TECHNICAL INSTALLATION MANUAL

PAS68-AR-700

Rising Bollard

PAS68-AR700



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1 Warnings and Symbols

DANGER
Indicates an obviously hazardous situation which, if not avoided, will result in death or injury.

WARNING
Indicates a potentially hazardous situation which, if not avoided, could result in death or injury.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to warn against unsafe practices.

NOTICE
Indicates only situations that may result in accidents causing damage to the equipment or property damage.

INFORMATION
This symbol indicates useful tips or additional information.

Electric Current
Indicates components and operations that involve a risk of electric shock.

Personal Protective Equipment
Indicates the use of safety shoes, work gloves and protective goggles.

Waste Electrical and Electronic Equipment
This product bears the separate collection symbol for waste electrical and electronic equipment.

2 Environmental Health and Risks

Packaging materials (plastic, polystyrene, etc.) are a potential hazard source and must not be discarded into the environment or left within reach of children.

3 Warranty

Provided that all work is carried out in accordance with the Operating and Installation Manual and that no unauthorised intervention is made inside the units, the PAS68-AR700 product and all its mechanical and electrical components are guaranteed for 2 years.

4 Declaration of Conformity

We declare that our products are under our responsibility. Our product has been designed and manufactured, within the scope of Machinery Directive 2006/42/EC, to be integrated into another system or combined with other barriers in order to form a barrier system. It meets the essential health and safety requirements of the EU directives listed below:

- 2006/95/EC Low Voltage Directive
- 2004/108/EC Electromagnetic Compatibility Directive

5 Competent Personnel

Assign qualified technical personnel holding a service competence certificate to product installation, assembly and commissioning, maintenance and repair work. Intervention by unauthorised persons can cause serious damage. The manufacturer is not liable for risks arising from the user's choice of personnel.

6 General Safety Precautions

Do not install the product in environments with a risk of explosive gas. Gas or highly flammable vapours carry a serious risk of danger. Before installation, keep the area clear of all situations involving a risk of impact, cutting or dragging. Be aware of the hazardous area required by the applicable regulation. For installations that must be carried out in hazardous areas, plan and implement all safety permits and the relevant structural changes in advance.

The installation stages must be clearly shown in the boom barrier system manual. Before making the power connection, make sure the phases correspond to the mains power supply.

When working on electronic components, use an earthed, antistatic conductive wrist strap or gloves. The manufacturer is not liable for risks arising from the use of incompatible parts not specified in the manual or from incorrect technical interventions.

Safety devices (photocell, loop detector, etc.) must be installed in accordance with the applicable laws and directives. Select the system suitable for the installation, taking into account the safety requirements and the difficulties arising from the boom barrier system.

During installation, maintenance and repair, disconnect the power supply before working on live electrical parts. To prevent uncontrolled operation, keep remote control units and other receiver devices away from children; do not allow children near the boom barrier while work is in progress.

Maintenance, repair and direct interventions must be carried out only by personnel holding an authorisation certificate. Use only original spare parts for repairs and replacements. Make sure the existing structure complies with the standards in terms of strength and stability.

> Before installation, maintenance and repair, disconnect the power to the unit panel and release the hydraulic pressure.

7 Some Special Definitions

Accessories: Equipment that must be installed in accordance with the instructions specified in the documents supplied with the product.

Optional Equipment: Equipment specified in the manual that is suitable for use with the product.

Equipment Supplied On Site: Equipment that must be used at the installation site in accordance with the instructions specified in the manual, but that is not supplied by Arma Kontrol.

8 Introduction

Thank you for choosing the PAS68-AR-700 Bollard Barrier.

This manual, supplied with the product, contains very important information and instructions on assembly, installation, commissioning and maintenance work, and must be read carefully. All assembly and installation must be carried out in accordance with this manual.

Description: A high-security bollard barrier with an automatic system, specially designed to prevent the passage of unpermitted and unauthorised vehicles.

Scope: This manual has been prepared so that technical service teams and users can complete and continue their work safely.

Model Designation: PAS68-AR700 — PAS68-K4

Product Label: According to the European Machinery Directive, the product label must be clearly visible and permanently fixed to power-driven machinery. The product label is located on the outside of the electrical panel cover.

Technical Stages: The descriptions and images in this manual are not binding. The manufacturer reserves the right to modify the product design and the essential features of the equipment, or to make any necessary changes, for technical and commercial reasons, without prior notice.

9 Technical Specifications

Model	PAS68-AR700
Diameter	Ø 219 mm
Blocking Height	700 mm
Blocking Width	1.5 m
Sheet Thickness	16 mm
Mounting Points	M8 X 30 Allen bolt (stainless)
Outer Tenon	Primer + Top coat paint
Inner Tenon	Primer + Top coat paint
Moving Part Coating	304-316 Stainless
Safety Warning LEDs	12 pcs (red)
Opening-Closing Time	6-8 s
Control Panel	PLC
Operation Type	Hydraulic
Operating Pressure (min.)	60 bar / 870 psi
Operating Pressure (max.)	140 bar / 1450 psi
Hydraulic Oil	32 / 46
Unit Operating Voltage	380 V (AC)
Operating Temperature Range	-25 °C / +60 °C
Manual Lowering	Ball valve
Product Certificates	CE, Domestic Goods Certificate
Quality Management System	ISO (20000-1:2011, 9001:2015, 10002:2018, 14001:2015), OHSAS 18001:2007

10 Optional Accessories

Battery Backup
Allows the system to continue operating in the event of a power failure.

Hydraulic System Heating - Cooling
May be required in certain climatic conditions.

Warning Equipment
Flashing light / traffic light.

Emergency Lift
Provides lift in 2 seconds with the support of a nitrogen tank.

Manual Lifting
A lifting lever is added to the hydraulic unit.

11 Overview

The dimensional drawing below shows the basic external dimensions of the bollard barrier and the height of the body that remains below ground. The dimensions vary according to the diameter and blocking height of the model.

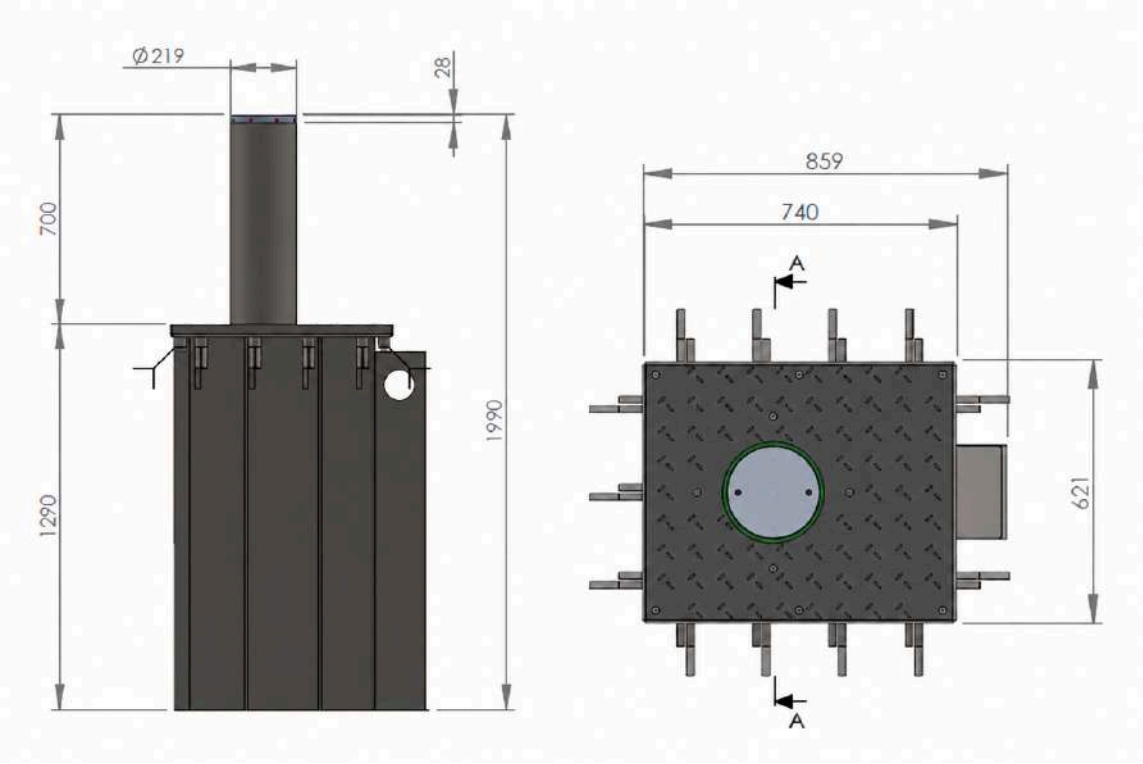


Figure 1 — Overview Dimensional Drawing

12 Detail Views

These are detail drawings showing the internal mechanism, the moving part and the external tenon components of the mushroom barrier.

