

NEW PRODUCTS CATALOGUE

12.2023



KEY



Brushless
motors



IPU
Technology



Intensive
use



High Speed
motors



Reversible
motors



Sliding
gates



Swing
gates



Industrial
doors



Control
units

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FOR PEDESTRIAN GATES UP TO 1.8m



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NAVI

FOR INDUSTRIAL DOORS UP TO 1.5m 200kg FOR FOLDING LEAVES and 2m 300kg FOR SINGLE LEAF



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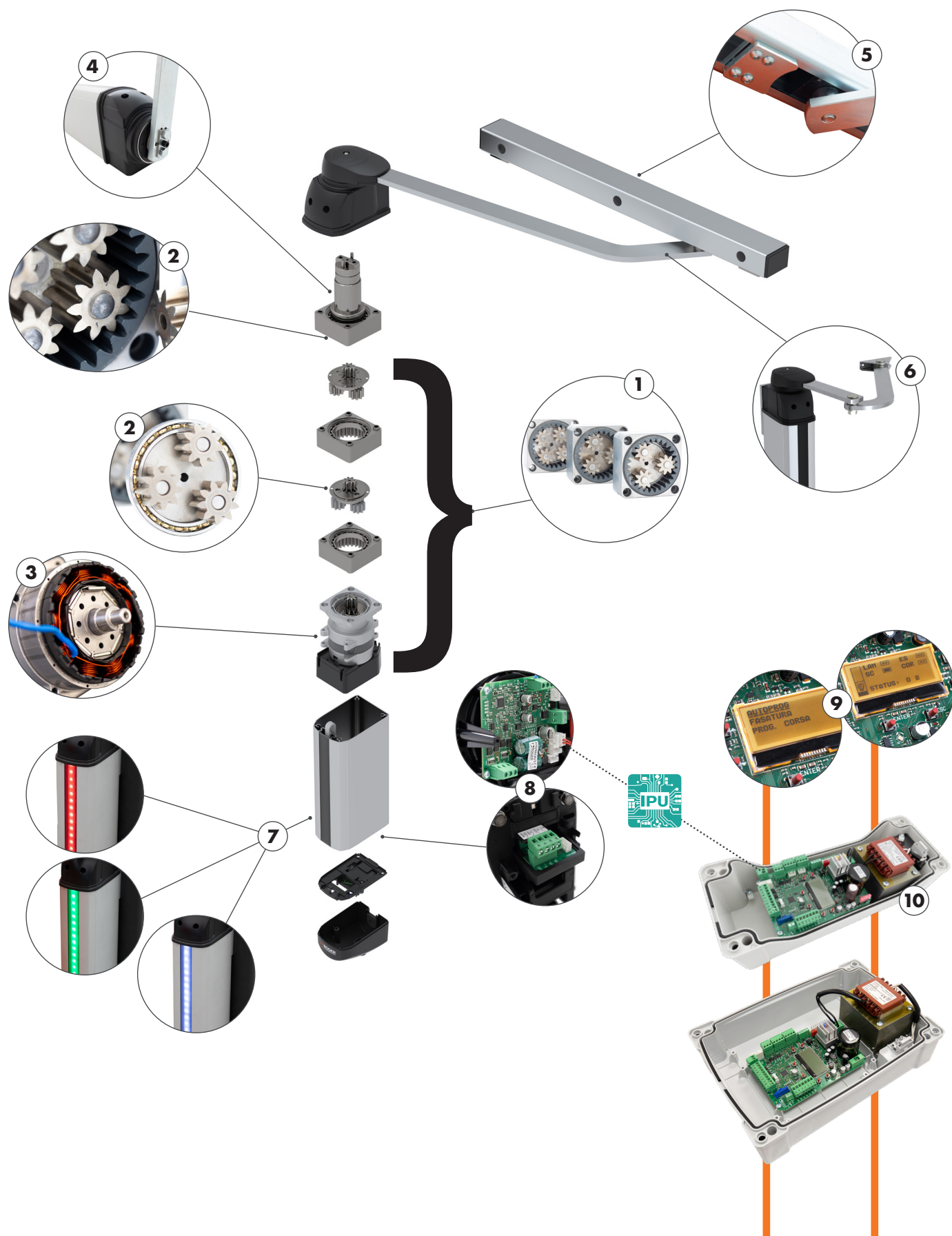


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SLED SERIES



AUTOMATION SYSTEM FOR PEDESTRIAN GATES UP TO
1.8m **WITH IPU TECHNOLOGY**



1 EPICYCLOIDAL GEARBOX (REVERSIBLE)

Reversible gearbox that allows opening and closing the gate manually at any time.

2 GEARS AND BEARINGS

The gearbox comprises satellites located on special satellite-holders with ball bearings. The third and final gearbox level comprises four satellites that increase the reliability of the entire gearbox.

3 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor with low voltage 36V permanent magnetic field. Extremely compact and powerful, it operates at ambient temperature, making it suitable for extremely intense use with low energy consumption.

4 MAIN OUTPUT SHAFT

The slow shaft is obtained through a billet rolling process, making it suitable for extra intensive use at high speed, for any kind of opening, for leaves up to 1.8m and 200kg of weight.

5 SLIDE ARM

Slide arm with sliding-intensive roller, and adjustable double mechanical stop to manage the opening/closing limit switches.

6 ARTICULATED ARM

Standard articulated arms are available for SLED automation systems, to ensure full adaptability to any installation condition.

7 ALUMINIUM PROFILE WITH LED SET-UP

Elegant anodised aluminium profile, designed to house an RGB LED strip with traffic light, flashing and multicolour function, managed through B73/RGB module.

8 IPU (Power Motor Control) TECHNOLOGY INVERTER BOARD



The innovative PMC inverter board with IPU TECHNOLOGY is installed on board, and it includes the high-resolution 4096 PPR digital encoder. The inverter board is housed inside the automation system, near the Brushless motor, and it controls the motor power section. Its position near the motor and the built-in encoder ensure excellent performances, smooth movements, and instant obstacle detection. The automation system and the IPU control unit are connected via 4-wire ModBus RS485 protocol, creating a robust communication system between the two units. This simple and efficient connection is achieved through 2 power cables and 2 communication cables.

9 IPU - THE NEW CONTROL UNIT



IPU (Intelligent Processing Unit) is the new patented control unit to manage Brushless automation systems with on-board PMC inverter board.

It can be programmed with a backlit graphic display, and it features: language-relevant menus, stroke self-programming functions, graphic command and safety device view, alarm management, manoeuvre counter and B-Connect Roger Technology connection. The high-speed RS485 Modbus connection allows monitoring all motor operating parameters in real time, and synchronizing the action of two automation systems.

10 STANDARD BOX AND SLIM BOX

The IPU control unit is available in two boxes with different sizes. A standard rectangular box (F70/IPU36/BOX), and the newer slim box, suitable for thin columns (F70/IPU36/BOX/SL).



CODE	DESCRIPTION	NUMBER ITEMS PER PALLET	PHOTO
SL/180/R 	BRUSHLESS IPU TECHNOLOGY low voltage electromechanical gear motor for intensive use, reversible, on-board power inverter with integrated digital encoder, ideal for leaves up to 1.8 m, without arms	50	

TECHNICAL SPECIFICATIONS

	SL/180/R
Actuator type	REVERSIBLE
Power supply to the integrated power module (inverter) driving the Brushless motor	36V DC
Voltage from the inverter to the Brushless motor	36V~, variable frequency
Inverter driven motor	Field oriented (FOC), sensed with high-resolution 4096 PPR encoder
Inverter module-control unit serial connection (F70/IPU36)	RS485, ModBus protocol, 115200 baud
Maximum power absorption	200 W
Starting power	300 W
Starting torque	170 Nm
Maximum torque (service S3 30%, 3.2 RPM, +25°C)	105 Nm (*)
Nominal torque (service S1 100%, 2.6 RPM, -20°C +55°C)	60 Nm
Speed - 1/m (RPM)	0.6 - 6.6
Minimum opening time	6" (**) - 30"
Maximum leaf weight allowed	150 kg (***)
Maximum leaf length allowed	1,8 m
Manoeuvre cycles (factory tested)	400000 (****)
Usage	INTENSIVE (with nominal torque)
Degree of protection	IP44
Operating temperature	-20°C / +55°C
Sound pressure during use	<70 dB(A)
Operator weight	13,7 kg
Mechanical release force	200 N
Built-in power module (inverter)	F70/INV36/1
Control unit	F70/IPU36/BOX - F70/IPU36/BOX/SL

(*) drive torque allowing a 30% duty-cycle operation, 3.2 RPM speed, with ambient temperature of 25°C.

(**) the opening time largely depends on the acceleration/deceleration adjustment, and on the nominal speed, and should be adjusted based on the door mechanics; 90° openings in 3" are possible only for 90cm long leaves

(***) for 0.8m long leaves; with 1.8m long leaves, the maximum leaf weight is 100kg

(****) internal test verified at the nominal double-leaf folding gate value of 1.4 m, with an ambient temperature of 20°C. The value stated IS NOT the maximum value

CONTROL UNITS



F70/IPU36/BOX

36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a plastic box



F70/IPU36/BOX/SL

36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a slim plastic box

ACCESSORIES



LT340

Short lever for SLED articulated arm



B73/RGB

RGB light control device for F70/INV36/1 modules



LT341

Slide lever for SLED articulated arm



SL/LED/RGB

LED strip for SLED series motors



KT250

Column fixing plate for SLED series

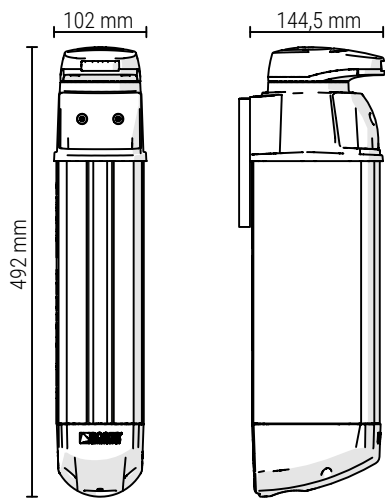


R99/C/001

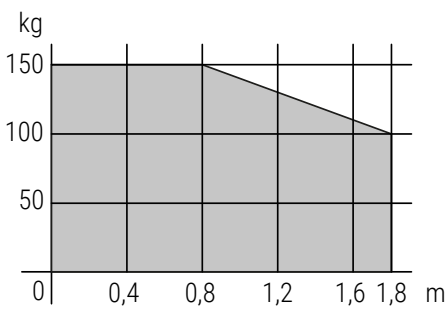
Signboard "Automatic Opening"

INSTALLATION

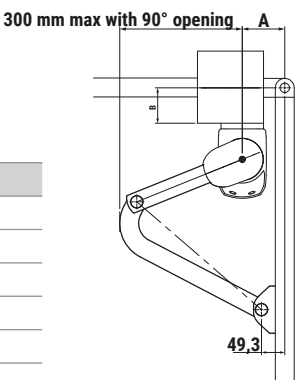
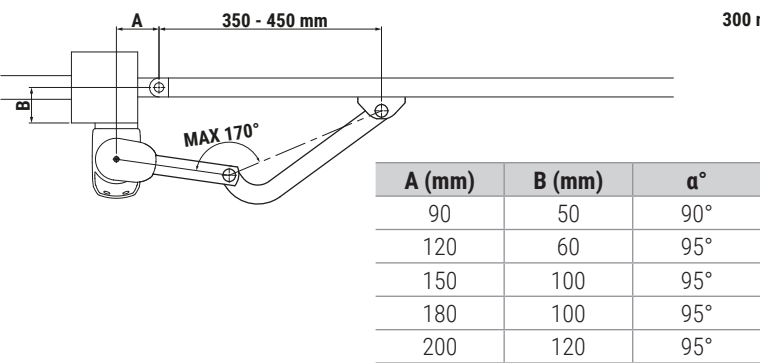
DIMENSIONS



