D6000 AUTOMATIC

SWING GATE

OM MANUAL

MADE IN BRITAIN

This equipment is part of a large range of traffic flow products. They are designed to be easy to install, as all settings and internal wiring have been completed in our factory. Any of the instructions in this manual should only be carried out by a qualified service engineer or a competent person.

The Gates are ready to bolt down, connect to a single phase power supply and have any pre-cut loops wired into them (Please note that loop detectors are sold separately). The steps must be completed before the power is turned on to prevent accidents.

The following information is a guide only, and whilst we have made every effort to be accurate and correct there may be printing errors which we cannot be held responsible for.

With a correct installation you can expect to enjoy many years of reliable service from this product, we do however recommend that the product has a bi-annual service carried out by a qualified engineer. Please contact our service department to obtain a quote. As we manufacture the products we are best suited to care for your equipment.

Important Safety Notice

Automatic gates are designed to Control the flow of vehicular traffic only. It can be dangerous to allow the passage of pedestrians and any other self-powered animal or device to utilise this method of access without appropriate warnings and or signage.
It may be necessary for the end user of this product to provide an alternative, safe method of access to cater for the previously mentioned categories.
The end user should fit all necessary signage and warning notices to either side of the gate, which should be visible and clear from all directions of approach.
The product that was shipped to you was designed with a control program to protect all categories from harm or affect this however is only a safety precaution and should not be modified or tampered with by any unauthorised person not sanctioned by the manufacturer.

Please sign and date below to say that you have read and understood this notice before ANY installation work:

/ /20

Information on using this manual

- Read all information thoroughly
- Pay attention to all safety advice
- Be aware of the symbols (shown above right and above left) as they have different meanings. One is an information symbol, the other a warning.
- There are many artists impressions of the product in this manual you should refer to the images as a guide only. **Professional CAD** drawings should be used as a reference drawing and nothing else. As before every effort has been made to be 100% accurate in this manual but we cannot make any guarantees.
- As we constantly innovate our products we may change the quoted spec and any other details that have been documented in this manual so you should always refer to the supplier to see if the manual that was shipped with your product is the latest edition.
- As with all electrical installations you should use a qualified electrician and obey all of the latest laws and regulations.
- Be sure to fill out and complete **ALL** paperwork where instructed as this manual is the equipments log book and maintenance manual.

The “Warnings” leaflet and “Instruction booklet” supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.
Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.
Keep the instructions together with the technical brochure for future reference.
This product was exclusively designed and manufactured for the use specified in the present documentation.Any other use not specified in this documentation could damage the product and be dangerous.
The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.
Do not install the product in explosive atmosphere.
The construction components of this product must comply with the following European Directives: 2014/30/EU, 2014/35/EU, 2023/1230/EU (2006/42/EC) and subsequent amendments.As for all non-EEC countries, the abovementioned standards as well as the current national standards should be respected in order to achieve a good safety level.

The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.
The installation must comply with the provisions set out by the following European Directives: 2014/30/EU, 2014/35/EU, 2023/1230/EU (2006/42/EC) and subsequent amendments.
Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.
Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3mm.
Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.
Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.
Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.

This article describes how your equipment will be delivered to you, specifications on the transportation used and advice including health & safety on movement of the equipment.

The manufacturer will use a qualified transport company to deliver the product conforming to the necessary regulations as detailed below:

- All drivers are qualified
- All drivers are tested once yearly (If applicable)
- All drivers carry risk assessments and method statements (available on request)
- They are controlled under law to conform as there are no trade regulation standards to comply with

Health and safety Considerations:
Moving Goods Safely (MGS) is a national project involving both the Health and Safety Executive (HSE) and Local Authorities (LA) working in partnership. The project aims to reduce injuries and ill-health arising from the movement of goods from supplier through haulier to the recipient and end user including any home deliveries. The project will focus upon the delivery and collection of goods and the hazards this generates. It covers the main areas that cause the majority of injuries and ill-health to workers, including:

- Workplace transport;
- Slips & trips, and;
- Musculoskeletal disorders (MSD).

The movement of goods presents us, as health and safety regulators, with the challenge of dealing with a huge variety of issues. The commercial organisations involved within the movement of goods are diverse including haulier, third party logistics providers, pallet networks, retailers etc, with some very large companies, thousands of small businesses and the self-employed. The movement of goods is more than just trucks on the road with a large proportion of accidents happening at the delivery/collection sites that are often not directly under the control of the company making the delivery or collection. Communication and cooperation problems can arise due to the many organizations involved in the movement of the goods, and this can also lead to difficulties in effectively managing health and safety.
(Source H&S Executive UK 2008)

The gates should ALWAYS! be moved with care and attention. The products are very heavy individually as well as a whole. You should not attempt to move this or any other products by unapproved handling methods.

WARNING

Always take safety precautions when lifting and handling heavy objects, in accordance with Manual Handling Operation Regulations 2022.

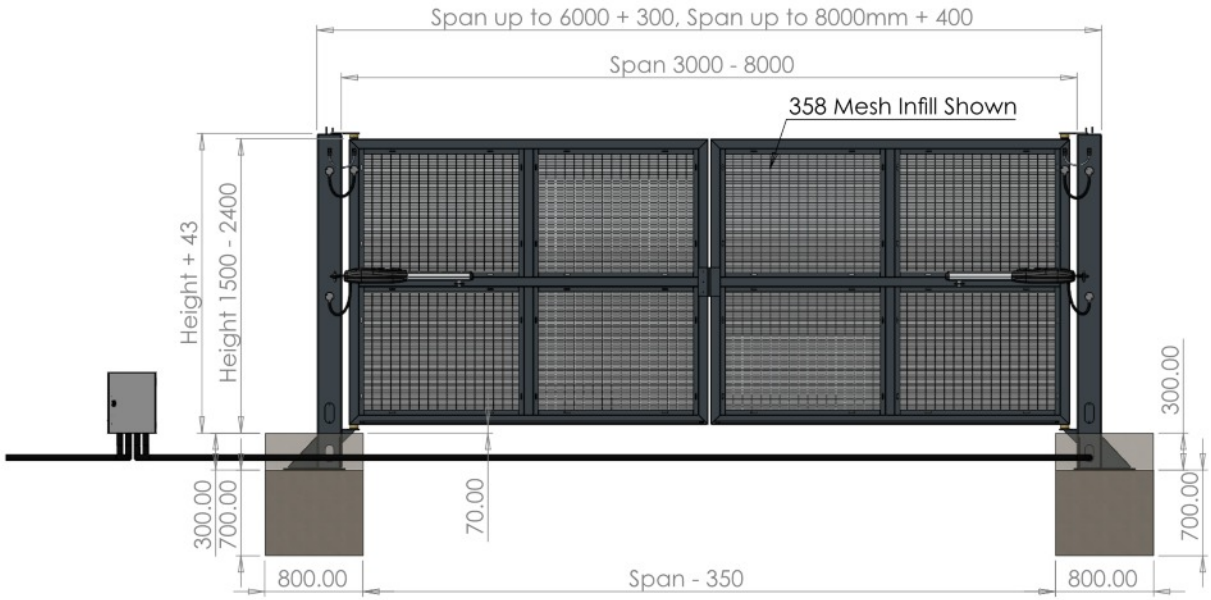
Always wear correct safety equipment in the vicinity of equipment being off loaded. The gate is to be steadied by means of ropes attached to each end of the gate; preventing it from swinging whilst being manoeuvred. It is important to use the correct nylon slings with a SWL of 2 tonne for each sling.

HANDLING

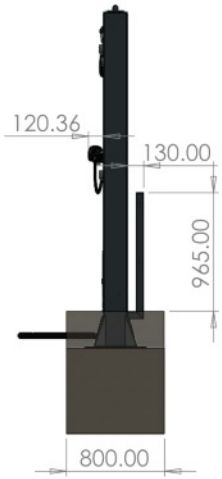
Due to the size and weight of most D6000 swing gates, the services of a mobile crane/ hiab are essential for safe off-loading and positioning. The Posts are to be lifted off first and bolted down ready for the leafs to be hung. Once the posts are bolted down and secure the leafs can be hung using the crane. The gate leafs should be supported centrally, ensuring that the frame/ leaf are balanced and unlikely to cause excessive movement in the air that may cause the gate damage.

STD BELOW GROUND BOLT DOWN POSTS

INSIDE VIEW



RIGHT VIEW



PLAN VIEW

Civils Note
All foundations MUST be flat and level with each other, Concrete MUST be garde C35 and MUST be poured 7 x days prior the the gate being installed. All Ducting MUST be 50mm minimum ID and must have pull ropes in. The gates will be bolted down using M16 Self expanding bolts. The top 300mm of concrete is to be backfilled after the gates have been installed and are all fully checked and aligned with each other.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:	FINISH: RAL Matt			DEBURR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING / REVISION
	NAME	SIGNATURE	DATE		Dwg No
DRAWN	Mcginley		04/11/23		TITLE: Ulti D6000
CHK'D					
APPV'D					
MFG					
Q.A				MATERIAL:	DWG NO. D6000 Auto Roger Ram Generic layout / A3
				WEIGHT:	SCALE:1:100 / SHEET 2 OF 5

Foundations

All foundations should be installed as per drawing supplied as base size's will vary depending on the size of the gates. (Contact your supplier if you have not been issued one.) All foundations should be installed 10 x days prior to the gates being installed.

If details of the base have not been specified, we recommend a concrete mix to BS EN 206:2013+A2:2021 "Concrete specification, Performance, Production and Conformity" to type C35, which is equally suitable for external and internal environments.

The foundation must be positioned accurately and installed to the correct levels to ensure successful installation.

Careful consideration should be made when deciding the location of the gate to avoid overhead obstructions such as power cables, telephone wires building canopies, trees and other types of likely obstructions and hazards, which will not

---

Ducting

Ducting carrying cables for power and control should enter the gate support frame from underground. Two ducts are normally required, one for the power supply, the other for the control. Where the power supply and control cables are to come from a common place; a single duct can be used.

These ducts must be sited accurately in the base as shown on the contract drawing. The use of cable access pits is recommended where there may be a number of ducts used entering the gate or long cable runs are necessary. We also recommend the ducts used be of 100mm diameter PVC. Alternative types and sizes may be acceptable, subject to discussions with your equipment supplier.

Slow bends should always be used wherever possible, and the inclusion of draw ropes throughout the ducting system, will ensure that the cables are easily installed.

Single Leaf Bits Box;

1. 8 x m16 x 180mm Through Bolts
2. 8 x m16 Caps
3. Keys
4. Roger Ram (check paper work)
5. Control Panel
6. Operations Manual
7. PG50i Bearing (Check Drawing)
8. U-safe

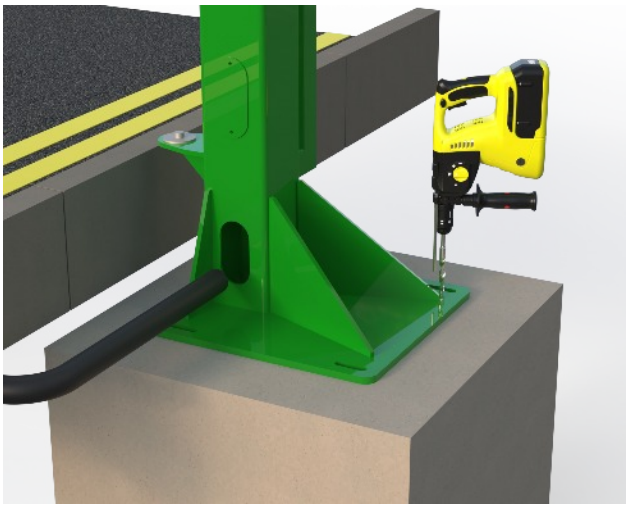
Double Leaf Bits Box;

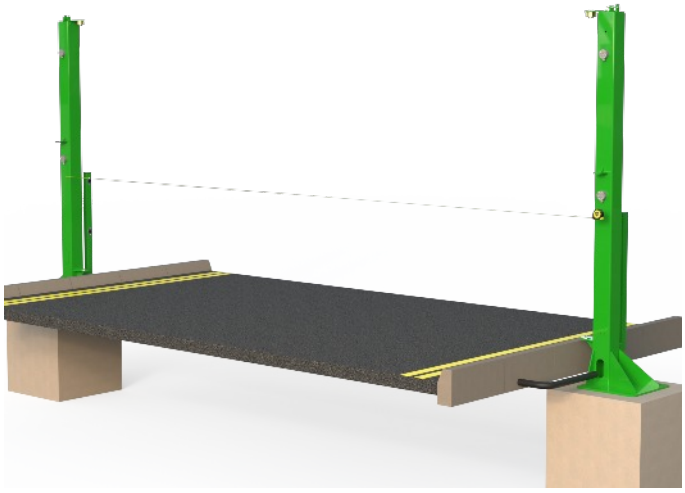
1. 8 x m16 x 180mm Through Bolts
2. 8 x m16 Caps
3. 2 x Keys
4. 2 x Roger Rams (Check Paper work)
5. Control Panel
6. Operations Manual
7. 2 x PG50i Bearings (Check Drawing)
8. 2 x U-safe

Step 1, Bolting down

Once you have the first post/gate located on the Foundation with crane still strapped you must Align the post centrally with the opposite base And drill and fix one bolt in allowing you to Unstrap the crane and prepare to lift the other post into position.

Note; M16 bolts must be tightened to 85nm of torque.





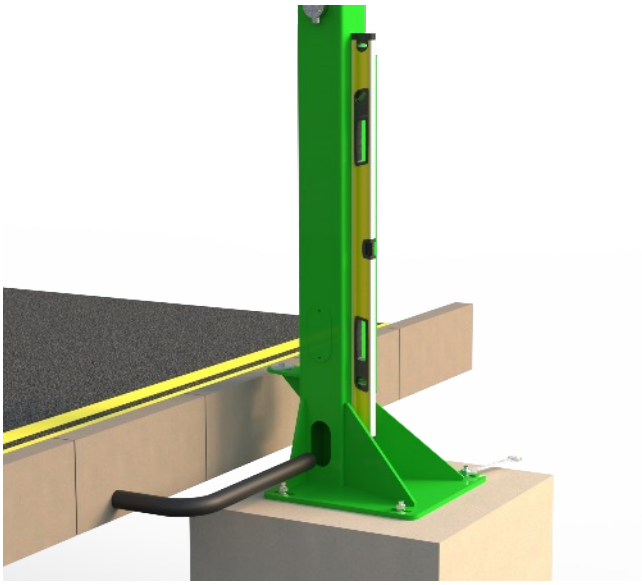
Step 2, Aligning the gates and setting distance

Now you have the second post you can align the posts up with the help of a string line to ensure both posts are in the correct position. A tape or range finder will also help to ensure the gap between posts is correct as specified by the drawings. Once this is achieved you are ready to bolt down the first post completely. I would advise leaving the crane attached to the second post at this point

---

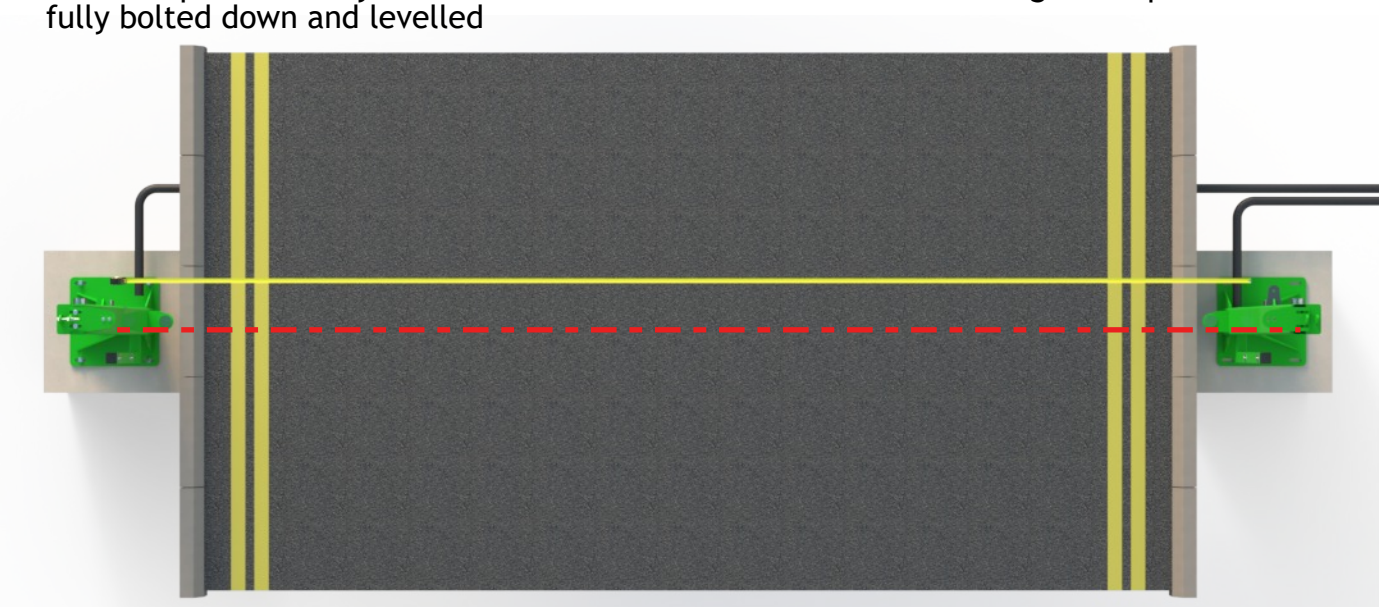
Step 3, Levelling post 1

Now post one has all bolts installed good practice would be to level this post up as slight alterations can affect the distances between posts. Levelling should always be done using metal shims or packers suitable for the weight of the gate.