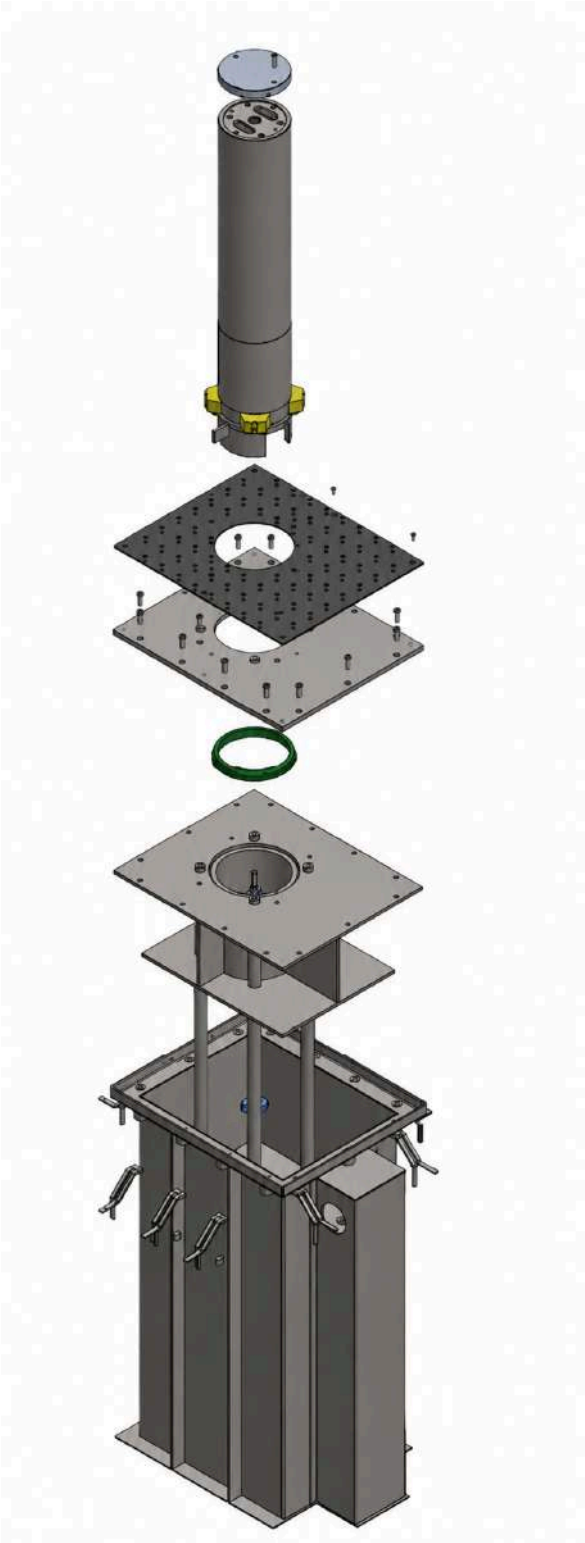


Figure 2 — Mushroom Barrier Detail View

13 Transport

Packaging waste is controlled and the product is protected against environmental conditions using materials that comply with regional regulations. Transport information may vary according to product groups and equipment options; the exact information is given in the packing list document supplied by the manufacturer.

- Bollard Barrier — 1 pc
- Unit Panel — 1 pc
- Hydraulic Hoses — varies according to the project
- Remote Control — 2 pcs
- Loop Cable — varies according to the project
- Open / Close Button — 1 pc

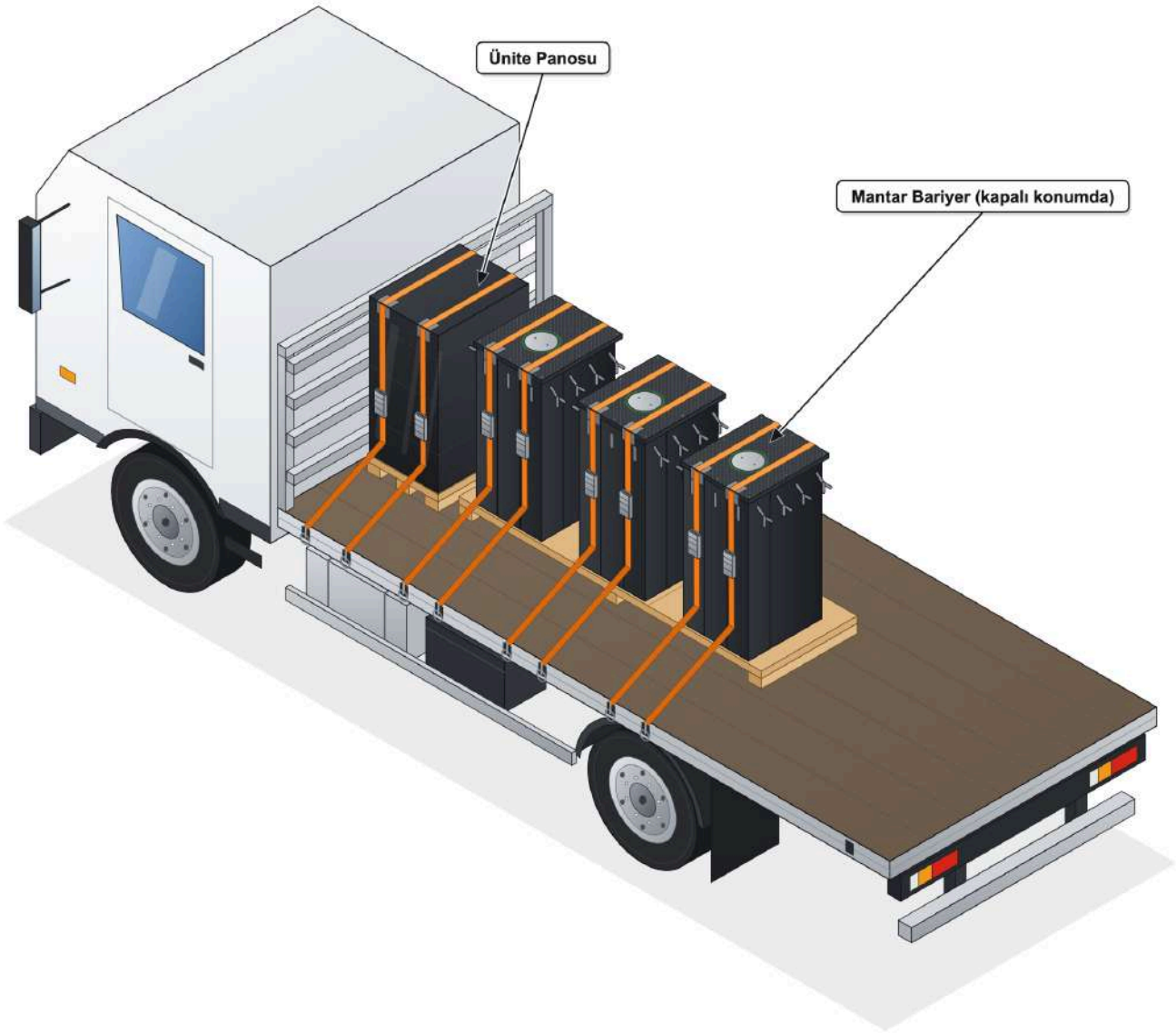


Figure 3 — New image area

14 Assembly and Installation

Preparation: During the excavation work at the installation site, check the existing underground utility distribution lines. The material must be undamaged and complete according to the parts list / order form. Tools, measuring equipment and auxiliary devices must be ready at the installation site. The voltage value must comply with the installation instructions of the unit panel.

Required Equipment:

- Warning signs, tape measure, spirit level, string and straightedge (wooden or metal)
- Multimeter and spray paint (for marking the excavation boundaries)
- Circular saw (for cutting the hard surface layer)
- Crane or suitable lifting equipment
- Basic electrical hand tools and consumables (terminal block, insulating tape)
- Ready-mixed concrete C30, steel mesh (Q131/131) and sub-base material (crushed stone or gravel)
- PVC pipe (Ø 100-150 mm) for drainage and spiral cable protection conduit (Ø 100 mm)

> ⚠ Before excavation, confirm the locations of the existing utility lines (electricity, water, natural gas, communication) at the site.