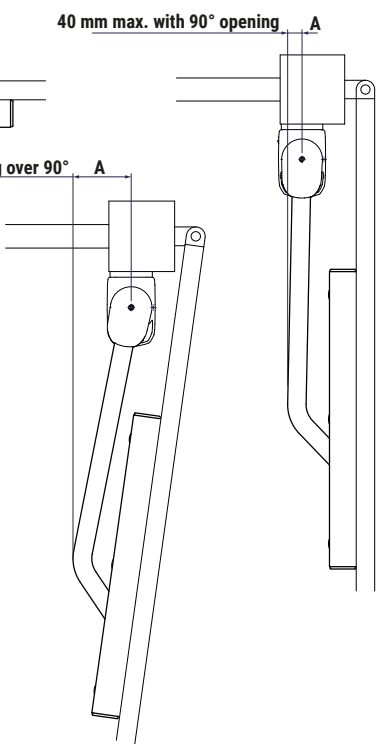
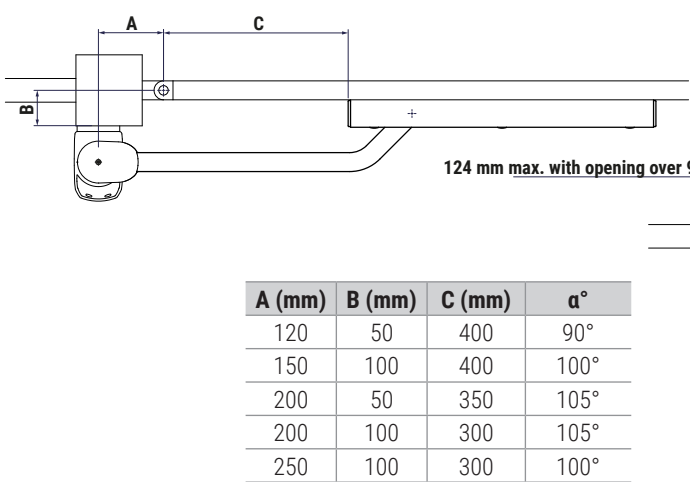
OPERATING LIMITS



PREPARATION FOR STANDARD INSTALLATION WITH LT340



PREPARATION FOR SLIDE ARM INSTALLATION WITH LT341



STANDARD ARM LT340 INSTALLATION

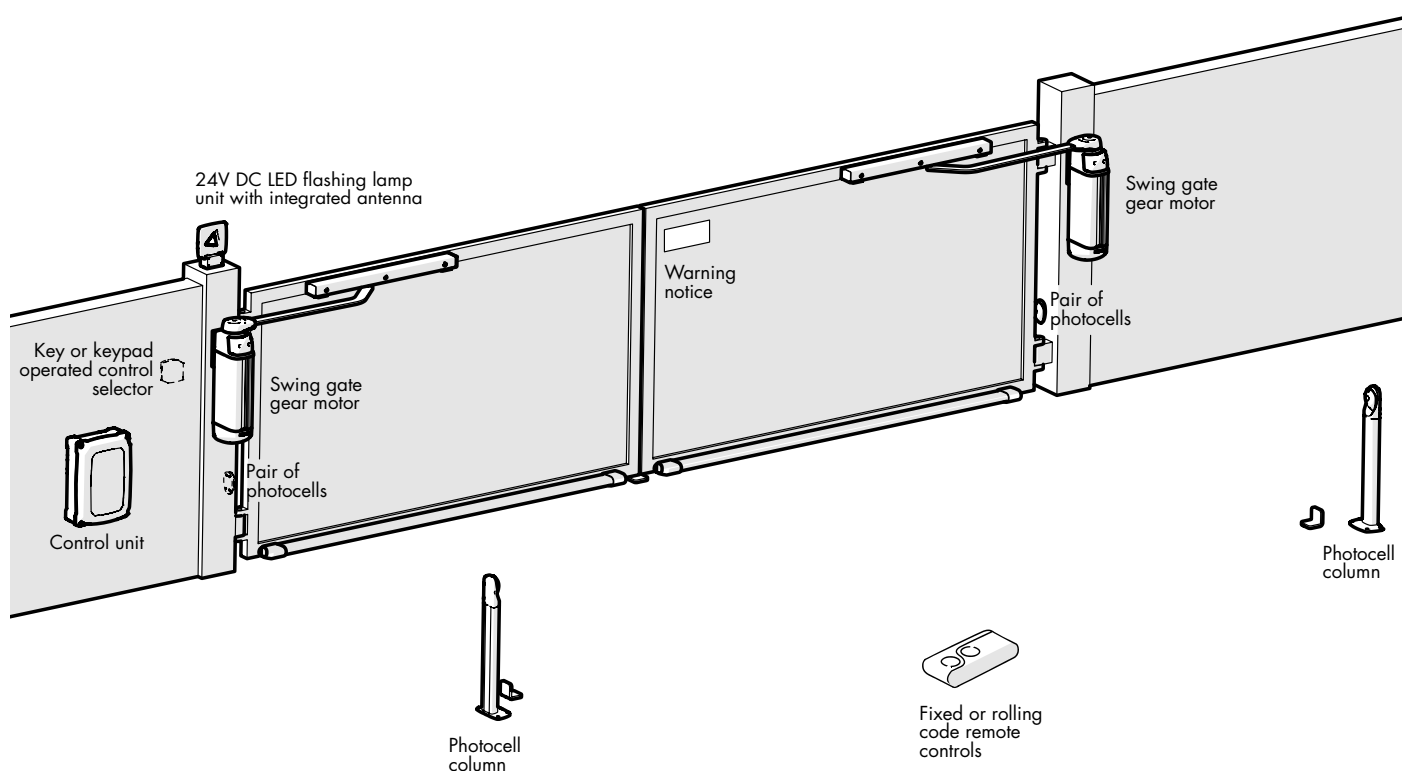
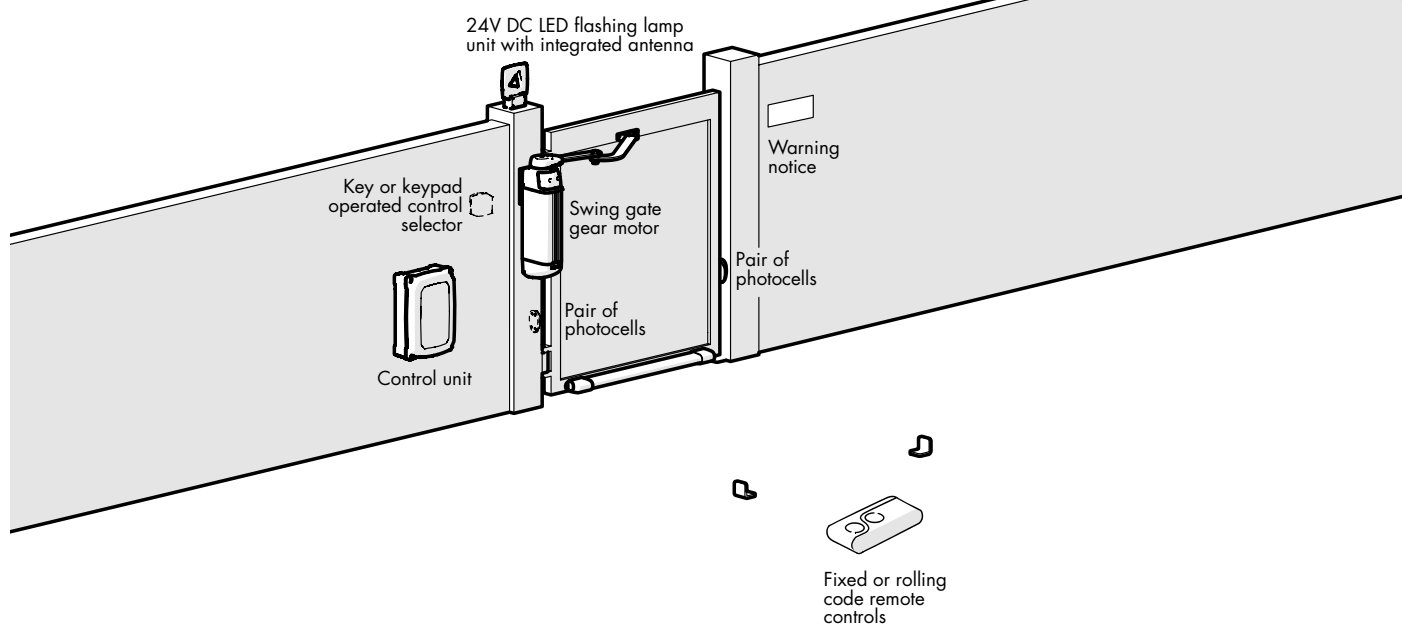


SLIDE ARM LT341 INSTALLATION



INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION



NAVI SERIES



**AUTOMATION SYSTEMS FOR INDUSTRIAL DOORS UP TO
1.5m 200kg FOR FOLDING LEAVES and 2m 300kg FOR
SINGLE LEAF **WITH IPU TECHNOLOGY****



1 GEAR MOTOR WITH PERFECT GEARS

The gear motor is made entirely of aluminium, steel and bronze.

All reduction gears are helical, treated with a temperature process and assembled with high quality bearings. This ensures excellent, noiseless performances.

2 ALUMINIUM-TITANIUM SHELL

The gear motor is housed in two titanium-reinforced aluminium die castings. We machine all supporting surfaces to place the gasket and make the gear motor watertight. Absolute precision between the axes is ensured by machining the bearing seats.

3 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor with low voltage 36V permanent magnetic field.

Extremely compact and powerful, it operates at ambient temperature, making it suitable for extremely intense use with low energy consumption.

4 MAIN OUTPUT SHAFT

The main gearbox shaft is connected to the slide arm through splined mount Z6 uni8953, equipped with an adjustment screw to adjust the distance between the automation system and the slide arm millimetrically.

5 SLIDE ARM

Robust slide arm with sliding-intensive roller and height-adjustable grooved bushing.

6 GATE OPENING MECHANICAL STOP

Robust mechanical opening limit switch, with multi-adjustment system to adjust the door accurately.

7 ROBUST AND LONG-LASTING LOCK RELEASE SYSTEM

Sturdy lock release system, with eccentric rotation fitted on bronze bearings. It allows releasing the automation system effortlessly, under any condition. With safety microswitch supplied as standard. Cord-operated RL674 release set-up.

8 ELEGANT ALUMINIUM SUPPORT

Elegant anodised aluminium support with pre-drilled fastening holes, cable holes on both sides, and watertight cover with gaskets. Set-up and factory assembled for right or left mount.

9 IPU (Power Motor Control) TECHNOLOGY INVERTER BOARD



The innovative PMC inverter board with IPU TECHNOLOGY is installed on board, and it includes the high-resolution 4096 PPR digital encoder. The inverter board is housed inside the automation system, near the Brushless motor, and it controls the motor power section. Its position near the motor and the built-in encoder ensure excellent performances, smooth movements, and instant obstacle detection. The automation system and the IPU control unit are connected via 4-wire ModBus RS485 protocol, creating a robust communication system between the two units. This simple and efficient connection is achieved through 2 power cables and 2 communication cables.

10 IPU - THE NEW CONTROL UNIT



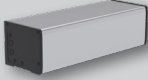
IPU (Intelligent Processing Unit) is the new patented control unit to manage Brushless automation systems with on-board PMC inverter board.

It can be programmed with a backlit graphic display, and it features: language-relevant menus, stroke self-programming functions, graphic command and safety device view, alarm management, manoeuvre counter and B-Connect Roger Technology connection. The high-speed RS485 Modbus connection allows monitoring all motor operating parameters in real time, and synchronizing the action of two automation systems.

11 IPU BOX WITH BUTTON CONTROLS



The IPU control unit is available for the NAVI series in the F70/IPU36/BOX/P version with button controls, OPEN-STOP-CLOSE and manoeuvre signal display, customizable timer/watch, manoeuvre counter and other info.