Step 4, Post alignment

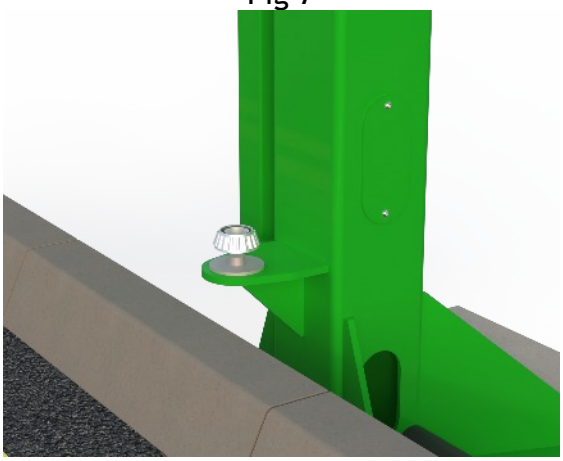
Now the first post is in and level it is suggested to recheck the string line and distance between posts. Once you have achieved the correct distance and alignment post 2 can be fully bolted down and levelled



Step 5. Hanging the gates.

Now both posts are installed and secured the gates can be hung and installed onto the posts. First remove the top bracket on both posts, Then add the pg70i bearing to the bottom hinge point the gates cup can be lowered onto this. See Fig 7

Fig 7



Once you have the bottom Hinge located, The top bearing plate can be added to the top of the gate and secured loosely with the 2 x m12 x 40mm bolts, with these done finger tight the m10 x 100mm can be added as the adjustment bolt (fig 8), place the m10 nut on the end and this can be used with a 17mm spanner to level the gates aesthetically, once level the m12s can then be tightened with a suitable impact wrench and 19mm socket to secure the bearing (fig 9)

Fig 8

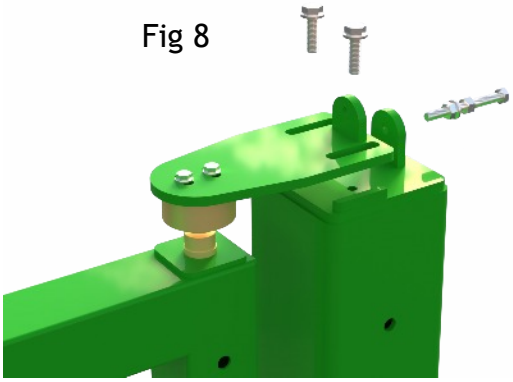
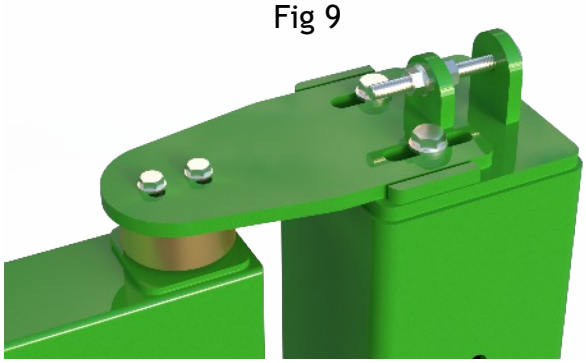
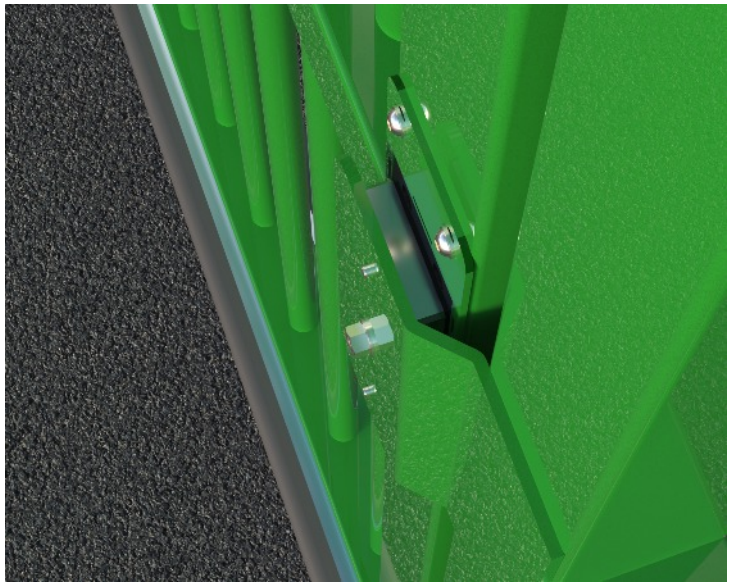


Fig 9



Step 6, Checking Alignment

Now both gates frames have been hung you need to operate the gates manually into the fully closed position to check for alignment. At this stage you have adjustment on the base plate slots to be able to move the posts closer or further apart. If you need to do this make sure you have the Crane connected back on the gate for support.



Step 7, Fitting the Door loops/U Safe's

Both the Door loops and the U Safe's come fitted to the gate frames from the factory, So now the gate is hung you will need to connect these onto the posts. To connect the U safe you will need to insert the U safe into the 15mm hole in the post and tighten with a 5mm alan key, a small impact wrench is always advisable for these fixings.

To connect the Door loops Feed the cables down the post and into the control panel, Then screw the end of the door loop into the galv conduit box, This can be tightened using a 24mm spanner. One gate frame will have an open and closing edge cable ready at the door loop and the other gate frame will have an Opening and closing safety edge Plus the Maglock cable. See below.

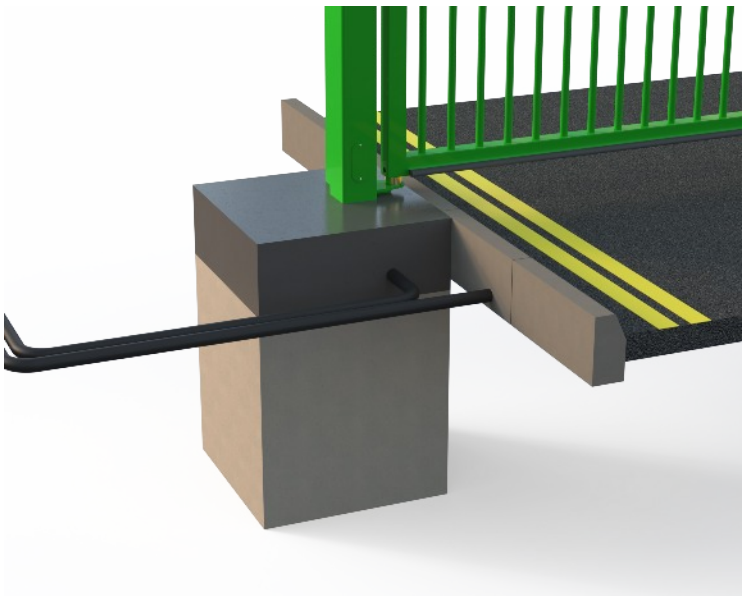
Step 8, Central floor ramp

Now the gates are fully aligned and bolted the actuators / rams can be fitted to the gates, The rear bracket of the ram is fitted with the provided m12 bolt that can be found inside the roger box with the m12 washers and nylock not to secure using a suitable 19mm spanner or socket, The front pivot of the ram can be slotted through the gate leaves bracket and affixed Using the button head bollt with a suitable 6mm alan key.
Please note the cover is removed by unsecuring the casing from the front via the 4 x set screws. The cover can then be slid off exposing the 2 x mechanical block stops.
These should be set to the fully open and closed positions at this point by using a suitable alan key to release and screw to the desired position before tightening to secure.

Step 9, Back filling

Once the posts are fully bolted and all cables installed and tested the posts can now be back filled. This requires c35 grade concrete as it forms part of the structural integrity of the posts.

Note; If gates are surface mounted this step does not apply.



Single Leaf;

Please note if single leaf the gate will come with a closing post complete with maglock and photocells if requested, details of wiring can be found in the following pages, the same previous steps can be followed to install your closing post however a brief guide is shown in detail bellow.

Single Leaf closing post;

The post can be drilled using the specified 16mm drill bit and suitable sds drill. Please note the ducting will need locating into the lower inspection hole.

Single Leaf closing post cont;

The anchor fixings can be installed and the post levelled in the same way as previously mentioned, it is mainly the aesthetics and connections that will alter. In the case of back filling please feed enough cable to be accessed vie the higher inspection cover for wiring ease and future use.

Mains Instalation,

Now the posts and leaves are fully installed you can begin the wiring process of the gates if this is single leaf follow this step then the next page for photocell wiring.

Connect the mains into the three phase rotary isolator found in post/s under the panel. This is a 230v single phase 6amp supply required.

Connecting The Photocells.

Please note this is for single leaf installations, On double leaf the cells will need to be connected in series into the control panel.

Note; The photocells are installed with 2 x receiver units on the control panel side and 2 x transmitter units on the slave side, These are wired in the following way.

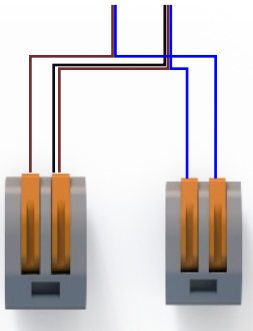
Receiver;
Brown 24v +
Blue 24v -
Yellow Common
Grey Contact
Pink Connected to 24v +
(The pink is selection of channel 2)

Transmitter;
Brown 24v +
Blue 24v -
Black Connected to 24v +
(The black is selection of channel 2

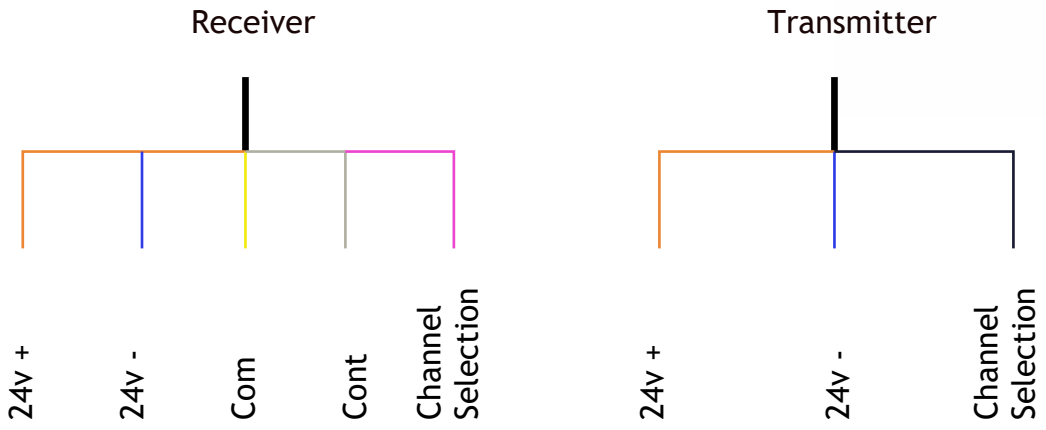
Note; The Lower photocells are switched to channel 2 by the pink from the receiver and the black cable from the transmitter wired into the positive supply.

Once removed you will find 2 x wagos ready to connect your 24v too, This can be achieved by connecting the positive 24v into the wago containing the 2 x brown and 1 x black wires, And the negative 24v into the wago containing the blue wires. Back at the stanchion this will just be a case of connecting in to the auxiliary 24v supply from The Panel.

The Diagram below shows the Photocell wiring
In the closing post, This is pre-wired in the factory
Along with the maglock connections. See the below
Diagram for connecting into the Roger Pannel.



Please note the internal photocell is pre wired to Channel two via the black being added with the Positive connection



Brushless

Intensive use

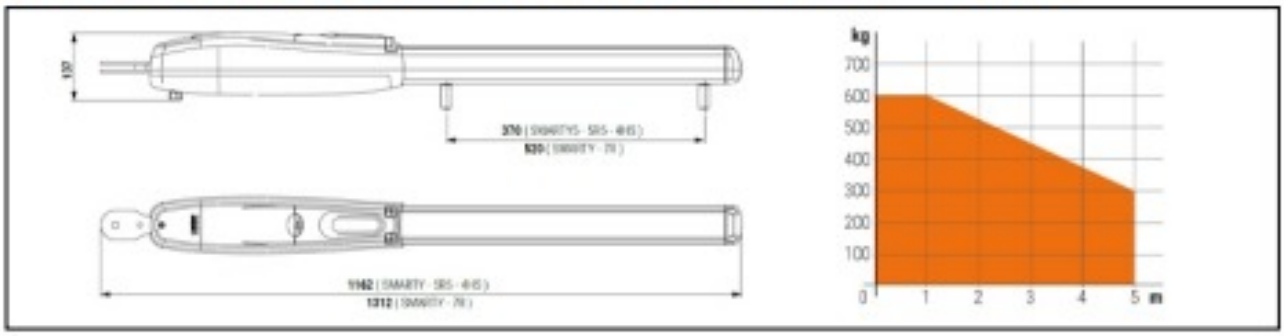
Digital Encoder

PRODUCT TECHNICAL DATASHEET
SMARTY5

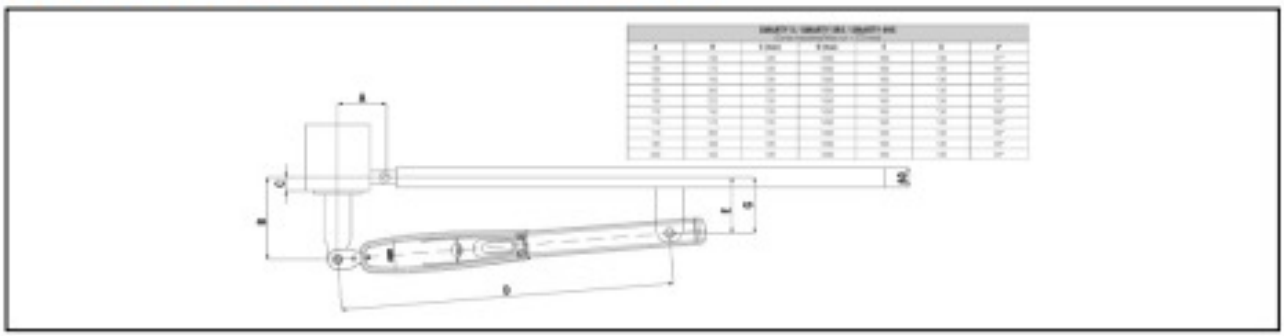
CODE	DESCRIPTION	PCS/PALLET
SMARTY5	Electromechanical motor BRUSHLESS, low voltage, super intensive use, irreversible, ideal for swing gates with leaf up to 5 m with mechanical stops on opening and closing. Complete with short brackets to weld on.	36