15 Excavation Works

The foundation of the unit panel must be prepared at the start of the installation work. The excavation type must be determined according to the soil class, and the dimensions given in the structural project must be applied. The foundations and the site plan are prepared according to the structural project; the structural drawings are supplied by the manufacturer.

Make sure that the ground has good water absorption properties. Adequate moisture drainage must be provided when constructing the foundation. Depending on the local environmental and soil conditions, drainage can be carried out with an electric pump in a pump sump (optional).

It is recommended to place the barriers on the prepared concrete foundation. It may be necessary to prepare the infrastructure (conduit) for the hydraulic and cable connections between the bollard barriers and the unit panel.

16 Removing the Product from the Packaging

A crane must be used to position the mushroom barriers at the intended location. They must be centred on the moisture drainage channel in a controlled and careful manner. After this process, remove the eye bolt and fit the upper anti-slip plates.

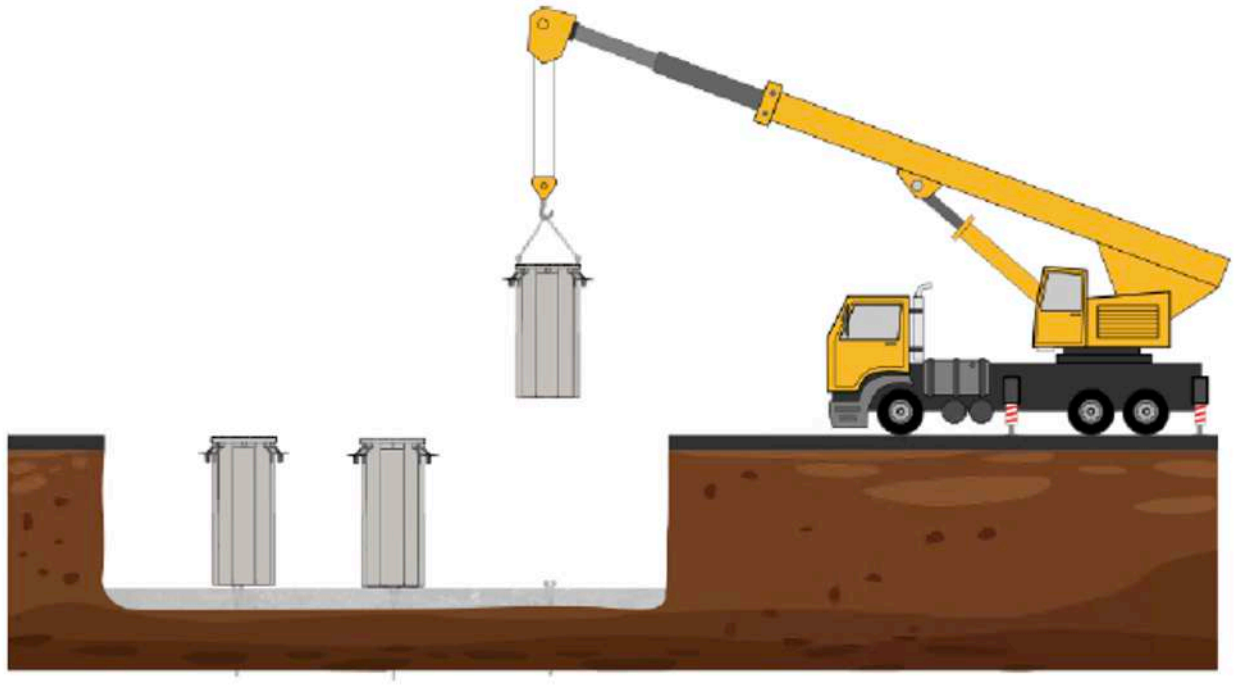


Figure 4 — New image area

17 Measurement and Marking

Make sure the hard surface layer is cut through completely to prevent unwanted breakage along the edge line. Otherwise, additional separation may occur in the asphalt layer.

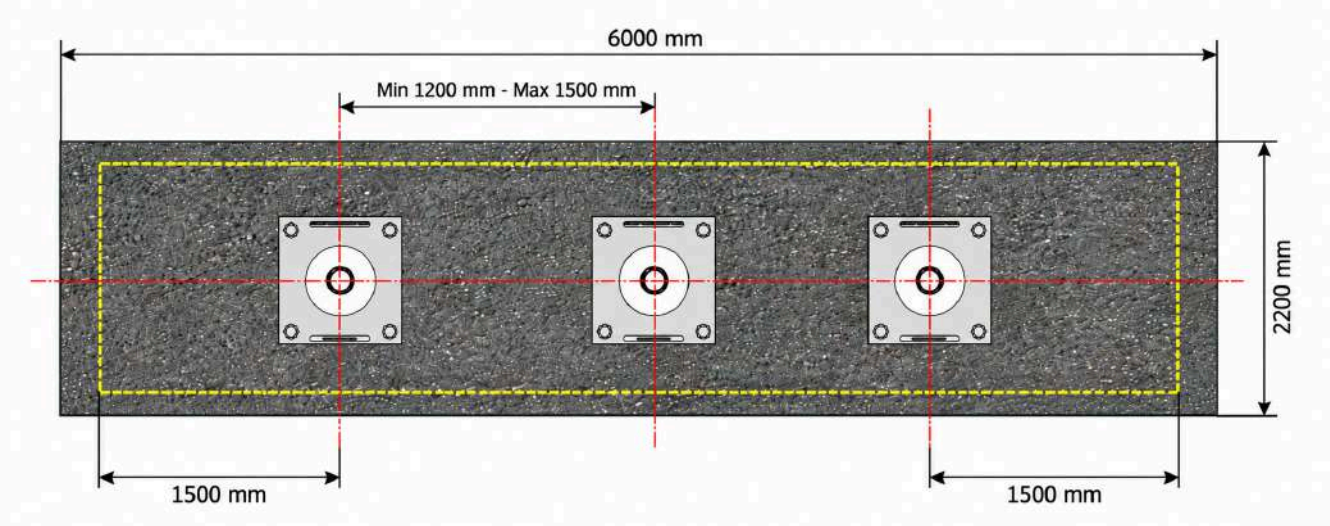


Figure 5 — Measuring and Marking Illustration

18 Hardcore

The application area has been calculated including the blocking layer (crushed stone or gravel, 100 mm) and the level required for the moisture drainage system (250 mm).

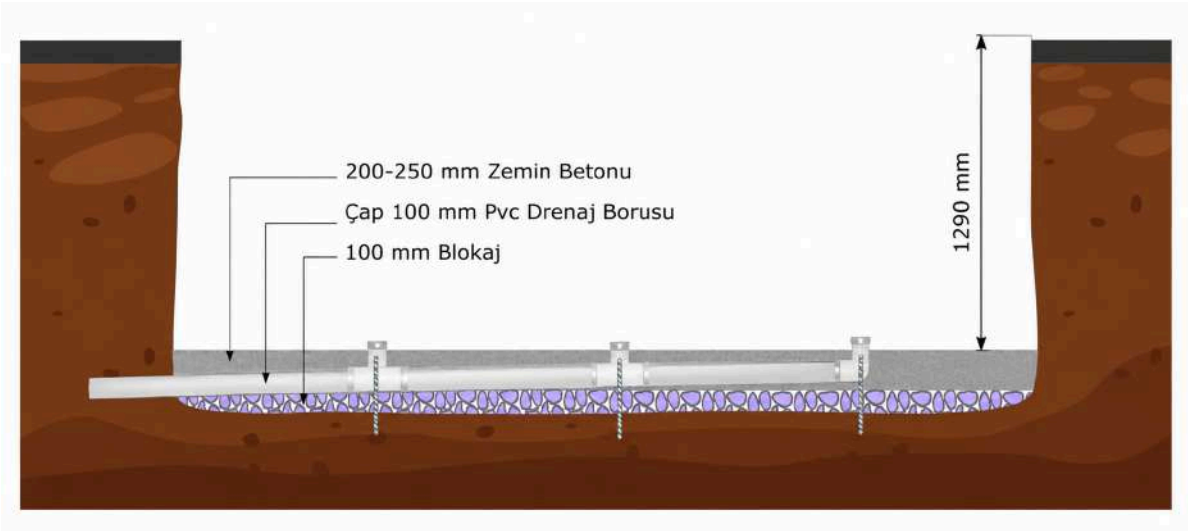


Figure 6 — New image area

19 Moisture Drainage System and Slope Provision

As shown in the drainage detail, the PVC pipe (Ø 100) to be used for moisture drainage is bedded in No. 1 or No. 2 gravel. Before the concrete is poured, fix the position of the drainage line to the wet ground with steel tie connections.