CODE	DESCRIPTION	NUMBER ITEMS PER PALLET	PHOTO
NV/200/DX 	Low-voltage IPU TECHNOLOGY BRUSHLESS electromechanical gear motor, for intensive use, irreversible, onboard inverter power module with digital encoder, compatible with single-leaf and double-leaf folding doors, mechanical opening limit switch. Without slide arm, prefitted gear motor for right mount	24	
NV/200/SX 	Low-voltage IPU TECHNOLOGY BRUSHLESS electromechanical gear motor, for intensive use, irreversible, onboard inverter power module with digital encoder, compatible with single-leaf and double-leaf folding doors, mechanical opening limit switch. Without slide arm, prefitted gear motor for left mount	24	

TECHNICAL SPECIFICATIONS

	NV/200/DX	NV/200/SX
Actuator type	IRREVERSIBLE	
Built-in power module (inverter) power supply for the Brushless motor	36V DC	
Voltage from the inverter to the Brushless motor	36V~, variable frequency	
Inverter driven motor	Field oriented (FOC), sensed with high-resolution 4096 PPR encoder	
Inverter module-control unit serial connection (F70/IPU36)	RS485, ModBus protocol, 115200 baud	
Maximum power absorption	240 W	
Starting power	380 W	
Starting torque	470 Nm	
Maximum torque (service S3 40%, 1.7 RPM a +25°C)	240 Nm (*)	
Nominal torque (service S1 100%, 2.1 RPM, -20°C +55°C)	140 Nm	
Speed - 1/m (RPM)	0.75 - 2.8	
Opening time	10" (**)	
Maximum leaf weight allowed	200kg for folding wings, 300kg for a single wing	
Maximum leaf length allowed	1.5m for folding wings, 2m for a single wing	
Manoeuvre cycles (factory tested)	700000 (***)	
Usage	INTENSIVE (with nominal torque)	
Degree of protection	IP44	
Operating temperature	-20°C / +55°C	
Sound pressure during use	<70 dB(A)	
Operator weight	16,5 kg	
Mechanical release force	200 N	
Built-in power module (inverter)	F70/IPU36/1	
Control unit	F70/IPU36/BOX/P (with push-button panel) - F70/IPU36/BOX/SL	

(*) drive torque allowing a 40% duty-cycle operation, 1.7 RPM speed, with ambient temperature of 25°C

(**) the opening time largely depends on the acceleration/deceleration adjustment, and on the nominal speed, and should be adjusted based on the door mechanics

(***) internal test verified at the nominal double-leaf folding gate value of 4.5 m, at an ambient temperature of 20°C. The value specified is NOT the maximum value

CONTROL UNITS



ACCESSORIES



F70/IPU36/BOX/SL

36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a slim plastic box



LT339

Slide arm for NAVI series



F70/IPU36/BOX/P

36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a slim plastic box with push-button panel



RL674

Release kit from the inside with 4.5 m long cable for NAVI series

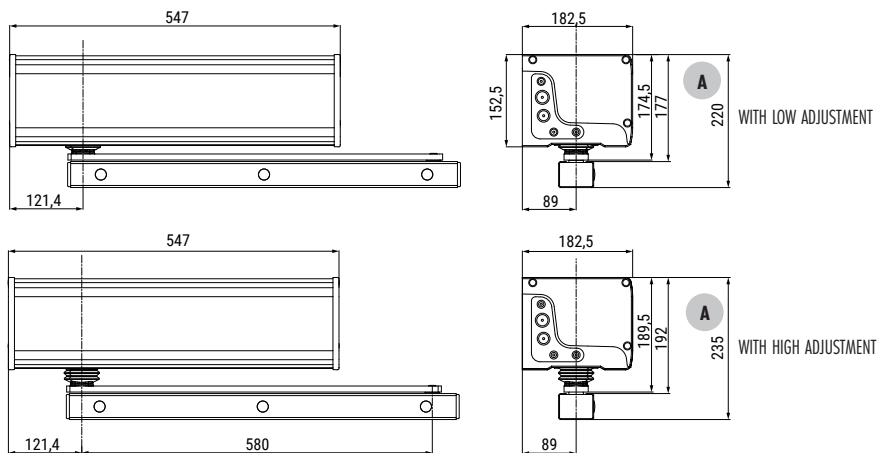


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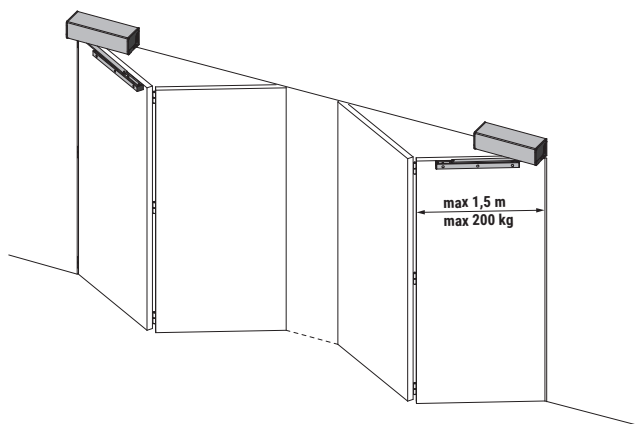
Signboard
"Automatic Opening"

INSTALLATION

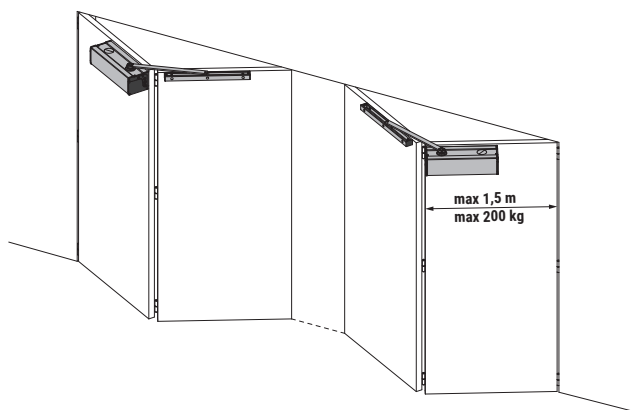
DIMENSIONS



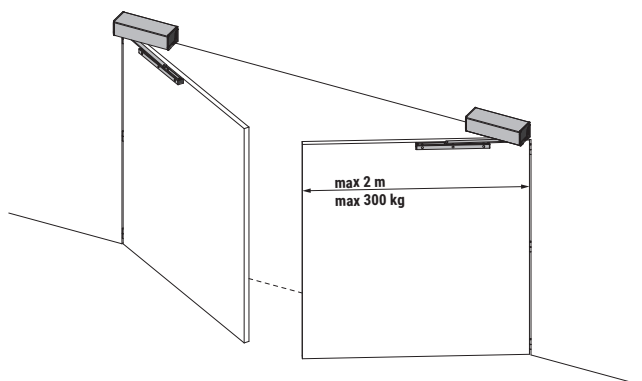
APPLICATION EXAMPLES



4-leaf folding door with slide guide, with automation assembly on the right and left wall

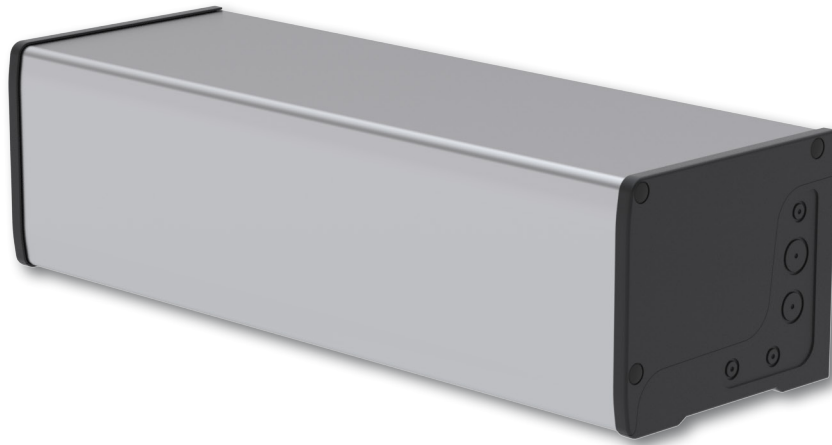


4-leaf folding door with slide guide, with automation assembly on the right and left upturned leaves