PRODUCT TECHNICAL SPECIFICATIONS	
Power line supply	230V AC - 50Hz
Motor power supply	36V
Power rating	200W
Frequency of use	Intensive use
Thrust	600 - 7000N
Operating temperature	-20 C° +55 C°
Protection level	IP44
Reductor Type	Irreversible
Manoeuvre speed	1,6 cm/s
Opening time	25-40 s
Stroke	370 mm
Limit switch	Mechanical stopper in opening and closing
Recommended digital controllers	230V: EDGE1/BOX - 115V: EDGE1/BOX/115
Encoder	Digital native encoder SENSORLESS 48 PPR
Operating cycles per day (opening/closing - 24 hours no stop)	1000
Maximum dimension product in mm (L x W x H)	1162 x 116 x 165
Product weight packed (Kg)	16,1
Number items per pallet/box	36

PRODUCT DIMENSIONS AND PREPARING FOR INSTALLATION



PRODUCT PREPARING FOR INSTALLATION



Brushless

Intensive use

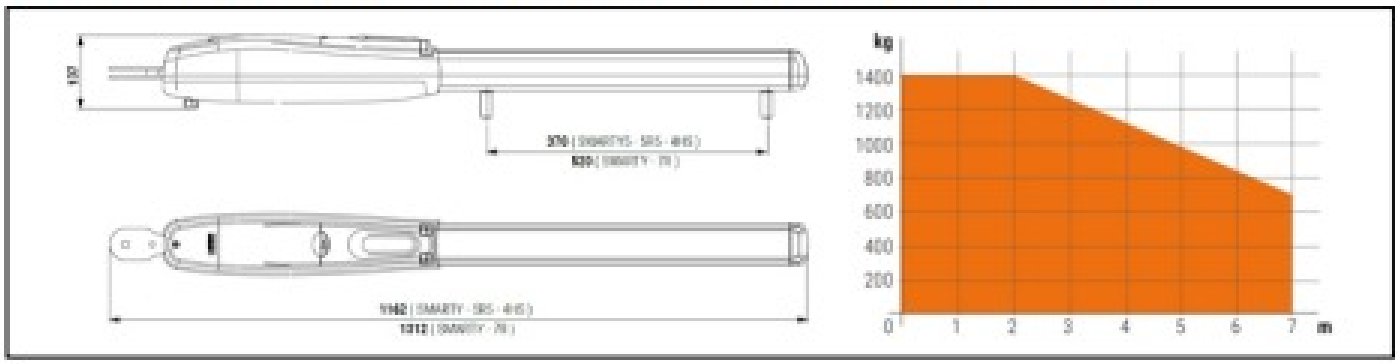
Digital Encoder

PRODUCT TECHNICAL DATASHEET
SMARTY7

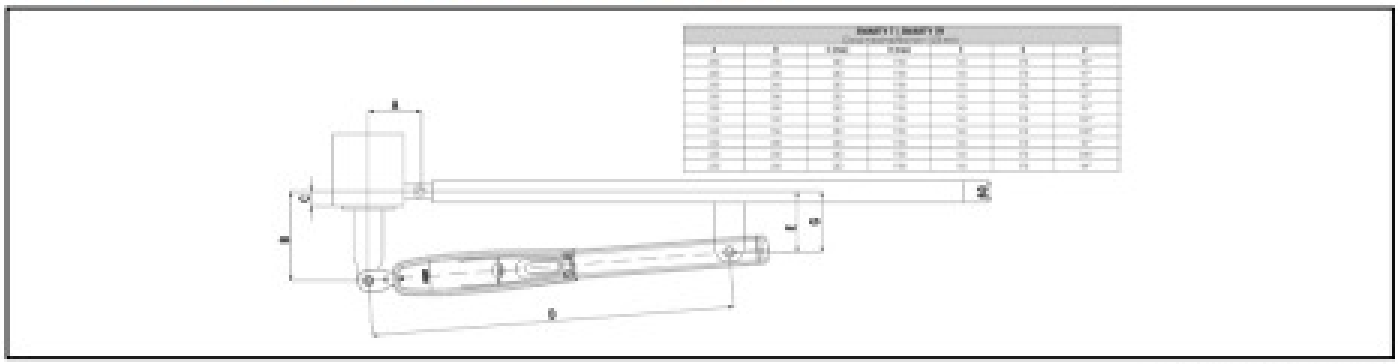
CODE	DESCRIPTION	PCS/PALLET
SMARTY7	Electromechanical motor BRUSHLESS, low voltage, super intensive use, irreversible, ideal for swing gates with leaf up to 7 m with mechanical stops on opening and closing. Complete with long brackets to weld on.	36

PRODUCT TECHNICAL SPECIFICATIONS	
Power line supply	230V AC - 50Hz
Motor power supply	36V
Power rating	200W
Frequency of use	Intensive use
Thrust	600 - 7000N
Operating temperature	-20 C° +55 C°
Protection level	IP44
Reductor Type	Irreversible
Manoeuvre speed	1,6 cm/s
Opening time	35-50 s
Stroke	520 mm
Limit switch	Mechanical stopper in opening and closing
Recommended digital controllers	230V: EDGE1/BOX - 115V: EDGE1/BOX/115
Encoder	Digital native encoder SENSORLESS 48 PPR
Operating cycles per day (opening/closing - 24 hours no stop)	1000
Maximum dimension product in mm (L x W x H)	1312 x 116 x 165
Product weight packed (Kg)	17,1
Number items per pallet/box	36

PRODUCT DIMENSIONS AND PREPARING FOR INSTALLATION



PRODUCT PREPARING FOR INSTALLATION



Brushless

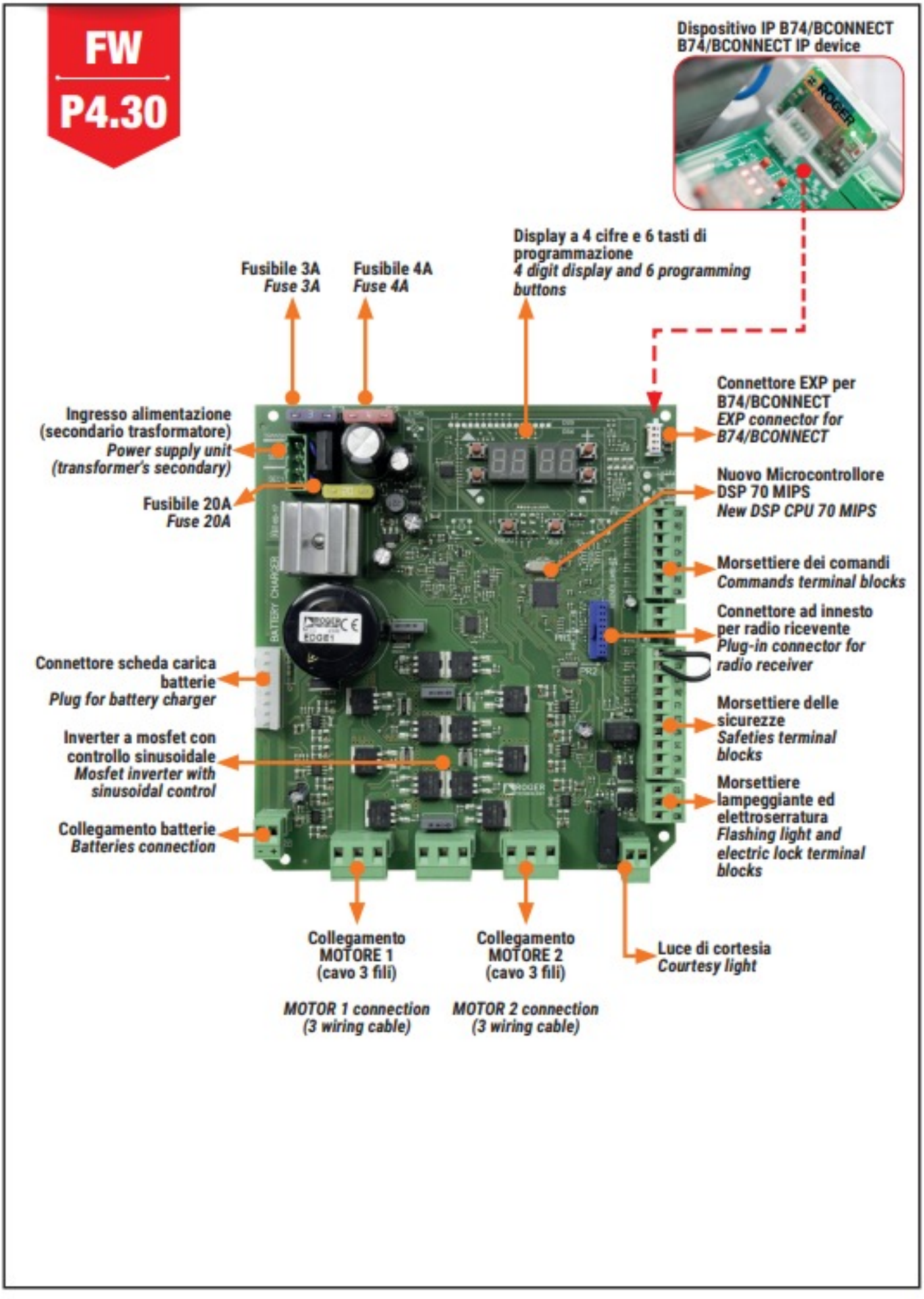
Intensive use

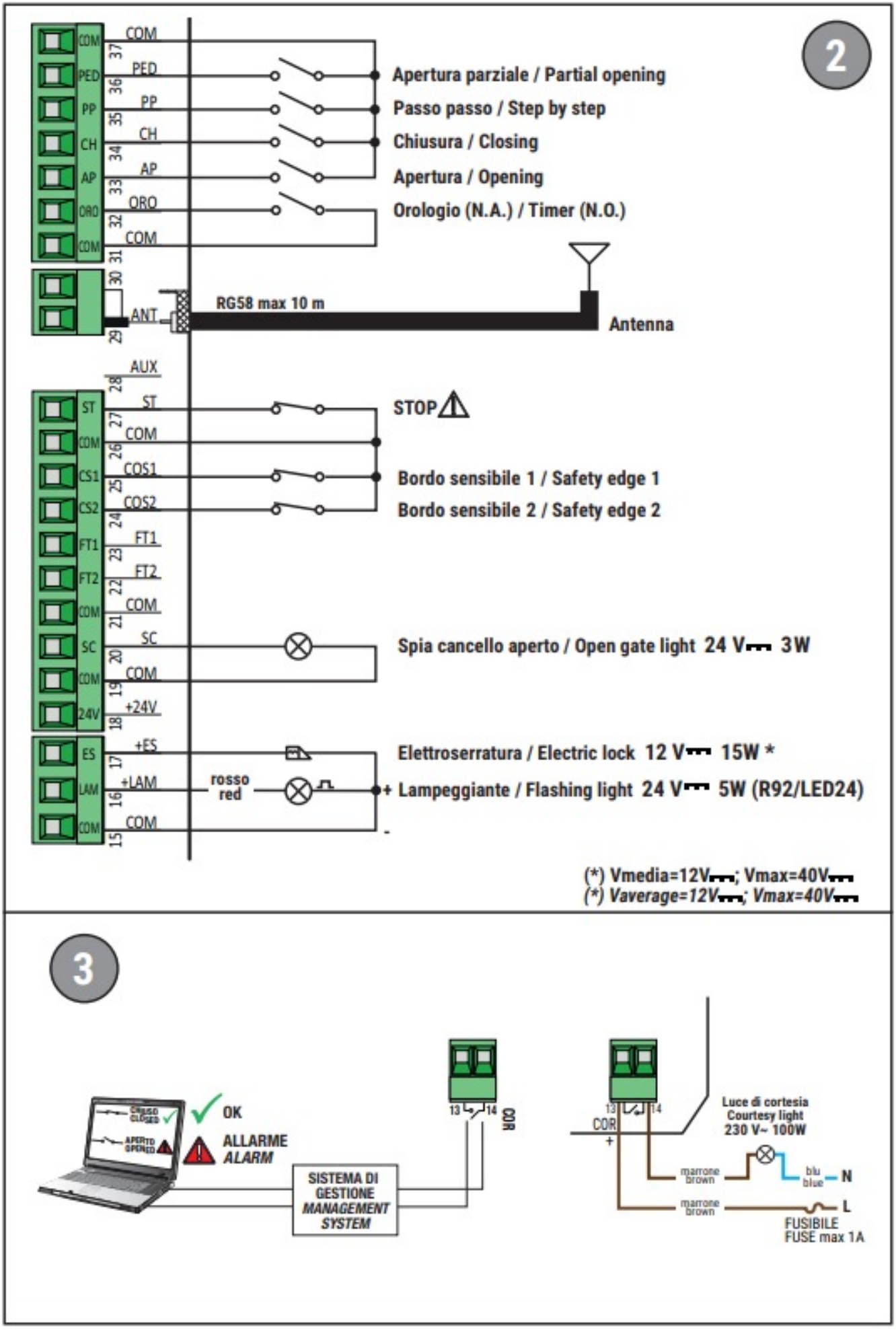
PRODUCT TECHNICAL DATASHEET
EDGE1/BOX

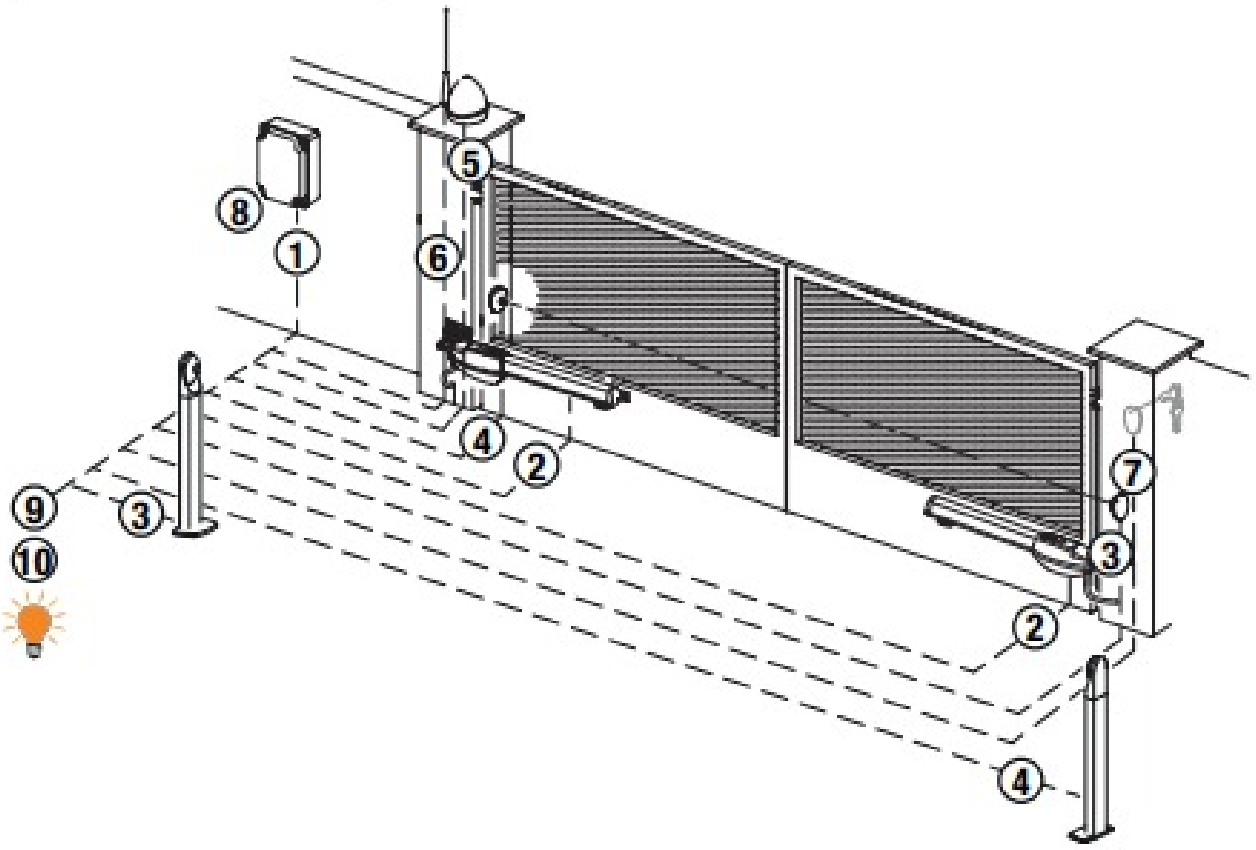
CODE	DESCRIPTION	PCS/PALLET
EDGE1/BOX	Digital control 36V for 2 BRUSHLESS motor, in plastic box. With 2-channel radio receiver installed on board.	50