20 Pouring the Concrete Foundation

So that the bollard barriers can be positioned level with the surface, the surface of the freshly poured concrete must be levelled before it starts to set (within 1 hour). A wooden or steel trowel can be used.

Screeding must be carried out in the direction of the concrete pour; it is normally done in the direction of the short side of the concrete area.

21 Positioning the Barriers

Carefully set the mushroom barriers down on the moisture drain outlets using a crane. The moisture drain holes on the underside of the barriers must be aligned with the drainage system.

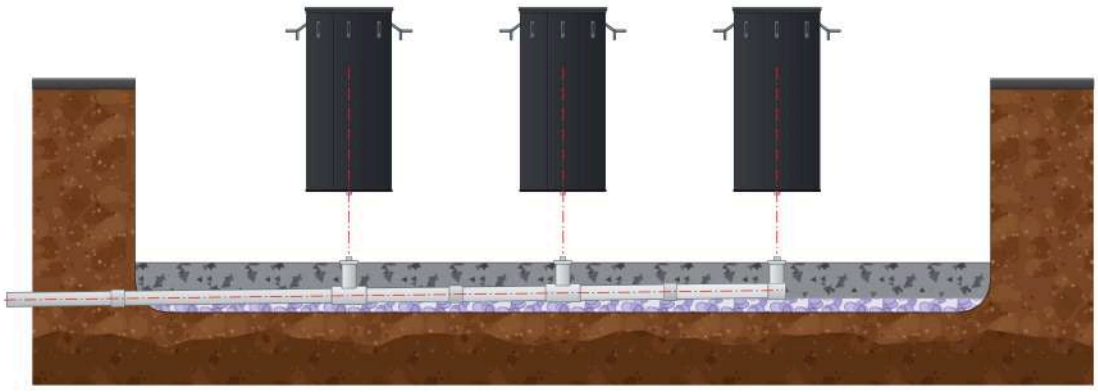


Figure 7 — Positioning the Barrier

⚠ Do not stand under the load during lifting.

22 Levelling Checks

After the bollard barriers have been positioned on the ground, you may need to use tools suitable for your application that ensure the intended flatness (string, wooden or metal straightedge). The axis points shown in the figure will assist you.

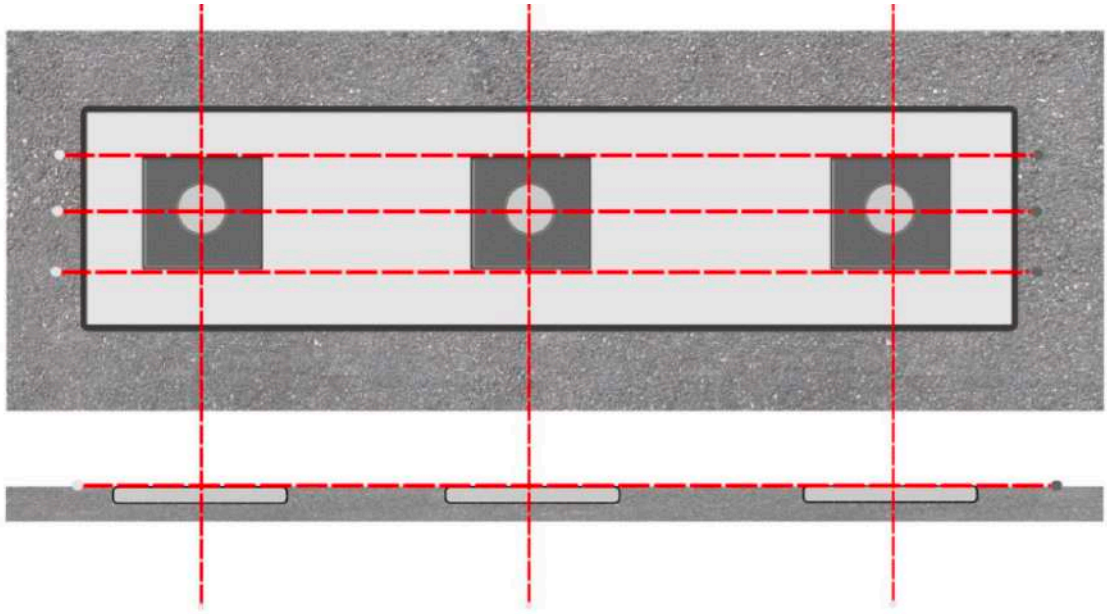


Figure 8 — Flatness Check Axes

23 Making the Hydraulic Connections

Routing and Connection of the Hydraulic Hoses

The hydraulic hoses are routed through the previously prepared conduit pipes in order to provide the hydraulic connection between the unit panel and the barriers. While passing the hoses through the conduit pipes, avoid sharp bends, crushing and pinching. Make sure that enough working slack is left where the hoses reach the connection points.

Make the hydraulic connections according to the following lines:

* Line A: The hydraulic line that moves the barriers downwards.
* Line B: The hydraulic line that moves the barriers upwards.

When connecting the hoses, make sure that lines A and B are connected to the correct connection points. Connecting the lines incorrectly may cause the barriers to move in the reverse direction.

After the connection work is completed, check all hydraulic fittings. Run the system and observe whether there is any hydraulic oil leakage or seepage at the connection points. Check the area around the unions, nipples and other fittings carefully in particular.

If any oil leakage is detected during the leak test, stop the system, check the fitting and carry out the necessary correction. It is recommended not to operate the system continuously until all connections are confirmed to be leak-tight.

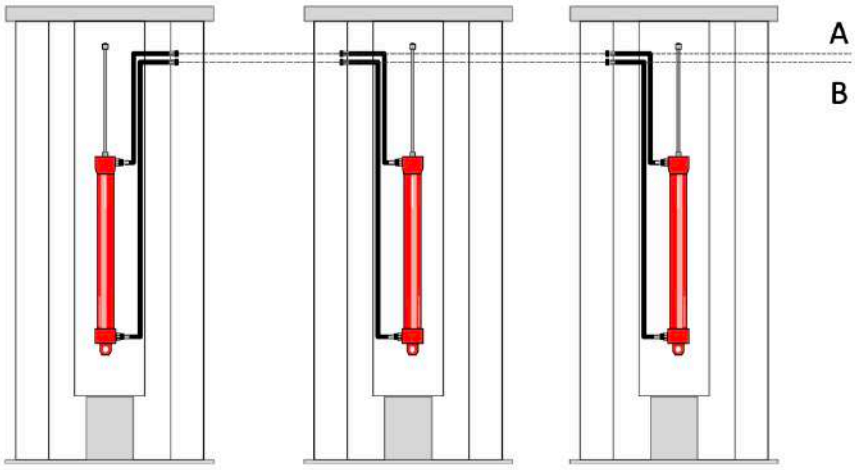


Figure 9 — Hydraulic Connection Diagram

Clean the hose ends before connecting them; dirt entering the system causes the hydraulic valves to fail.

24 Steel Reinforcement Application

The information required for the steel reinforcement suitable for your project is provided by our project department. Use slit corrugated inner duct cable protection to protect your cables and connection hoses from the concrete.

