

ELECTRO-PERMANENT MAGNETIC CLAMPING SYSTEM WITH CONTROL UNITS

Type BUR
Type BUR Pendulum
Type BUR-FR
Type BUR-FR Pendulum
Type BFR
Type BFR Pendulum
Type BUP
Type BUP Pendulum

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This manual is a document which must be kept easily available with your magnetic clamping system all along its life time. Please read it carefully before installing and using your magnetic clamping system. Thank you for purchasing your **BRAILLON MAGNETICS** magnetic clamping system. This system consists in :

- One electronic control unit.
- One or several Electro-Permanent Magnetic Chuck(s).
- One instruction manual.

1. STANDARDS

Our devices comply with the standards related to the Low Voltage Directive:
 EN 60204-1 Machinery safety – Electric Equipment, Part 1 : general claims.
 NF EN 50081-2 General Standard - Industrial Environment.
 NF EN 55014 Intermittent duty equipment.
 NF EN 50091-2 Industrial equipment with current rectification.

Used symbols:



Dangerous operation if not carried out properly



Danger for persons with cardiac pacemakers or magnetic implants



Operations requiring qualified operators

2. CONTROL UNITS

A magnetic chuck consists in one or several electrical loads, depending on its size. The control unit you have bought has been designed according to the total number of electrical loads to be energized. Our control units range is presented hereunder and is available in different voltage versions : 400VAC, 415VAC dual phases or 230VAC single phase, 50 or 60 Hz.

2.1 Operating principle

Control units type BUR / BUR P / BUR-FR / BUR-FR P are designed to magnetize and demagnetize Electro-Permanent magnetic chucks. These control units features a magnetic status check of the magnetic chucks in order to enable an outgoing safety signal for your machine PLC. This magnetic status check consists in voltage and current checks while magnetizing and demagnetizing.

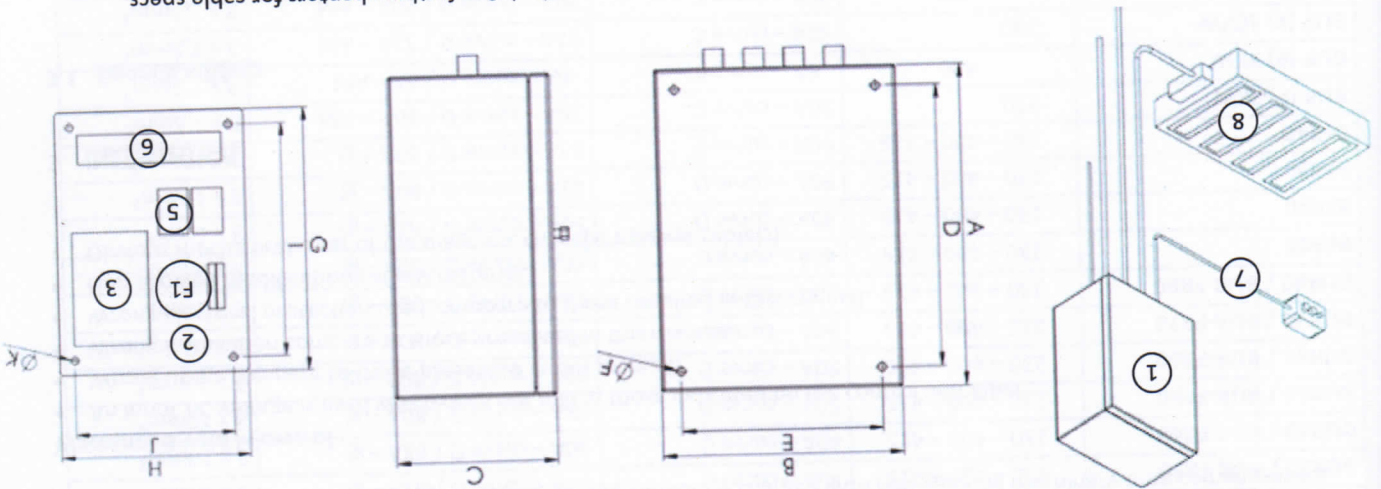
- Control unit **BUR10** or **BUR-FR10** is able to energize **one single** electrical load.
- Control unit **BUR20** or **BUR-FR20** is able to energize **2** electrical loads one after another.
- Control unit **BUR30** or **BUR-FR30** is able to energize **3** electrical loads one after another.
- Control unit **BUR40** or **BUR-FR40** is able to energize **4** electrical loads one after another.
- Control unit **BUR50** or **BUR-FR50** is able to energize **5** electrical loads one after another.
- Control unit **BUR60** or **BUR-FR60** is able to energize **6** electrical loads one after another.
- Control unit **BUR70** or **BUR-FR70** is able to energize **7** electrical loads one after another.
- Control unit **BUR80** or **BUR-FR80** is able to energize **8** electrical loads one after another.
- Control unit **BFR10** is able to energize **one single** electrical load.
- Control unit **BFR20** is able to energize **2** electrical loads one after another.
- Control unit **BFR30** is able to energize **3** electrical loads one after another.
- Control unit **BFR40** is able to energize **4** electrical loads one after another.
- Control unit **BUP** is able to energize **one single** electrical load.

