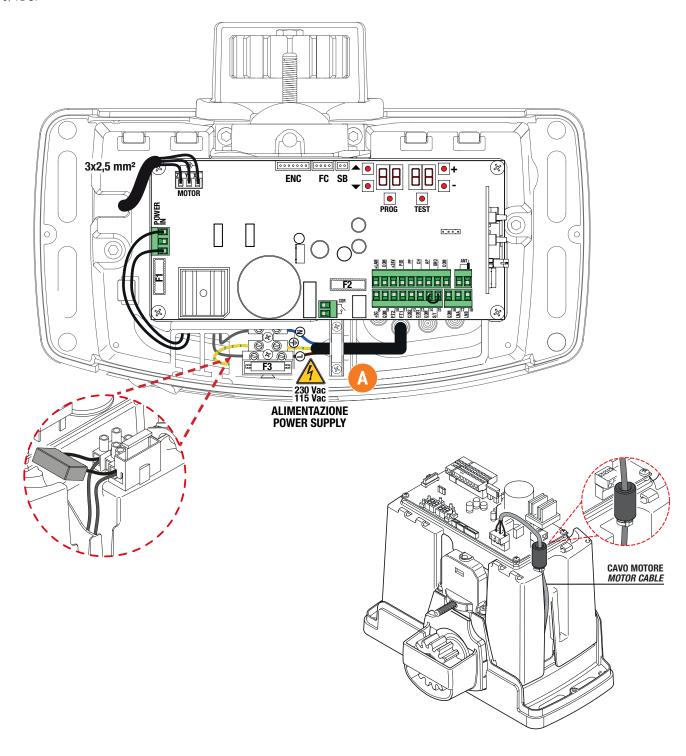
If the detected value does not comply with the above specified values or is not stable, the automation system may NOT operate efficiently.

Connections to the electrical distribution network and to any other low-voltage conductors in the external section to the electrical panel must be on an independent path and separate from the connections to the command and safety devices (SELV = Safety Extra Low Voltage).

Make sure that the mains power conductors and the accessory wires (24 V) are separated.

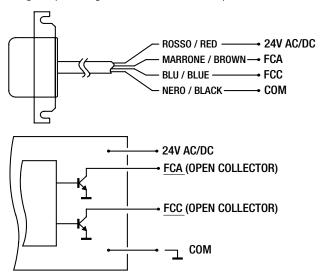
The cables must be double insulated, strip them near the relevant connection terminals and lock them with clamps (not supplied).

The electrical connections and the gear motor **BH30** testing operations are described in the installation manual of the control unit B70/1DC.



12 Magnetic limit switches connections

The gate open and gate closed limit switch outputs are OPEN COLLECTOR signals.



13 Start-up

- Check that the manual release device functions correctly.
- The installer is required to draw up and preserve the technical file of the system for at least 10 years, which must contain the wiring diagram, the drawing and the photo of the system, the risk analysis and the solutions adopted, the manufacturer's declaration of conformity for all connected devices, the instructions manual of each device and / or accessory and the system's maintenance plan.
- Apply a plate indicating the automation system data on the motorised door or gate, the name of the person in charge of the start-up, the serial number and the year of construction, as well as the CE mark.
- Apply a plate and / or label with the indications for the operations required to manually unlock the system.
- Draw up and provide the end user with the declaration of conformity, instructions and warnings for use and the maintenance plan.
- Make sure that the end user has understood the correct automatic, manual or emergency operation of the system.
- Inform the end user about the dangers and risks that may be present.

14 Ordinary maintenance schedule

Perform the following operations and checks every 6 months, depending on the intensity of use of the automated system.

Disconnect the mains power and the batteries (if any) and unlock the gear motor (SEE THE USER MANUAL):

- Perform a visual check to determine if the gate, the fastening brackets and the existing structure have the required mechanical robustness and that they
 are in good state.
- Check the gate-gear motor alignment and the distance (1-2 mm) between the pinion neck and the ridge of the rack.
- Clean the guide rails of the wheels, the rack and the pinion of the gear motor and lightly lubricate the rack and the pinion of the gear motor.
- Manually check that the gate slides smoothly and without impediment.

Reconnect the mains power and the batteries (if any) and lock the gear motor (SEE THE USER MANUAL):

- · Check if the limit switches operate correctly.
- · Check the force adjustments.
- · Check that the safety devices and all control functions operate correctly.

15 Additional information and contact details

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This instruction manual and the warnings for the installer are given in printed form and included in the box containing the product.

The digital version of this documentation (in PDF format) and all future revisions are available from the reserved area of our website www.rogertechnology. com/B2B, in the section 'Self Service'.

ROGER TECHNOLOGY CUSTOMER SERVICE:

business hours: Monday to Friday

08:00 to 12:00 - 13:30 to 17:30

Telephone no: +39 041 5937023

E-mail: service@rogertechnology.it Skype: service_rogertechnology



DECLARATION OF INCORPORATION

(Directive 2006/42/CE - Annex II B)

The manufacturer: Roger Technology - Via Botticelli 8, 31021 Bonisiolo di Mogliano V.to (TV)

Declares that the partly-completed machinery designed to be incorporated according to the corresponding instructions manual:

Description of the device: 24 V DC automated system for sliding gates BH30 Series powered by the built-in control unit.

Built-in control unit model: B70/1DC

Product code

See the P.CODE field on the label applied to the product

Serial Number

See field IN on the label attached to the product.

is compliant with the provisions of the following Community directives:

- 2006/42/EC directive (Machinery Directive) and the related technical documentation has been compiled according to annex VII B of the same directive;
- 2014/30/EU directive (Electromagnetic Compatibility);
- 2014/35/EU directive (Low Voltage);
- The Radio Equipment Directive 2014/53/EU (RED).
- 2011/65/UE directive (RoHS)

and that the following regulations and/or technical specifications have been applied:

EN 301 489-1 V2.2.0; EN 62233: 2008;

EN 301 489-3 V2.2.1; EN 60335-1: 2012 + A11:2014+A1 (IEC):2013

EN 55014-1: 2006 + A1:2009 + A2:2011; EN 60335-2-103: 2015; EN 55014-2: 2015; EN 61000-3-2: 2014; EN ISO 13849-1:2015; EN ISO 13849-2:2012;

EN 61000-3-2: 2014; EN 61000-3-3: 2013; EN 61000-6-2: 2005;

EN 61000-6-3: 2007; + A1:2011;

Declares to undertake to provide information related to the partly-completed machinery, following a duly justified request from the national authorities. The commitment includes the transmission methods and does not affect the intellectual property rights of the manufacturer of the partly-completed machinery. Declares that the partly-completed machinery must not be commissioned until the final machinery in which it will be incorporated is declared compliant with the provisions of the 2006/42/EC directive.

Place and date of declaration Person authorised to compile the technical documentation Company name and full address of the manufacturer:

ROGER TECHNOLOGY S.R.L. Via S.Botticelli, 8 31021 Bonisiolo di Mogliano Veneto Treviso ITALY

Bonisiolo di Mogliano Veneto Research and Development Officer 10/11/2016

Legal Representative of the company

(Ing. Dino Cinti)

(Dino Florian)