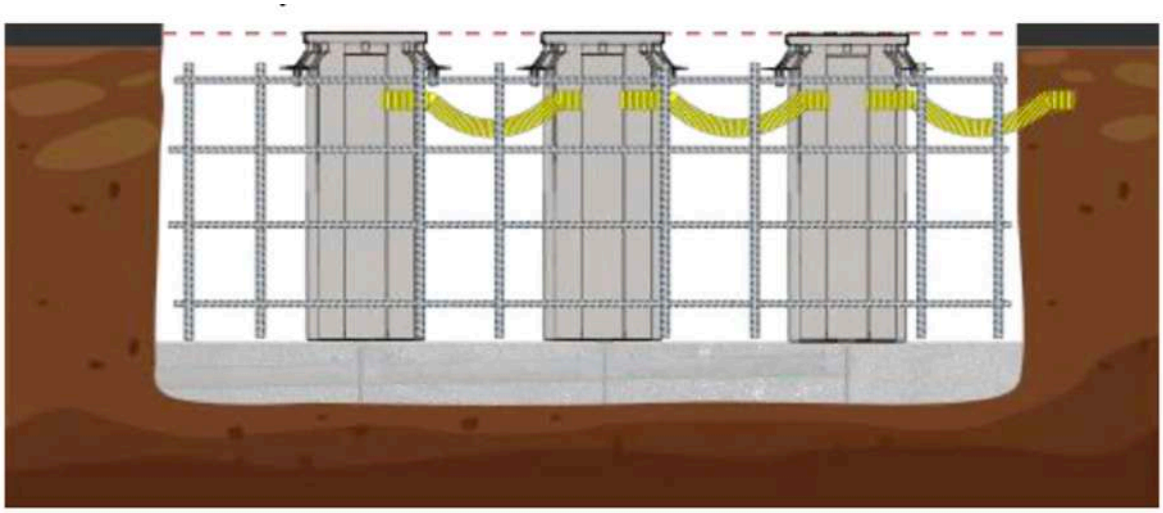


Figure 10 — Steel Reinforcement Detail

25 Concrete Pouring

To obtain a high-quality concrete pour, several points must be observed. The most common problem on site is adding extra water to the concrete delivered to the pouring area because the concrete cannot be placed and screeded easily. This reduces the strength of the concrete. The problem can be eliminated by ordering concrete of the correct consistency, using plasticising chemical admixtures and, in particular, by using a vibrator on site.

- Pour the concrete as far as possible at or near the point where it will be placed.
- Avoid piling concrete in one area and moving it into place with a shovel.
- Place concrete in homogeneous layers.
- Prevent the formation of large heaps and sloping layers during placing.
- Do not pour concrete from a height greater than 1.5 m.
- Match the placement rate of the concrete to its compaction rate.
- Avoid delays and interruptions, and do not allow cold joints to form.
- Use Ø 100 mm spiral cable conduit to protect the cables and connection hoses from the concrete.

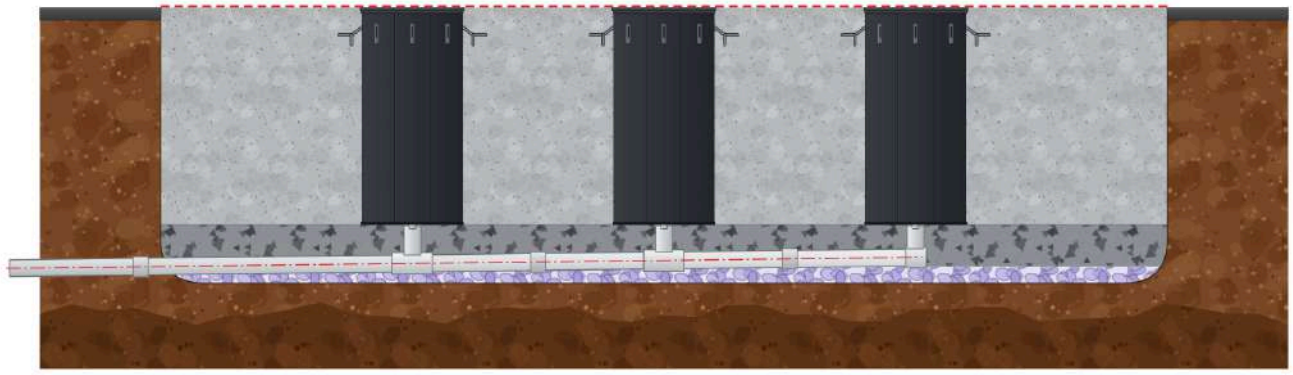


Figure 11 — New image area

26 Positioning the Unit Panel

A cable duct must be formed in the floor before the concrete is poured. When positioning the cable duct in the floor, take into account the cabling slot located underneath the unit panel.

Layer dimensions: concrete 200 mm, steel mesh (Q131/131), sub-base 100 mm.

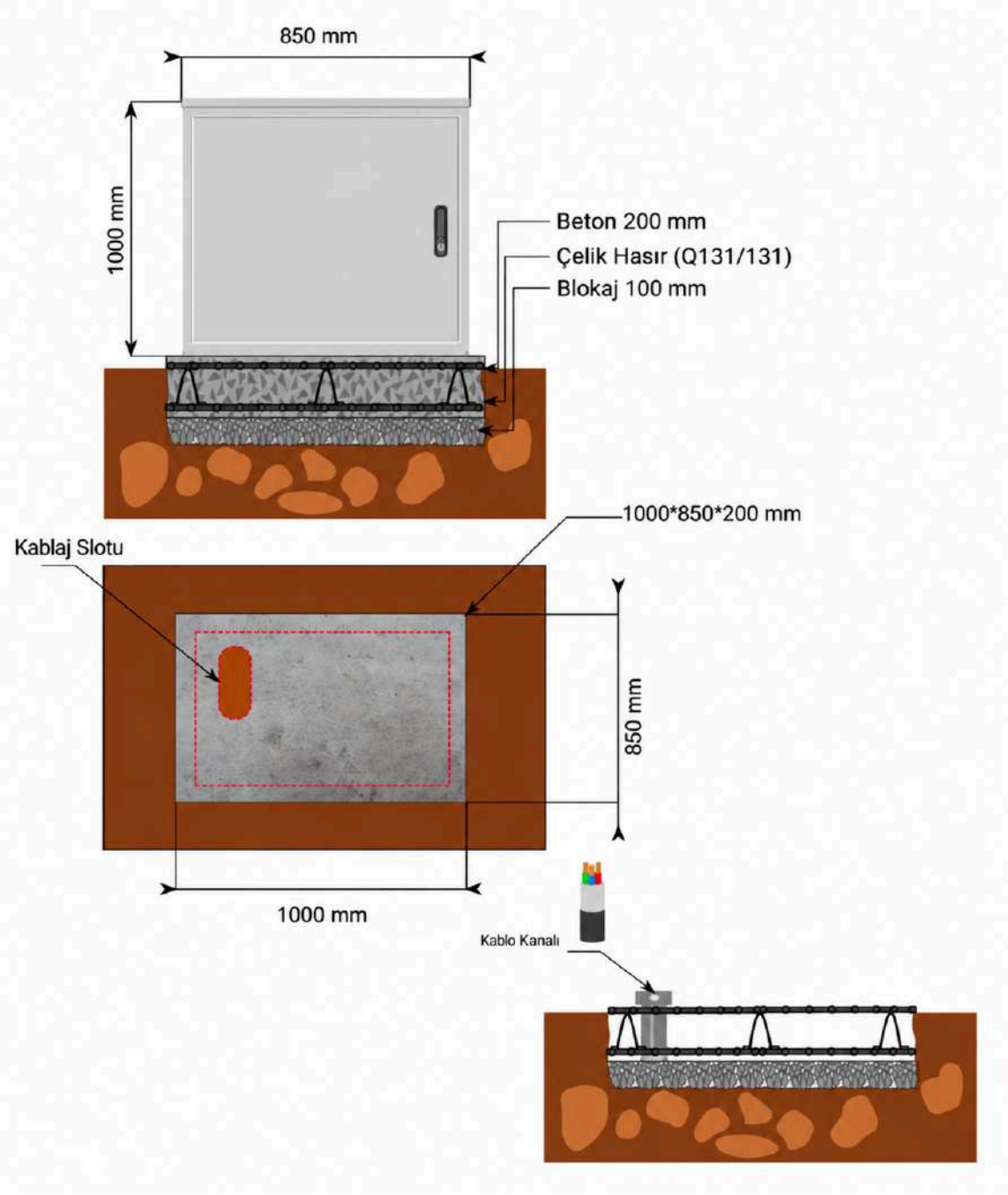


Figure 12 — Unit Panel Foundation Section

27 Control Panel

The connection and adjustment information for the hydraulic system and electrical components on the unit panel is listed below.

HYDRAULIC SYSTEM Hydraulic System

PAS68-AR700, which has a series-connected hydro-mechanical system, is managed by a programmable central unit panel. Opening and closing of the barriers is performed by a hydraulic pump that generates hydraulic power. If required, emergency lifting equipment can be added to the system.