Control units with **Pendulum (P)** option are able to energize two magnetic chucks groups independently. Within each group, magnetic chucks are energized one after another.

- Control unit **BUR10 P** or **BUR-FR10 P** is able to energize independently 2 electrical loads.
- Control unit **BUR20 P** or **BUR-FR20 P** is able to energize independently 2 groups of 2 electrical loads each.
- Control unit **BUR30 P** or **BUR-FR30 P** is able to energize independently 2 groups of 3 electrical loads each.
- Control unit **BUR40 P** or **BUR-FR40 P** is able to energize independently 2 groups of 4 electrical loads each.
- Control unit **BUR20 P** is able to energize independently 2 electrical loads.
- Control unit **BUR40 P** is able to energize independently 2 electrical loads.
- Control unit **BFR40 P** is able to energize independently 2 groups of 2 electrical loads each.
- Control unit **BUP P** is able to energize independently 2 electrical loads.

2.2 Magnetic Clamping System

- 1- Box with electronic bracket inside
- F1 - Circuit breaker
- 7- Wired remote control



- 2- Electronic bracket
- 3- Electronic module
- 5- Power relays
- 6- Main terminal block
- 8- Magnetic chuck(s) + cable(s)

Note: Power cable between your electrical grid and your control unit is not supplied. See further chapters for cable specs.

2.3 Control units dimensional features

Control unit type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	Weight (kg)
BUR10 / BUR-FR10	400	300	150	355	255	10	345	270	325	225	10	10
BUR20 / BUR-FR20	400	300	200	355	255	10	345	270	325	225	10	12
BUR30 / BUR-FR30	400	300	200	355	255	10	345	270	325	225	10	13
BUR40 / BUR-FR40	500	400	200	455	355	10	445	350	425	325	10	21
BUR50 / BUR-FR50	500	400	200	455	355	10	445	350	425	325	10	22
BUR60 / BUR-FR60	500	400	200	455	355	10	445	350	425	325	10	22
BUR70 / BUR-FR70	500	400	200	455	355	10	445	350	425	325	10	23
BUR80 / BUR-FR80	600	500	200	555	455	10	545	450	525	425	10	25
BFR10	400	300	200	355	255	10	345	270	325	225	10	14
BFR20	500	400	200	455	355	10	445	350	425	325	10	17
BFR30	600	500	200	555	455	10	545	450	525	425	10	19
BFR40	600	500	200	555	455	10	545	450	525	425	10	20
BUP 3KW	400	300	150	355	255	10	345	270	325	225	10	10
BUP 10KW à 70KW	400	300	200	355	255	10	345	270	325	225	10	14
BUR10 P / BUR-FR10 P	400	300	200	355	255	10	345	270	325	225	10	12
BUR20 P / BUR-FR20 P	500	400	200	455	355	10	445	350	425	325	10	21
BUR30 P / BUR-FR30 P	500	400	200	455	355	10	445	350	425	325	10	22
BUR40 P / BUR-FR40 P	600	500	200	555	455	10	545	450	525	425	10	25
BFR20 P	500	400	200	455	355	10	445	350	425	325	10	17
BFR40 P	600	500	200	555	455	10	545	450	525	425	10	20
BUP P	500	400	200	455	355	10	445	350	425	325	10	14



- On the remote control terminal block, connect the control enabling machine PLC output (dry contact free of potential) on terminals 4 and 5. It let the machine PLC enable or disable the control unit remote control, depending on the machine PLC safety strategy. (See wiring schemes in the appendices chapter). Supplied voltage from the control unit = 24VDC.
- Remote control disabled: Opened contact.
- Remote control enabled: Closed contact.
- On main terminal block 6 :
 - Connect chucks cables on terminals 46i and 47i. See wiring schemes in the appendices chapter.
 - Interlock contact: connect the machine PLC safety input to terminals 23 and 24 (See wiring schemes in the appendices chapter). Max voltage allowed = 24V. Max current allowed = 0,25A.
 - Chuck(s) non magnetized: Opened contact.
 - Chuck(s) magnetized: Closed contact.