PRODUCT TECHNICAL SPECIFICATIONS	
Power line supply	230V AC - 50 Hz
Stand-by consumption	0,5W
Operating temperature	-10+55 C°
Protection level	IP54
N. motors activated	2 Brushless motor
Max power per motor	250W
Max courtesy light charge	100W 230V AC - 40W 24V AC/DC
Max power gate open light	3W (24V DC)
Max voltage accessories output	20W (24V DC)
Eletrical-Lock max power	15W (12V DC)
Flash light voltage	24V DC
Max flashing light charge	25W
Battery	Optional
Maximum dimension product in mm (L x W x H)	330 x 230 x 115
Product weight packed (Kg)	5,8
Number items per pallet/box	50

FW
P4.30


Dispositivo IP B74/BCONNECT
B74/BCONNECT IP device
Display a 4 cifre e 6 tasti di programmazione
4 digit display and 6 programming buttons
Fusibile 3A
Fuse 3A
Fusibile 4A
Fuse 4A
Connettore EXP per B74/BCONNECT
EXP connector for B74/BCONNECT
Ingresso alimentazione (secondario trasformatore)
Power supply unit (transformer's secondary)
Nuovo Microcontrollore DSP 70 MIPS
New DSP CPU 70 MIPS
Fusibile 20A
Fuse 20A
Morsettiere dei comandi
Commands terminal blocks
Connettore ad innesto per radio ricevente
Plug-in connector for radio receiver
Connettore scheda carica batterie
Plug for battery charger
Morsettiere delle sicurezze
Safeties terminal blocks
Inverter a mosfet con controllo sinusoidale
Mosfet inverter with sinusoidal control
Morsettiere lampeggiante ed elettroserratura
Flashing light and electric lock terminal blocks
Collegamento batterie
Batteries connection
Collegamento MOTORE 1 (cavo 3 fili)
MOTOR 1 connection (3 wiring cable)
Collegamento MOTORE 2 (cavo 3 fili)
MOTOR 2 connection (3 wiring cable)
Luce di cortesia
Courtesy light


2
COM
PED
PP
CH
AP
ORO
COM
ANT
RG58 max 10 m
Antenna
Apertura parziale / Partial opening
Passo passo / Step by step
Chiusura / Closing
Apertura / Opening
Orologio (N.A.) / Timer (N.O.)
AUX
ST
COM
COS1
COS2
FT1
FT2
SC
+24V
STOP
Bordo sensibile 1 / Safety edge 1
Bordo sensibile 2 / Safety edge 2
Spia cancello aperto / Open gate light 24 V⎓ 3W
+ES
+LAM
rosso
red
Elettroserratura / Electric lock 12 V⎓ 15W *
+ Lampeggiante / Flashing light 24 V⎓ 5W (R92/LED24)
-
(*) Vmedia=12V⎓; Vmax=40V⎓
(*) Vaverage=12V⎓; Vmax=40V⎓
3
CHIUSO
CLOSED
APERTO
OPENED
OK
ALLARME
ALARM
SISTEMA DI
GESTIONE
MANAGEMENT
SYSTEM
13
14
COR
Luce di cortesia
Courtesy light
230 V~ 100W
marrone
brown
blu
blue
N
L
FUSIBILE
FUSE max 1A



It is the installer's responsibility to verify the adequacy of the cables in relation to the devices used in the installation and their technical characteristics.

		Recommended cable
1	Power supply	H07RN-F 2x1,5 mm² double insulated cable
2	Motor 1	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m)
	Motor 2	Cable 3x2,5 mm² (max 10 m) - 3x4 mm² (max 30 m)
3	Photocells - Receiver **F4ES/F4S**	Cable 5x0,5 mm² (max 20 m)
4	Photocells - Transmitter **F4ES/F4S**	Cable 3x0,5 mm² (max 20 m)
5	LED Flashing light **R92/LED24 - FIFTHY/24** Power supply 24V⎓	Cable 2x1 mm² (max 10 m)
6	Antenna	Cable 50 Ohm RG58 (max 10 m)
7	Key selector **R85/60**	Cable 3x0,5 mm² (max 20 m)
	Key pad **H85/TTD - H85/TDS** (connecting to **H85/DEC - H85/DEC2**)	Cable 2x0,5 mm² (max 30 m)
8	**H85/DEC - H85/DEC2** (connecting to control unit)	Cable 4x0,5 mm² (max 20 m) The number of conductors increases when using more than one output contact on **H85/DEC - H85/DEC2**
9	Gate open indicator Power supply 24V⎓ 3W max	Cable 2x0,5 mm² (max 10 m)
10	Courtesy light (Potential free contact) Power supply 230V~ (100 W max)	Cable 2x1 mm² (max 20 m)

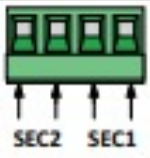
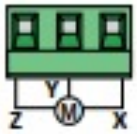
SUGGESTIONS: with existing installations, we recommend checking the cross section of the cables and that the cables themselves are in good condition.

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 2G1.5 type electric cable and connect it to the terminals L (brown) and N (blue), located inside the control panel box.
Strip the insulation from the ends of the power cable wires which will be connected to the terminal (fig. 1-2), 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:
- 230V~ ±10% for the EDGE1 control unit.
- 115V~ ±10% for the EDGE1/115/BOX control unit.

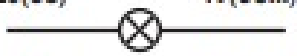
If the detected value does not comply with the above specified values or is not stable, the automation system may NOT operate efficiently.

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).

	DESCRIPTION
	Mains power supply 230V~ ±10% 50 Hz connection. (**EDGE1/115/BOX**: 115V~ ± 10% 60Hz). Fuse 5x20 T2A.
	Secondary transformer input for 26V~ motor power (SEC1) and for 19V~ power to logical control and peripheral devices (SEC2). **N.B.**: Ready wired in factory by ROGER TECHNOLOGY.
X-Y-Z 	Connection to ROGER brushless MOTOR 1. **Warning!** If the motor rotates in the wrong direction, simply swap any two of the three motor connectors. Check the connections illustrated in fig. 1.
Z-Y-X 	Connection to ROGER brushless MOTOR 2. **Warning!** If the motor rotates in the wrong direction, simply swap any two of the three motor connectors. Check the connections illustrated in fig. 1.
	Connection to **B71/BCHP** (see fig. 7) **See instructions for B71/BCHP for further information.**

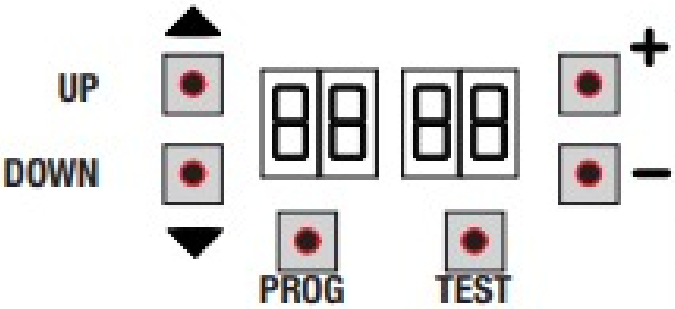
⚠ If not installed, safety devices with NC contacts must be jumpered at the COM terminals, or disabled by modifying the parameters 50, 51, 53, 54, 73 and 74.

KEY: N.A. (Normally Open).
N.C. (Normally Closed).

CONTACT	DESCRIPTION
13 (COR) 14 	Output (potential free contact) for connecting courtesy light. 230V~ 100 W - 24V~/⎓ 40 W (fig. 3).
13 (COR) 14	Error alert contact only, for: • control unit in alarm / battery supply error (low battery); • gate completely open / gate completely closed (fig. 3). The COR output operating mode is managed by parameter 18. The voltage level of the battery can be set via parameter 85.
16(+LAM) 15(COM) 	Connection for flashing light (24V⎓ - duty cycle 50%) (fig. 2). The settings for the pre-manoeuvre flashing warning signal may be selected with parameter 85, while the flashing mode is set with parameter 78.
17(+ES) 15(COM) 	Input for connecting electric lock, 12V⎓ max. 15 W (fig. 2). The function of the electric lock is determined by parameter 28 - 29. Vmedia=12V⎓, Vmax=40V⎓; see table "PRODUCT TECHNICAL FEATURES" on page 56
18(+24V) 15(COM)	Power feed for external devices; see table "PRODUCT TECHNICAL FEATURES" on page 56
20(SC) 19(COM) 	Connection for gate open indicator lamp. 24V⎓ 3 W (fig 2). The function of the indicator lamp is determined by parameter 88.
20(SC) 19(COM) 	Photocell test connection and/or battery saving (fig. 5 and 6). The power feed for the photocell transmitters (TX) may be connected to this. Set the parameter 88 02 to enable the test function. Each time a command is received, the control unit switches the photocells off and on to check that the contact changes state correctly. Power feeds for all external devices may be connected to reduce battery consumption (if batteries are used). Set 88 03 or 88 04. **WARNING!** If contact **20 (SC)** is used for the photocell test function or battery saving function, a gate open indicator lamp cannot be connected.
22(FT2) 21(COM) 	Input (N.C. or 8.2 kOhm) for connecting photocells **FT2** (fig. 4-5-6). The photocells **FT2** are configured by default with the following settings: – 53 00. Photocell FT2 disabled when gate is opening. – 54 00. Photocell FT2 disabled when gate is closing. – 55 01. The gate opens when an open command is received if photocell FT2 is obstructed. – 57 00. NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals **21(COM) - 22(FT2)** or set the parameters 53 00 and 54 00. **WARNING!** Use **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.
23(FT1) 21(COM) 	Input (N.C. or 8.2 kOhm) for connecting photocells **FT1** (fig. 4-5-6). The photocells **FT1** are configured by default with the following settings: – 50 00. Photocell triggers only during gate closure. Photocell is ignored during gate opening. – 51 02. Movement is reversed if the photocell is triggered during gate closure. – 52 01. The gate opens when an open command is received if photocell FT1 is obstructed. – 57 00. NC (normally closed) incoming contact. If the photocells are not installed, jumper the terminals **23(FT1) - 21(COM)** or set the parameters 50 00 and 51 00. **WARNING!** Use **R90/F4ES**, **G90/F4ES** or **T90/F4S** series photocells.
24(COS2) 26(COM) 	Input (NC or 8 kOhm) for connecting sensing edge **COS2**. The sensing edge is configured by default with the following settings: – 74 00. The sensing edge COS2 (NC contact) is disabled. If the sensing edge is not installed, jumper the terminals **24(COS2) - 26(COM)** or set the parameter 74 00.
25(COS1) 26(COM) 	Input (NC or 8 kOhm) for connecting sensing edge **COS1** (fig. 2). The sensing edge is configured by default with the following settings: – 73 03. If the sensing edge COS1 (NC contact) is enabled, the gate always reverses. If the sensing edge is not installed, jumper the terminals **25(COS1) - 26(COM)** or set the parameter 73 00.
27(ST) 26(COM) 	STOP command input (N.C. or 8.2 kOhm). The current manoeuvre is arrested if the safety contact opens. **N.B.:** the controller is supplied with this contact already jumpered by ROGER TECHNOLOGY. – The contact is configured by default with the following settings: 57 00. (normally closed) incoming contact.

CONTACT	DESCRIPTION
29 (ANT) **30** 	Antenna connector for slot-in radio receiver board. Use RG58 if an external antenna is used; maximum recommended length: 10 m. **N.B.**: do not make joints in cable.
32(ORO) **31(COM)** 	Clock timer contact input (N.O.). When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.
33(AP) **37(COM)** 	Open control signal input (N.O.). **IMPORTANT**: persistent activation of the opening command prevents automatic reclosure; the automatic reclosure time count is resumed when the opening command is released.
34(CH) **37(COM)** 	Close command input (N.O.).
35(PP) **37(COM)** 	Step by step mode command input (N.O.). The function of the control is determined by parameter *RH*.
36(PED) **37(COM)** 	Partial open control signal input (N.O.). On double leaf gate automation systems, by default, the partial opening command opens LEAF 1 completely. With single leaf swing gate installations, by default, partial opening is 50% of total opening.
ABSOLUTE ENCODER (SMARTY EMA)	Absolute encoder installed on SMARTY Series motors. Its installation (which is a factory standard for reversible SMARTY motors) makes it impossible to use SMARTY motors to open the door outwards (fig. 8, detail A). During travel acquisition, the encoder reading is acquired in the completely open and completely closed positions. During normal operation, the encoder reading is acquired at each motor start, except in the case of direction inversion due to activation of the sensing edge, the obstacle detection system or the photocells, or requested by the user with a command. **N.B.**: The absolute encoder is connected in parallel with the motor phases. Normally, the encoder will emit a short audible signal (whistle). If no audible signal is heard, the encoder may be disconnected, absent or damaged. For **SMARTY REVERSIBLE**: the encoder is already assembled and installed in the factory by ROGER TECHNOLOGY. The reading of the position by absolute encoder, only when the door is completely closed or open, is preceded by a slow rotation of the motor (duration 1 second) which discharges the mechanical voltage from the reduction before starting the manoeuvre. This ensures a softer start and eliminates any noise. For **SMARTY IRREVERSIBLE**: product code **SMARTY/EMA** is available for installing the encoder on the motor. Enable the encoder with the parameter *71* / *01* and perform the travel acquisition procedure. **IMPORTANT**: before programming the travel, make sure you have selected the correct motor model via parameter *A1*. An incorrect setting will prevent the absolute encoder from working. If parameter *A1* is modified with **SMARTY/EMA** installed, repeat the travel acquisition procedure
RECEIVER CARD	Connector for plug-in radio receiver board. The control unit has two radio remote control functions by default: – **PR1** - step mode command (modifiable with parameter *76*). – **PR2** - partial opening command (modifiable with parameter *77*).
BATTERY CHARGER B71/BCHP	(Fig. 7) In the absence of mains voltage, the central network gets powered by the batteries, the display shows *bAtt* and the flashing light gets activated with reduced frequency, until mains power is restored or until the battery voltage drops below the minimum permissible limit. In this case, *btLO* (Battery Low) is shown on the display and the control unit accepts no commands. If mains power is lost while the gate is moving, the gate stops and then automatically resumes the interrupted manoeuvre after 2 seconds. N.B: in battery power mode, a fixed delay time of 1.5 s is applied even if delay times are disabled with parameters *25* and *26*. To reduce battery consumption, the positive power feed wire of the photocell transmitters and receiver may be connected to terminal **SC** (see fig. 5-6). Set *A803* or *A804*. In this configuration, the control unit disconnects power from the accessory devices when the gate is completely open or completely closed. **WARNING!** the batteries must always be connected to the electronic control unit in order to charge. Periodically (at least every 6 months), check that the batteries are in good working order. For more information, refer to the installation manual for the **B71/BCHP** battery charger.
BATTERY KIT 2x12V⎓4,5 Ah (**B71/BCHP/EXT**) Only **AGM** type	
EXP	Connector for B74/BCONNECT WiFi IP device. This IP device allows, using any internet browser, the complete management of the control panel both in proximity (point-to-point connection) and via cloud (remote connection).