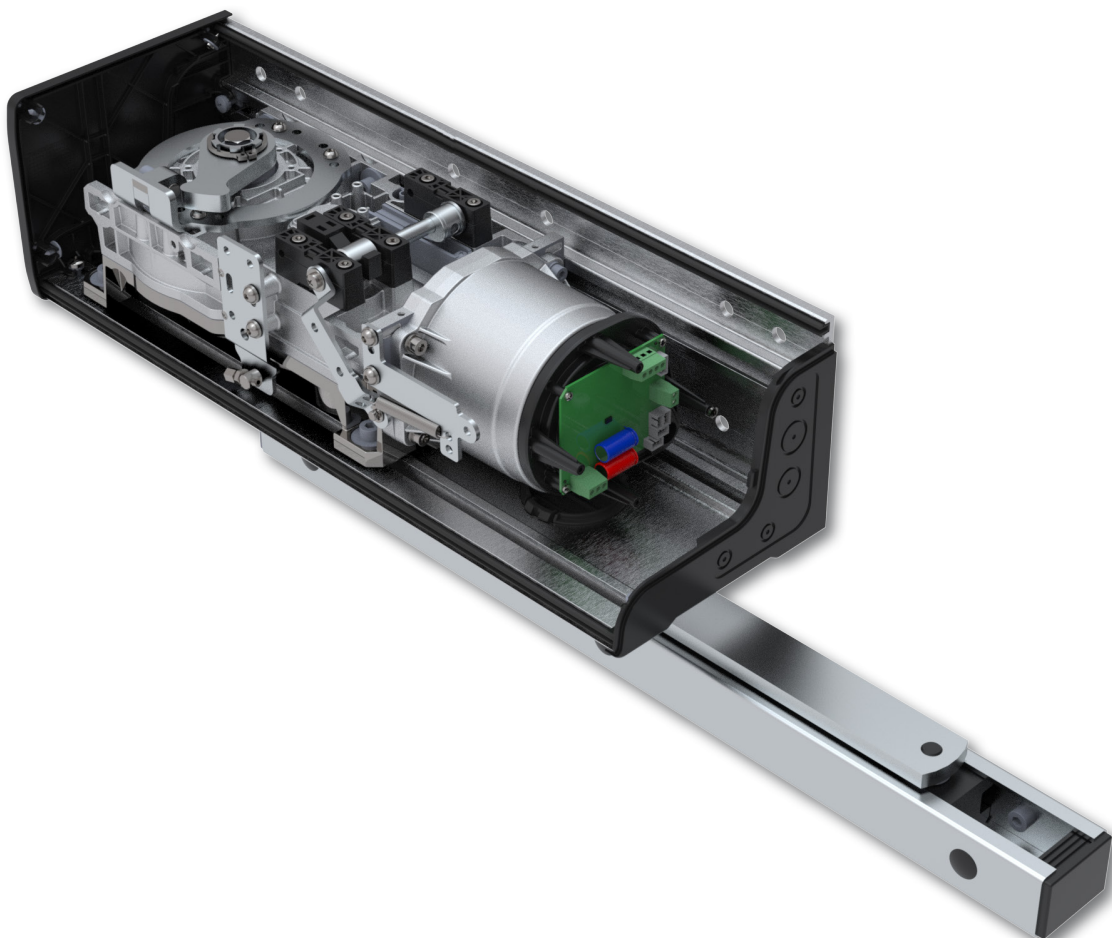


Single or double swing door with automation assembly on the right and left

NAVI GEAR MOTOR WITH PROFILE

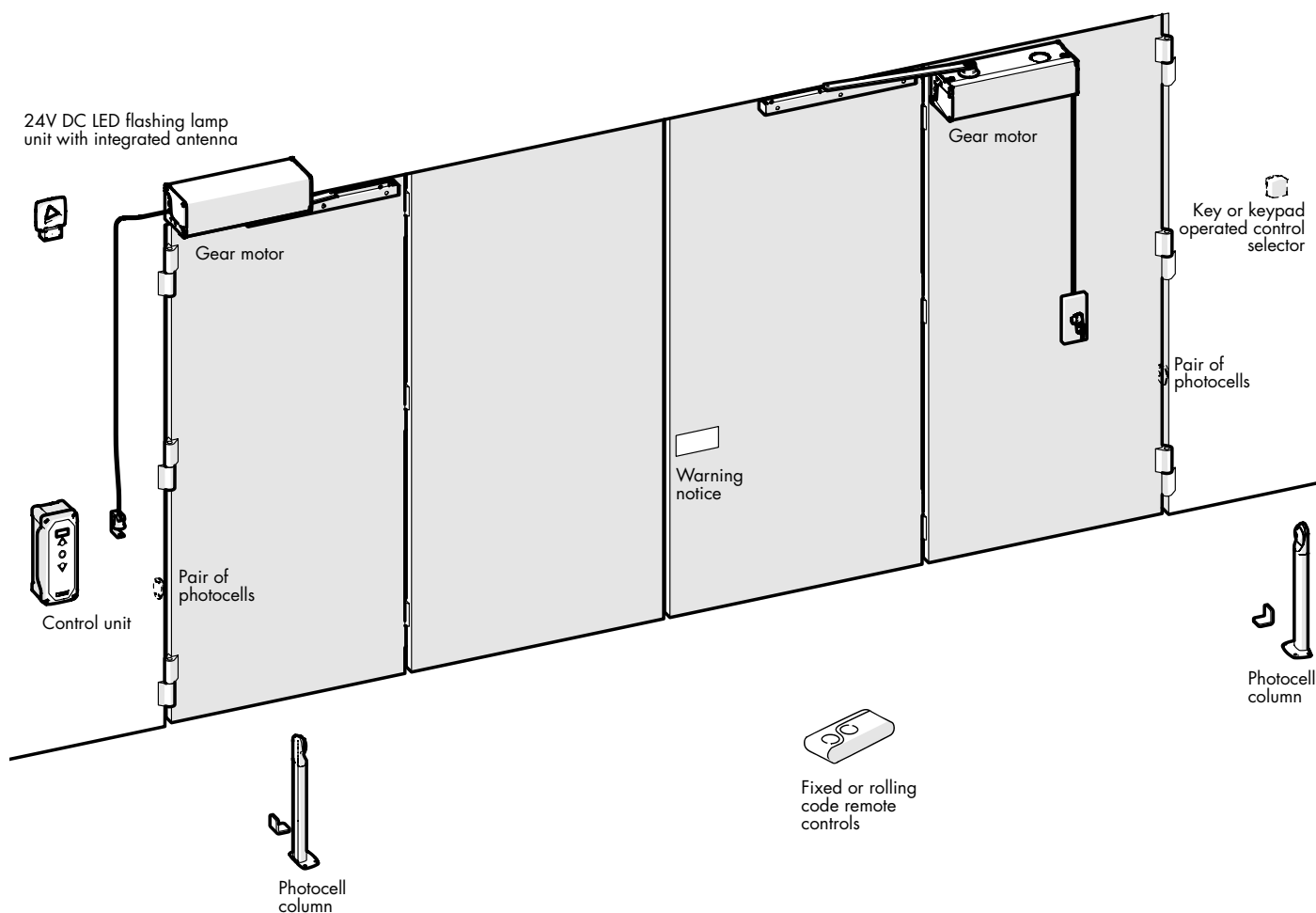


INTERNAL VIEW OF NAVI GEAR MOTOR



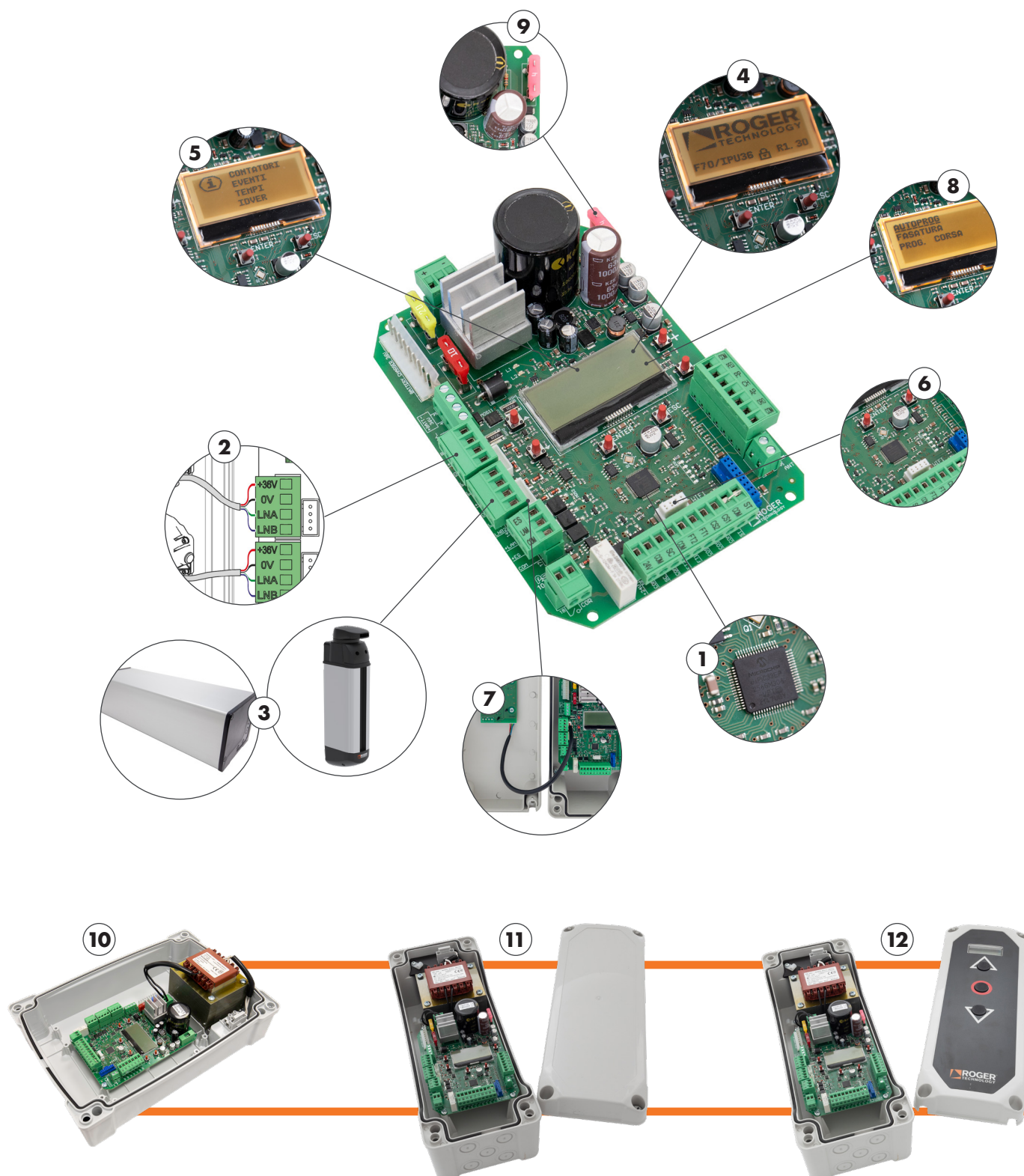
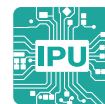
INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION



F70/IPU36 SERIES

IPU TECHNOLOGY CONTROL UNIT



1 IPU

IPU (Intelligent Processing Unit) is the new patented control unit to manage Brushless automation systems with on-board PMC inverter board. The IPU defers the motor control functions to the revolutionary PMC module, devoting all its computing power to the logical management of any kind of automation, and providing a single control unit for any situation.

2 4 WIRES

The IPU and PMC are connected through a robust high-speed RS485 ModBus communication protocol comprising just 4 wires. The high-speed RS485 Modbus connection allows monitoring all motor operating parameters in real time, and synchronizing the action of two automation systems.

3 MULTI-AUTOMATION

The IPU can manage two different automations installed in the same system. E.g.: a sliding automation and a leaf swing automation in the same system. Each automation can manage specific parameters based on the type of movement, slowdown, stroke, torque and obstacle detection. For instance, slowdown space and timer are managed by parameters and differ between a leaf swing and a sliding leaf. This can be achieved through the PMC module, housing inside the automation, along with the automation firmware, with the IPU control unit dealing with all the rest.

4 GRAPHIC DISPLAY

Programming has never been easier! With the 128x64 point backlit graphic display with contrast adjustment and Italian, English, German and French menu.

5 TOTAL MOTOR AND EVENT CONTROL

- Manoeuvre counter, blackout counter, event and fault log.
- Electric data measurement (absorption, voltage, encoder position, etc.).

6 B-CONNECT

B-Connect connection: connection via native B74/BCONNECT WiFi module, to manage and program the automation remotely. Firmware upgrades for the IPU control unit and for the PMC inverter modules with onboard encoder, installed directly in the automations.

7 EXPANSION CONNECTORS

Two connectors for additional board expansion. These two connectors allow a direct digital communication with all IPU board functions to additional boards for specific functions. Such as the push-button panel in the F70/IPU36/BOX/P version, where the button controls and the push-button panel display communicate and are directly wired, without any additional complex connection.

8 SELF-PROGRAMMING

Stroke self-programming: stroke self-learning with step-by-step wizard.

9 FUSES

Control unit with high-quality automotive fuses easy to remove and differentiated, to protect the different IPU control unit functions.

10 STANDARD VERSION BOX F70/IPU36/BOX

330x230x115mm standard version box.

11 SLIME VERSION BOX F70/IPU36/BOX/SL

380x145x130mm slim version box.

12 BUTTON CONTROLS VERSION BOX F70/IPU36/BOX/P

Slim version box with open, close, stop buttons and graphic display to see the automation status in real time.

The IPU control unit is available for the NAVI series with button controls, OPEN-STOP-CLOSE and manoeuvre signal display, customizable timer/watch, manoeuvre counter and other info.

CODE	DESCRIPTION	NUMBER ITEMS PER PALLET	PHOTO
F70/IPU36/BOX 	36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a plastic box	50	
F70/IPU36/BOX/SL 	36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a slim plastic box	50	
F70/IPU36/BOX/P 	36V IPU controller to manage 2 IPU TECHNOLOGY BRUSHLESS motors with onboard inverter, in a slim plastic box with push-button panel	50	

The codes are available also in the 115V version: F70/IPU36/BOX/115, F70/IPU36/BOX/SL/115, F70/IPU36/BOX/P/115

TECHNICAL SPECIFICATIONS

	F70/IPU36
Power voltage	230V~ ± 10% 50 Hz (F70/IPU36/115 - 115 V~ ± 10% 60 Hz)
Maximum power absorption (MAINS)	230 W
Starting power (MAINS)	600 W
Fuses	F1 = 20A motor power supply circuit protection F2 = 4A electric lock power supply protection F3 = 10A battery powered circuit protection F4 = T2A transformer primary protection
Compatible inverter modules	2
Inverter modules power supply	36V DC
Inverter modules serial connection	RS485, ModBus Protocol, 115200 baud
Inverter control type	sensored, with high resolution encoder (on-board motor)
Motor type	NAVI SERIES and SLED SERIES ROGER BRUSHLESS WITH ON-BOARD MOTOR (RS485) - with integrated 36V~ inverter - field oriented control (FOC), sensed (high resolution encoder)
Nominal motor power	90 W
Motor power boost	250 W
Flashing lamp unit maximum power	10 W (24 V DC)
Flashing lamp unit duty cycle	50%
Maximum courtesy light power: (pure contact)	100 W 230 V~ - 40 W 24 V~ / V DC (pure contact)
Open gate light power	3 W 24 V DC
Electric lock power	15 W 12 V DC (mean voltage) (*)
Accessory output power	20 W 24 V DC (750 mA - electronic overload protection)
Operating temperature	-20°C +55°C
Degree of protection	IP54
Product dimensions	F70/IPU36/BOX dimensions in mm 330x230x115 Weight: 3,9 kg F70/IPU36/BOX/SL dimensions in mm 380x145x130 Weight: 4,5 kg F70/IPU36/BOX/P dimensions in mm 380x145x130 Weight: 4,6 kg

(*) the electric lock provides a nominal voltage of 36V DC (max 40 V DC) modulated at 30% (30% ON, 70% OFF). The device to be connected can withstand a maximum voltage of 40V DC.

