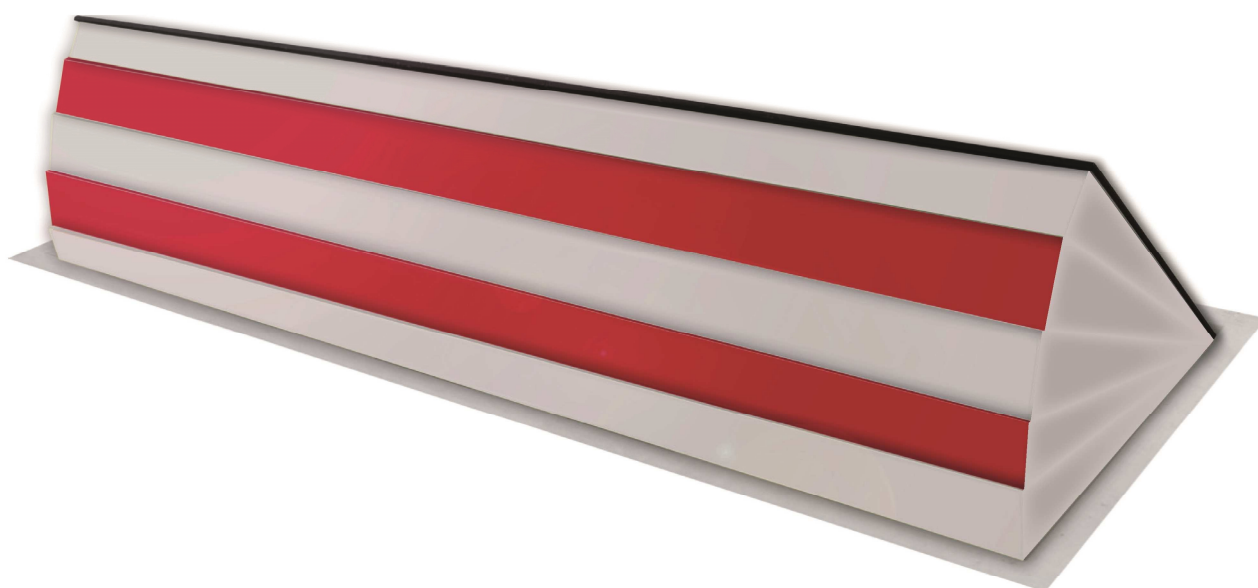

PILOMAT[®]

PILOMAT ROAD BLOCKER RB 1.000

CODE: PW1000X000

TECHNICAL INSTRUCTIONS



WARNINGS FOR THE INSTALLER – GENERAL SAFETY OBLIGATIONS

	ATTENTION! It is very important for the safety of people to follow all instructions strictly. A wrong installation or use of the product could cause serious damage to people.	17	Each automatic installation should have at least one lighting device (i.e: flashing lights integrated in the crosshead of the bollard) and a signal placard, along with the device quoted at point "16"
2	<u>Read carefully this manual</u> before starting installation and save it for future reference.	18	In each automatic installation the installer must consider and install appropriate safety devices.
3	Packaging materials (i.e. plastic, polystyrene, etc.) must be out of children's reach, because potentially dangerous.	19	For maintenance works use only original parts supplied by Pilomat S.r.l.
4	This product has been designed and manufactured exclusively on the purpose indicated in this manual. Any different use not here indicated could damage the integrity of the product and/or be potentially dangerous.	20	Pilomat S.r.l. is not responsible for safety and good functioning of the product, in case of use of components not manufactured or distributed by Pilomat S.r.l.
5	Pilomat S.r.l. is not responsible for any damage caused by improper or different use from the indicated one.	21	Do not apply any modification to the parts composing the automated product PILOMAT.
6	Do not install the device in an explosive area: Using Inflammable gases could be not safe.	22	The installer must provide the Customer with all information related to the manual release of the automatic bollard in case of emergency and give the User a warning manual attached to the product.
7	Installation must be according to the local Laws.	23	Do not allow children or others to stop close to the bollard during operation.
8	In order to have an adequate safety level in the extra-CEE countries, in addition to the national laws, the abovementioned laws must be followed.	24	Keep remote controls or other impulse-giving devices out of children's reach, in order to avoid involuntary activation.
9	Pilomat S.r.l. is not responsible if someone does not observe the correct method of installation of the PILOMAT products and related devices, included deformations coming during the use.	25	Thoroughfare over the Pilomat bollard allowed only at complete lowering of the bollard.
10	Before any actions on the automatic installations take power off.	26	Semiautomatic bollards are not advisable for multiple installation (two or more) on main streets where the frequent passage of vehicles over the lowered bollards can break the lock block and make the bollard lifting without control.
11	An Omni polar switch should be foreseen on the alimentation's net of automatic installations. Its connections should have an opening range of 3 mm. A magnetothermal differential with 6A Omni polar switch is advisable	27	The User must avoid any repairing actions or direct operations on the bollard, and must address to qualified and authorized personnel only.
12	Assure that a differential switch with 0,03A is present at the beginning of the automatic installation.	28	Do not waste exhausted batteries in the garbage, but dispose them in the appropriate containers to allow recycling. Disposal costs have already been paid by the manufacturer
13	The main electrical alimentation of the control unit of automatic installations must be connected directly to at the beginning of the appropriate principal switch set inside the control unit; use anti-flame cables approved by at least one of the European Institutes. The dimension of the first alimentation line must be minimum 3x2,5mm, but evaluated by the installer according to the number of PILOMAT (400W each PILOMAT) and the distance from the output point in order to guarantee a correct alimentation (230V +/- 10% for moving PILOMAT).	29	The product is packaged on Euro pallet; use pallets' movers or shunters for movement; handle with care.
14	Test that the earthing is workmanlike and connect the metallic parts.	30	The product has been manufactured with IP 56 protection's level, and could therefore be stored everywhere; storage in internal or covered places is anyway preferable.
15	The automatic installations include a standard safety device: an inversion pressure switch in case of at least 40 kg of load. It is anyway necessary to test the activation level every six months, according to what laws establish.	31	The product does not require availability of spare parts; Pilomat's warehouse can send by express any needed spare parts.
16	Safety devices (Law EN 12978) allow protection of potentially dangerous areas where activities such as squashing, conveyance, shearing are possible to occur.	32	In case of maintenance and/or reparation, Pay attention not to give improper raising signals; to avoid any problems, disconnect the bollard's moving by the switch set inside the control management station.
		33	Everything not mentioned in this manual is not allowed.

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PRODUCER COMPLIANCE DECLARATION:

2006/42/EC - 2006/95/EC – 2004/108/EC

Producer: PILOMAT S.r.l.

Address: Via Zanica 17/P Grassobbio (BG – ITALY)

We state under our exclusive responsibility that the product

PILOMAT ROAD BLOCKER RB 1.000 - CODE: PW1000X000

LINE NUMBER:

Is built to be integrated into a machine or to be assembled with other machinery to create a machine under the provision of Directive 2006/42/EC

Conforms to the essential safety requirements of the following EEC directives:

- 2006/95/EC Low voltage directive
- 2004/108/EC Electromagnetic compatibility directive

And also declares that it is prohibited to put into service the machinery until the machine in which it will be integrated or of which it will become a component has been identified and declares as conforming to the conditions of Directive 2006/42/EC and subsequent amendments.