8 Function buttons and display

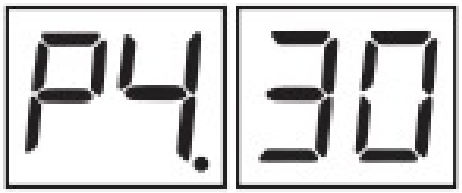


BUTTON	DESCRIPTION
UP ▲	Next parameter
DOWN ▼	Previous parameter
+	Increase value of parameter by 1
-	Decrease value of parameter by 1
PROG	Programme travel
TEST	Activate TEST mode

- Press the UP ▲ and/or DOWN ▼ buttons to view the parameter you intend to modify.
- Use the + and - buttons to modify the value of the parameter. The value starts to flash.
- Press and hold the + or - button to scroll quickly through values, to modify the parameter more quickly.
- To save the new value, wait a few seconds or move onto another parameter with the UP ▲ or DOWN ▼ button. The display flashes rapidly to indicate that the new value has been saved.
- Parameters can only be modified while the motor is not running. Parameters can be viewed at any time.

9 Switching on or commissioning

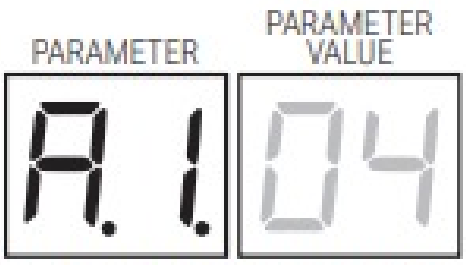
Power the control unit.
The firmware version of the control unit is displayed briefly.
Version installed: P4.30.



Immediately afterwards, the displays enters the commands and safety device status mode. See chapter 7.

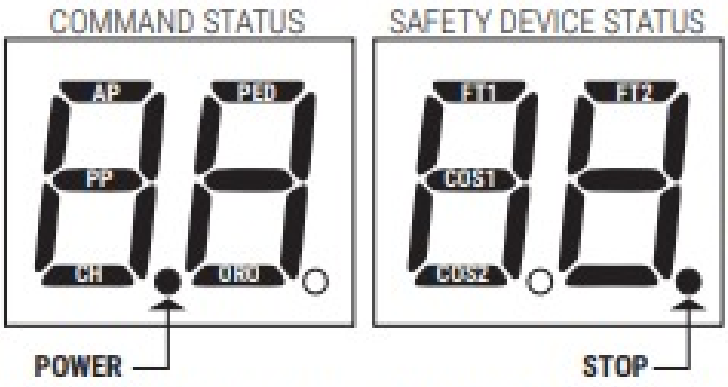
10 Display function modes

10.1 Parameter display mode



See chapter 11 for detailed descriptions of the parameters.

10.2 Command and safety device status display mode



COMMAND STATUS:
The command status indicators on the display (segments **AP** = open, **PP** = step mode, **CH** = close, **PED** = partial opening, **ORO**= clock) are normally off. They illuminate when a command is received (e.g.: when a step mode command is received, the segment **PP** illuminates).

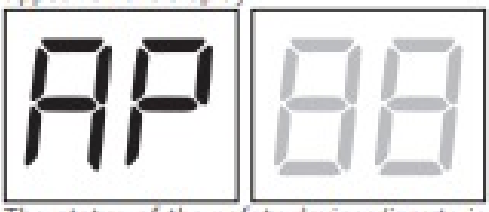
SAFETY DEVICE STATUS:
The safety device status indicators on the display (segments **FT1/FT2**=photocells, **COS1/COS2** = sensing edges, **STOP**) are normally on. If an indicator is off, the relative device is in alarm state or is not connected.

The an indicator is flashing, the relative device has been disabled with a specific parameter.

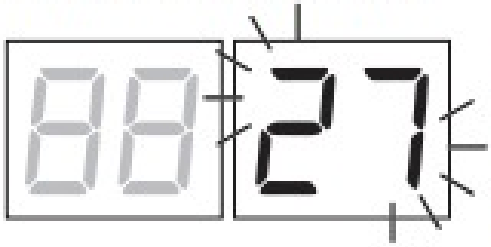
10.3 TEST mode

The TEST mode is used to test activation of the commands and safety devices with visual confirmation.
To activate the mode, press the TEST button with the automatic gate system at rest. If the gate is moving, pressing TEST stops the gate. Pressing the button again enables TEST mode.
If the flashing light and the gate open indicator lamp illuminate for one second each time a control is used or a safety device is activated.

The command signal status is shown on the left hand side of the display for 5 seconds, ONLY when the respective command signal is active (AP, CH, PP, PE, OR). For example, if the gate open command is activated, the letters AP appear on the display.



The status of the safety devices/inputs is shown on the right hand side of the display. The number of the terminal relative to the safety device in alarm state flashes.
Example: STOP contact in alarm state.

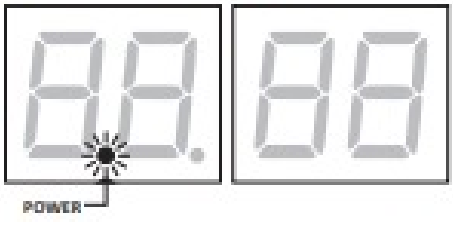


00	No safety device in alarm state, and no limit switch activated
27	STOP.
25	Sensing edge COS1.
24	Sensing edge COS2.
23	Photocell FT1.
22	Photocell FT2.
dAtA	Parameter 71 modified. Press the **PROG** key until APP- appears on the display, then repeat the acquisition procedure (see chap. 9).

NOTA: If one or more contacts are open, the gate will not open or close.
If more than one safety device is in alarm state, once the problem relative to the first device is resolved, the alarm for the next device is displayed. Any further alarm states are also displayed with the same logic.
Press the TEST button again to exit test mode.
After 10 seconds with no user input, the display returns to command and safety device state display mode.

10.4 Standby mode

This mode is activated after 30 minutes with no user input. The POWER LED flashes slowly.
Press UP ▲, DOWN ▼, +, - to reactivate the control unit.



11.1 Before starting

1. Select the automation system model installed with the parameter A I.

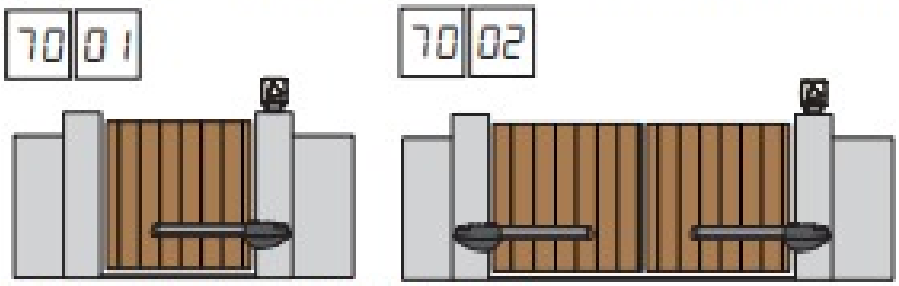
KEY: HIGH SPEED Motor REVERSIBLE Motor

SELECTION	MODEL		MOTOR TYPE	CONFIGURATIONS
A I 0 I	BE20/200/HS			-
A I 02	Serie BR20		-	-
A I 03	BH23/282		-	-
A I 04	BR21/351, BR21/361, BR21/362		-	-
A I 05	SMARTY5		-	**If SMARTY/EMA is installed, set** 7 I 0 I **NB:** the position data request message dAtA appears on the display whenever this parameter is modified. Press the PROG key until APP- appears on the display, then repeat the acquisition procedure (see chap. 11.2).
	SMARTY7			
A I 06	SMARTY7R			Set 64 0 I and 7 I 0 I **NB:** the position data request message dAtA appears on the display whenever this parameter is modified. Press the PROG key until APP- appears on the display, then repeat the acquisition procedure (see chap. 11.2).
A I 07	SMARTY5R5			Set 64 0 I and 7 I 0 I **NB:** the position data request message dAtA appears on the display whenever this parameter is modified. Press the PROG key until APP- appears on the display, then repeat the acquisition procedure (see chap. 11.2).
A I 08	SMARTY4HS			**If SMARTY/EMA is installed, set** 7 I 0 I **NB:** the position data request message dAtA appears on the display whenever this parameter is modified. Press the PROG key until APP- appears on the display, then repeat the acquisition procedure (see chap. 11.2).
A I 09	BH23/252/HS			-
A I 10	BR21/351/HS, BR21/361/HS			-

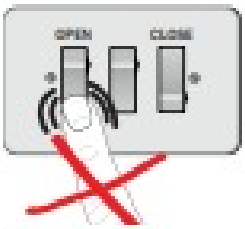
A1 11	BE20/400		-	-
	MONOS4		-	-
A1 12	BR20/400/R			-

Attention: The motors of the **SMARTY** series with **SMARTY/EMA** installed must not be installed to open the door towards the outside (fig. 8/A).

2. Select the number of motors installed with the parameter 70. This parameter is set for two motors by default.



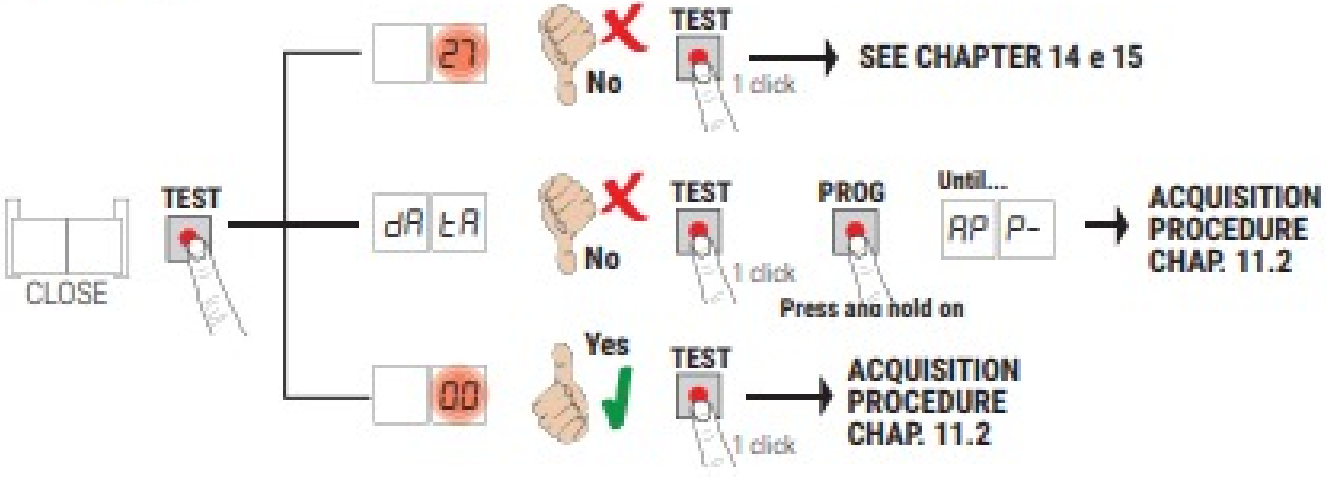
3. Check that the operator present function is not enabled (A7 00).



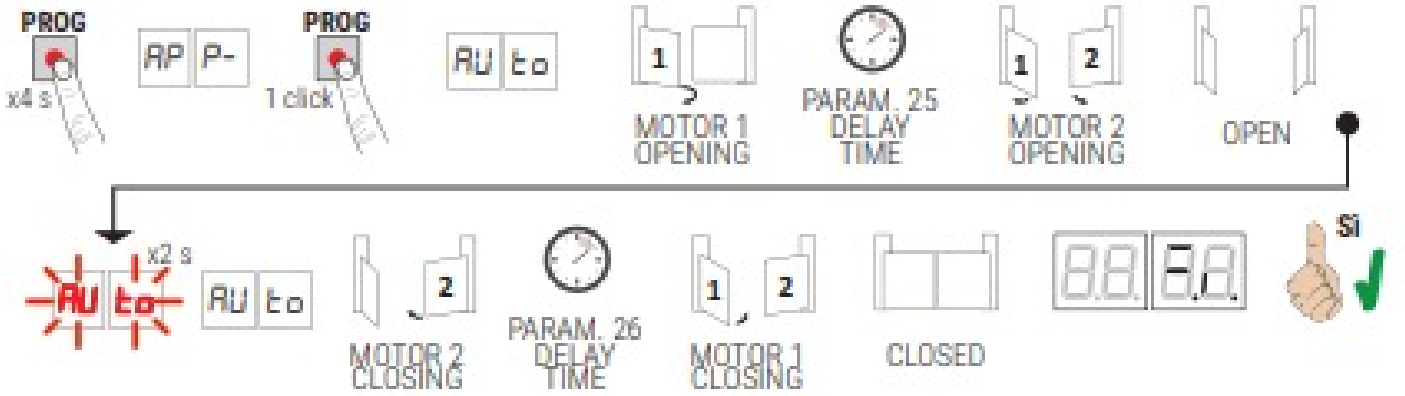
4. Install mechanical stops in both the open and closed positions.

5. Move the gate into the closed position. The gate leaves must be against the mechanical stops.

6. Press **TEST** (see TEST mode in chapter 8) and check the command signal and safety device states. If any safety devices are not installed, jumper the relative contact or disable the device from the relative parameter (50, 51, 53, 54, 73 and 74).



11.2 Acquisition procedure



- Press and hold **PROG** for 4 seconds. *AP P-* is shown on the display.
- Press **PROG** again. *AUto* is shown on the display.
- MOTOR 1 starts opening at low speed.
- After the delay time set with parameter *25* (with a default time setting of 3 s), MOTOR 2 starts an opening manoeuvre.
- Once the gate open mechanical stop is reached, the gate stops briefly. The message *AUto* flashes on the display for 2 s.
- When the message *AUto* stops flashing and is steadily lit on the display, MOTOR 2 closes first and then, after a delay set with parameter *26* (default setting 5 s), MOTOR 1 closes until the gate closed mechanical stop is reached.

If the acquisition procedure is completed successfully, the display enters the command and safety device state display mode.

If the following error messages are shown on the display, repeat the acquisition procedure:

- *AP PE*: acquisition error. Press the TEST button to clear the error, and check the safety device in alarm state.
- *AP PL*: travel length error. Press TEST to clear the error, and check that both gate leaves are fully closed before launching a new acquisition procedure.

For more information, see chapter 15 "Alarms and faults".