THE F70/IPU36 CONTROL UNIT IS COMPATIBLE WITH ALL ROGER TECHNOLOGY ACCESSORIES:

RADIO RECEIVERS		√	PHOTOCELLS		√
TRANSMITTERS		√	NUMERICAL KEYPADS AND SELECTORS		√
FLASHING LIGHT		√	COLUMNS		√

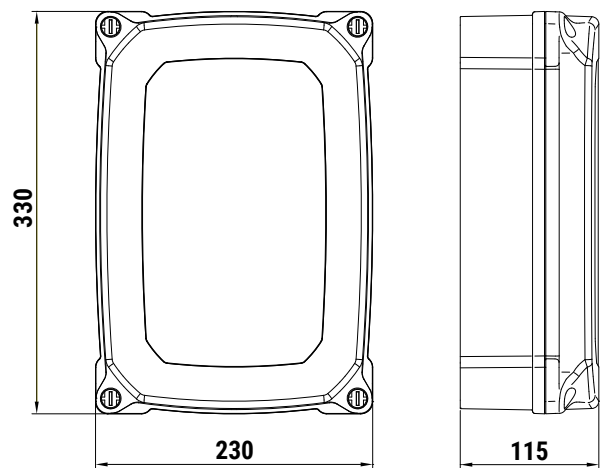
ACCESSORIES

	B71/PBX/BOX	Hybrid inverter, "Full Solar" version, for powering the automation. Also provides a battery-charger function thanks to the connection to the solar panels for powering the brushless digital controllers
	B71/PBX36/BOX	Hybrid inverter, "Network Assisted" version, for powering the automation. Also provides a battery-charger function thanks to the connection to the solar panels or mains supply for powering the 36V DC brushless digital controllers with a mains voltage of 230V AC

INSTALLATION

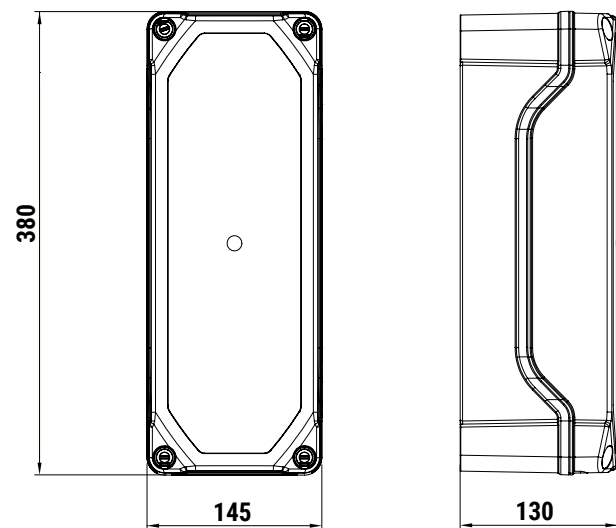
DIMENSIONS

F70/IPU36/BOX

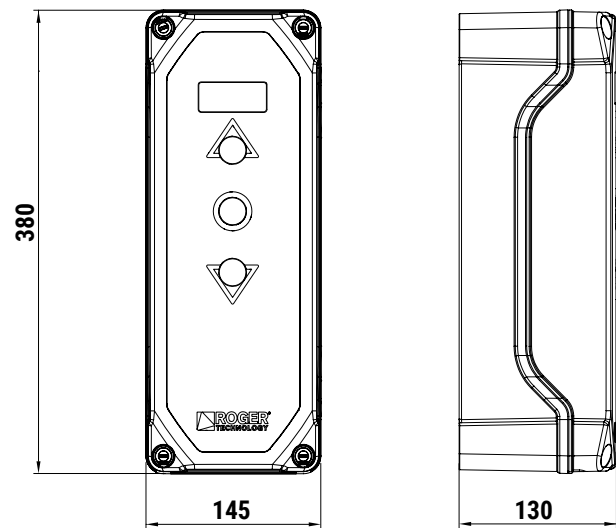


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F70/IPU36/BOX/SL



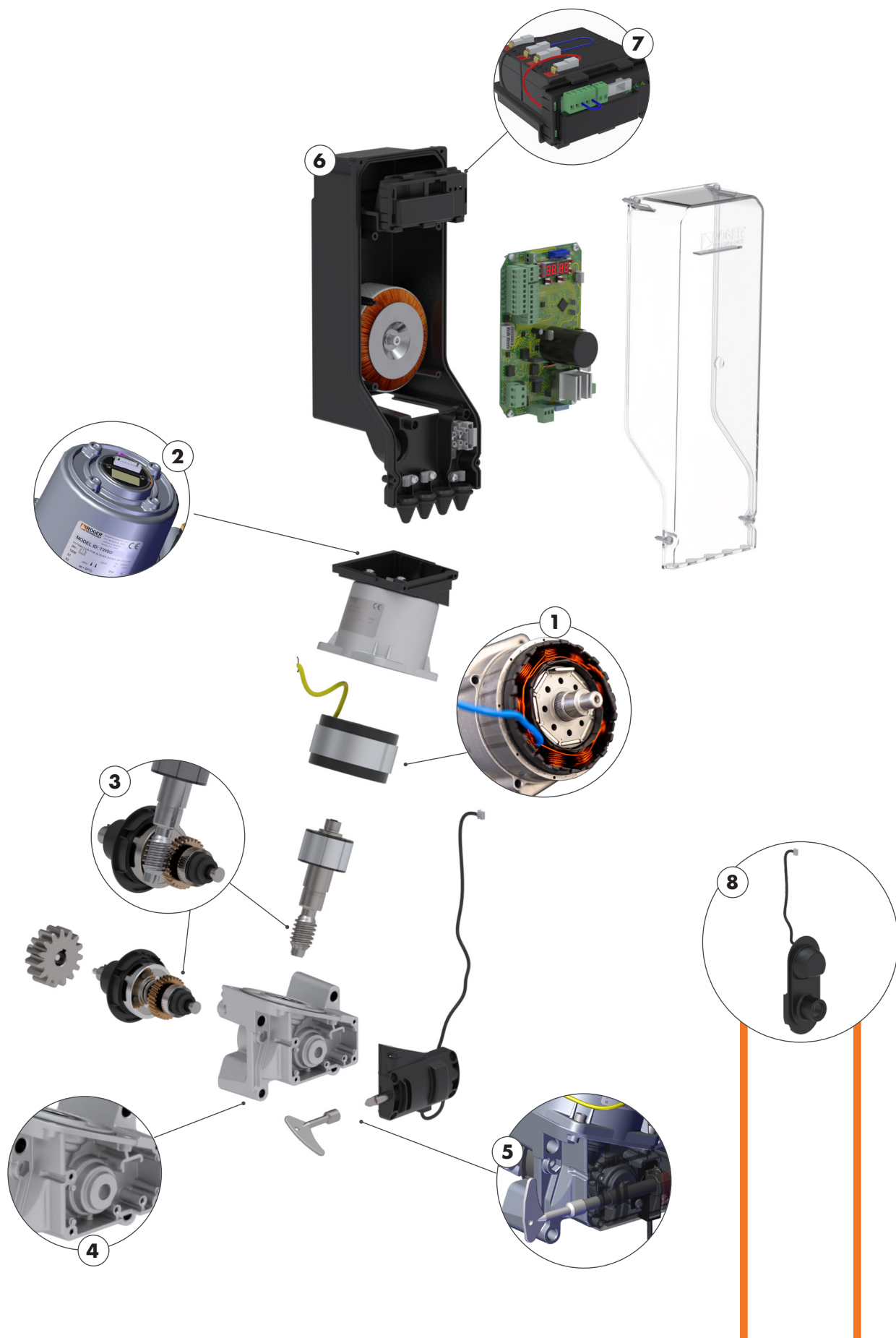
F70/IPU36/BOX/P



TW90 SERIES



**AUTOMATION FOR COLUMN SLIDING GATES WITH
BUILT-IN CONTROL UNIT UP TO 800kg**



1 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 24V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

2 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

3 PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

4 COMPACT AND VERSATILE

Thanks to our experience in sliding gate automation, we designed a compact, high-performing gearbox compatible with 135mm x 140mm columns.

5 LOCK RELEASE SYSTEM

Lock release system with trilobe key, available on both column sides.
With magnetic release sensor that communicates the automation release status to the control unit.

6 BUILT-IN CENTRAL BOX

In this version, the new 24V digital controller B70/1T for TW90 automations is built-in and directly connected to the gearbox, through a prewired, ready-to-use safety box, which ensures an automation height up to 470mm.

7 STANDBY BATTERIES IN THE EVENT OF POWER FAILURE

No problem in the event of power failure! The system is preset to house two 12VDC 1.2 Amp/H batteries and the related charging board B71/BC, located in a protected position inside the control box.

8 OPTIONAL MAGNETIC LIMIT SWITCH

The automation can be equipped with a magnetic limit switch, through an optional accessory. The limit switch is shaped and can be installed into the automation, taking up as low space as possible.



CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO
TW90/600/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 600 kg with built-in digital controller B70 series, without limit switch	50	
TW90/800 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 800 kg with built-in digital controller B70 series, without limit switch	50	
TW90/800/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 800 kg with built-in digital controller B70 series, without limit switch	50	

The codes are available also in the 115V version: TW90/600/HS/115, TW90/800/115

TECHNICAL SPECIFICATIONS

	TW90/600/HS	TW90/800	TW90/800/R
Drive type	IRREVERSIBLE	IRREVERSIBLE	REVERSIBLE
Mains power supply	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	24V~, variable frequency		
Inverter driven motor	field oriented control (FOC), sensored with high-resolution encoder		
Maximum power absorption	180 W	180 W	180 W
Starting power	270 W	290 W	320 W
Starting force	540 N	690 N	615 N
Maximum force (service S3 40%, -20°C +55°C)	250 N (@1530 RPM) (*)	385 N (@1200 RPM) (*)	270 N (@580 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	210 N (@ 845 RPM)	190 N (@ 1200 RPM)	135 N (@ 600 RPM)
Sliding rate	5.7 - 25 m/min	7.4 - 12.3 m/min	5.7 - 18 m/min
Maximum leaf weight	600 kg	800 kg	800 kg
Maximum stroke length	20 m	20 m	20 m
Exit gear	Z15/mod4	Z15/mod4	Z15/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)		
Degree of protection	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admission gradient	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	7,7 kg	7,7 kg	7,7 kg
Force to be applied on the mechanical release	10 N	10 N	10 N
Control unit	B70/1T	B70/1T	B70/1T

(*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

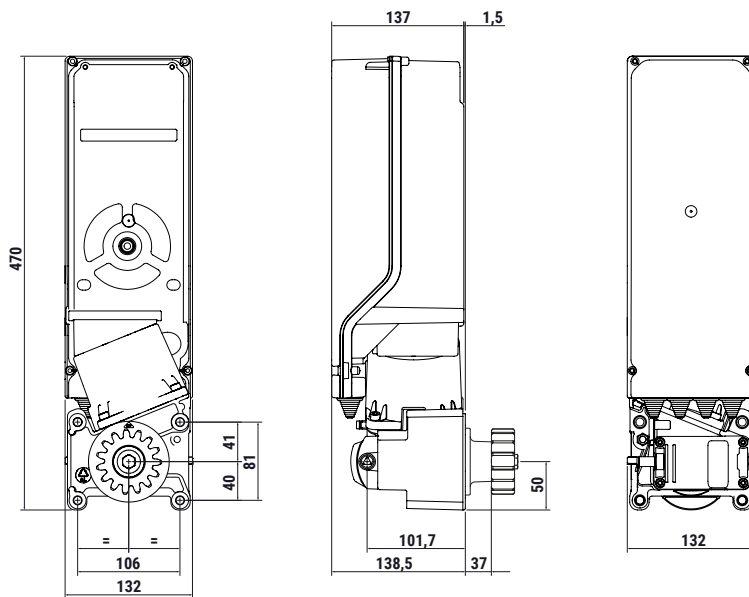
(**) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

ACCESSORIES

	MC784 Magnetic limit switch for TW90 with built-in control unit		BT12V12 Battery 12V 1.2 Ah (1 pc)
	MC785 Magnetic limit switch kit and brackets for TW90 with built-in control unit		R99/C/001 Signboard "Automatic Opening"
	B71/BC Batteries charger for Brushless digital controller B70/1T (only for TW90 with built-in control unit)		

INSTALLATION

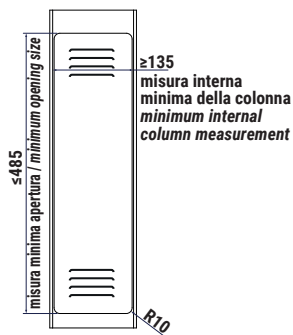
DIMENSIONS



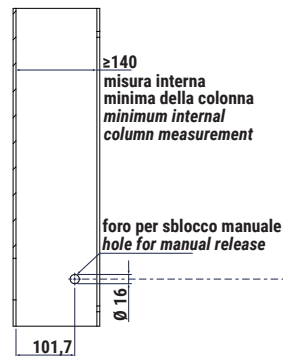
23

COLUMN MOTOR INSTALLATION SET-UP

VISTA FRONTALE
FRONTAL VIEW



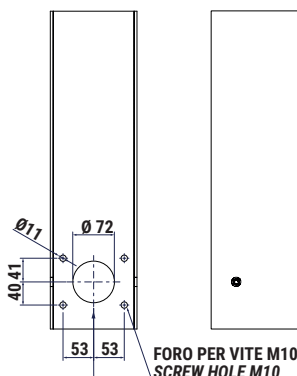
VISTA LATERALE
LATERAL VIEW



VISTA POSTERIORE
BACK VIEW

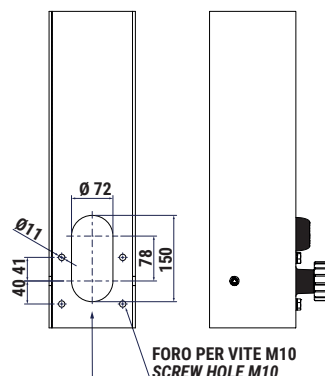


**PREDISPOSIZIONE PER FISSAGGIO
MOTORIDUTTORE ALLA PARETE
-SENZA FINECORS-
PREDISPOSITION FOR MOUNTING
THE MOTOR TO THE WALL
-WITHOUT LIMIT SWITCH-**