Grassobbio (BG – ITALY) 25.09.2014

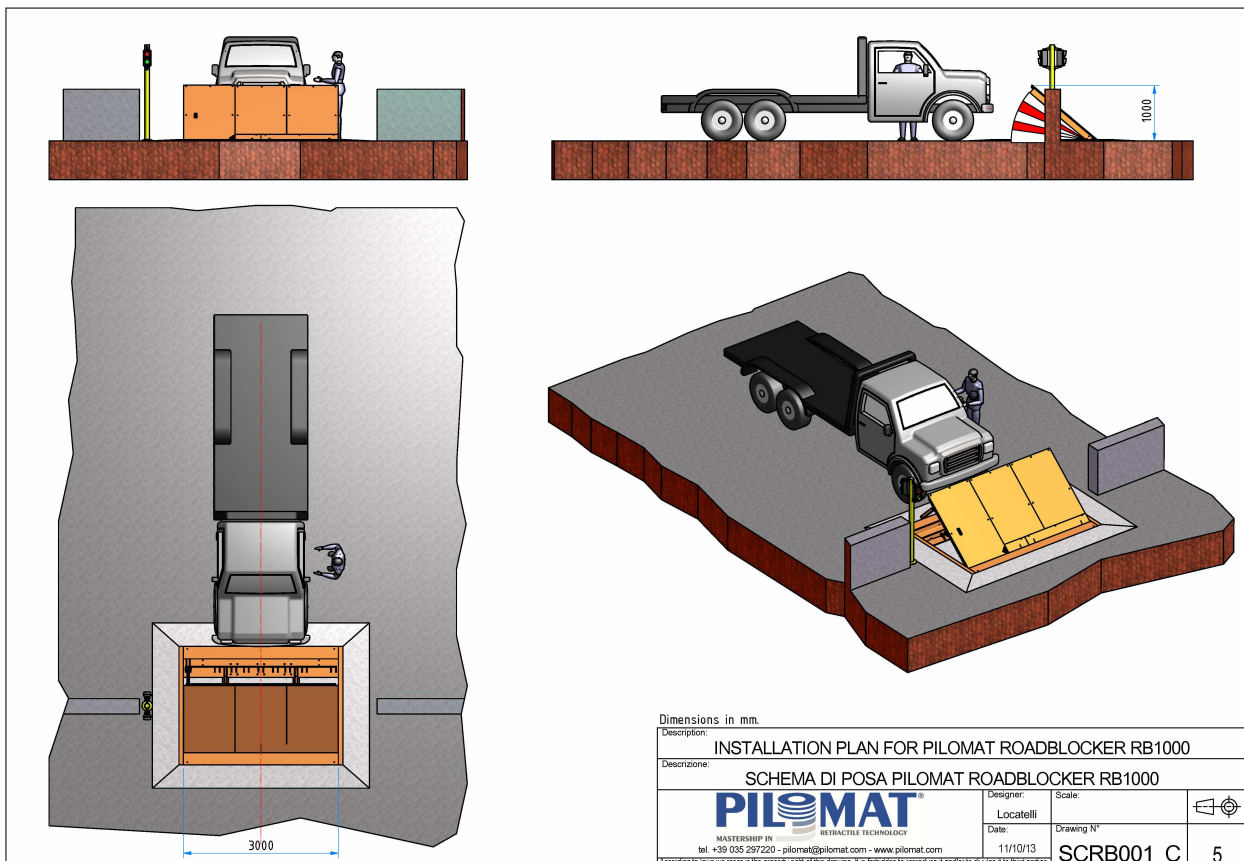
Technical Manager
Sergio P.i. Toffetti

PILOMAT ROAD BLOCKER RB 1.000

AUTOMATIC WITH BUILT-IN HYDRAULIC PUMP

DATASHEET RB 1.000

PLATFORM HEIGHT FROM THE GOUND	1.000 mm
PLATFORM LENGTH	STANDARD: 2,00m – 3,00m – 4,00m (non-standard sizes evaluable)
BREAKOUT RESISTANCE	2.000.000 J. – Certified PAS68 level /V7500(N3)/80 (truck 7.500Kg – impact 80Km/h) Complied ASTM level M50 (truck 6.800Kg – impact 80Km/h)
USED MOVEMENT	HYDRAULIC
RISING SPEED	STANDARD 8" (FASTER SPEED AVAILABLE)
LOWERING SPEED	STANDARD 8" (FASTER SPEED AVAILABLE)
E.F.O CIRCUIT FOR EMERGENCY RISING	YES (OPTIONAL) – RISING SPEED 1,5"
DEVICE FOR MANUAL HANDLING	YES (OPTIONAL)
MULTILED FLASHING LIGHT (30 LED POINTS/M)	YES (OPTIONAL)
METAL SHUTTER FOR CLOSING FRONT AND SIDE	YES (OPTIONAL)
PLATFORM FINISH	ALUMINIUM ANTISLIP METAL SHEET– OPTIONAL ANTISLIP STAINLESS STEEL
CLASS OF LOAD	REGULATION U.N.I. - D400
LAYING DEPTH	500mm
TYPE OF USE	INTENSIVE
POWER CONSUPTION	230V – 50/60HZ – 12amps
HOSE LENGTH	STANDARD 10m (UP TO MAX. 80m)
STANDARD CABINET	1.400mm HIGH X 800mm WIDE X 300mm DEEP





Esteemed
PILOMAT s.r.l.
Via Zanica, 17/P
24050 Grassobbio (Bg) Italy.

Attention: *Mrs Alessandra Acerbis*

Rome, September 09, 2014

On September 02, 2014 at Aisico s.r.l. Test Laboratory were performed a test, based on the Reference Standard PAS 68:2013 on the product PILOMAT ROAD BLOCKER RB1000.

The PILOMAT ROAD BLOCKER RB1000, a road blocker, has received an impact rating of N3 Test Level to the center of the road blocker.

The N3 test level of the PAS68:2013 is evaluated using a 7,500 kg test vehicle travelling at a nominal speed of 80 km/h.

Description of the damages:

- **Test Vehicle:** The PILOMAT ROAD BLOCKER RB1000 completely disabled the test vehicle causing severe damage to the chassis and drivetrain. The maximum penetration was recorded dynamically on the passenger's side of the vehicle and it was 0.2 m.
- **PILOMAT ROAD BLOCKER RB1000:** The PILOMAT ROAD BLOCKER RB1000 sustained damage as result of the impact. The road blocker and foundation shifted, causing the road blocker to lean 10.0° in the direction of vehicle travel. Single item having a mass above of 25 kg, which, as a consequence of the impact has been entirely detached from the road blocker and has been projected beyond the original position of the road blocker for 10 m. The vehicle path remained blocked during and after the impact.

The performance classification of the PILOMAT ROAD BLOCKER RB1000 road blocker is: **PAS68:2013 Road Blocker V/7500(N3)/80/90:0.2/10.**

Complete information relating to the test can be found in report number **PAS68/010/14** and DVD serial number **PAS68/010/14** from AISICO Srl, including test conditions, test vehicle information, test article specifications, manufacturer drawings and any deviations from the drawings in the as tested configuration.

This letter should not be considered complete documentation of this test without consideration of the test report and deliverable DVD.

Best Regards.