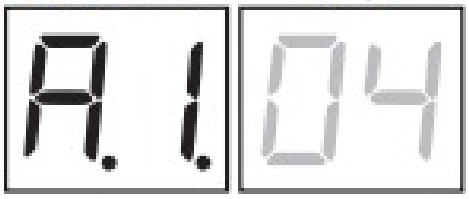
PARAM.	FACTORY DEFAULT	DESCRIPTION	PAGE
A 1	SEE CHAP. 11	Selecting automation system model	68
A2	00	Automatic closure after pause time (from gate completely open)	68
A3	00	Automatic gate closing after mains power outage (black-out)	68
A4	00	Selecting step mode control function (PP)	68
A5	00	Pre-flashing	69
A6	00	Condominium function for partial open command (PED)	69
A7	00	Enabling operator present function	69
A8	00	Gate open indicator / photocell test function and "battery saving"	69
A9	04	MOTOR 1 Setting deceleration during opening (visible if A 1 01, A 1 05, A 1 06, A 1 07, A 1 08, A 1 09, A 1 10, A 1 11)	69
10	04	MOTOR 2 Setting deceleration during opening (visible if A 1 01, A 1 05, A 1 06, A 1 07, A 1 08, A 1 09, A 1 10, A 1 11)	69
11	04	MOTOR 1 Setting deceleration during opening and closing	69
11	04	MOTOR 1 Setting deceleration during closing (visible if A 1 01, A 1 05, A 1 06, A 1 07, A 1 08, A 1 09, A 1 10, A 1 11)	69
12	04	MOTOR 2 Setting deceleration during opening and closing	69
12	04	MOTOR 2 Setting deceleration during closing (visible if A 1 01, A 1 05, A 1 06, A 1 07, A 1 08, A 1 09, A 1 10, A 1 11)	69
13	10	Adjusting LEAF 1 position control	70
14	10	Adjusting LEAF 2 position control	70
15	99	Partial opening adjustment (%)	70
18	00	Type of signaling provided by COR output	70
19	00	Adjusting MOTOR 1 stop advance on gate open stop	70
20	00	Adjusting MOTOR 2 stop advance on gate open stop	70
21	30	Setting automatic closing time	70
22	00	Enabling of management for opening with automatic reclosure exclusion	70
23	10	Adjusting automatic closing time after partial opening	71
25	03	Adjusting opening delay of MOTOR 2	71
26	05	Adjusting closing delay of MOTOR 1	71
27	03	Setting reverse time after activation of sensing edge or obstacle detection (crush prevention)	71
28	00	Electric lock mode selection	71
29	00	Enable electric lock	71
30	07	Setting motor torque	71
31	15	Setting obstacle impact force sensitivity MOTOR 1	71

PARAM.	FACTORY DEFAULT	DESCRIPTION	PAGE
32	15	Setting obstacle impact force sensitivity MOTOR 2	71
33	40	Setting motor torque MOTOR 2	72
34	08	Setting start acceleration during opening and closing MOTOR 1	72
35	08	Setting start acceleration during opening and closing MOTOR 2	72
38	00	Enable lock release reverse impulse	72
40	04	Speed opening setting	72
41	04	Speed closing setting	72
43	00	Opening approach distance setting MOTOR1 (only for SMARTY Series with SMARTY / EMA installed and for BE20/400, MONOS4 and BR20/400/R motors)	72
44	00	Opening approach distance setting MOTOR2 (only for SMARTY Series with SMARTY / EMA installed and for BE20/400, MONOS4 and BR20/400/R motors)	72
45	00	Closing approach distance setting MOTOR1 (only for SMARTY Series with SMARTY / EMA installed and for BE20/400, MONOS4 and BR20/400/R motors)	72
46	00	Closing approach distance setting MOTOR2 (only for SMARTY Series with SMARTY / EMA installed and for BE20/400, MONOS4 and BR20/400/R motors)	72
49	01	Number of automatic closure attempts after activation of sensing edge or obstacle detection (crush protection)	72
50	00	Setting photocell mode during gate opening (FT1)	72
51	02	Setting photocell mode during gate closing (FT1)	73
52	01	Photocell (FT1) mode with gate closed	73
53	00	Setting photocell mode during gate opening (FT2)	73
54	00	Setting photocell mode during gate closing (FT2)	73
55	01	Photocell (FT2) mode with gate closed	73
56	00	Enable close command 6 s after activation of photocell (FT1-FT2)	73
57	00	Selecting contact type (NC or 8.2 kOhm) on inputs FT1/FT2/ST	73
58	00	Selecting the type of photocell test on input FT1	74
59	00	Selecting the type of photocell test on input FT2	74
64	00	Reversibility management for SMARTY 5R5-SMARTY 7R automations	74
65	05	Motor stop distance setting	74
70	02	Select number of motors installed	74
71	00	Enabling absolute encoder (SMARTY Series automation systems only)	74
73	03	Configuring sensing edge COS1	74
74	00	Configuring sensing edge COS2	75
76	00	Configuring radio channel 1 (PR1)	75
77	01	Configuring radio channel 2 (PR2)	75
78	00	Configuring flashing light frequency	75

PARAM.	FACTORY DEFAULT	DESCRIPTION	PAGE
79	60	Selecting courtesy light mode	75
80	00	Clock contact configuration ORO	75
81	00	Enable safeguarded gate closure/opening	76
82	03	Setting safeguarded closure/opening activation time	76
83	00	Selecting limitations in battery operation	76
84	00	Battery type selection and consumption reduction	76
85	00	Selection of the battery operation management	76
86	00	Enabling of regular maintenance activation	77
87	00	Adjustment of regular maintenance activation hour counter	77
90	00	Restoring factory default values	77
n0	01	HW version	77
n1	23	Year of manufacture	77
n2	45	Week of manufacture	77
n3	67	Serial number	77
n4	89		77
n5	01		77
n6	23	FW version	77
o0	01	View manoeuvre counter	77
o1	23		77
h0	01	View manoeuvre hour counter	78
h1	23		78
d0	01	View control unit days on counter	78
d1	23		78
P1	00	Password	78
P2	00		78
P3	00		78
P4	00		78
CP	00	Password change protection	78

PARAMETER

PARAMETER VALUE



A104	**Selecting automation system model** **WARNING!** If this parameter is not set correctly, the automation system may not function properly. **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually.
01	**BE20/200/HS** - **IRREVERSIBLE** *HIGH-SPEED* piston.
02	**BR20** series - **IRREVERSIBLE** piston.
03	**BH23/282** - Gear motor with **IRREVERSIBLE** articulated arm.
04	**BR21/351** - Underground **IRREVERSIBLE** gear motor. **BR21/361** - Underground **IRREVERSIBLE** gear motor. **BR21/362** - Underground **IRREVERSIBLE** gear motor.
05	**SMARTY 5** or **SMARTY 7** - **IRREVERSIBLE** piston.
06	**SMARTY 7R** - **REVERSIBLE** piston. **IMPORTANT:** set b4 01 and 71 01.
07	**SMARTY 5R5** - **REVERSIBLE** piston. **IMPORTANT:** set b4 01 and 71 01.
08	**SMARTY 4HS** - **IRREVERSIBLE** piston *HIGH-SPEED*.
09	**BH23/252/HS** - Gear motor with **IRREVERSIBLE** *HIGH-SPEED* articulated arm.
10	**BR21/351/HS** - Underground **IRREVERSIBLE** *HIGH-SPEED* gear motor. **BR21/361/HS** - Underground **IRREVERSIBLE** *HIGH-SPEED* gear motor.
11	**BE20/400** - **IRREVERSIBLE** piston. **MONOS4** - **IRREVERSIBLE** piston.
12	**BR20/400/R** - **REVERSIBLE** piston.

A200	**Automatic closure after pause time (from gate completely open)**
00	Disabled.
01 - 15	From 1 to 15 of gate closure attempts after photocell is triggered. Once the number of attempts set is reached, the gate remains open.
99	The gate tries to close indefinitely.

A300	**Automatic gate closing after mains power outage**
00	Disabled. The gate does not close automatically when mains power is restored.
01	Enabled. If the gate is NOT completely open, when mains power is restored, the gate closes after a 5 second warning signalled with the flashing light (independently of the value set with the parameter A5). The gate closes in "position recovery" mode (see chapter 18-19).

A400	**Selecting step mode control function (PP)**
00	Open-stop-close-stop-open-stop-close...
01	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer restarts if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A200), the condominium function automatically attempts a closing manoeuvre A201.
02	Condominium function: the gate opens and closes after the set automatic closing time. The automatic closing timer does NOT restart if a new step mode command is received. Step mode commands are ignored while the gate is opening. This allows the gate to open completely and prevents the gate from closing when not required. If automatic closing is disabled (A200), the condominium function automatically attempts a closing manoeuvre A201.
03	Open-close-open-close.

04	Open-close-stop-open.

A5 00	**Pre-flashing**
00	Disabled. The flashing light is activated during opening and closing manoeuvres.
01- 10	Flashing warning signal for 1 to 10 seconds prior to every manoeuvre.
99	5 second flashing warning signal prior to closing manoeuvre.

A6 00	**Condominium function for partial open command (PED)**
00	Disabled. The gate opens partially in step mode: open-stop-close-stop-open...
01	Enabled. Partial commands are ignored during gate opening.

A7 00	**Enabling operator present function**
00	Disabled.
01	Enabled. The open (AP) or close (CH) button must be pressed continuously to operate the gate. The gate stops when the button is released.

A8 00	**Gate open indicator / photocell test function and "battery saving"**
00	The indicator is off when the gate is closed, and steadily lit during manoeuvres and when the gate is open.
01	The indicator flashes slowly during opening manoeuvres, and is lit steadily when the gate is completely open. It flashes quickly during closing manoeuvres. If the gate is stopped in an intermediate position, the lamp extinguishes twice every 15 seconds.
02	Set 02 if the output **SC** is used for the photocell test. See fig. 5. **NB**: the type of photocell test can be selected by means of parameters 58 and 59.
03	Set to 03 if the output **SC** is used for the "battery saving" function. See fig. 6. When the gate is completely open or closed, the control unit deactivates any accessories connected to terminal **SC** to reduce battery consumption.
04	Set to 04 if the output **SC** is used for the "battery saving" function and photocell test function. See fig. 6. **NB**: the type of photocell test can be selected by means of parameters 58 and 59.

Parameters visible ONLY if:

PARAMETER	A1 01 BE20/200/HS	A1 05 SMARTY5 o 7	A1 06 SMARTY7R	A1 07 SMARTY5R5	A1 08 SMARTY4/HS	A1 09 BH23/252/HS	A1 10 BR21/351/HS	A1 11 BE20/400	A1 12 BR20/400/R
		ONLY IF 71 01 = SMARTY/EMA ENABLED							
A9 04	**Setting deceleration MOTOR 1 during OPENING**								
10 04	**Setting deceleration MOTOR 2 during OPENING**								
01-05[1]	01= the gate decelerates near stops and the limit switch (if installed) ... 05= the gate decelerates long before stops and the limit switch (if installed). [1] 10 for SMARTY Series automations								

IF parameters A9 and 10 are visible, then:

11 04	**Setting deceleration MOTOR 1 during CLOSING**
12 04	**Setting deceleration MOTOR 2 during CLOSING**
01-05[1]	01= the gate decelerates near stops and the limit switch (if installed) ... 05= the gate decelerates long before stops and the limit switch (if installed). [1] 10 for SMARTY Series automations

11 04	**Setting deceleration MOTOR 1 during opening and closing**
12 04	**Setting deceleration MOTOR 2 during opening and closing**
01-05	01= the gate decelerates near stops and the limit switch (if installed). ... 05= the gate decelerates long before stops and the limit switch (if installed).

S102	**Setting photocell mode during gate closing (FT1)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

S201	**Photocell (FT1) mode with gate closed** **N.B.:** this parameter is not visible if A802 or A803 or A804 is set.
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.

S300	**Setting photocell mode during gate opening (FT2)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate opening.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed opening when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate closes when the photocell is cleared.

S400	**Setting photocell mode during gate closing (FT2)**
00	DISABLED. Photocell is not active or not installed.
01	STOP. The gate stops and remains stationary until the next command is received.
02	IMMEDIATE REVERSE. The gate reverses immediately if the photocell is activated during gate closure.
03	TEMPORARY STOP. The gate stops as long as the photocell is obstructed. The gate resumed closing when the photocell is cleared.
04	DELAYED REVERSE. The gate stops if the photocell is obstructed. The gate opens when the photocell is cleared.

S501	**Photocell (FT2) mode with gate closed** **N.B.:** this parameter is not visible if A8 02 or A8 03 or A8 04 is set.
00	If the photocell is obstructed, the gate cannot open.
01	The gate opens when an open command is received, even if the photocell is obstructed.
02	The photocell sends the gate open command when obstructed.

S600	**Enable close command 6 s after activation of photocell (FT1-FT2)** **N.B.:** This parameter is not visible if A8 03 or A8 04 is set. **NOTE:** in the case of photocells being blanked during opening, the 6 secs. count starts when the wings are completely open.
00	Disabled.
01	Enabled. When the photocell gate FT1 is crossed, a close command is sent 6 seconds later.
02	Enabled. When the photocell gate FT2 is crossed, a close command is sent 6 seconds later.

S700	**Selecting contact type (NC or 8.2 kOhm) on inputs FT1/FT2/ST** In conformity with the safety regulations EN12453-EN12445, devices using an 8.2 kOhm contact instead of an NC contact may be connected to inputs FT1/FT2/ST. The controller unit must therefore be configured accordingly.		
	FT1	**FT2**	**ST**
00	The controller is configured for NC contacts by default.		
01	8k2	N.C.	N.C.
02	N.C.	8k2	N.C.
03	8k2	8k2	N.C.
10	N.C.	N.C.	8k2

11	8k2	N.C.	8k2
12	N.C.	8k2	8k2
13	8k2	8k2	8k2

58 00	**Selecting the type of photocell test on input FT1** This parameter is visible if **A8D2** or **A8D4** is set. If the photocell test is enabled, the control unit will check the photocells connected to input FT1 are working properly. The test lasts max. 3 s OFF / 3 s ON.
59 00	**Selecting the type of photocell test on input FT2** This parameter is visible if **A8D2** or **A8D4** is set. If the photocell test is enabled, the control unit will check the photocells connected to input FT2 are working properly. The test lasts max. 3 s OFF / 3 s ON.
00	Photocell test disabled.
01	Photocell test enabled on opening ONLY.
02	Photocell test enabled on closure ONLY.
03	Photocell test enabled on both opening and closure.

64 00	**Reversibility management for SMARTY 5R5-SMARTY 7R automations** This parameter is visible ONLY if A1 05 or A1 07. The mechanism of the SMARTY 5R5/7R is REVERSIBLE. This parameter if enabled helps to limit the effects of reversibility. **NOTE:** Even though it is a REVERSIBLE unit, the motor is equipped with a lock release system.
00	The motor of the **SMARTY 5R5/7R** does not resist any external forces. It is therefore possible to move the leaf manually, in any direction, without unlocking the motor.
01	The motor of the **SMARTY 5R5/7R** is used as a holding brake when the power is on and when it is not rotating, holding the leaf in position with a certain braking torque. An external force applied to the leaf, if greater than the force exerted by the motor, will cause the leaf to move manually. **ATTENTION**: If the automation is to be locked in the fully open or fully closed position, it is MANDATORY to install an electric lock.

65 05	**Setting motor stop distance**
01-05	01= faster deceleration/shorter stop distance ... 05= slower deceleration/longer stop distance.

70 02	**Select number of motors installed** **N.B.:** if SMARTY REVERSIBLE MOTOR are used, whenever this parameter is modified repeat the acquisition procedure (see chapter 11).
01	1 motor.
02	2 motors. **IMPORTANT**: Use the same type of motor for both gate leaves.

71 00	**Enabling absolute encoder (SMARTY Series automation systems only)** ***Attention: the parameter 71 01 must be set and SMARTY/EMA installed for all applications with the SMARTY REVERSIBLE motor.*** **NB:** the position data request message **dRcA** appears on the display whenever this parameter is modified. Press the PROG key until **APP-** appears on the display, then repeat the acquisition procedure (see chapter 11.2). **Attention: SMARTY** motors with **SMARTY/EMA** installed must not be installed to open the door towards the outside (fig. 8, detail A).
00	Disabled.
01	Enabled. Perform or repeat the acquisition procedure to acquire the parameters relative to the installation. **N.B:** see chapter 12 for more information on the absolute encoder.

73 03	**Configuring sensing edge COS1**
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when opening.
02	Contact with 8k2 resistor. The gate reverses only when opening.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.
12	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate reverses only when opening.
14	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate always reverses.

74 00	Configuring sensing edge COS2
00	Sensing edge NOT INSTALLED.
01	NC contact (normally closed). The gate reverses only when closing.
02	Contact with 8k2 resistor. The gate reverses only when closing.
03	NC contact (normally closed). The gate always reverses.
04	Contact with 8k2 resistor. The gate always reverses.
12	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate reverses only when opening.
14	Management of two 8k2 sensitive edges connected in parallel (total resistance 4k1). The gate always reverses.