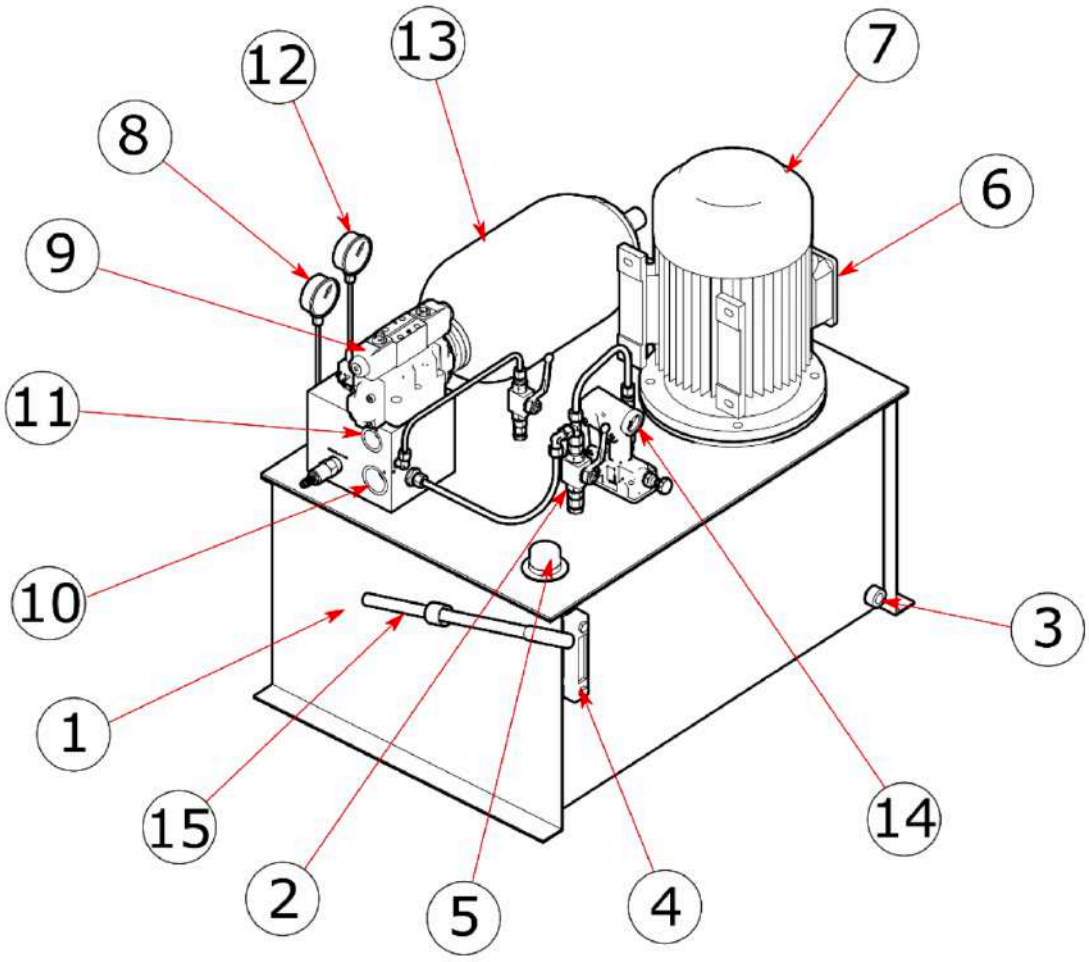


Figure 13 — Numbered Illustration of the Hydraulic Unit

No	Component
1	Hydraulic tank
2	Ball valve

No	Component
3	Hydraulic oil drain
4	Hydraulic oil level gauge
5	Hydraulic oil filler cap
6	Motor electrical connection
7	Motor
8	Hydraulic pressure gauge
9	Solenoid valve
10	Line A (barrier down)
11	Line B (barrier up)
12	Emergency rise pressure gauge
13	Emergency rise nitrogen tank
14	Manual opening
15	Manual opening lever

ⓘ Ideal operating values: hydraulic pressure gauge 60-80 bar, oil quantity 3/4 of tank capacity.

LABELS Hydraulic System Labels

High pressure warning label: located next to the pressure gauges.
Oil filling label: located on and next to the hydraulic oil filler cap.
High voltage warning label: located on the cover of the unit control panel.
Quality control label: located on the electric motor.
Direction label: located on the cooling cover of the electric motor.
Hydraulic connection labels: indicate lines A and B.

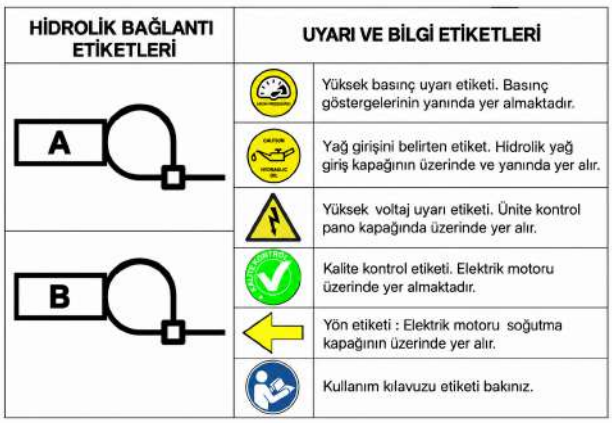


Figure 14 — Hydraulic System Labels

UNIT PANEL Unit Panel

The unit panel houses the switch, phase protection relay, contactor, PLC, loop detector and relay group. The layout inside the panel and the terminal block numbers are shown in the illustration below.

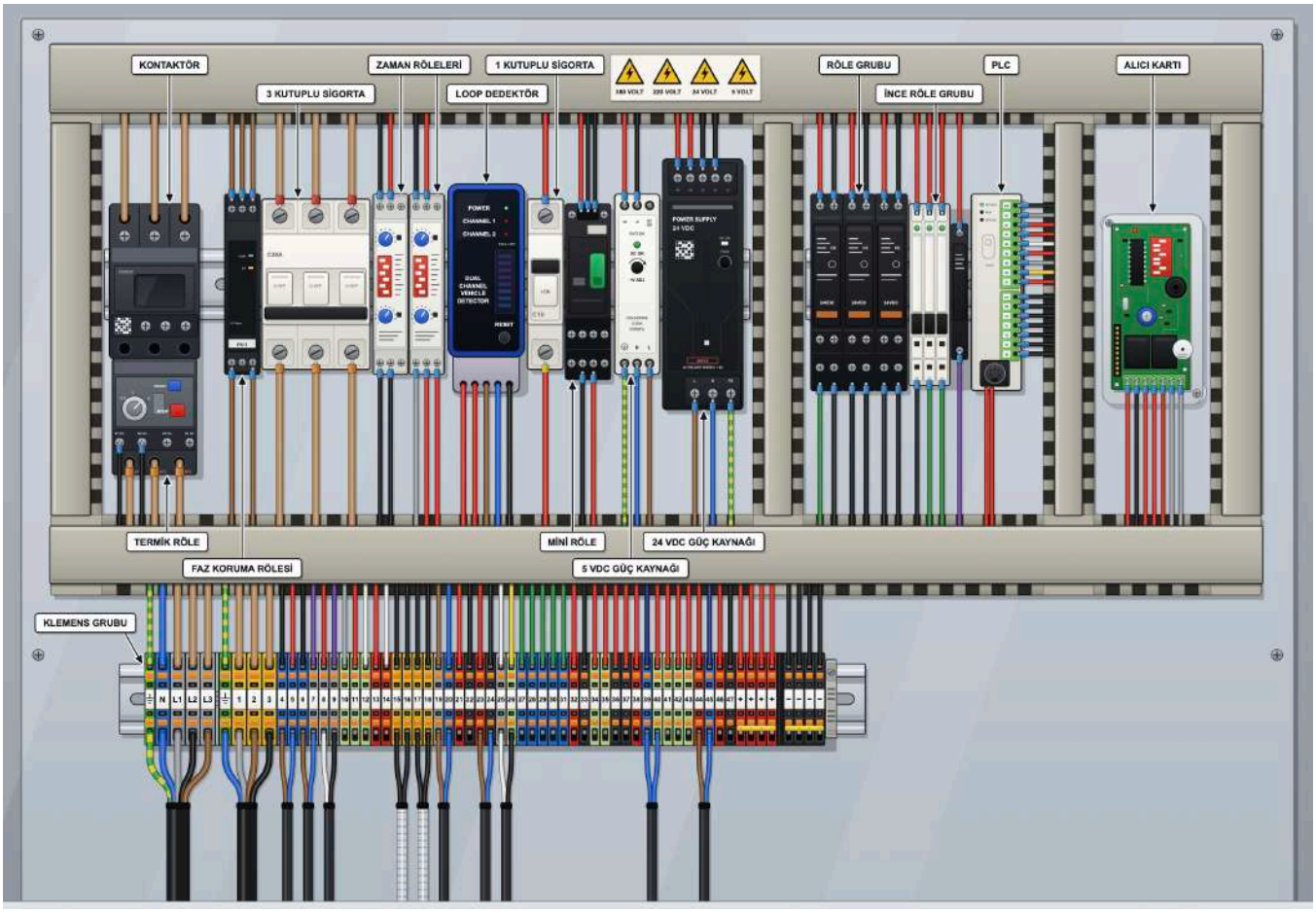


Figure 15 — Interior View of the Unit Panel

Disconnect the electrical connection before opening the panel. Otherwise, it may result in electric shock or death.