Test House Director
Ing. Stefano Caramani

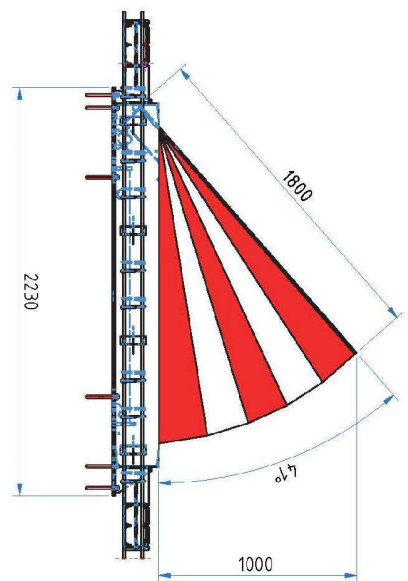
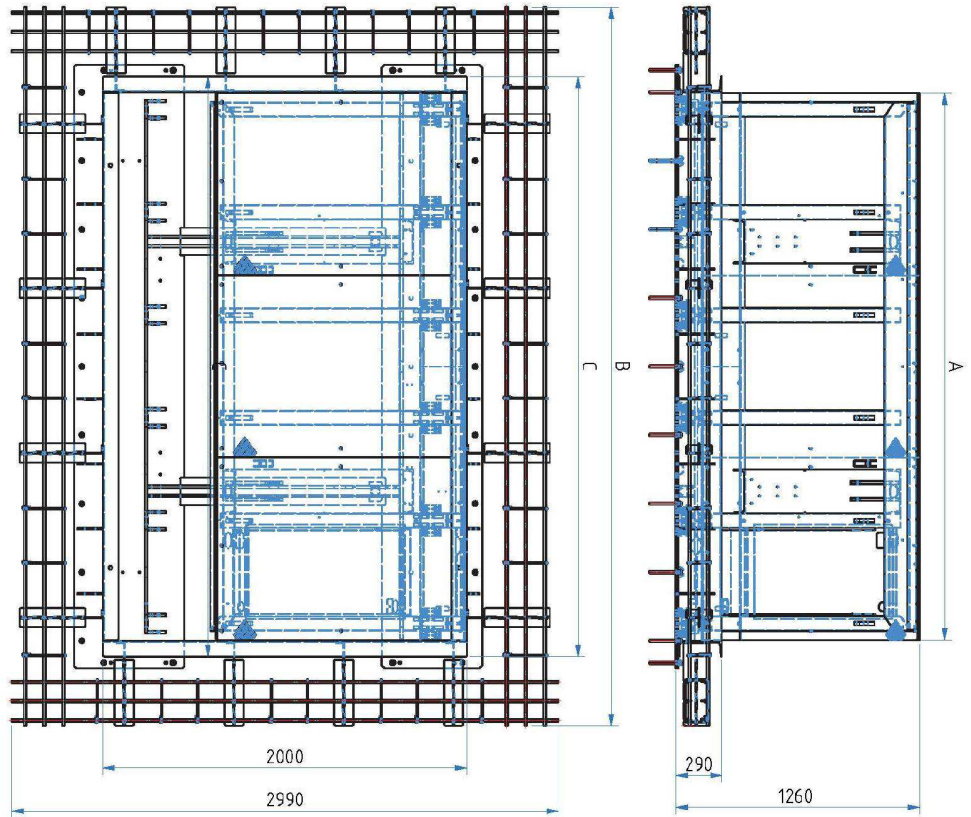
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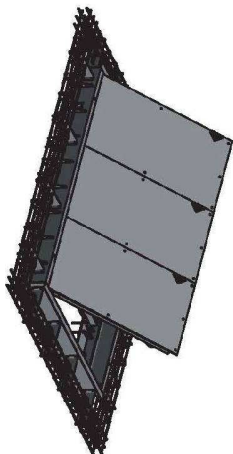
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Cap. Soc. 100.000,00 euro
www.aisico.it - info@aisico.it
PEC: amministrazioneaisico@multipecc.it



MODEL	A (mm)	B (mm)	C (mm)
ROADBLOCKER 2000	1990	2930	2170
ROADBLOCKER 3000	2990	3930	3170
ROADBLOCKER 4000	3990	4930	4170



Dimensions in mm.

Description:

INSTALLATION PLAN FOR PILOMAT ROADBLOCKER RB1000

Destinations:

SCHEMA DI POSA PER PILOMAT ROADBLOCKER RB1000

PILOMAT®
 MASTERSHIP IN RETRACTILE TECHNOLOGY

Tel. +39 035 297220 - pilomat@pilomat.com - www.pilomat.com

According to laws we reserve the property right of the drawing. It is forbidden to reproduce it and/or to divulge it to third parties.

Designer:

D. Esposito

Scale:

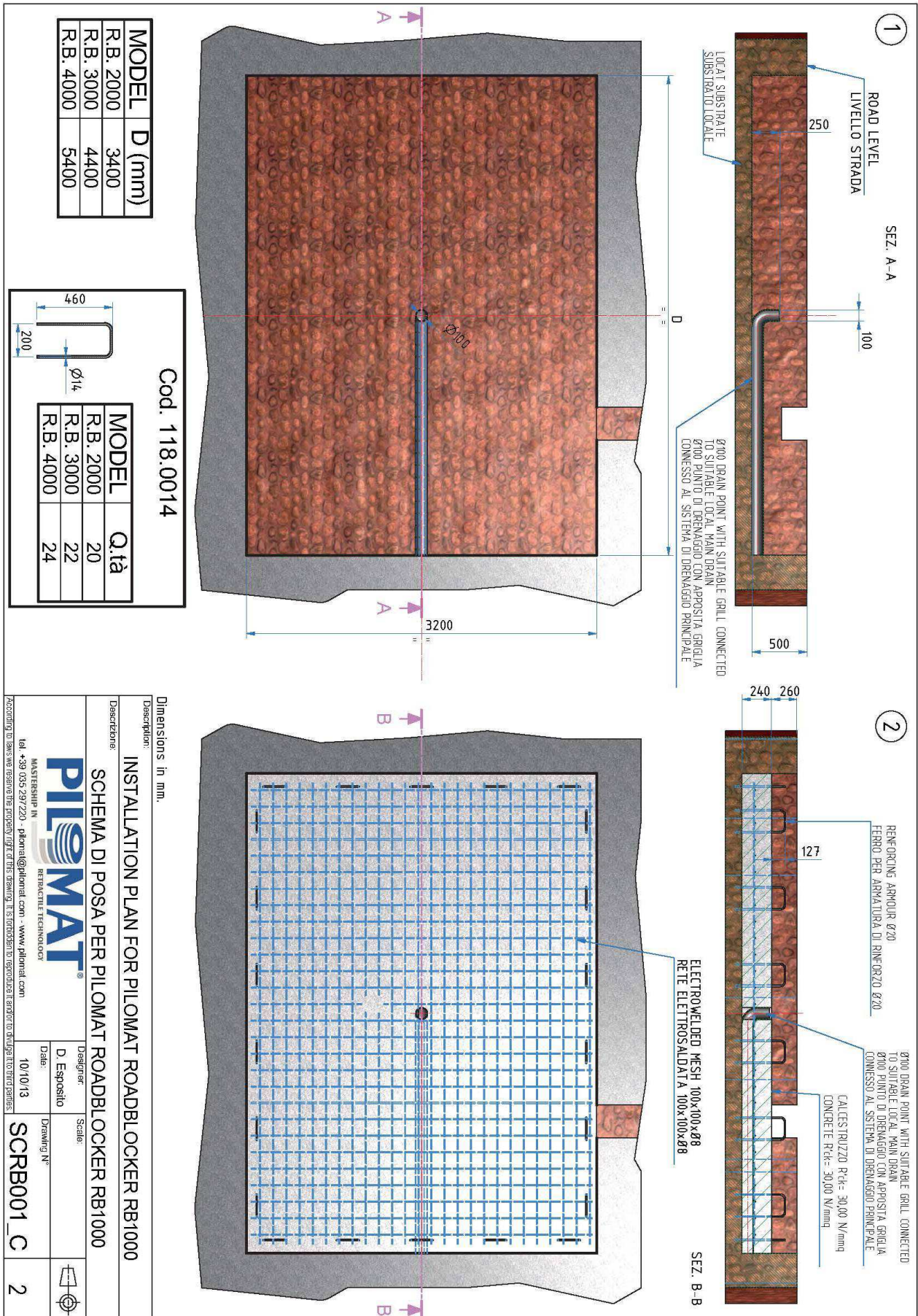
Drawing N°

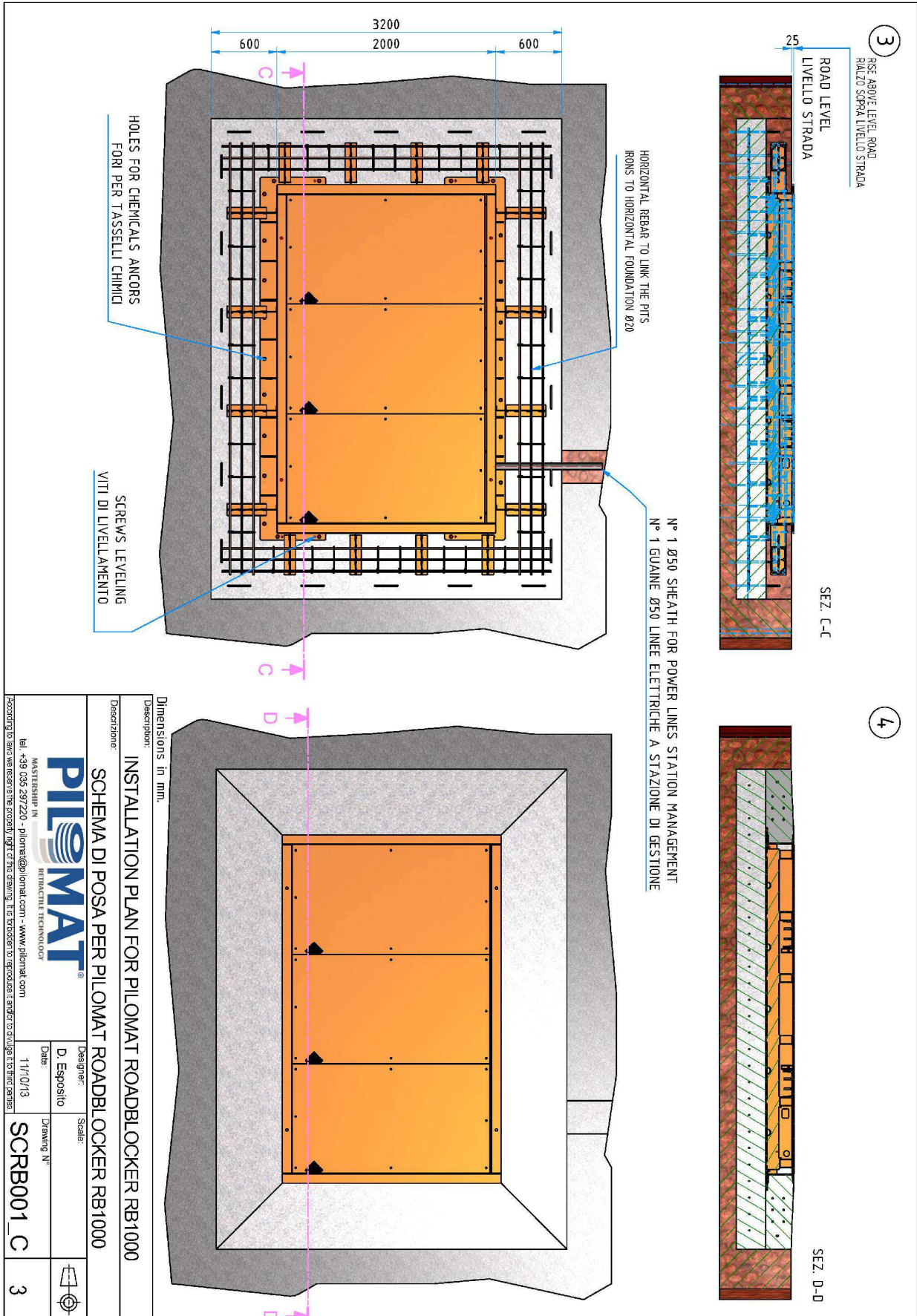
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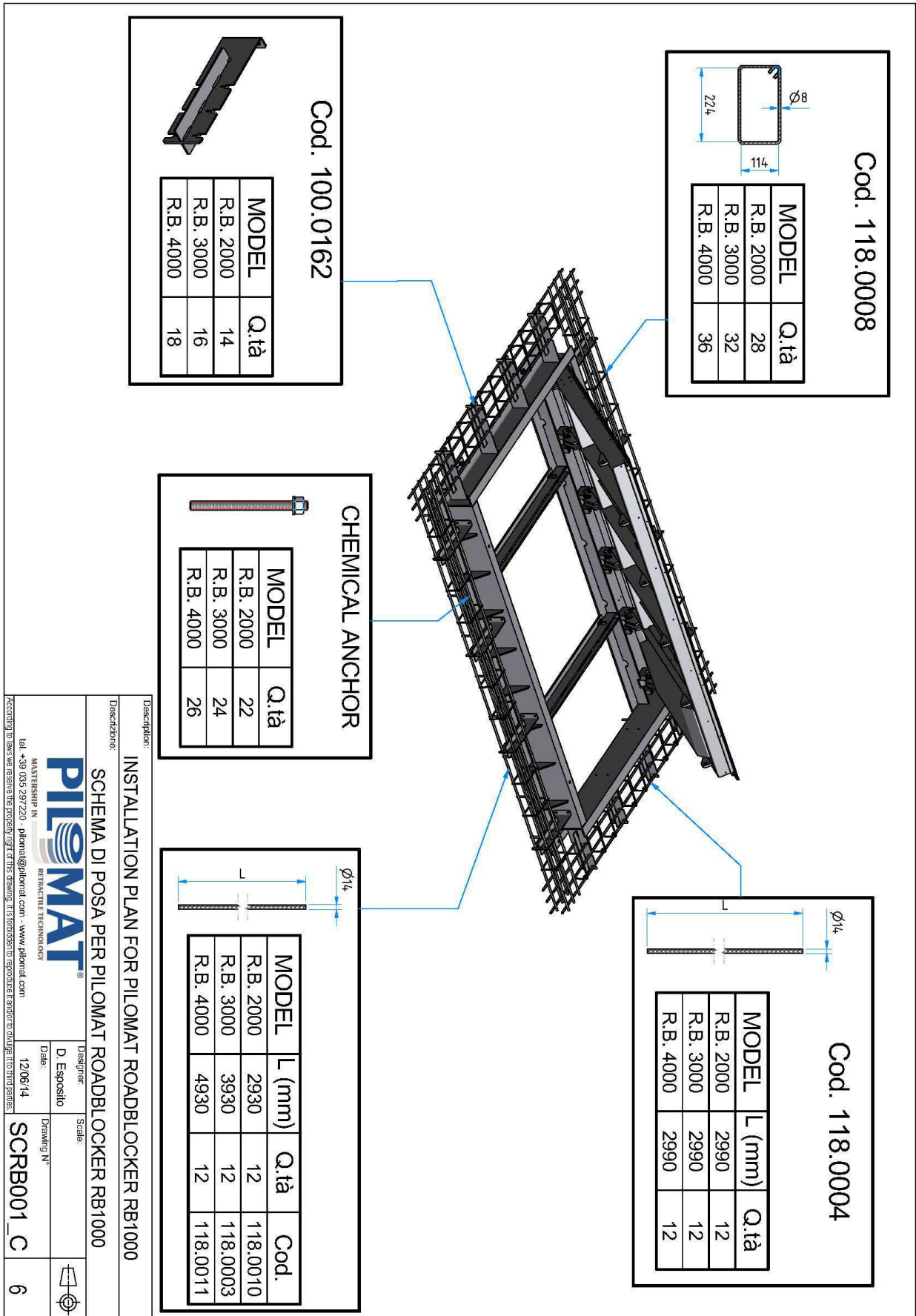
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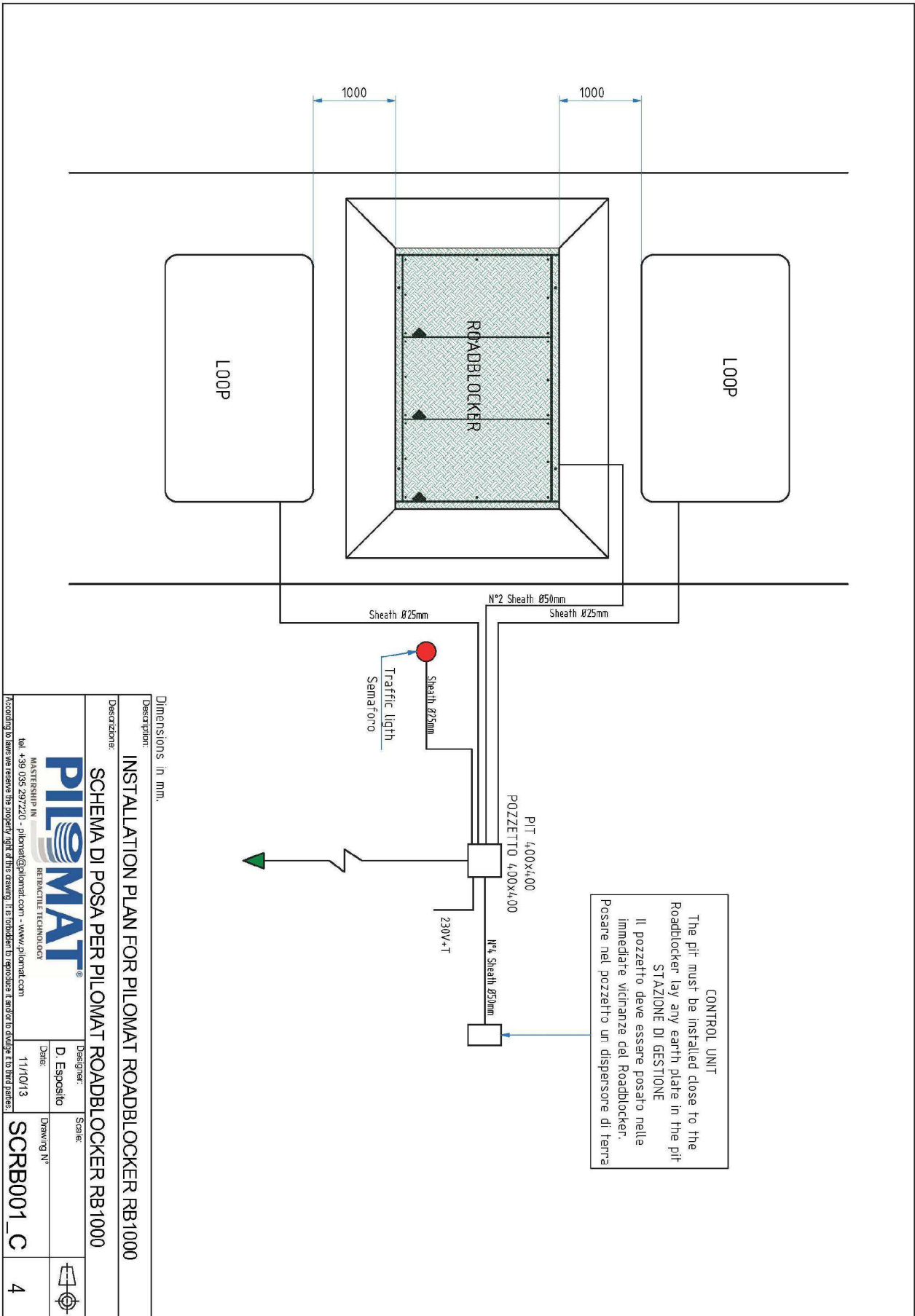
SCRB001_C