76 00	Configuring radio channel 1 (PR1)
77 01	Configuring radio channel 2 (PR2)
00	STEP MODE.
01	PARTIAL OPENING
02	OPENING
03	CLOSING.
04	STOP.
05	Courtesy light. The output CDR is managed from the remote control. The light remains lit as long as the remote control is active. The parameter 79 is ignored.
06	Courtesy light ON-OFF (PP). The output CDR is managed from the remote control. The remote control turns the courtesy light on and off. The parameter 79 is ignored.
07	STEP MODE with confirmation for safety. [1]
08	PARTIAL OPENING with confirmation for safety. [1]
09	OPENING with confirmation for safety. [1]
10	CLOSURE with confirmation for safety. [1]

[1] To prevent gate manoeuvres caused by accidentally pressing a remote control button, confirmation is required to enable the command. Example: parameters 76 07 and 77 01 set:
- Pressing the CHA button on the remote control selects the step mode function, which must be confirmed within 2 seconds by pressing CHB on the remote control. Press CHB to activate partial opening.

78 00	Configuring flashing light frequency
00	The frequency is set electronically from the flashing light unit.
01	Slow flash.
02	Light flashes slowly when gate opens, rapidly when gate closes.

79 60	Selecting courtesy light mode NOTE: the parameter is not visible if par. 18 other than 00
00	Disabled.
01	PULSE. The courtesy light illuminates briefly at the start of each manoeuvre.
02	ACTIVE. The light remains lit for the entire duration of the manoeuvre.
03-90	From 3 to 90 s. The light remains lit for the time period set after the manoeuvre is completed.
92-99	From 2 to 9 minutes. The light remains lit for the time period set after the manoeuvre is completed.

80 00	Clock contact configuration (ORO) When the clock function is active, the gate opens and remains open. At the end of the programmed time set with the external device (clock), the gate closes.
00	When the clock function is active, the gate opens and remains open. Any command signal received is ignored.
01	When the clock function is active, the gate opens and remains open. Any command signal received is accepted. When the gate returns to the completely open position, the clock function is reactivated.

81 00	**Enable safeguarded gate closure/opening** Enabling this parameter ensures that the gate is not left open due to an incorrect and/or accidental command. This function is NOT enabled if: • the gate receives a STOP command; • the sensitive edge intervenes, detecting an obstacle in the same direction in which the function is enabled. If instead the sensitive edge detects an obstacle during the movement opposite to the one guaranteed, the function remains active. • the number of closure attempts set by parameter A2 has been reached; • the acquired position is lost (perform position recovery, see chapter 18-19).
00	Disabled. The parameter B2 is not displayed.
01	Safeguarded closure enabled. After a period of time set with parameter B2, the control unit signals a 5 second warning with the flashing light, regardless of the parameter A5, and then closes the gate.
02	Safeguarded closure / opening enabled. If the gate is closed as a result of a step mode command, after a period of time set with parameter B2, the control unit signals a 5 second warning with the flashing light (regardless of the parameter A5), and then the gate closes. If the gate is stopped by the obstacle detection system during a closure manoeuvre, the gate closes after a period of time set with parameter B2. If the gate is stopped by the obstacle detection system during an opening manoeuvre, the gate closes after a period of time set with parameter B2.

82 03	**Setting safeguarded closure/opening activation time** **N.B.:** this parameter is not visible if the value of parameter B 1 = 00
02-90	Wait time settable from 2 to 90 s.
92-99	Wait time settable from 2 to 9 min.

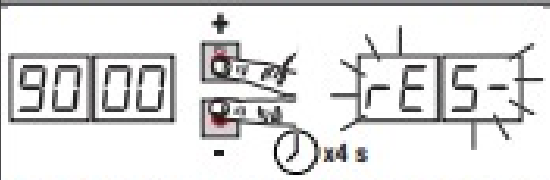
83 00	**Selecting limitations in battery operation** **N.B.:** the parameter is visible only if par. B5 is different than 00
00	There is no limitation for the commands when the battery voltage drops under the selected threshold. An error alert may be activated via the COR output (if parameters B5 and 20 are adequately set).
01	When the battery voltage drops under the threshold selected with par. B5, the control unit accepts only opening commands and does not perform closing.
02	When the battery voltage drops under the threshold selected with par. B5, after a 5 s pre-flashing, the control unit automatically opens the barrier's boom and accepts only a closing command.
03	It accepts only closing commands even if the ORO input is active and if the parameter is B0 0 1.
04	When the battery voltage drops to the threshold selected with par. B5 the control unit, after a prelamping of 5s, automatically closes the gate and accepts only one opening command.

84 00	**Battery type selection and consumption reduction** **NOTE:** An INCORRECT setting of this parameter, when there is no mains voltage, blocks the functions and the display shows the message bEL 0 (if set to 0 1 or 02 and the battery is 2x12V⎓) or an error alert bAd.
00	Battery 24V⎓ (2x12V⎓) with B71/BCHP. Acceleration/deceleration/speed reduction enabled, to increase the battery life.
01	Battery 24V⎓ (2x12V⎓) with B71/BCHP. No performance reduction, maximum battery consumption.
02	Battery 36V⎓ (3x12V⎓) with external charger. Acceleration/deceleration/speed reduction enabled, to increase the battery life.
03	Battery 36V⎓ (3x12V⎓) with external charger. No performance reduction, maximum battery consumption.

85 00	**Selection of the battery operation management** Setting a value different than 00 a battery voltage level check is activated. The desired operation type can be selected via parameter B3 and an error alert can be activated through the COR output via parameter 18.
00	The control unit always accepts commands until the battery is completely exhausted.
01	The command becomes active when the battery voltage drops to the minimum threshold (22V⎓ for battery 2x12V⎓)
02	The command becomes active when the battery voltage drops to the medium threshold (23V⎓ for battery 2x12V⎓)
03	The command becomes active when the battery voltage drops to the maximum threshold (24V⎓ for battery 2x12V⎓)

86 00	**Enabling of regular maintenance activation** **N.B:** Parameter visible if any password other than the default password is set (Parameter P 1÷P4). **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually. When the manoeuvre hour limit (set by 86 and 87) is exceeded, the visual maintenance signal is activated (e.g. every 1500 manoeuvre hours). **IMPORTANT**: "manoeuvre" means every motor opening activation. The message RESEt is shown on the display and the flashing light, with the motors stop, flashes with a regular duty cycle (1 s on / 4 s off) until system maintenance is performed and the alarm is reset. To reset the alarm, release the protection by inputting the password (DP 00) and press TEST for 5 s. The message RESEt is displayed, followed by the messages UPdt flashing for 4 seconds: to reset the alarm, hold down the TEST key until donE is displayed. If the TEST key is released, Abort appears on the display and the alarm is not reset. The number of hours H0- H 1 is stored by the control unit, and the count is reset. **N.B.:** When 8000 hours of operation are exceeded, the maintenance alarm is disabled entirely.
00	Disabled.
01	Maintenance enabled for a period = parameter value 87 x10 hours.
02	Maintenance enabled for a period = parameter value 87 x100 hours.

87 00	**Adjustment of regular maintenance activation hour counter** **N.B:** Parameter visible with parameter 86 01 or 86 02. **N.B.:** in the event of a reset to restore the default parameters, this parameter must be set again manually.
00	Disabled.
01÷80	from 10 to 800 hours with parameter 86 01. from 100 to 8000 hours with parameter 86 02. Maximum limit: 8000 hours (beyond this value the maintenance alarm is disabled entirely).

90 00	**Restoring factory default values** **NOTE** This procedure is only possible is NO data protection password is set.
	 **Warning!** Restoring default settings cancels all settings made previously except for parameter A 1, 71, 86, 87: after restore, check that all parameters are suitable for the installation. • Press and hold the PLUS + and MINUS - button until the unit switches on. • The display flashes after 4 s rES-. • The default factory settings have now been restored. **Note:** it is possible to reset the parameters in a second way: when the control unit is switched on, before the firmware version appears on the display, press and hold down the ▲ (UP ARROW) and ▼ (DOWN ARROW) buttons for 4s.

	Identification number The identification number consists of the values of the parameters from n0 to n6. **N.B.:** The values shown in the table are indicative only.	
n0 01	**HW version.**	Example: 01 23 45 67 89 01 23
n1 23	**Year of manufacture.**	
n2 45	**Week of manufacture.**	
n3 67	**Serial number.**	
n4 89		
n5 01		
n6 23	**FW version.**	

	View manoeuvre counter The number consists of the values of the parameters from o0 to o 1 multiplied by 100. **N.B.:** The values shown in the table are indicative only. **IMPORTANT**: "manoeuvre" means every motor activation (total opening or closure / partial opening / step mode, etc.).
o0 01	**Manoeuvres performed.** Example: 01 23 x100 = 12.300 manoeuvres.
o1 23	

	View manoeuvre hour counter The number consists of the values of the parameters from h0 to h 1. **N.B.**: The values shown in the table are indicative only. When the manoeuvre hour limit (set by 85 and 87) is exceeded, the visual maintenance signal is activated (e.g. every 1500 manoeuvre hours). **IMPORTANT**: "manoeuvre" means every motor opening activation. The message AS5E is shown on the display and the flashing light, with motors stop, flashes with a regular duty cycle (1 s on / 4 s off) until system maintenance is performed and the alarm is reset. To reset the alarm, release the protection by inputting the password (CP 00) and press TEST for 5 s. The message AS5E is displayed, followed by the messages UPdt flashing for 4 seconds: to reset the alarm, hold down the TEST key until donE is displayed. If the TEST key is released, Abrt appears on the display and the alarm is not reset. The number of hours h0 - h 1 is stored by the control unit, and the count is reset. If the value h0=80 h 1=00 is exceeded (8000 hours of operation) the maintenance alarm is no longer managed.
h0 01 h 123	**Manoeuvre hours.** Example: 0 1 23 = 123 hours.

	View control unit days on counter The number consists of the values of the parameters from d0 to d 1. **N.B.**: The values shown in the table are indicative only.
d0 01 d 123	**Days with unit switched on.** Example: 0 1 23 = 123 days.

	Password Setting a password prevents unauthorised persons from accessing the settings. With password protection active (CP=01), parameters may be viewed, but the values CANNOT be modified. Only a single password is used to control access to the gate automation system. **WARNING**: Contact the Technical Support Service if you lose your password.
P1 00 P2 00 P3 00 P4 00	**Password activation procedure:** • Enter the desired values for parameters P 1, P2, P3 and P4. • Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP. • Press and hold the + and - buttons for 4 seconds. • The display flashes to confirm that the password has been saved. • Switch the control unit off and on again. Check that password protection is activated (CP=01). **Temporary unlock procedure:** • Enter the password. • Check that CP=00. **Password cancellation procedure:** • Enter the password (CP=00). • Save the values P 1, P2, P3, P4 = 00 • Use the UP ▲ and/or DOWN ▼ buttons to view the parameter CP. • Press and hold the + and - buttons for 4 seconds. • The display flashes to confirm that the password has been cancelled (the values P 1 00, P2 00, P3 00 and P4 00 indicate that no password is set). • Switch the control unit off and on again (CP=00).

CP 00	**Changing password**
00	Protection deactivated.
01	Protection activated.

With no currently active commands, press the TEST button and check the following:

DISPLAY	POSSIBLE CAUSE	ACTION BY SOFTWARE	PHYSICAL CORRECTIVE ACTION
88 27	The safety **STOP** contact is open. Incorrect setting of parameter 57.	Check that parameter 57 is set correctly	Install a **STOP** button (NC) or jumper the **ST** contact with the **COM** contact.
88 25	Sensing edge **COS1** not connected or incorrectly connected.	Set the parameter 73 00 if not used or to disable.	Jumper contact **COS1** with contact **COM**, if not used or to disable
88 24	Sensing edge **COS2** not connected or incorrectly connected.	Set the parameter 74 00 if not used or to disable.	Jumper contact **COS2** with contact **COM**, if not used or to disable.
88 23	Photocell **FT1** not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 50 00 e 5 100 if not used or to disable.	Jumper contact **FT1** with contact **COM**, if not used or to disable. Check connection referring to relative connection diagram (figure 4).
88 22	Photocell **FT2** not connected or incorrectly connected. Incorrect setting of parameter 57.	Set the parameter 53 00 e 54 00 if not used or to disable.	Jumper contact **FT2** with contact **COM**, if not used or to disable. Check connection referring to relative connection diagram (figure 4).
PP 00	If occurs with no voluntary command, the contact (N.O.) may be faulty or one of the buttons may be incorrectly connected.	-	Check **PP** - **COM** contacts and connections to buttons.
CH 00		-	Check **CH** - **COM** contacts and connections to buttons.
AP 00		-	Check **AP** - **COM** contacts and connections to buttons.
PE 00		-	Check **PED** - **COM** contacts and connections to buttons.
Or 00	If occurs with no command, the contact (N.O.) may be faulty or the timer may be incorrectly connected.	-	Check **ORO** - **COM** contacts. Contact must not be jumpered if not used.

N.B: press TEST to exit TEST mode.
We recommend troubleshooting safety device and input status errors with "corrective action by software" only.

PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
The gate does not open or close.	**POWER** LED off	No power.	Check power cable.
	POWER LED off	Fuses blown.	Replace fuse. Always disconnect from mains power before removing fuses.
	OF St	Input mains power voltage fault. Control initialisation failed.	Disconnect from mains power, wait 10 seconds then reconnect to the mains and switch on. If the problem persists, contact your local authorized dealer for verification and possible assistance. Pressing the TEST button it is possible to hide the alarm temporarily and consult the control unit's parameters.
	Pr Ot	Overcurrent detected in inverter.	Press the **TEST** button twice or perform 3 command requests in succession.
	SEC0	Incorrect connection between SEC1 and SEC2 of the transformer.	Swap the connection between SEC1 and SEC2.
	dA tA	Incorrect travel length values.	Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices. Check that the mechanical stops of MOTOR 1 and MOTOR 2 are positioned correctly. Repeat acquisition procedure.
		Parameter 1 I modified	The position data request message dRtA appears on the display whenever this parameter is modified. Press the PROG key until RPP- appears on the display, then repeat the acquisition procedure (see chapter 11.2).
	Mot 1	Motor 1 not connected.	Check the motor cable.
	Mot2	Motor 2 not connected.	Check the motor cable.
	FUSE	Fuse F1 blown or damaged. This message is not visible if controller is in battery power mode.	Replace fuse. Always disconnect from mains power before removing and refitting fuses.
	Example: 15 EE 21 EE	Configuration parameter error.	Set configuration value correctly and save.
	En 11	MOTOR 1 encoder not responding, absent or faulty.	Check encoder connection. Replacing the encoder is recommended if the problem persists.
	En2 1	MOTOR 2 encoder not responding, absent or faulty.	Check encoder connection. Replacing the encoder is recommended if the problem persists.
	En 12	Communication error between controller and MOTOR 1 encoder.	Check connection of MOTOR 1.
	En22	Communication error between controller and MOTOR 2 encoder.	Check connection of MOTOR 2.
	En 13	Minor malfunction of MOTOR 1 encoder.	Check connection of MOTOR 1. Check power voltage of controller.
	En23	Minor malfunction of MOTOR 2 encoder.	Check connection of MOTOR 2. Check power voltage of controller.
	En 14	Encoder MOTOR 1 encoder magnet malfunction. Severe encoder error.	Replacing the encoder is recommended if the problem persists.
	En24	Encoder MOTOR 2 encoder magnet malfunction. Severe encoder error.	Replacing the encoder is recommended if the problem persists.
	En 15	Position detected of MOTOR 1 incongruent with travel length.	Check the setting of parameter A 1 and repeat the learning procedure. Replacing the encoder is recommended if the problem persists.