The unit panel images are representative. The panel diagrams and connection equipment are shown with all options included. Make the connections according to the diagram on the panel of the product you have purchased.

28 Loop Detector System

A vehicle entering the loop winding area causes changes in the electromagnetic field. This change in the field triggers the relays on the unit panel, ensuring vehicle safety.

Loop Detector System Connection: When starting the loop winding, leave 3 m of slack at the first cable end for the external connection. The number of loop turns is 3. Run the cable 3 turns inside the channel cut in the ground. At the end of the winding, twist the two leads left outside around each other in a spiral and route them to the unit panel. Cover the loop winding to prevent it from being damaged. Measure the winding ends with a multimeter to check that the circuit is complete. As the loop area changes, the number of turns will also change.

The loop winding must be single-core NYAF cable with a diameter of 1 or 1.5 mm. For the loop winding, the ground must be cut to a depth of 5 cm and a thickness of 5 mm.

- After the cable has been laid, seal the loop slot with chemical epoxy.

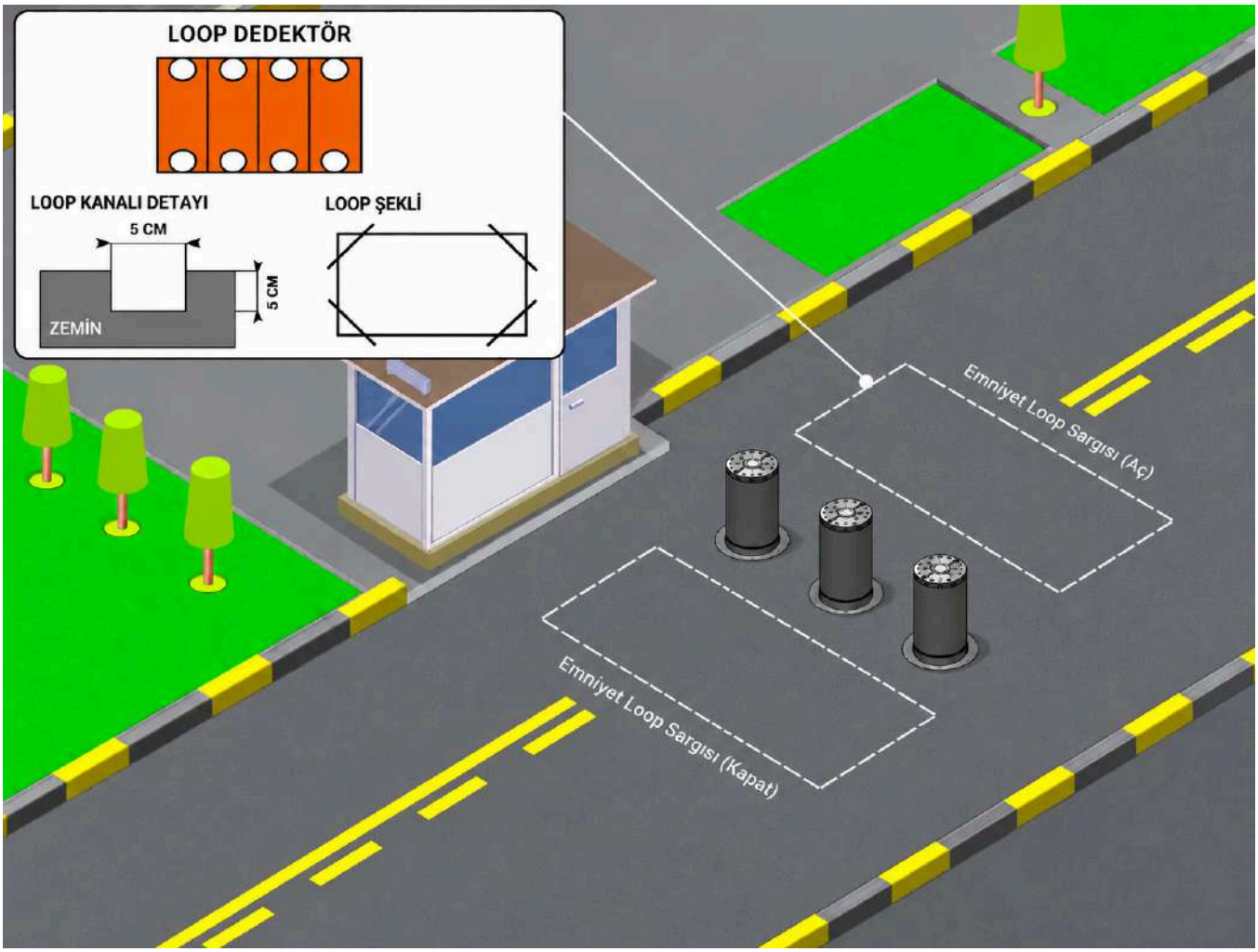


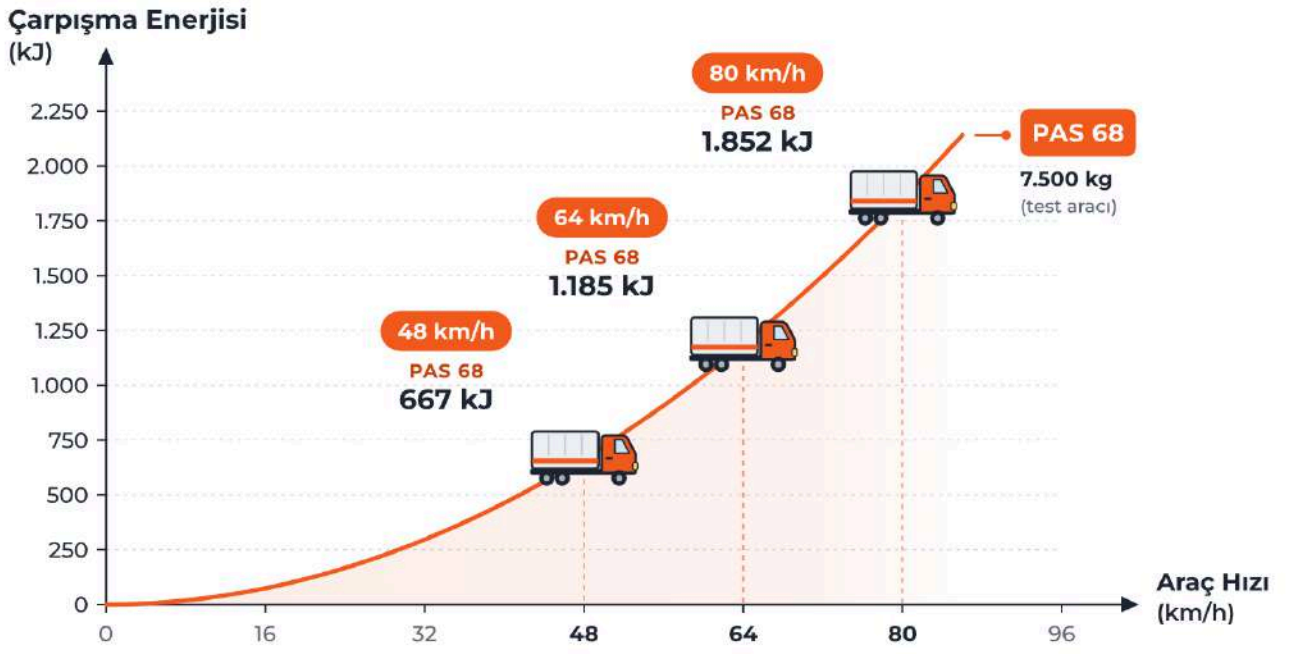
Figure 16 — Loop Winding Ground Cross-Section

29 Impact Energy and Test Values

PAS 68 is the British standard that defines the impact resistance of security barriers used against vehicle attacks and forced-entry attempts (BSI PAS 68). In the test, a vehicle of a specified weight is driven into the barrier at a defined speed, generally at an angle of 90°. The distance by which the vehicle passes the barrier (penetration distance) and the distance travelled by scattered debris are then measured.