CONTROL UNIT TYPE	MAINS VOLTAGE	F1 CIRCUIT BREAKER TYPE	REQUIRED MAINS CIRCUIT BREAKER OR FUSE	MAINS CABLE
BUR10 / BUR-FR10	230 - 400 - 415	32A - curve C	32A - curve D / 40A - gl	3 x 4mm ²
BUR20 / BUR-FR20	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BUR30 / BUR-FR30	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BUR40 / BUR-FR40	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 10mm ²
BUR50 / BUR-FR50	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUR60 / BUR-FR60	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUR70 / BUR-FR70	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUR80 / BUR-FR80	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BFR10	230 - 400 - 415	40A - curve C	40A - curve D / 50A - gl	3 x 6mm ²
BFR20	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BFR30	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BFR40	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUP (P) 3KW	400	6A - curve C	6A - curve D / 6A - AM	3 x 2,5mm ²
BUP (P) 10KW	230	20A - curve C	20A - curve D / 20A - AM	3 x 2,5mm ²
BUP (P) 15KW	230	40A - curve C	40A - curve D / 40A - AM	3 x 4mm ²
BUP (P) 15KW	400	20A - curve C	20A - curve D / 20A - AM	3 x 2,5mm ²
BUP (P) 15KW	400	40A - curve C	40A - curve D / 40A - AM	3 x 4mm ²
BUP (P) 25KW	230	63A - curve C	63A - curve D / 63A - AM	3 x 6mm ²
BUP (P) 25KW	400	40A - curve C	40A - curve D / 40A - AM	3 x 4mm ²
BUP (P) 35KW	230	80A - curve C	80A - curve D / 80A - AM	3 x 10mm ²
BUP (P) 35KW	400	63A - curve C	63A - curve D / 63A - AM	3 x 6mm ²
BUP (P) 50KW	400	80A - curve C	80A - curve D / 80A - AM	3 x 10mm ²
BUP (P) 70KW	400	80A - curve C	80A - curve D / 80A - AM	3 x 10mm ²
BUR10 P / BUR-FR10 P	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BUR20 P / BUR-FR20 P	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 10mm ²
BUR30 P / BUR-FR30 P	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUR40 P / BUR-FR40 P	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²
BUR20 P	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BUR40 P	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 10mm ²
BFR20 P	230 - 400 - 415	40A - curve D	50A - curve D / 63A - gl	3 x 6mm ²
BFR40 P	230 - 400 - 415	50A - curve D	63A - curve D / 80A - gl	3 x 10mm ²

Table 1 : Required electrical protections



- Make sure the remote control cable is far from high voltage sources. If high voltage sources cannot be avoided and if the remote control is longer than 10m, use a protection shield.
- In case of several control units connected to the same mains line, use different pairs of phases (R / S / T) for each control unit.



4. USING A MAGNETIC CLAMPING SYSTEM

4.1 Safety

Human body is non affected by the magnetic flux generated by magnetic chucks. Anyway, make sure you have the following advises in mind :

- Operators with cardiac pacemakers must stand at least 1 meter away from the magnetic chuck while magnetizing or demagnetizing.



- Mechanical Injury risks exist if the magnetic chuck is magnetized without a work piece on its active surface.



Magnetic chucks are safe and secured when they are demagnetized. However when magnetic chucks are magnetized :

- Make sure any watches, credit cards, data storage devices are at least 50cm far from the chuck's active surface.



- Every control unit and magnetic chuck modification must be handled by qualified operators. In case of doubt, please contact us.



- In order to prevent the magnetic clamping system from overheating, we strongly recommended to wait for 3 minutes between each magnetizing or demagnetizing sequences.

4.2 Control units operating principle

BUR / BUP : These control units are able to energize full demagnetization Electro-Permanent magnetic chuck(s). It can remove residual magnetism from both magnetic chuck and work pieces. Demagnetization cycle can last several seconds per electrical load, depending on the magnetic chuck type.

BUR-FR / BFR : These control units are able to energize compensated Electro-Permanent magnetic chuck(s). Demagnetization cycle is achieved within one second per electrical load. Some residual magnetism may remain in the work piece.

Pendulum Pendulum option make possible to magnetize and de-magnetize electrical loads into 2 independent and identical chucks groups.