1









AUTOMATIC PILOMAT ROAD BLOCKER

INSTALLATION SEQUENCE

This instructions are concerning the 3m Road Blocker – in case of other lengths , the procedure is the same but change some dimensional characteristics and accessories – in attachment the drawing with charts for each length.

- 1) Prepare PILOMAT ROAD BLOCKER for the laying (Ref. drawing SCRB001_C1):
 - A) Screw the 16 supports (cod. 100.0162), issued for the reinforcing perimeter rods, on the perimeter frame of PILOMAT ROAD BLOCKER.
 - B) Fix the reinforcing perimeter rods (supplied by the builders) in the proper supports: n° 12 linear reinforcing rods, diam. 14mm, length 4,00m.; n° 12 linear reinforcing rods, diam. 14mm, length 3,00m. (Ref. drawing SCRB001_C6).
 - C) find on the market n° 24 M16 chemical anchors, length 150mm, HILTI brand or similar – HILTI references: threaded bar HIT-V-5.8 M16x150mm - chemical anchor injection: HIT-NY 200-A 330/2 .
- 2) Mark out the place of installation of PILOMAT ROAD BLOCKER and control that in the underground there is no presence of water tube or other public piping.
- 3) Dig a hole down to 0,50m approx.; the section must have a side of about 3,20m and a length of approximately 4,40m (Ref. drawing SCRB001_C2); for the digging it must be considered also the laying of one 50 mm diameter sheath for the electric connection of PILOMAT ROAD BLOCKER to the control unit and one one pipe 100mm for the drainage of the rain.
- 4) Place a 100mm diameter tube in the center of the hole for the rain drainage (supplied by the builders) protected by the proper grid (to avoid the clogging of the pipe); the pipe must be appropriately connected to the water rain drainage system. (Ref. drawing SCRB001_C2).
- 5) Prepare the floor foundation (well leveled) with a thickness of aprox. 24cm with a minimum cast concrete $R_{ck}= 30,00N/mm^2$ (or superior) laying an electro-welded grid 100x100mm 8mm thickness row (supplied by the builders) and 22 U-reinforcing perimeter rods 360x200mm 20mm thickness row – (supplied by the builders), driven into the ground to about 6 cm (Ref. drawing SCRB001_C2). We suggest to vibrate the casting with specific electrical instrument.
- 6) Once the concrete in solidified, place PILOMAT ROAD BLOCKER at the centre of the hole (Ref. drawing SCRB001_C3); level using the 4 unscrewed leveling bases (PILOMAT ROAD BLOCKER must be leveled at about 25mm higher than the walking level, in order to limit the entry of the rain water in the hole).
- 7) Fix PILOMAT ROAD BLOCKER to the ground trough the 24 chemical anchor HILTI, using the fixing holes, which are external to the perimeter frame (ref. drawing SCRB001_C3) and verify the correct levelling.

- 8) Place n. 2 pipe 50mm diameter from the point of exit of the lines of PILOMAT ROAD BLOCKERS, to the control unit (Ref. drawing SCRB001-C3).
- 9) Perform the final casting of concrete minimum $R_{ck} = 30,00\text{N/mm}^2$ (or superior), considering the possible finishes of the road surface (ex: asphalt). We suggest to vibrate the casting with specific electrical instrument. (Ref. drawing SCRB001_C3). As mentioned before, PILOMAT ROAD BLOCKER has to be placed 25mm higher than the walking level so be careful to calculate the difference of height with the concrete or the road finishing.
- 10) Lay all the eventual additional accessories and related pipes for the electric lines, such as: inductive security loops – traffic lights for signaling transit - etc (Ref. SCRB001_C4 enclosed drawing and laying notes of the inductive loops).