PROBLEM	ALARM	POSSIBLE CAUSE	ACTION
The gate does not open or close.	En 15	Incorrect installation of the motors	Verify the correct installation of the motors. SMARTY motors with SMARTY/EMA installed must not be installed to open the door towards the outside (fig. 8, detail A).
	En2S	Position detected of MOTOR 2 incongruent with travel length.	Check the setting of parameter A 1 and repeat the learning procedure. Replacing the encoder is recommended if the problem persists.
		Incorrect installation of the motors	Verify the correct installation of the motors. SMARTY motors with SMARTY/EMA installed must not be installed to open the door towards the outside (fig. 8, detail A).
	btLO (btLO)	Flat batteries.	Wait for mains power to be restored.
	FALL	The motor supply voltage is dropping, the control unit is assessing whether this is due to a broken fuse or actual low battery voltage.	No intervention, it is a waiting phase to give a definite certain signal (btLO or FUSE).
Acquisition procedure does not complete correctly.	AP P.E	TEST button pressed accidentally.	Repeat acquisition procedure.
		Safety devices in alarm state.	Press the TEST button and check the safety device/s in alarm state and the connections of the safety devices.
		Excessive voltage drop.	Repeat acquisition procedure. Check mains voltage.
	AP PL	Travel length error.	Move gate into completely closed position and repeat the procedure.
Remote control has limited range and does not work while automated gate is moving.	-	The radio transmission is impeded by metal structures and reinforced concrete walls.	Install the antenna.
	-	Flat batteries.	Replace the transmitter batteries.
The flashing light is not working.	-	Bulb / LED blown or flashing light wires disconnected.	Check LED circuit and/or connector wires.
With gate stops, the flashing light flashes with a regular duty cycle (1 s on / 4 s off).	ASSt (ASSt)	Maintenance alarm.	Perform a maintenance programm. To reset the alarm, release the protection by inputting the password (CP 00) and press TEST for 5 s. The message ASSt is displayed, followed by the messages UPdt flashing for 4 seconds: to reset the alarm, hold down the TEST key until donE is displayed. If the TEST key is released, Abrt appears on the display and the alarm is not reset. The manoeuvre counter resets. The number of hours HO-H 1 is stored by the control unit, and the count is reset. N.B.: when 8000 hours of manoeuvres are exceeded, the maintenance alarm is disabled entirely.
Message POS together with audible warning signal. (with SMARTY/EMA only)	POS 1 (POS1)	Notification that MOTOR 1 position reading is in progress.	At start of each manoeuvre, the control unit acquires the position of MOTOR 1. If the position is not read successfully, the message En 1 1 is shown on the display.
	POS2 (POS2)	Notification that MOTOR 2 position reading is in progress.	At start of each manoeuvre, the control unit acquires the position of MOTOR 2. If the position is not read successfully, the message En2 1 is shown on the display.
Gate open indicator lamp does not work.	-	Bulb blown or wires disconnected.	Check the bulb and/or wires.
Gate does not perform desired manoeuvre.	-	Motor leads crossed.	Swap two wires on terminal X-Y-Z or Z-Y-X.
	bAtod	Incorrect selection of the battery type.	Change the value of the parameter B4.

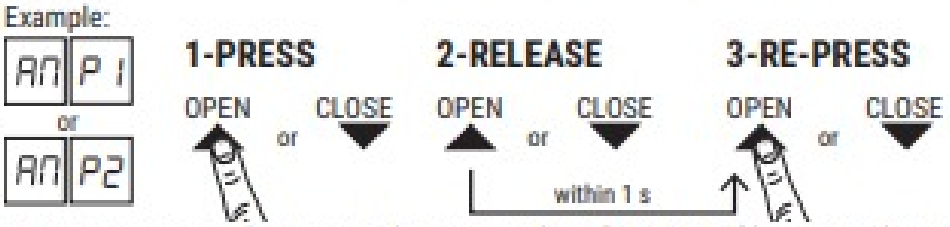
16 Procedural verifications - INFO Mode

INFO mode may be used to view certain parameters measured by the **EDGE1** controller.
Press and hold the TEST button for 5 seconds from the "View command signals and safety devices" mode with the motor stationary. The control unit displays the following parameters and the corresponding measured values in sequence:

Parameter		Function
P4.30		View for 3 s the firmware version of the control unit.
CnE 1	CnE2	Displays the position of MOTOR 1 / MOTOR 2, expressed in revolutions and relative to total length, at the time of the test.
Lun 1	Lun2	View total length of MOTOR 1/ MOTOR 2 programmed travel , in motor revolutions.
rPM 1	rPM2	View MOTOR 1 /MOTOR 2 speed, in revolutions per minute (rPM).
AMP 1	AMP2	View current absorption of MOTOR 1/MOTOR 2, in Amperes (e.g.: 001.1 = 1,1 A .... 016.5 = 16,5 A). If the MOTOR 1 / MOTOR 2 is stationary, the current absorption value is 0. Activate a command function to test current absorption.
bUS		System OK indicator. To check for overloading (e.g.: too many utilities connected to 24 V output) or if the mains voltage is too low, compare the parameters read with values indicated as follows with the motor stationary: mains voltage= 230V~ (nominal), bUS= 31.6 mains voltage= 207V~ (-10%), bUS= 33.6 mains voltage= 253V~ (+10%), bUS= 41.6
CMP 1	CMP2	Display current, expressed in Amperes, used to compensate for strain detected by MOTOR 1 / MOTOR 2 due, for example, to low external temperatures (e.g.: 0 = 0 A ... 4 = +3 A). At the beginning of a manoeuvre from the completely open or completely closed position, if the control unit detects a strain higher than the value stored in its memory during the travel acquisition cycle, the controller automatically increases the current delivered to MOTOR 1 / MOTOR 2.
RSC 1	RSC2	Display current threshold, expressed in Amperes, at which the obstacle detection function (crush prevention) of MOTOR 1 / MOTOR 2 is triggered. This value is calculated automatically by the controller in relation to the settings of parameters 30, 31 and 32. For the motor to function correctly, AMP must always be lower than the value RSC.
tIm 1	tIm2	Indicates time taken by motor to detect an obstacle, as set with parameter 31/32, in seconds. E.g. 1.000 = 1 s / 0.120 = 0.12 s (120 ms). Ensure that the manoeuvre time is more than 0.3 s.
Abs 1	Abs2	MOTOR 1 / MOTOR 2 status OK indicator. In normal conditions, this value is less than 500. If the value exceeds 2000, the controller disables the motor. A value exceeding 500 indicates that the characteristics of the connection cable are inadequate for the installation or that the connection cable is too long or of inadequate cross section, or may indicate an electrical fault of the brushless motor.
UP		If the control unit is capable of identifying the position of the gate leaf when the test is conducted, the following is shown on the display: UP_ _ position known, normal operation. UP 1_ LEAF 1 position unknown, position recovery in progress. UP 1_ LEAF 2 position unknown, position recovery in progress. UP 12 positions of both leaves unknown, position recovery in progress.
OC		Indicates the state of the automation system (open/closed). OC OP automation system opening (motor active). OC CL automation system closing (motor active). OC -O automation system completely open (motor not actives). OC -C automation system completely closed (motor not actives).
UF		UF U_ mains voltage too low or overload. UF _M motors overcurrent.
HOUr		Displays the number of hours remaining before the maintenance alarm is activated. The number is preceded by a - (minus) symbol. If the number of remaining hours is a four figure value, the minus symbol (-) is replaced by a point. Example: -1234 hours remaining until maintenance alarm = .1234 • Pressing ▼ (DOWN arrow): view number of hours of last maintenance service. The first service is indicated as 0.0.0.0. . • Pressing ▲ (UP arrow): return to remaining hours display.
bLoc		Displays 00= motor brake not active; 01=brake active on motor 1; 02=brake active on motor 2; 12= brake active on both motors; -- -- = brake function not available.

- If only one motor is connected to the control unit, the parameters relative to "MOTOR 1" only are displayed.
- Use the + / - buttons to scroll through the parameters. When the last parameter in the sequence is reached, press the - button to return through the previous parameters.
- In INFO mode, the automation system may be activated to test operation in real time.
- The two motors may be controlled independently in OPERATOR PRESENT mode, ignoring the position data request

message "dAtA" and bypassing the safety devices installed (photocells, sensing edges and STOP button) with the exception of the obstacle detection system. MOTOR 1 is controllable when the messages: Cnt 1, rPM 1, AMP 1 and AbS 1 appear on the display. MOTOR 2 is controllable when the messages Cnt2, rPM2, AMP2 and AbS2 appear on the display.



- THE MOTOR in question is activated on opening by pressing the ▲"UP ARROW" key, or on closure by pressing the ▼ "DOWN ARROW" key.
- For safety, the open and close functions are only available in continuous control (operator present) mode: press the button, release within 1 second and then press and hold. The motor stops as soon as the button is released.
  WARNING: during the check, the motor revolution count (position) is updated but the gate leaf alignment control function may cause problems. Before exiting INFO, make sure that the gate leaves are correctly aligned.
- Press and hold the **TEST** button for a few seconds to exit INFO mode.

16.1 B74/BCONNECT mode

By inserting **B74/BCONNECT** in the **EXP** connector, all the functions are managed through internet browser and devices such as smartphones, tablets, PCs, exploiting WiFi communication, tablet, PC, all the functionalities of the central unit are managed, using the WiFi communication.

For further information consult the installation manual of the connection module B74/ BCONNECT connection module.

Remote assistance" mode

Allows access and therefore the management of all the data of the control unit only in cloud mode and therefore with remote management.
When remote assistance is enabled, the message **ASCC** (assistance connect controlled) appears on the display.
By pressing the **TEST** button this message disappears for 10 seconds, and it is possible to access the parameters and other functions of the display.
After 30 minutes the display goes into stand-by, if the display is awakened by pressing a key the flashing ASCC reappears.

"Emergency operation" mode

This mode is used to exclude motor and safety alarms (e.g. photocells and sensitive edges), allowing the automation to open and close at low speed and with the operator present, with movement of the leaves only in the presence of a persistent command (when the command is released, the leaves stop).
Emergency operation is indicated by activation of the flashing light at a higher frequency.
Two types of "emergency" mode are possible: residential or condominium.
1) **residential** (flashing **L-ES** display indication): the PP command (from the terminal board or radio control) is initially managed as an opening command; only when complete opening has been reached will activation of the command send it to closing. Only when complete closure has been achieved will the command be able to open again.
2) **condominium** (flashing L-EM display indication): the PP command is initially managed as an opening command, but once it has been fully opened the leaves no longer close.
In this mode the display stand-by is not activated, always indicating the mode in progress.
By pressing the **TEST** button this message disappears for 10 seconds, and it is possible to access the parameters and other functions of the display.

ASCC	"Remote assistance" mode enabled
L-ES	"Residential emergency operation" mode enabled
L-EM	"Condominium emergency operation" mode enabled

17 Mechanical release

In the event of power failure, the gate may be unlocked by following the instructions given in the use and maintenance manual of the automation system. On receiving the first command signal after mains power is restored, the control unit starts an opening manoeuvre in position recovery mode (see chapter 18-19).
For **SMARTY 5R5 / SMARTY 7R**: in the event of an electricity failure or 64 00, the gate can be manually opened and closed without releasing it, with the motor idle.
The **SMARTY/EMA** absolute encoder (installed as standard on **SMARTY REVERSIBLE** units and optional on **SMARTY IRREVERSIBLE** units) allows the controller to reacquire the position immediately after each new command signal received.

We certify that the system covered by this certificate has been commissioned satisfactorily.			
Site Name		Completion	
Site Reference		Engineers Installing	
Installation Commenced	/ /20	Commissioning	
Equipment Fitted			
Handover Date			

Part 2. Existing Installation Items not covered under warranty/ This certificate:

Part 3. Certificate Signing off Section			
Installers Name		Signature	
On Behalf of		Date of Signing	
Address		Position	
Client Name		Signature	
On Behalf of		Date of Signing	
Site Address		Position	

As stated at the beginning of this manual we recommend a bi-annual service, but at a bare minimum, it is imperative that you get a service done once every 12 months. This is not a sales tactic in disguise, there is a very serious health and safety issue/risk associated with not complying to this. Also in order for your gate to keep complying with the appropriate legislation.

Before carrying out any maintenance to the installation, disconnect the mains power supply.

Make sure you have disconnected/Isolated the power before attempting any work.

A Maintenance Contract should be sought from a specialist company after a maximum of 5000 manoeuvres or 1year from the install date.

Occasionally clean the photocell optical components and make sure they are free from dirt, water, rain, soil etc.. ? Batteries in photo cells may need to be changed every 6 months or sooner dependant on use. The gate will not work properly without photo cell function.

Have a qualified technician (installer) check the correct setting of the electric clutch.

If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service, or else by a suitably qualified person, in order to prevent any risk.

When any operational malfunction is found, and not resolved, disconnect the mains power supply and request the assistance of a qualified technician (installer). When automation is out of order, activate the manual release to allow the opening and closing operations to be carried out manually.

Gearbox drive unit is “sealed” for life and requires no further lubrication.

Parts that require lubrication -

The gates have 4 x Bearing hinges on them that require lubrication, they have a grease nipple located at the top.

On a annual service these items mentioned above should be lubricated as well as all other checks listed below.

Checks on a service - All safety edges are operational

A force test is carried out on any crush zones

All photocells are operational

Limit switched are set correct

Gates are structurally ok e.g no damage

All connections/wiring are ok

All push buttons and stop circuits operate correctly

This Manual **must** be completed in accordance with the guidelines below, **at any point** service/repair work is carried out on the product. This is to achieve two things;

1. To keep a history of the product for yourself and your supplier/manufacturer.
2. To keep an accurate log of any historical or recent modifications, and/or problems, to help an engineer in the event of any future work required on the product.
3. This page is continued on the next page if extra space is needed.

Date	Reason for visit/Action taken	Engineers Signature
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		
/ /20		

Ultimation Direct Ltd
Unit 14B Telford Drive, Newark, Nottinghamshire. NG24 2DX

Tel: 01636 550300
Email: enquiries@ultimationdirect.co.uk

Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

We: Ultimation Direct Ltd

Of: Unit 14B Telford Drive, Newark, Nottinghamshire. NG24 2DX In accordance with the following directives:-

Machinery Directive: 2006/42/EC

Electromagnetic Compatibility (EMC) Directive 2014/30/EU

The European Radio Equipment Directive 2014/53/EU

Hereby declare that:

Equipment: Automated Swing Gates
Model no: D6000 with Roger Technology Actuators

Are in conformity with the applicable requirements of the following documents:
2006/42/EC Machinery Directive
BS EN 12453:2017+A1:2021 Industrial, commercial and garage doors and gates—Safety in use of power operated doors— Requirements
BS EN 12604:2017 Industrial, commercial and garage doors and gates—Mechanical aspects—Requirements and test methods
BS EN 13241:2003+A2:2016 Industrial, commercial and garage doors and gates - Product standard. Products without fire re- sistance or smoke control characteristics.
BS-EN12978:2003 Industrial, commercial and garage doors and gates. Safety devices for power operated doors and gates. Requirements and test methods
BS EN 13856-2:2013 Safety of machinery. Pressure sensitive protective devices. General principles for the design and testing of pressure sensitive edges and pressure sensitive bars.

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directives.

Signed: 

Name: Matthew Mulholland
Position: Technical Director
Place: Newark
Date: March 2024

Specification

Maximum Gate Length: 2m (800kg) 5m (300kg)
Power Requirement: 230v, Single Phase, 50Hz, 5 Amps
Drive Motor: Roger Technology Smarty 5 or 7 Actuator
Opening/Closing time: 20 seconds (variable)
Duty Cycle: High intense use

Control: Push-button Open and close - Photocell/safety edges for safety. Dead man keyswitch on the Control panel

Made in the **UK**

Made using recycled paper

GB 2003/108/CE Directive for waste electrical and electronic Equipments

DISPOSE OF PROPERLY

ENVIRONMENT - NOXIOUS MATERIALS