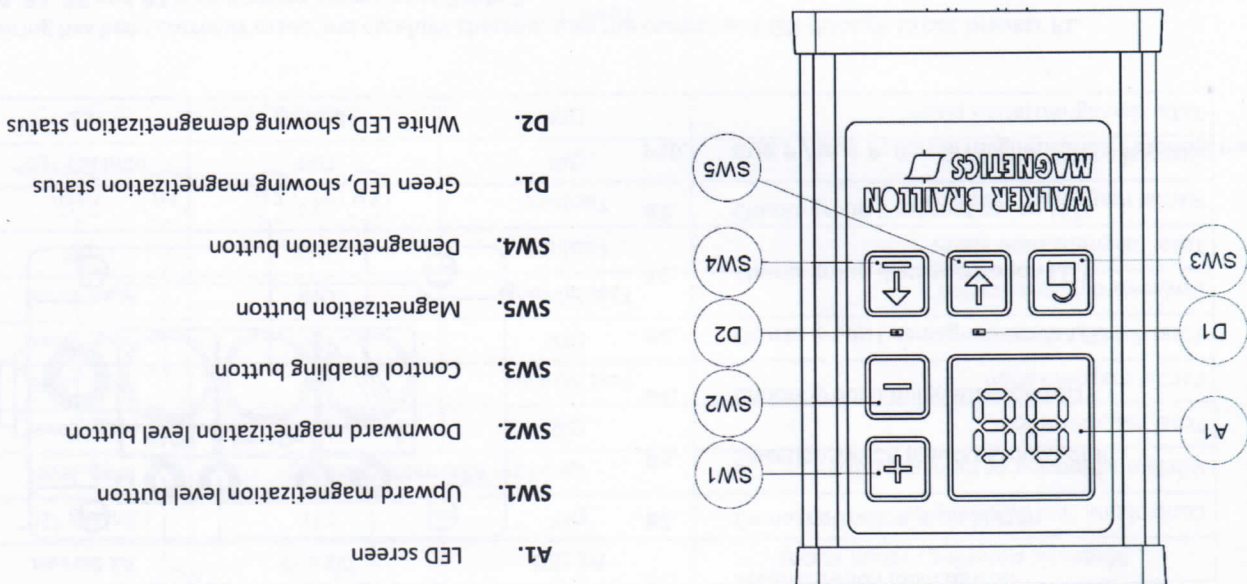
- Push simultaneously **SW3** and **SW4** buttons for 0.5 seconds.
- **A1** screen, **D1** and **D2** LEDs will indicate the result of the magnetization sequence according to **Table 2**.
- If no error has been detected, control unit interlock contact gets opened and work pieces are ready to be unloaded from the chuck.

DEMAGNETISATION:

- Make sure that the chuck's magnetic surface and the work piece are cleaned properly.
- Make sure that there is no pollution between the chuck's active surface and the work piece.
- Position the work piece onto the chuck's active surface.
- Set the magnetisation level you want through **SW1** and **SW2** buttons. Chosen level will be displayed on **A1** screen.
- **Note 1:** « 0 » means the minimum magnetisation possible and « 20 » means the maximum magnetisation possible.
- **Note 2:** For special applications, the partial magnetization function can be disabled. In that case, **A1** will indicate "20". Any actions through **SW1** and **SW2** buttons won't change the "20" value. Only total magnetization will be available.
- Push simultaneously **SW3** and **SW5** buttons for 0.5 seconds.
- **A1** screen, **D1** and **D2** LEDs will indicate the result of the magnetization sequence according to **Table 2**.
- Note: While magnetizing or demagnetizing, **D1** and **D2** LEDs blink until the magnetization or demagnetization cycle is over.
- If the magnetisation level reached is satisfying and match the safety threshold set (see chapter « settings »), the control unit interlock contact (terminals **23** and **24**) gets closed. Magnetisation sequence is over.
- If the magnetisation level reached is non satisfying and does not match the safety threshold set (see chapter « settings »), the control unit interlock contact (terminals **23** and **24**) stay opened. Increase the magnetisation level and start another magnetization sequence until you reach a satisfying magnetization level. Magnetisation sequence is over.
- **Note 3:** To go back to a lower magnetization level, start a demagnetization sequence first (see chapter "DEMAGNETIZATION") and then run a magnetization sequence with a lower magnetization value set through **SW1** and **SW2** buttons.

TOTAL AND PARTIAL MAGNETIZATION:

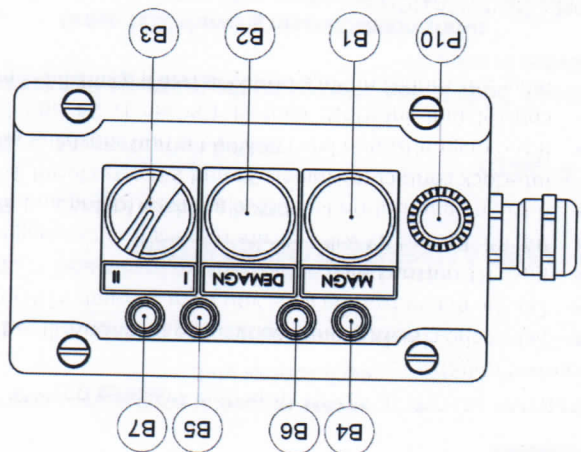
Once wiring has been correctly made and carefully checked, turn the control unit ON through circuit breaker **F1**. **A1** screen start blinking and indicating "20".