PS 1: all the piping have to be laid in the full respect of the law.

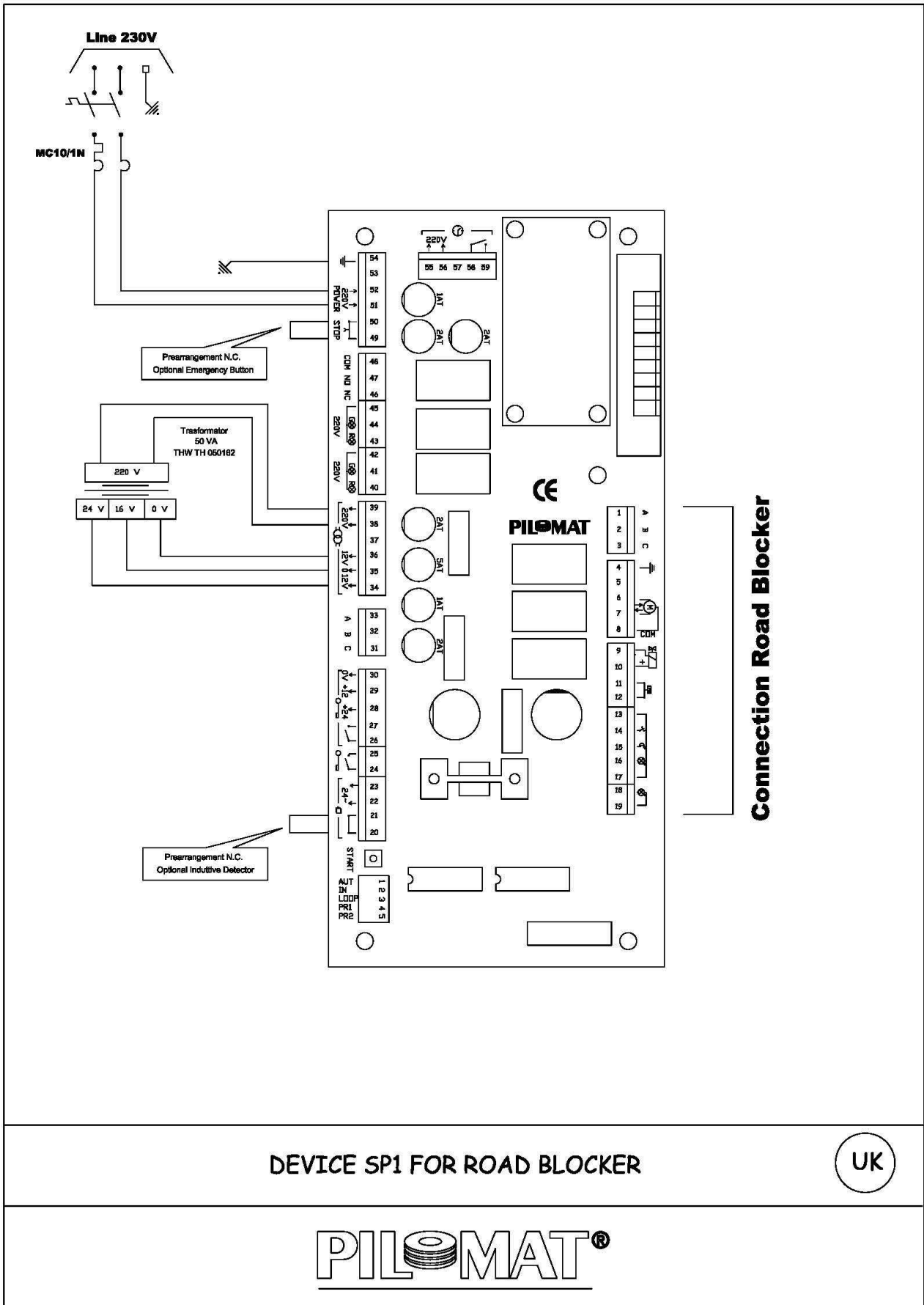
PS 2: the loops has to be installed more than one meter far from PILOMAT ROAD BLOCKER to avoid interference during it operating.

NOTES ON MAKING THE MAGNETIC LOOP WITH A 9,60m CABLE

- 1) If using the automatic ROAD BLOCKER, two inductive magnetic loops must be created to detect metal weights (cars), one in front of and another behind the ROAD BLOCKER. The standard dimensions of these loops is: width 1,80m - length 3.00m.
Other sizes are possible if the case warrants this.
- 2) The loop is created by using a special electric cable with a diameter of approximately 9mm and suitable protection, laid directly in the ground without the need for conduits.
When laying the loop, it's necessary to check that there are no electro welded metal meshes nearby. If this is the case, it's essential that the mesh is at least 25cm below the loop (otherwise, a 30cm section of the mesh below the loop must be removed).
- 3) The loop needs to be placed 5-7cm below the road surface. If there is any porphyrite or similar, the blocks of porphyrite must be lowered to allow for the loop to be laid at this depth. Alternatively, the loop can be laid between one block and another with a fret pattern.
- 4) The loop is connected to a line that transmits the signal to the movement control station. This consists of a special insensitive cable to be laid in a 60mm diameter sheath.

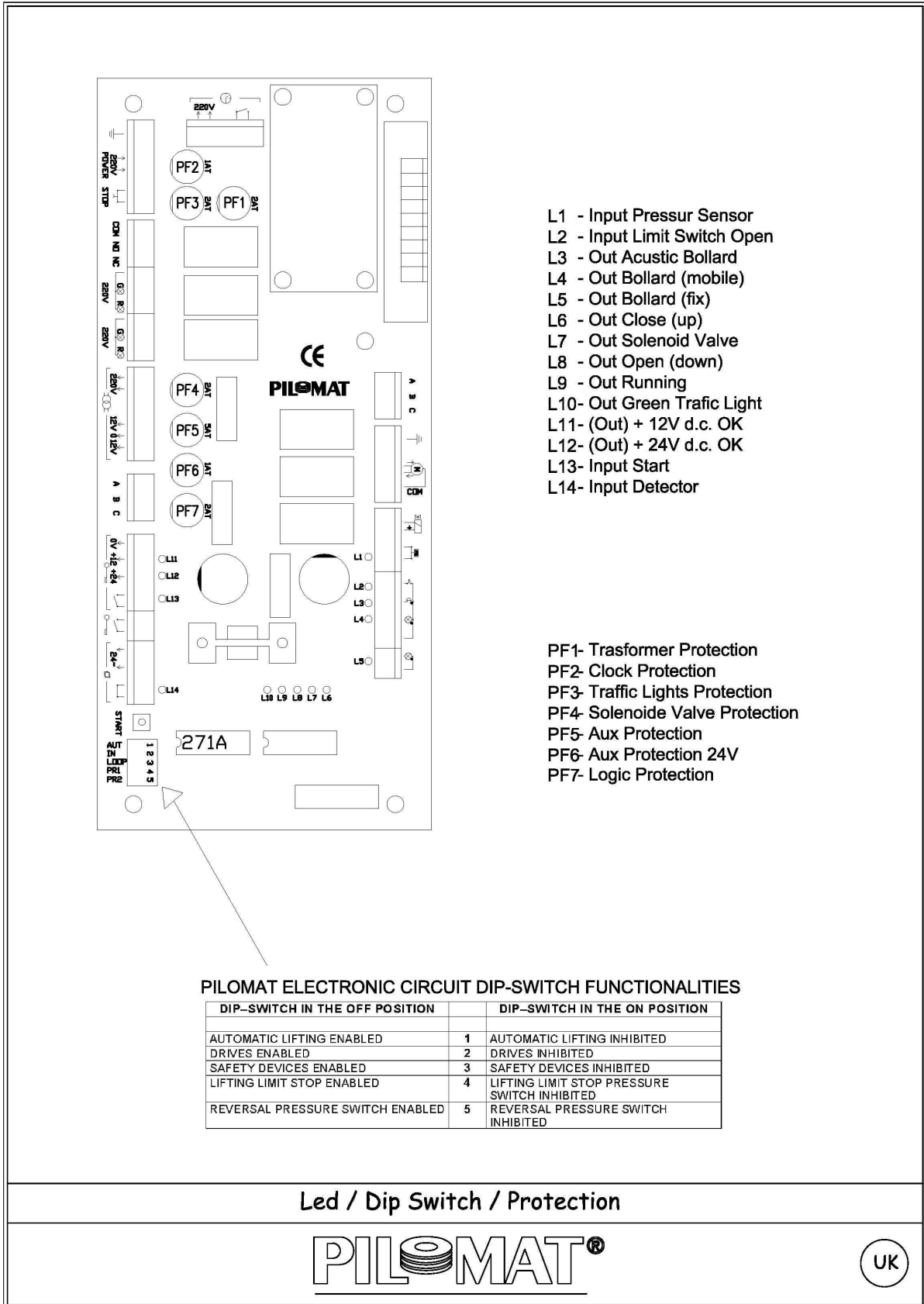
TECHNICAL DATASHEET OF SP CONTROL STATION