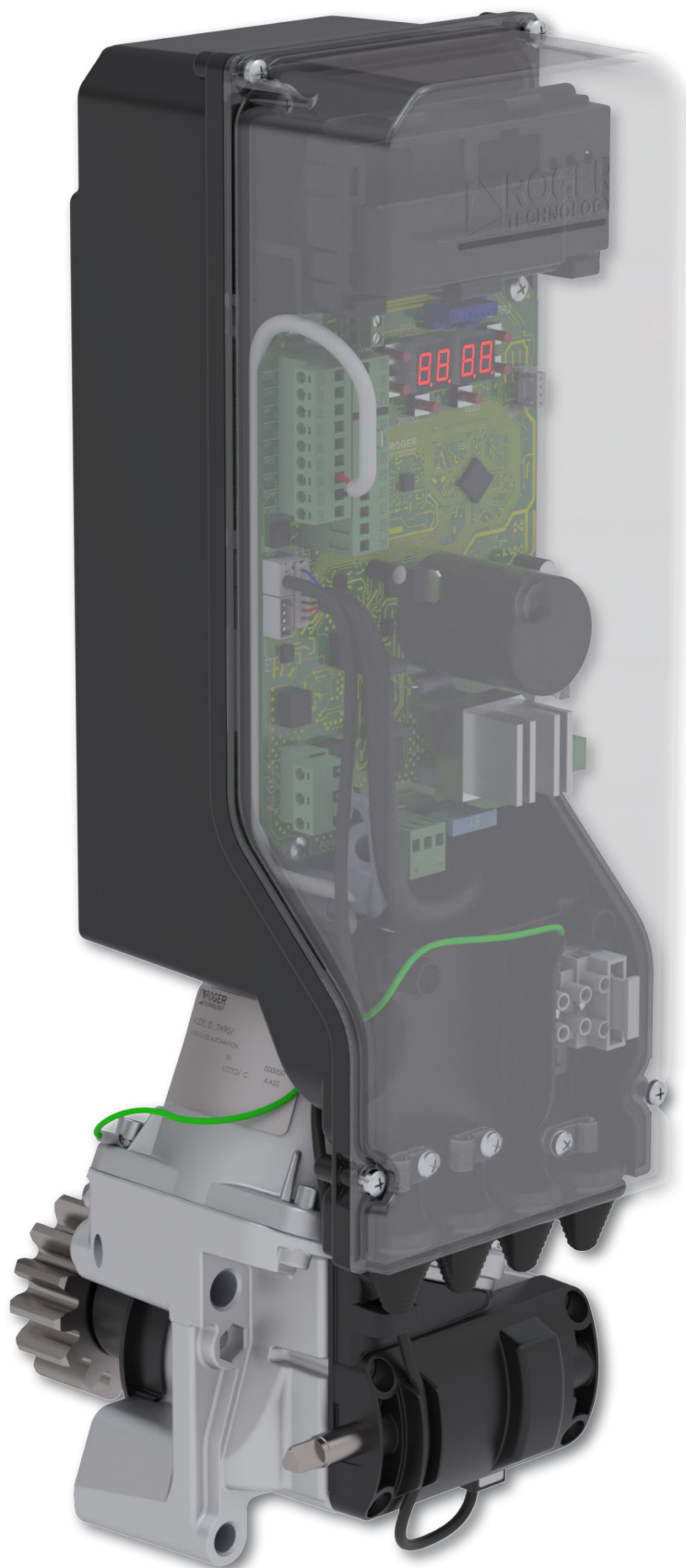
**riferimento foro uscita
pignone cremagliera
output hole reference
rack pinion**

**PREDISPOSIZIONE PER FISSAGGIO
MOTORIDUTTORE ALLA PARETE
-CON FINECORS-
PREDISPOSITION FOR MOUNTING
THE MOTOR TO THE WALL
-WITH LIMIT SWITCH-**



**riferimento foro uscita
pignone cremagliera
output hole reference
rack pinion**

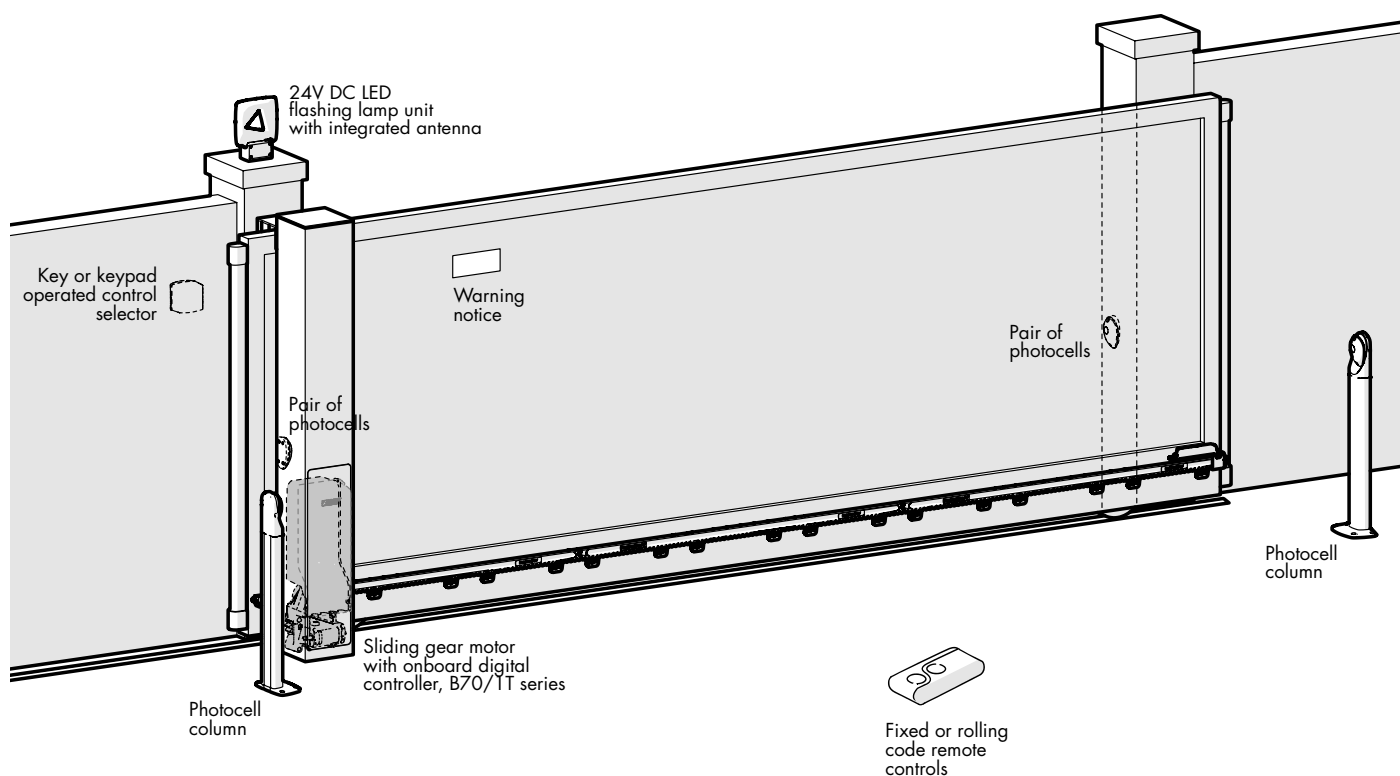
GEAR MOTOR WITH BUILT-IN CONTROL UNIT



INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION

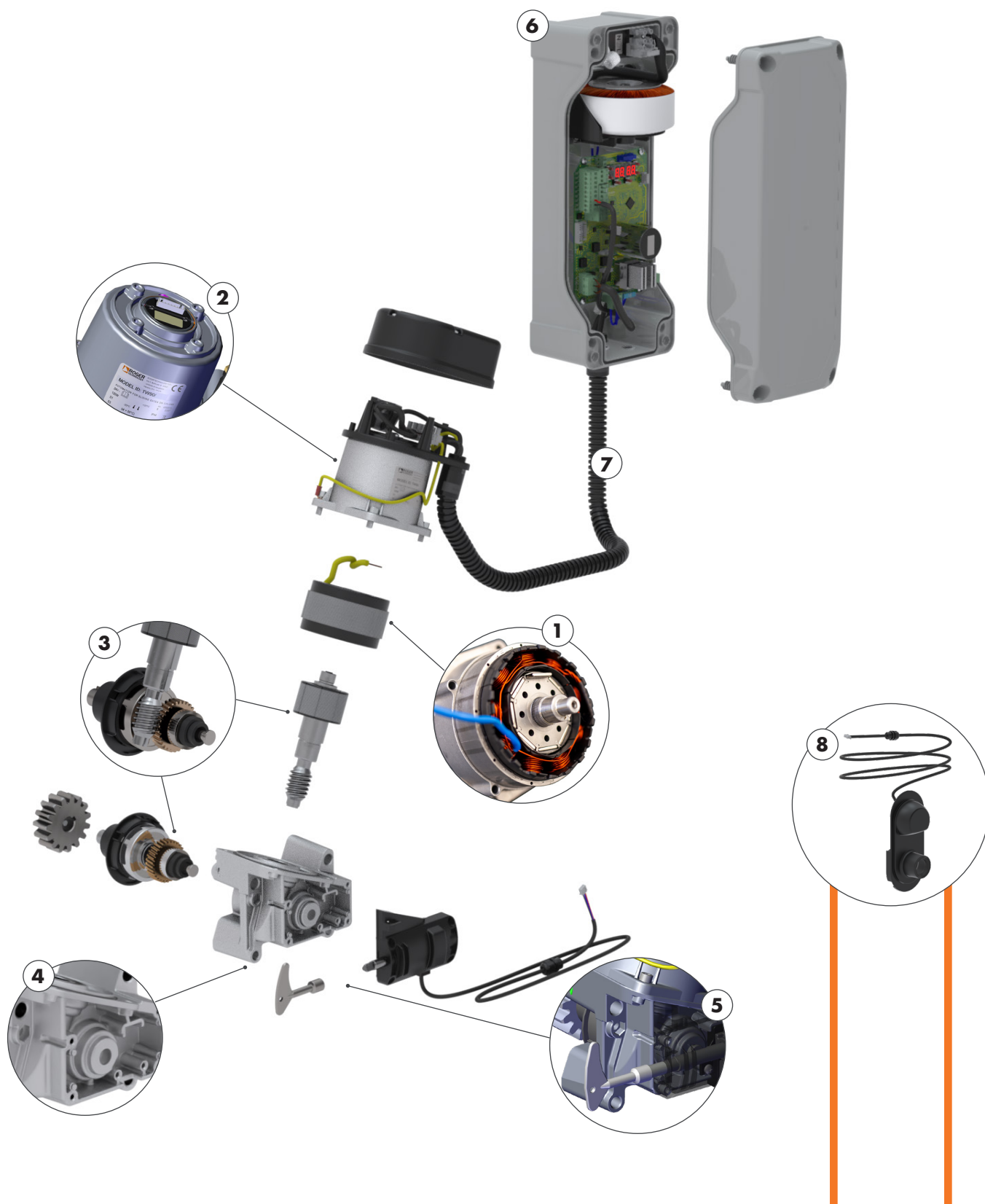
25



SERIE TW90



**AUTOMATIONS FOR COLUMN SLIDING GATES WITH
PREWIRED CONTROL UNIT IN PLASTIC BOX UP TO 800kg**



1 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 24V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

2 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

3 PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

4 COMPACT AND VERSATILE

Thanks to our experience in sliding gate automation, we designed a compact, high-performing gearbox compatible with 135mm x 140mm columns.

5 LOCK RELEASE SYSTEM

Lock release system with trilobe key, available on both column sides.
With magnetic release sensor that communicates the automation release status to the control unit.

6 BUILT-IN CENTRAL BOX

In this version, the new 24V digital controller B70/1T dedicated to TW90 automations is housed in a special plastic box, separated from the gear box. This way, it can be easily installed at a height of 1 meter.

7 PREWIRED WIRINGS

The automation and digital controller box are supplied prewired for all motor, encoder, release sensor connections. Connections are achieved through high quality corrugated cable conduits for outdoor use.

8 OPTIONAL MAGNETIC LIMIT SWITCH

The automation can be equipped with a magnetic limit switch, through an optional accessory. The limit switch is shaped and can be installed into the automation, taking up as low space as possible.



CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO
TW90/620/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 600 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW90/820 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 800 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW90/820/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 800 kg with digital controller series B70 in prewired plastic box, without limit switch	30	

The codes are available also in the 115V version: TW90/620/HS/115, TW90/820/115

TECHNICAL SPECIFICATIONS

	TW90/620/HS	TW90/820	TW90/820/R
Drive type	IRREVERSIBLE	IRREVERSIBLE	REVERSIBLE
Mains power supply	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	24V~, variable frequency		
Inverter driven motor	field oriented control (FOC), sensored with high-resolution encoder		
Maximum power absorption	180 W	180 W	180 W
Starting power	270 W	290 W	320 W
Starting force	540 N	690 N	615 N
Maximum force (service S3 40%, -20°C +55°C)	250 N (@1530 RPM) (*)	385 N (@1200 RPM) (*)	270 N (@580 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	210 N (@ 845 RPM)	190 N (@ 1200 RPM)	135 N (@ 600 RPM)
Sliding rate	5.7 - 25 m/min	7.4 - 12.3 m/min	5.7 - 18 m/min
Maximum leaf weight	600 kg	800 kg	800 kg
Maximum stroke length	20 m	20 m	20 m
Exit gear	Z15/mod4	Z15/mod4	Z15/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)		
Degree of protection	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admissible gradient	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	5,4 kg (motor) 4,6 kg (box)	5,4 kg (motor) 4,6 kg (box)	5,4 kg (motor) 4,6 kg (box)
Force to be applied on the mechanical release	10 N	10 N	10 N
Control unit	B70/1T	B70/1T	B70/1T

(*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

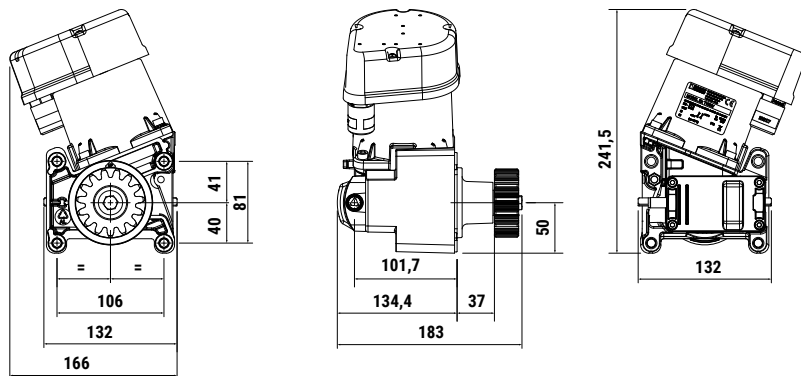
(**) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

ACCESSORIES

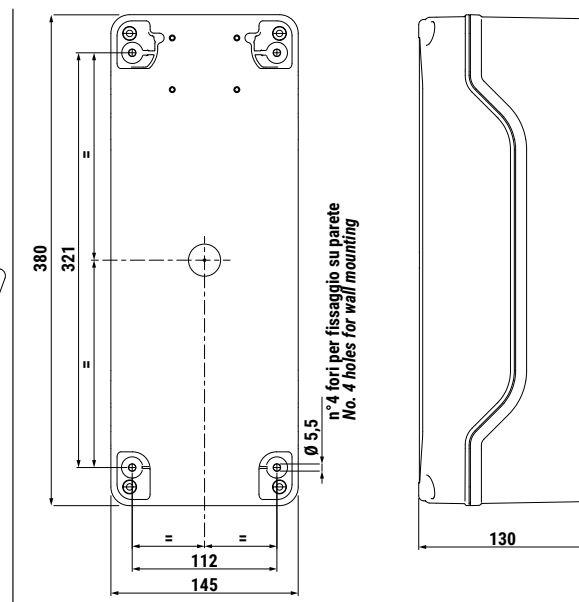
	MC788 Magnetic limit switch for TW90 with control unit in separate box		R99/C/001 Signboard "Automatic Opening"
	MC789 Magnetic limit switch kit and brackets for TW90 with control unit in separate box		

INSTALLATION

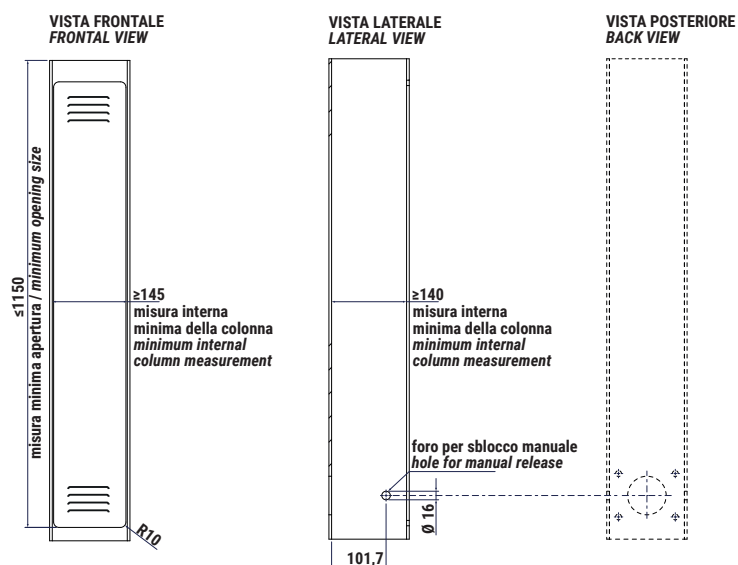
DIMENSIONS



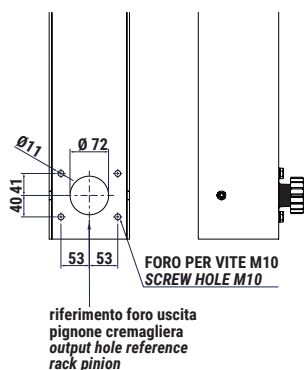
CONTROL UNIT DIMENSIONS



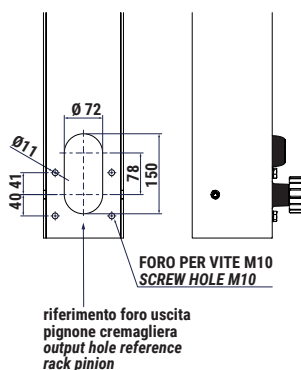
COLUMN MOTOR INSTALLATION SET-UP



PREDISPOSIZIONE PER FISSAGGIO
MOTORIDUTTORE ALLA PARETE
-SENZA FINECORSA-
PREDISPOSITION FOR MOUNTING
THE MOTOR TO THE WALL
-WITHOUT LIMIT SWITCH-



PREDISPOSIZIONE PER FISSAGGIO
MOTORIDUTTORE ALLA PARETE
-CON FINECORSA-
PREDISPOSITION FOR MOUNTING
THE MOTOR TO THE WALL
-WITH LIMIT SWITCH-

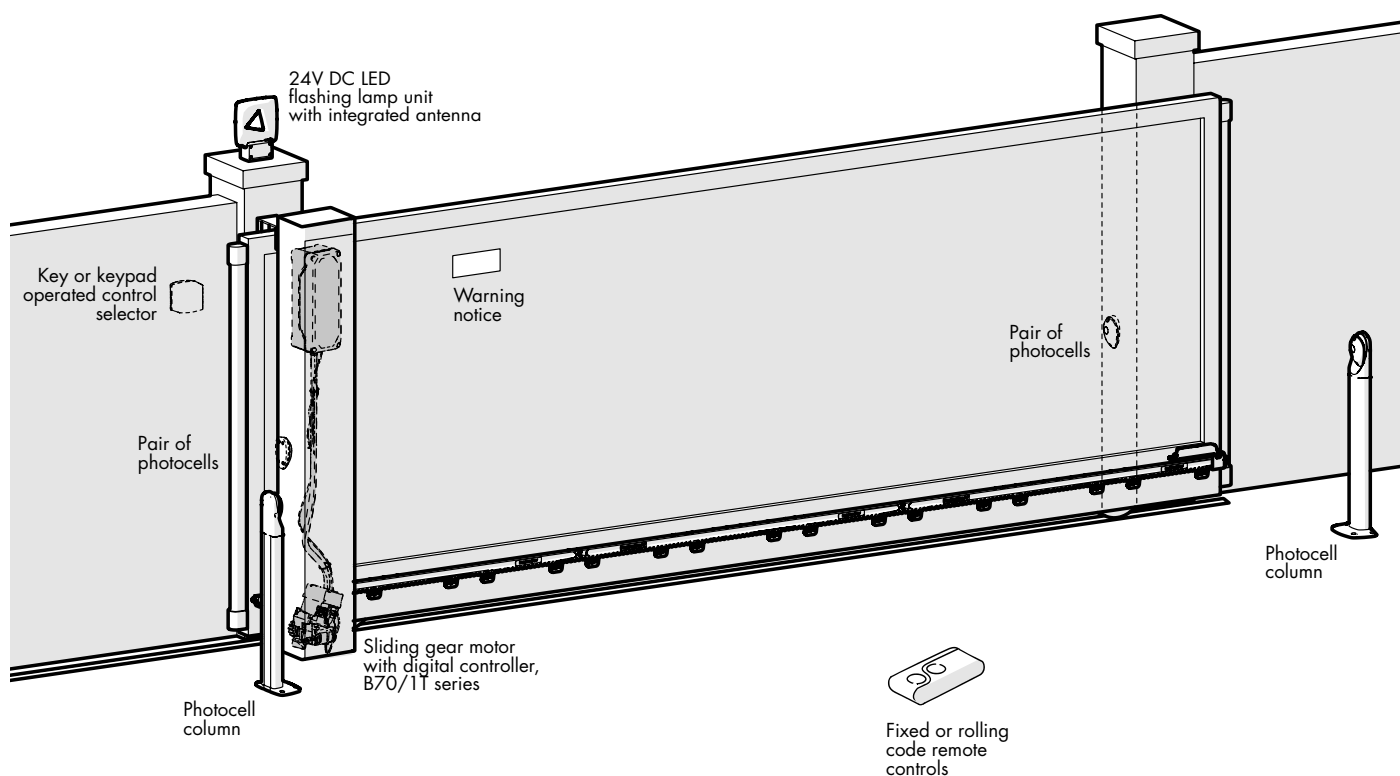


GEAR MOTOR WITH SEPARATE CONTROL UNIT



INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION



SERIE TW110



**AUTOMATIONS FOR COLUMN SLIDING GATES WITH
PREWIRED CONTROL UNIT IN PLASTIC BOX UP TO 2000kg**



1 DIGITAL BRUSHLESS MOTOR

Digital Brushless motor based on a permanent magnetic field, which uses neodymium iron-boron magnets inside the rotor. With special concentrated coil windings, powered by a three-phase sinusoidal 36V AC power system, the motor is extremely compact and operates at ambient temperature, guaranteeing super-intensive use with extremely low consumption.

2 4096 PPR SENSORED DIGITAL ENCODER

4096 PPR high resolution magnetic encoder, it ensures an extremely accurate automation control in all its acceleration/deceleration movements, especially in obstacle detection phases.

3 PRECISION ENGINEERING

The gear motor is made entirely of aluminium, steel and bronze.
All gears are assembled with superior quality double shielded ball bearings to ensure absolute precision between axes, and provide long-lasting, noiseless performances.

4 ADJUSTABLE PINION

Pinion easily adjustable on 7 positions. With the through type pinion shaft, the pinion distance can be adjusted via 5 mm steps, up to a maximum extension of 30mm. Available with pinion module 4 and module 6 (optional).

5 LOCK RELEASE SYSTEM

Internal lever unlocking system equipped with a magnetic release sensor, which allows the control unit to be informed of the unlocking status of the automation.

6 BUILT-IN CENTRAL BOX

In this version, the new 36V digital controller B70/1THP dedicated to TW110 automations is housed in a special plastic box, separated from the gear box. This way, it can be easily installed at a height of 1 meter.

7 PREWIRED WIRINGS

The automation and digital controller box are supplied prewired for all motor, encoder, release sensor connections. Connections are achieved through high quality corrugated cable conduits for outdoor use.

8 OPTIONAL MAGNETIC LIMIT SWITCHES

The automation can be equipped with magnetic limit switches, through an optional accessory. Magnetic limit switches are screw adjustable, and are supplied in pairs of two NORD-SUD pieces.