4.3 Control Unit type BUR / BUR-FR / BFR / BUP: Using the T10 remote control

4.4 Control Unit type BUR / BUR-FR / BFR / BUP: Using the T1 remote control

- B1. Magnetization push button
- B2. Demagnetization push button
- B3. Selection switch (chucks group I or II)
- B4. Chucks group I magnetization LED
- B6. Chucks group I demagnetization LED
- B5. Chucks group II magnetization LED
- B7. Chucks group II magnetization LED
- P10. BUR P / BUP P: Partial magnetization Potential meter



Once wiring has been correctly made and carefully checked, turn the control unit ON through circuit breaker F1. LEDs B4, B5, B6 and B7 start blinking according to Table 3.

- Make sure that the chuck's magnetic surface and the work pieces are cleaned properly.
- Make sure that there is no pollution between the chuck's active surface and the work pieces.
- Position the work pieces onto the chuck's active surface.

TOTAL MAGNETIZATION:

- Select the chucks group you want to magnetize (I or II) through B3 selection switch.
- Push B1 button once.
- B4, B5, B6 and B7 will indicate the result of the magnetization sequence according to Table 3 for the selected chucks group.
- If the magnetisation level reached is satisfying and match the safety threshold set (see chapter « settings »), the control unit interlock contact (terminals 23 and 24) gets closed. Magnetisation sequence is over.

PARTIAL MAGNETIZATION (function available on BUR P and BUP P control units, available as an option for BUR-FR and BFR control units):

- Select the chucks group you want to magnetize (I or II) through B3 selection switch.
- Set the magnetization level you want through P10 potential meter.
- Push B1 button twice.
- B4, B5, B6 and B7 will indicate the result of the magnetization sequence according to Table 3 for the selected chucks group.
- If the magnetisation level reached is satisfying and match the safety threshold set (see chapter « settings »), the control unit interlock contact (terminals 23 and 24) gets closed. Magnetisation sequence is over.
- If the magnetisation level reached is non satisfying and does not match the safety threshold set (see chapter « settings »), the control unit interlock contact (terminals 23 and 24) stay opened. Increase the magnetisation level and start another magnetisation sequence until you reach a satisfying magnetization level. Magnetisation sequence is over.

DEMAGNETISATION :

- Select the chucks group you want to demagnetize (I or II) through B3 selection switch.
- Push B2 button once.
- B4, B5, B6 and B7 will indicate the result of the demagnetization sequence according to Table 3 for the selected chucks group.
- If no error has been detected, control unit interlock contact gets opened and work pieces are ready to be unloaded from the chuck.

Blinking type	LED ON duration	LED OFF duration
Flash	0.1 seconds	0.9 seconds
Very fast	0.1 seconds	0.1 seconds
Fast	0.5 seconds	0.5 seconds
Standard	1 second	1 second

Table 4: LEDs Signals specifications on T10 and T1 remote controls.

Magnetic clamping system status	B4 LED	B6 LED	B5 LED	B7 LED
Control unit first switching on	Blinking	Blinking	Blinking	Blinking
While magnetizing or demagnetizing	Very Fast Alternative blinking	Very Fast Alternative blinking	Very Fast Alternative blinking	Very Fast Alternative blinking
Total magnetization	ON	OFF	ON	OFF
Partial magnetization	Fast blinking	OFF	Fast blinking	OFF
Total demagnetization	OFF	ON	OFF	ON
Downward magnetization	Fast blinking	OFF	Fast blinking	OFF
Total magnetisation alarm	Fast blinking	Flashing	Fast blinking	Flashing
Partial magnetization alarm	Fast blinking	Flashing	Fast blinking	Flashing
General control unit error	Simultaneous flashing	Simultaneous flashing	Simultaneous flashing	Simultaneous flashing
Total demagnetisation alarm	OFF	OFF	OFF	Flashing

Table 3: Summary of the correspondences between the various states of the magnetic system and the states of the LEDs and screen on T1 remote.
Note: LEDs B4 and B6 = chucks group I
Note: LEDs B5 and B7 = chucks group II

Magnetic clamping system status	D1 LED	D2 LED	A1 Screen
Control unit first switching on	OFF	OFF	Blinking "20"
While magnetizing or demagnetizing	Very Fast Alternative blinking	Very Fast Alternative blinking	Mag. level
Total magnetization	ON	OFF	Mag. Level
Partial magnetization	Fast blinking	OFF	Mag. Level
Total demagnetization	OFF	ON	Mag. Level
Downward magnetization	Fast blinking	OFF	Mag. Level
Total magnetization alarm	Flashing	OFF	"L0"
Partial magnetization alarm	Flashing	OFF	"L0"
General control unit error	OFF	OFF	Blinking "E0"
Total demagnetization alarm	OFF	Flashing	"E1"

Table 2: Summary of the correspondences between the various states of the magnetic system and the states of the LEDs and screen on T10 remote control.