Electronic control circuit	Micro-processor-operated, with dedicated software which manages the ROAD BLOCKER units.
SP control unit enclosure	Wall-mounted – Dimension: 1.400x800x300mm
Protection class	Not less than IP56
Operational temperature	-40°C + 70°C
Control unit power supply	230V. ± 10% - 50/60Hz
Protection cut-off	Magneto-thermic switch 1P+N – 16A – 6KA
Service power supply	Standard 27V.D.C. – 5,6A



DEVICE SP1 FOR ROAD BLOCKER

UK



- L1 - Input Pressur Sensor
- L2 - Input Limit Switch Open
- L3 - Out Acoustic Bollard
- L4 - Out Bollard (mobile)
- L5 - Out Bollard (fix)
- L6 - Out Close (up)
- L7 - Out Solenoid Valve
- L8 - Out Open (down)
- L9 - Out Running
- L10- Out Green Traffic Light
- L11- (Out) + 12V d.c. OK
- L12- (Out) + 24V d.c. OK
- L13- Input Start
- L14- Input Detector

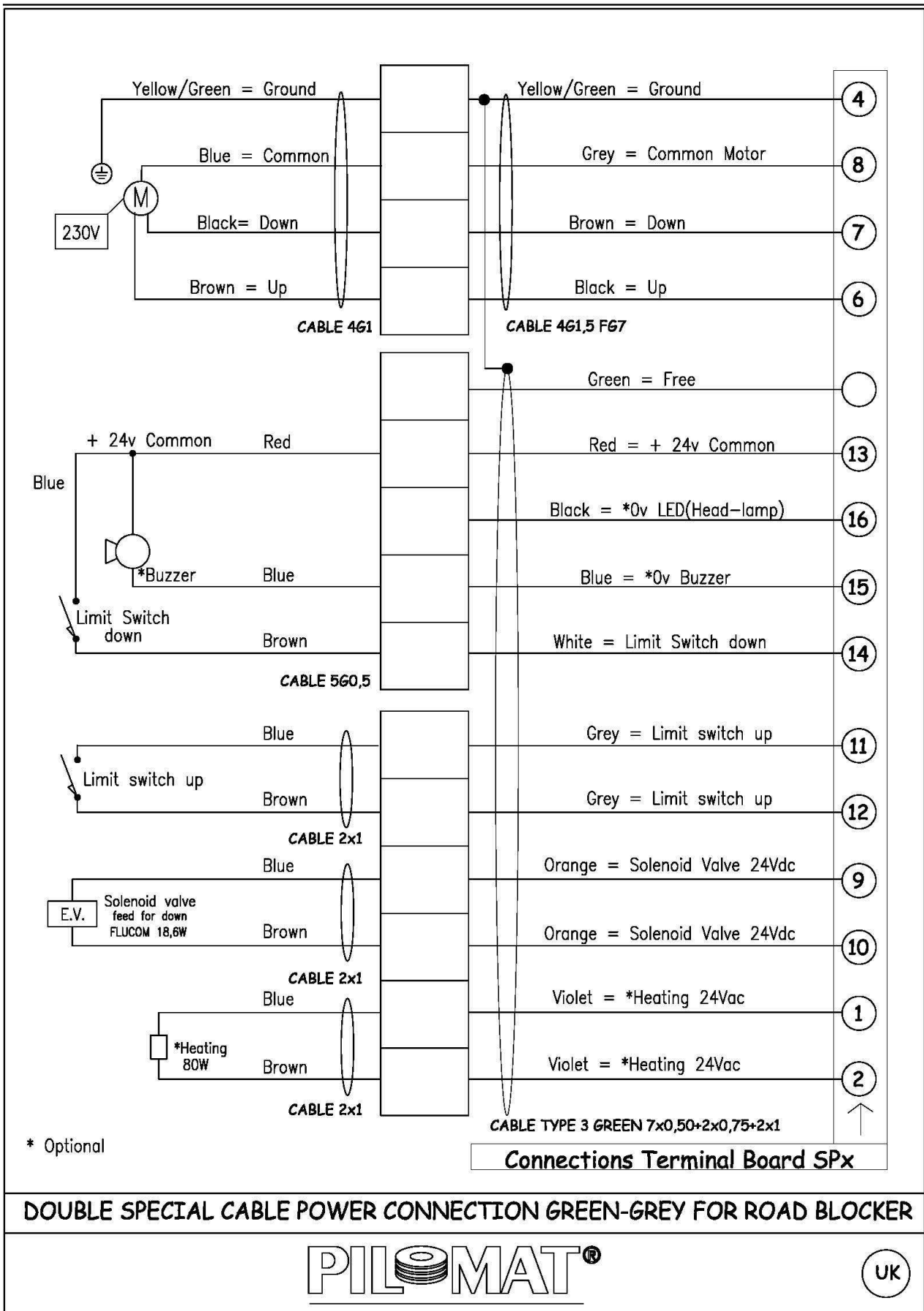
- PF1- Trasformer Protection
- PF2- Clock Protection
- PF3- Traffic Lights Protection
- PF4- Solenoide Valve Protection
- PF5- Aux Protection
- PF6- Aux Protection 24V
- PF7- Logic Protection

PILOMAT ELECTRONIC CIRCUIT DIP-SWITCH FUNCTIONALITIES

DIP-SWITCH IN THE OFF POSITION		DIP-SWITCH IN THE ON POSITION
AUTOMATIC LIFTING ENABLED	1	AUTOMATIC LIFTING INHIBITED
DRIVES ENABLED	2	DRIVES INHIBITED
SAFETY DEVICES ENABLED	3	SAFETY DEVICES INHIBITED
LIFTING LIMIT STOP ENABLED	4	LIFTING LIMIT STOP PRESSURE SWITCH INHIBITED
REVERSAL PRESSURE SWITCH ENABLED	5	REVERSAL PRESSURE SWITCH INHIBITED

Led / Dip Switch / Protection





PILOMAT ELECTRONIC CIRCUIT DIP-SWITCH FUNCTIONALITIES

FOREWORD: the DIPSWITCHES that are found on the ROAD BLOCKER electronic circuit board are useful to the technicians for a quick diagnostic during maintenance/repair work of the systems.