CODE	DESCRIPTION	NUMBER ITEMS OF PALLET	PHOTO / PRICE
TW110/1000/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 1000 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/1200/R 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, reversible, ideal for sliding gates up to 1200 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/1600/HS 	Electromechanical HIGH SPEED BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 1600 kg with digital controller series B70 in prewired plastic box, without limit switch	30	
TW110/2000 	Electromechanical BRUSHLESS motor, low voltage, super intensive use, with SENSORED digital magnetic encoder at 4096 PPR, irreversible, ideal for sliding gates up to 2000 kg with digital controller series B70 in prewired plastic box, without limit switch	30	

The codes are available also in the 115V version: TW110/1000/HS/115, TW110/1600/115, TW110/2000/115

TECHNICAL SPECIFICATIONS

	TW110/1000/HS	TW110/1200/R	TW110/1600/HS	TW110/2000
Drive type	IRREVERSIBLE	REVERSIBLE	IRREVERSIBLE	IRREVERSIBLE
Mains power supply	230V~	230V~	230V~	230V~
Voltage from the control unit to the Brushless motor	36V~, variable frequency			
Inverter driven motor	field oriented control (FOC), sensed with high-resolution encoder			
Maximum power absorption	240 W	240 W	240 W	240 W
Starting power	570 W	500 W	560 W	500 W
Starting force	1150 N	1150 N	1250 N	1700 N
Maximum force (service S3 40%, -20°C +55°C)	270 N (@1000 RPM) (*)	300 N (@520 RPM) (*)	380 N (@1220 RPM) (*)	570 N (@1100 RPM) (*)
Nominal force (service S1 100%, -20°C +55°C)	190 N (@ 730 RPM)	230 N (@ 470 RPM)	230 N (@ 940 RPM)	300 N (@ 1100 RPM)
Sliding rate	5.7 - 25 m/min	5.7 - 17 m/min	5.7 - 21 m/min	5.7 - 12 m/min
Maximum leaf weight	1000 kg	1200 kg	1600 kg	2000 kg
Maximum stroke length	25 m	25 m	25 m	25 m
Exit gear	Z20/mod4	Z17/mod4	Z17/mod4	Z17/mod4
Operating cycles (internally tested)	150000 (**)	150000 (**)	150000 (**)	150000 (**)
Usage	INTENSIVE use (with nominal torque)			
Degree of protection	IP44	IP44	IP44	IP44
Operating temperature	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C	-20°C / +55°C
Maximum admissiomed gradient	0,5%	0,5%	0,5%	0,5%
Sound pressure during use	<70 dB(A)	<70 dB(A)	<70 dB(A)	<70 dB(A)
Operator weight	12,5 kg (motor) 4,6 kg (box)	12,1 kg (motor) 4,6 kg (box)	12,3 kg (motor) 4,6 kg (box)	12,1 kg (motor) 4,6 kg (box)
Force to be applied on the mechanical release	15N	15N	15N	15N
Control unit	B70/1THP	B70/1THP	B70/1THP	B70/1THP

(*) force allowing a 40% duty-cycle operation, at the RPM specified in the table, with ambient temperature of +55°C.

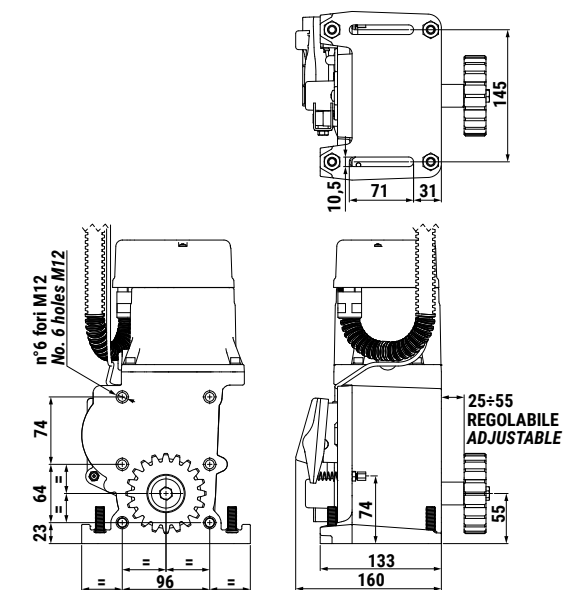
(**) internal test verified at the nominal sliding gate value of 5 meters, at an ambient temperature of 20°C. The value specified is NOT the maximum value.

ACCESSORIES

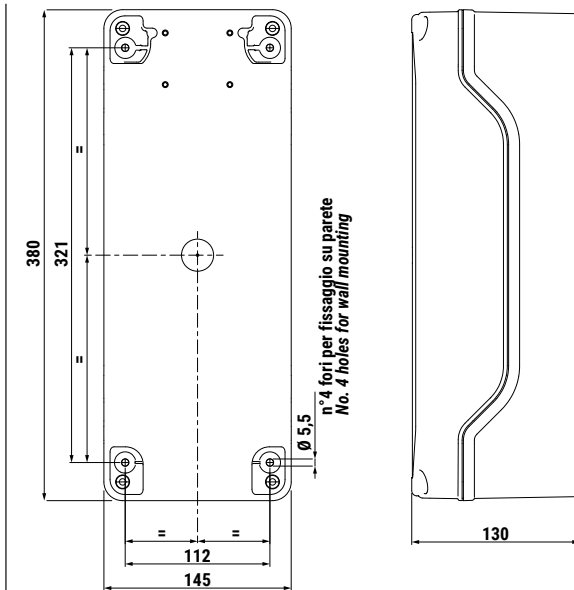
	MC786	NORD-SUD magnetic limit switches for TW110		B71/BCHP/BOX	Kit for emergency batteries charger for Brushless digital controller B70/1THP 36V DC. Box case included and without recovery batteries
	MC787	NORD-SUD magnetic limit switch kit and brackets for TW110		R99/C/001	Signboard "Automatic Opening"
	B71/BCHP/EXT	Kit for emergency batteries charger for Brushless digital controller B70/1THP 36V DC with plug-in card, with 2 recovery batteries 12V DC, 4.5 Ah. Box case included			

INSTALLATION

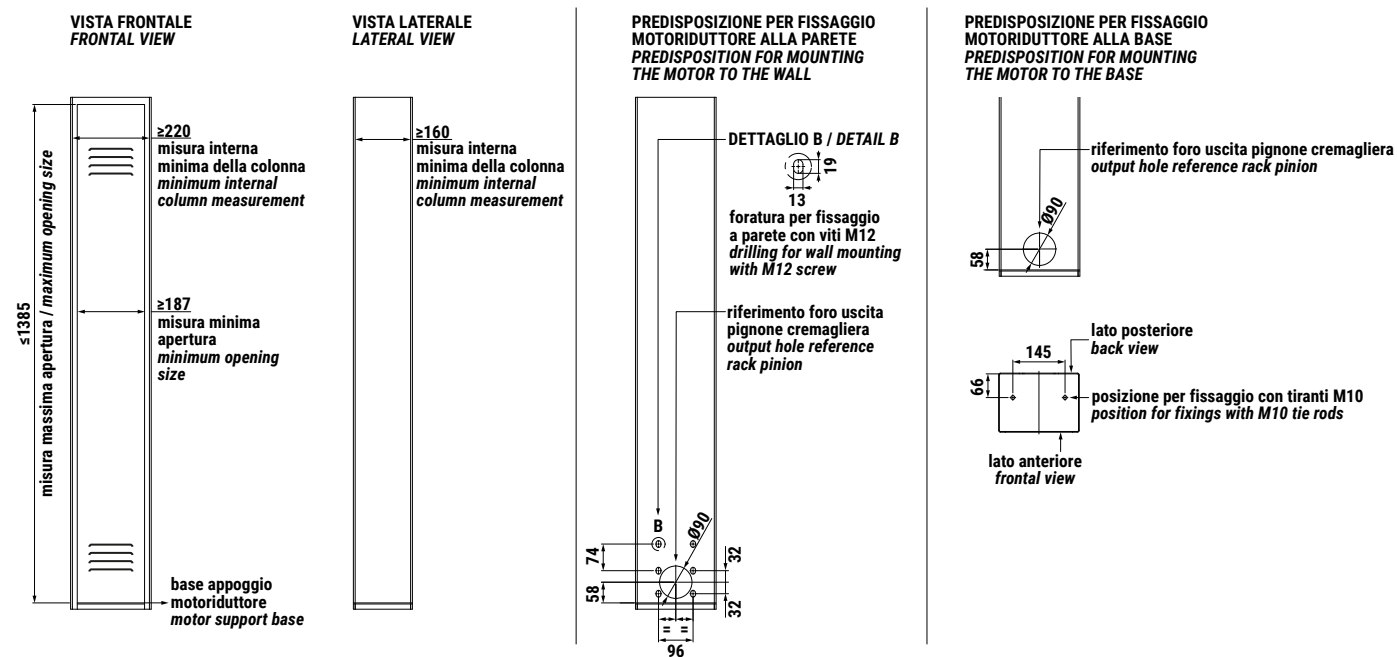
DIMENSIONS



CONTROL UNIT DIMENSIONS



COLUMN MOTOR INSTALLATION SET-UP



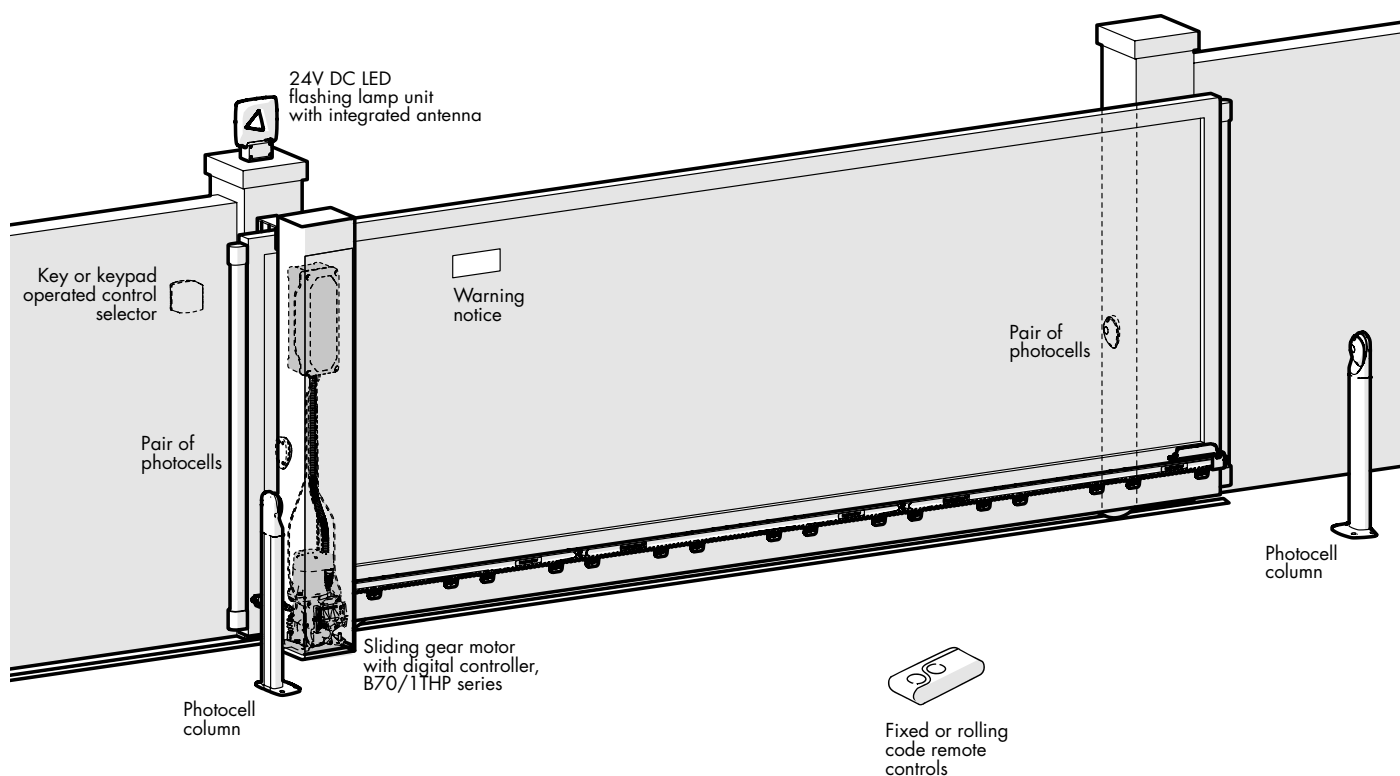
GEAR MOTOR TW110



INSTALLATION TYPE

A PRACTICAL EXAMPLE FOR YOUR SUCCESSFUL INSTALLATION

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PREMIUM DEALER / PROFESSIONAL DEALER



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