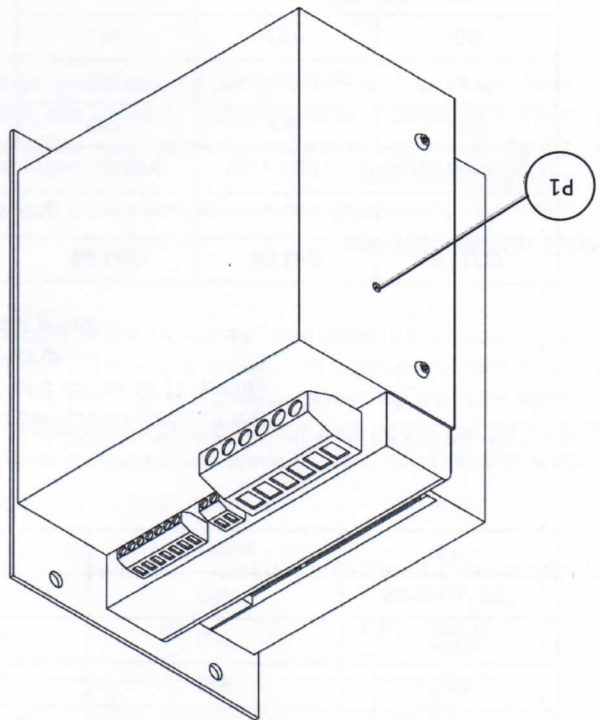
4.5 Settings: safety threshold

Each control unit is adjusted and inspected individually prior to dispatch. The factory settings take everyday usage into account and suit most applications. However, you may wish to adjust the magnetization (current) threshold setting.

The magnetization threshold represents the minimum magnetic force you deem adequate to work safely. This value is detected by measuring the current when magnetizing your magnetic chuck. The interlock contact closes and the when the magnetization threshold is reached and allows your machine to start.



There is no linear relation between magnetic force and magnetisation level on A1 screen. Indeed a small variation of level magnetisation can make a bigger difference of magnetic force.



- Electronic Module for :**
- BUR(-FR) 20 to 80
 - BUR(-FR) 10 P to 40 P
 - BFR 10 to 40
 - BFR 20 P to 40 P
 - BUP 10 KW to 70 KW

- Electronic Module for :**
- BUR10
 - BUR-FR10
 - BUP 3 KW 400VAC
 - BUP 1.7 KW 230VAC

Potentiometer P1 is used for setting the threshold:

- Clockwise rotation: increase magnetisation threshold
- Anti-clockwise rotation: decrease magnetisation threshold.

5. TROUBLE SHOOTING

Checks	Failures
<ul style="list-style-type: none"> • Check the status of the power supply. • Check the status of the F1 circuit-breaker and fuses on the circuit boards. • Check the supply voltage of the MC96 board at the transformer TR output, 18VAC, J6 connector. 	<p>'At first switching ON, The light indicators of the remote control and the red led of the PC board of the control unit do not light on'</p>
<ul style="list-style-type: none"> • Check the earth insulation of chuck (see attached wiring diagram). • Check the internal resistance of chuck (chuck disconnected) (see attached wiring diagram). • Check the thyristors (bridges) and the diodes. • If magnetic chucks are fitted with quick connectors, check there're no damages outside or humidity inside. If needed, let it get dry. 	<p>'The circuit breaker trips during the magnetization/demagnetization cycle.'</p>
<ul style="list-style-type: none"> • Check that the remote control is well connected to the electronic module. 	<p>'At first switching ON, The light indicators of the T10 remote control and the red led of the PC board of the control unit light on'</p>
<ul style="list-style-type: none"> • Check that the remote control is well connected to the electronic module. • Check the lamps and replace them if necessary by identical ones. 	<p>'At first switching ON, The light indicators of the T1 remote control and the red led of the PC board of the control unit light on'</p>
<ul style="list-style-type: none"> • Check frequency stability (typical case of generating sets). • Check the status of the RS1 interlock relay on the power board. • Switch the circuit-breaker off and on again. 	<p>T10 remote control: 'A1 screen indicates « E0 » OR T1 remote control: 'LEDs simultaneously blink very fast.'</p>
<ul style="list-style-type: none"> • Check that the chuck's active surface is in a good shape. If needed of you can re-grind it. Ask us to know the maximum wear distance of your magnetic chuck. 	<p>'Magnetic force is decreasing slowly'</p>
<ul style="list-style-type: none"> • Check that the magnetic chuck is properly connected to terminals 46 and 47, J9 connector. • Check if the cycle is running properly by means of an oscilloscope at terminals 46 and 47, J9 connector. • During the cycle, you must measure one pulse (the amplitude corresponds to the setting of potentiometer P10). 	<p>'No holding force after a magnetization cycle and the green light indicator flashes.' 'No release after a demagnetization cycle and the white light indicator flashes'</p>
	<p>T10 remote control : 'A1 screen indicates « E1 »'</p>

6. PREVENTIVE MAINTENANCE



- Check that all terminals inside the control unit are well screwed.
- Check that the chuck's active surface is in a good shape. If needed you can re-grind it. Ask us to know the maximum wear distance of your magnetic chuck.