Indeed, in the event of failures, instead of disconnecting the wires from the terminal strips, it proves to be more functional to cut out a part of the circuits through a proper positioning of the DIP-SWITCHES -

DIP-SWITCH IN THE OFF POSITION		DIP-SWITCH IN THE ON POSITION
AUTOMATIC LIFTING ENABLED	1	AUTOMATIC LIFTING INHIBITED
DRIVES ENABLED	2	DRIVES INHIBITED
SAFETY DEVICES ENABLED	3	SAFETY DEVICES INHIBITED
LIFTING LIMIT STOP ENABLED	4	LIFTING LIMIT STOP PRESSURE SWITCH INHIBITED
REVERSAL PRESSURE SWITCH ENABLED	5	REVERSAL PRESSURE SWITCH INHIBITED

DIP – SWITCH 1:

Position yet to be defined as a function of the specific need and configuration of the system (if the safety devices are not used, it MUST be positioned ON) –

- **Position OFF = AUTOMATIC LIFT ENABLED:** the no-parking column is normally set to be in the high position – after the actuation of the drive, it reaches the low position – when the vehicle has crossed the controlled passage (hence it engages and then disengages the safety devices), the no-parking column moves the high position– if the vehicle does not cross the passage, the no-parking column moves back to the high position automatically after 30” –
- **Position ON = AUTOMATIC LIFT INHIBITED:** the no-parking lift, after actuating the drive for the first time, moves from high to low – then after a further actuation it moves back to the top position –

DIP – SWITCH 2:

Normally in the OFF position

- **Position OFF = COMMANDS ENABLED:** the ROAD BLOCKER moving commands attested to terminals 24/25 – 26/27 – 58/59 are operating
- **Position ON = COMMANDS EXCLUDED:** the ROAD BLOCKER moving commands attested to terminals 24/25 – 26/27 – 58/59 are excluding – if the bollard doesn't go up, the Technician can exclude temporarily the commands and use the proper button down the circuit to perform testing commands.

DIPSWITCH 3:

Normally in the OFF position

- **Position OFF = SAFETY DEVICES ENABLED:** the input for safety devices, attested to terminals 20/21 is operating; if the dip – switch is in OFF position without connected device , the TYRE KILLER will not never go in up position.
- **Position ON = SAFETY DEVICES EXCLUDED:** the input for safety devices, attested to terminals 20/21 is excluded; if the bollard doesn't go up, the Technician can exclude temporarily the safety devices to check if the reason of the inefficiency is caused by safety devices.

DIPSWITCH 4:

Normally in the OFF position –

- **Position OFF = LIFTING LIMIT STOP-PRESSURE SWITCH ENABLED:** at the final lifting stage, the signal emitted by the pressure switch is used as upper limit stop to end the lifting stage -
- **Position ON = LIFTING LIMIT STOP-PRESSURE SWITCH INHIBITED:** The above function is inhibited; the lifting stop occurs by timeout (the timeout delay may change as a function of the installed EPROM memory installed in the electronic managing circuit) -

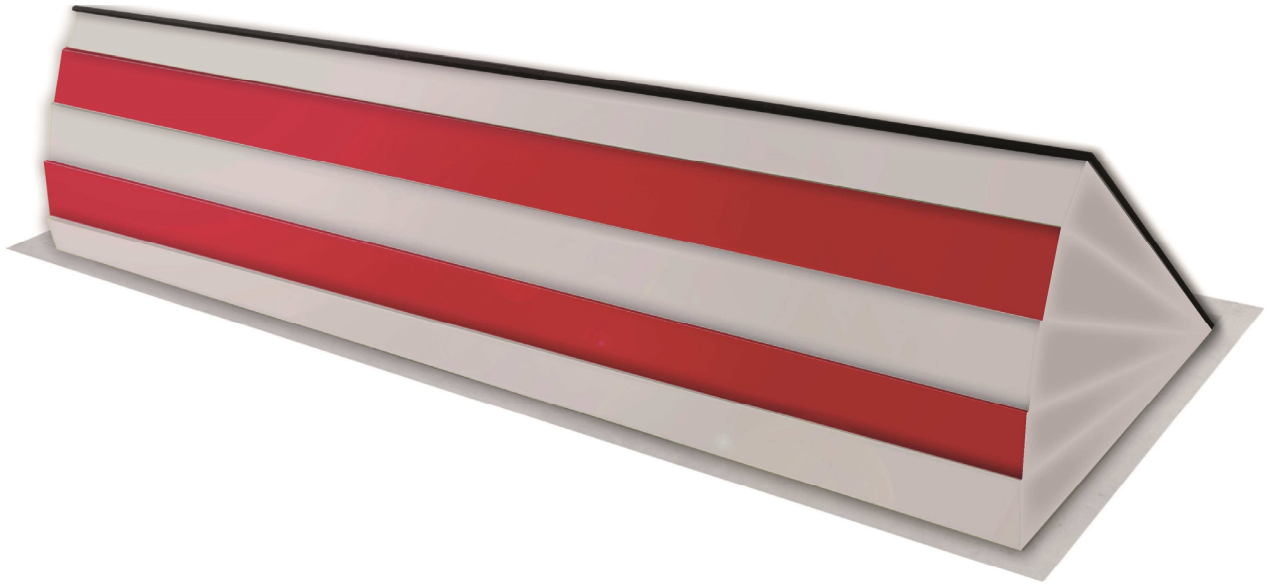
DIPSWITCH 5:

Normally in the OFF position –

- **Position OFF = REVERSAL PRESSURE SWITCH ENABLED:** during the lifting stage, in the event of a weight exceeding 50kg. being detected, the pressure switch signal is used as a safety device to stop the column and lead it back to the “low” position -
- **Position ON= REVERSAL PRESSURE SWITCH INHIBITED:** the function described above is inhibited – if the TYRE KILLER does not rise or during the rising stage it moves back with no apparent reason, the technician, on intervening, may temporarily inhibit this function to check whether the cause of the failure is to be ascribed to the pressure switch –

PIL-03 MASTER CIRCUIT CONNECTION TERMINAL BOARD

- Terminal 1-2-3= available (feedthrough with 31-32-33 – with protection fuse) –
- Terminal 4-5-6-7-8= hydraulic pump connection –
- Terminal 9-10= automatic lowering connection for lack of 230V –
- Terminal 11-12= safety pressure switch connection –
- Terminal 13= common wire for limit switch – buzzer – flasher –
- Terminal 14= low ROAD BLOCKER limit switch connection –
- Terminal 15= ROAD BLOCKER intermittent buzzer connection –
- Terminal 16= not used -
- Terminal 17= common wire for limit switch – buzzer –
- Terminal 18-19= flashing luminous sign connection–
- Terminal 20-21-22-23= safety magnetic turns inductive detector –
- Terminal 24-25= input for lowering drive –
- Terminal 26-27-28-29-30= Rx radio / reader for lowering drive connection –
- Terminal 31-32-33= available (feedthrough with 1-2-3 with protection fuse)
- Terminal 34-35-36-37-38-39= service transformer connection –
- Terminal 40-41-42= connection 230V traffic lights 1 –
- Terminal 43-44-45= connection 220V traffic lights 2 –
- Terminal 46-47-48= remote repetition of traffic lights (neutral switching contact) -
- Terminal 49-50= glass broken emergency pushbutton –
- Terminal 51-52= 230V connection to electronic circuit –
- Terminal 53= not used –
- Terminal 54= ground connection –
- Terminal 55-56-57-58-59= weekly/yearly clock connection –



Distributor stamp:

All descriptions and pictures of this manual are not binding. PILOMAT S.r.l. has the right, maintaining the main characteristics of its products, to provide them with needed modifications at any time and without up-dating of this manual, in order to improve their technical performance or to meet commercial requirements.