7. DISASSEMBLY

7.1 Temporary disassembly



- Turn the control unit off.
- Disconnect the control unit from the mains, clean it, pack it and store it in a safe place.
- Disconnect magnetic chuck's power supply cable(s) from the control unit.
- Remove the magnetic chuck from the machine table, clean it, pack it and store it in a safe place.
- Control units and magnetic chucks must be stored in a dry place, with an ambient temperature between 0 and 40°C.

7.2 Definitive disassembly

Some basic environmental safety advices:

- Plastic and non ferrous parts must be scrapped separately.
- Electrical components in a good shape can be recycled.

8. ESSENTIAL SPARE PARTS

Below is the list of spare parts we recommend to keep in your stock to allow a quick repair.

- Electronic module
- Interlock contact safety relay
- Circuit breaker F1
- Power relays

-
BRAILLON MAGNETICS
FINDER

ZRT 24VDC
See table 1
See table 5

SCHNEIDER ELECTRIC* / FINDER** / OMERON***

Table 5:

Power relays references.

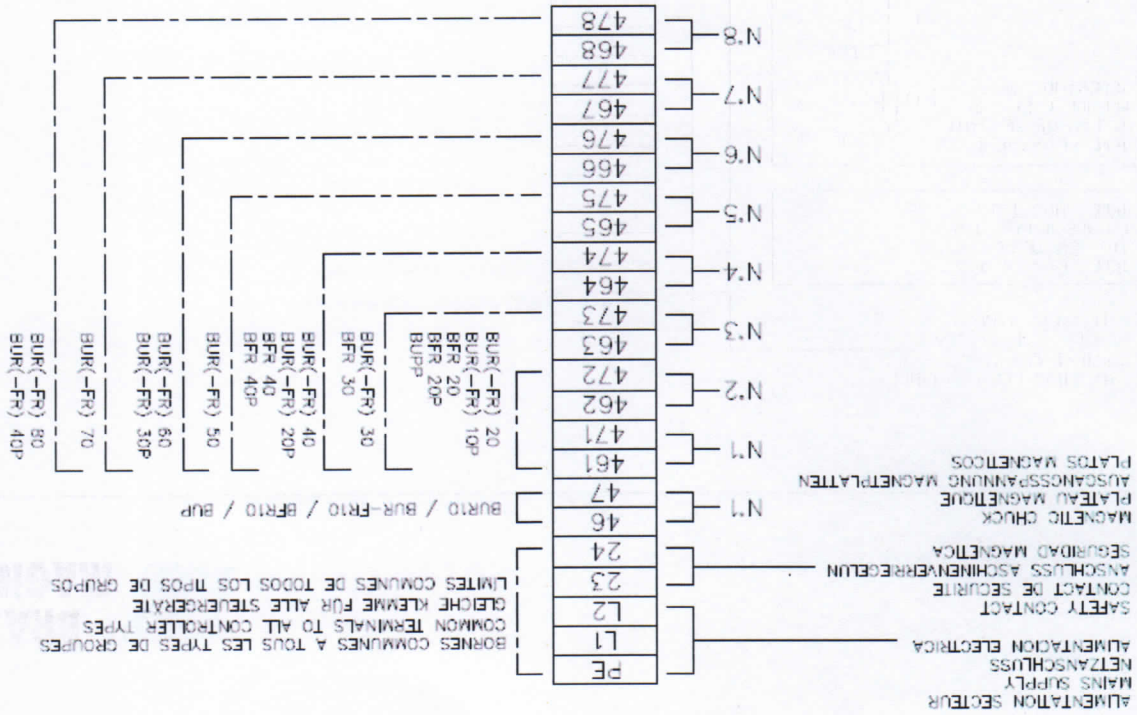
CONTROL UNIT TYPE	MAINS VOLTAGE	REFERENCE
BUR10 / BUR-FR10	230 - 400 - 415	-
BUR20 / BUR-FR20	230 - 400 - 415	-
BUR30 / BUR-FR30	230 - 400 - 415	-
BUR40 / BUR-FR40	230 - 00 - 415	-
BUR50 / BUR-FR50	230 - 400 - 415	-
BUR60 / BUR-FR60	230 - 400 - 415	-
BUR70 / BUR-FR70	230 - 400 - 415	-
BUR80 / BUR-FR80	230 - 400 - 415	-
BUR10 P / BUR-FR10 P	230 - 400 - 415	-
BUR20 P / BUR-FR20 P	230 - 400 - 415	-
BUR30 P / BUR-FR30 P	230 - 400 - 415	-
BUR40 P / BUR-FR40 P	230 - 400 - 415	-
BUR10	230 - 400 - 415	-
BUR20	230 - 400 - 415	-
BUR30	230 - 400 - 415	-
BUR30 P / BUR-FR30 P	230 - 400 - 415	-
BUR40 P / BUR-FR40 P	230 - 400 - 415	-
BUR40 P	230 - 400 - 415	-
BUR10	230 - 400 - 415	-
BUR20	230 - 400 - 415	-
BUR30	230 - 400 - 415	-

CONTROL UNIT TYPE	MAINS VOLTAGE	REFERENCE
BFR40	230 - 400 - 415	LC1D09BL *
BUP (P) 3KW	230	LY2USV24DC *** Ou 563290240040 **
BUP (P) 3KW	400	-
BUP (P) 10KW	230	LC1D12BL *
BUP (P) 10KW	400	LY2USV24DC *** Ou 563290240040 **
BUP (P) 15KW	230	LC1D18BL *
BUP (P) 15KW	400	LC1D12BL *
BUP (P) 25KW	230	LC1D18BL *
BUP (P) 25KW	400	LC1D18BL *
BUP (P) 35KW	230	LC1D25BL *
BUP (P) 35KW	400	LC1D18BL *
BUP (P) 50KW	400	LC1D25BL *
BUP (P) 70KW	400	LC1D25BL *
BFR20 P	230 - 400 - 415	LC1D09BL *
BFR40 P	230 - 400 - 415	LC1D09BL *

BRAILLON MAGNETICS

SCHEMA DE BRANCHEMENT
WIRING DIAGRAM
ZUSAMMENSTELLUNGÄRTE
PARTE MANDOS

Nº E05-20-077
02/04/2010

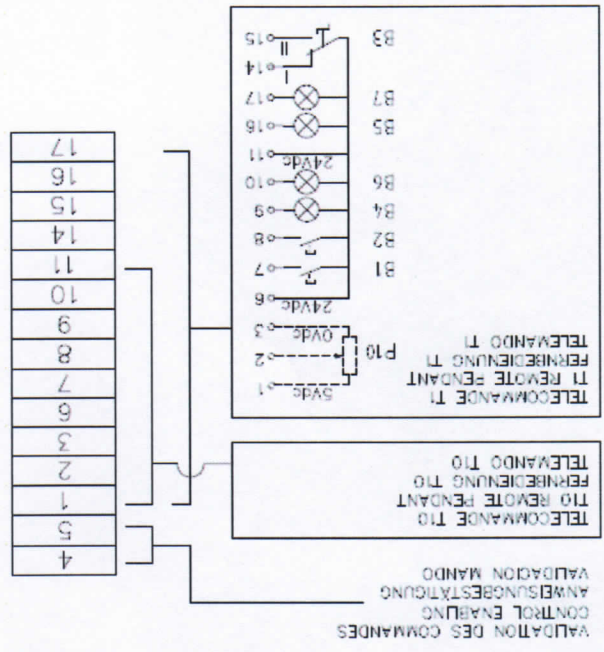


ALIMENTATION SECTEUR
MANS SUPPLY
NETZANSCHLUSS
AUMENTACION ELECTRICA
SAFETY CONTACT
CONTACT DE SECURITE
ANSCHLUSS ASCHNITTVERREGELUN
SEGURIDAD MAGNETICA
MAGNETIC CHUCK
PLATEAU MAGNETIQUE
AUSGANGSBAHNUNG MAGNETPLATTEN
PLATOS MAGNETICOS

BOURNES COMMUNES A TOUTS LES TYPES DE GROUPES
GLEICHE KLEMMEN FÜR ALLE STEUERGERÄTE
LIMITES COMMUNES DE TOUTS LES TYPES DE GROUPES

BUR10 / BUR-FR10 / BFR10 / BUP

BURK-FR) 20
BURK-FR) 10P
BFR 20P
BUPP
BURK-FR) 30
BFR 30
BURK-FR) 40
BURK-FR) 20P
BFR 40
BFR 40P
BURK-FR) 50
BURK-FR) 60
BURK-FR) 30P
BURK-FR) 70
BURK-FR) 80
BURK-FR) 40P



VADATION DES COMMANDES
ANWEISUNGSESTÄTIGUNG
CONTROL ENABLING
VADACION MANDO

TELECOMMANDE T10
TELECOMMANDE T1
FERNBEDIENUNG T10
FERNBEDIENUNG T1
TELEMANDO T10
TELEMANDO T1

TELECOMMANDE T10
TELECOMMANDE T1
FERNBEDIENUNG T10
FERNBEDIENUNG T1
TELEMANDO T10
TELEMANDO T1

VADATION DES COMMANDES
ANWEISUNGSESTÄTIGUNG
CONTROL ENABLING
VADACION MANDO