In the heavy vehicle class the test vehicle weighs 7,500 kg and the tests are carried out at speeds of 48, 64 and 80 km/h. The impact energy depends on the weight of the vehicle and on the square of its speed ($E = ½ \cdot m \cdot v^2$). For this reason the energy increases much faster as the speed rises: an impact at 80 km/h carries approximately 2.8 times the energy of an impact at 48 km/h. A heavier vehicle at the same speed produces higher energy.

The graph and table below show the impact energy of the 7,500 kg test vehicle at different speeds. The PAS 68 test speeds are 48, 64 and 80 km/h; the values for 32, 56 and 72 km/h are given for comparison. The test class and the results for your bollard barrier are stated in the product certificate.



Araç Hızı (km/h)	32 km/h	48 km/h PAS 68 testi	56 km/h	64 km/h PAS 68 testi	72 km/h	80 km/h PAS 68 testi
Araç Hızı (mph)	20 mph	30 mph	35 mph	40 mph	45 mph	50 mph
Çarpışma Enerjisi PAS 68 · 7.500 kg	296 kJ	667 kJ	907 kJ	1.185 kJ	1.500 kJ	1.852 kJ

Figure 17 — New image area

30 Maintenance Procedure

Carry out the following maintenance procedures regularly every 6 months.

- Remove the moving part and clean the waste accumulated inside the outer mortise.
- Clean the drainage inlets so that the moisture discharge system can work efficiently.
- Lubricate the linear guides on the moving part.
- Make sure that the bolts on the bollard barrier are not loose.
- Check the hydraulic connections inside the unit panel.
- Check the detection sensor.
- Check whether there is a hydraulic oil leak inside the unit panel.
- Check the oil gauge; if an oil loss is detected, top up the oil.
- Carry out an oil leak check.

> ⚠ Before maintenance, switch off the power to the unit panel and release the system pressure.

31 Periodic Maintenance Inspection Form

During periodic maintenance, fill in and record the form below.

MAINTENANCE FORM **Periodic Maintenance Inspection Form**

Inspection Item	Date	Description	Action Taken	Status
Lubrication of the slides				
Hydraulic oil level check				
Bolt and component check				
Check of the manual lowering system (if fitted)				
LED warning indicator check				
Hydraulic connection check				
Hydraulic component oil leak check				
Check of the pressure gauge				
Traffic light operation check				
Loop detector check				
Button and remote control operation check				

Inspection Item	Date	Description	Action Taken	Status
Relay operation check (arc check)				
Oil viscosity check				
Check of the heater (if fitted)				

32 Troubleshooting

Noise Coming from the Bollard Barrier

- The bottom cover screws may have loosened; check them.
- Dirt may have entered the barrier gasket; clean it and refit it.
- If the noise comes from other components, contact technical service.

Noise Coming from the Hydraulic Unit (HPU) SERVICE REQUIRED

- Contact technical service.

Remote Controls Do Not Work

- Check the remote control battery; if the signal light does not come on, replace the battery.
- Make sure the remote control buttons work.
- The emergency stop button may be pressed; make sure it is not pressed.
- The fire system may be active; make sure it is not active.
- The remote control receiver board may be faulty; check it by pressing the button on the board.
- If the remote control is new, its encoding may be incorrect; contact technical service.

Remote Controls Respond Late

- Check the remote control battery; if the signal light does not come on, replace the battery.
- Check whether there is a signal jammer nearby (a base station, etc.).
- Check the remote control receiver antenna; it may have come loose.

The Fuse Trips SERVICE REQUIRED

- Check the cable groups running to the panel for burn marks.
- Check whether the motor is being overloaded.
- Check the cable groups inside the panel.
- The rotary switch may be broken or cracked; check that the switch knob works.
- Take a measurement to check that the phase protection works.
- Check that the contactor works.
- Check whether there is power output at the adapter.
- Check whether there is power at the control board.

Not Working / Faulty SERVICE REQUIRED

- Check whether the system has power.
- Take a measurement on the main line cable.
- The phase sequence may be incorrect; correct it.
- The phase protection relay may be faulty; take a measurement.

The System Has Power but There Is No Mechanical Movement SERVICE REQUIRED

- Check whether the manual valve is open.
- Check whether EFO (emergency) is pressed.
- Check whether the fire system is active.
- Check whether there is an obstacle on the loop detector / photocell operating line.
- Check the cable connections of the system against the wiring diagram.
- Check the operation of the remote control and the button.
- Check that the relays are fully seated in place.
- Check that the limit switch connections are correct and working.
- Check whether there is power output at the adapter and power at the control board.

The Product Stops Halfway While Operating SERVICE REQUIRED

- If the product has just been installed, check whether there is concrete residue inside that obstructs the movement.
- Check the oil level; add oil if necessary.
- Check whether the motor keeps running when the product stops halfway; if it does not, contact technical service.
- If limit switches are fitted, check their positions.
- The piston may be deformed; check it.

There Is an Oil Leak SERVICE REQUIRED

- Check whether there is leakage from the oil gauge.
- Check the connection fittings on the unit (valve, solenoid valve, pressure gauge, etc.).
- Check the fittings on the unit.
- Check whether there is any leakage from the fittings on the piston or from the piston body.

Rises Slowly SERVICE REQUIRED

- The manual lowering valve may not be in the correct position; check it.
- Remove the locking valve, clean it, and refit it.
- There may be an oil leak; check the hoses and fittings.
- The solenoid valve may be faulty; if available, test with another valve.
- There may be a motor fault; the unit must be checked by technical service.
- There may be a pump fault; the unit must be checked by technical service.

33 Legal Rights

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ARMAKONTROL · PROJE TASARIM DEPARTMANI

PAS68 K4 Mantar Bariyer

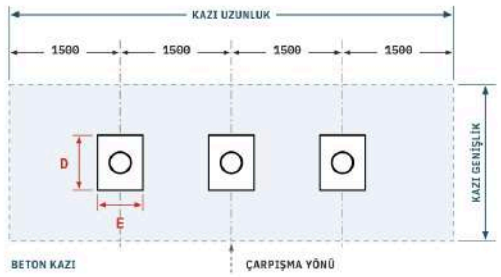
Montaj kılavuzu ölçü föyü — hidrolik mantar ünite gövdesi ve beton kazı boyutları. Ø219 gövde, 1'liden 6'lıya 6 konfigürasyon.

FORM	YAYIN
FR-057 R.001	26.09.2023
HAZIRLAYAN	BİRİM
U. Gezersu	mm

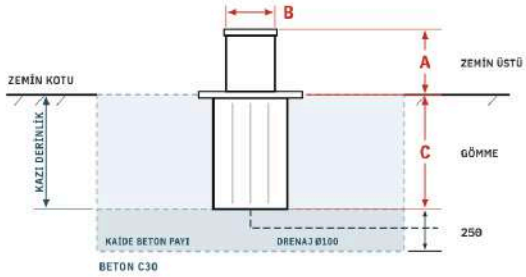
ÖLÇÜ KODLARI

Tüm ölçüler mm · Ölçek 1/1

ÜST GÖRÜNÜM · 3'LÜ ÖRNEK



ARKA GÖRÜNÜM · KESİT



ÜRÜN ÖLÇÜLERİ

A	**Yerden yükseklik**	Zemin üstünde kalan boy. Sabit.
B	**Gövde çapı**	Mantar bariyer gövde çapı: Ø219.
C	**Gömme derinliği**	Zemin kotundan ünite alt yüzüne. Sabit.
D	**Gövde boyu**	Zemin altı gövdenin çarpışma yönündeki ölçüsü.
E	**Gövde eni**	Zemin altı gövdenin yol enine ölçüsü.

BETON KAZI

U	**Kazı uzunluğu**	(adet + 1) × 1500 — yol enine, adetle değişir.
G	**Kazı genişliği**	Çarpışma yönünde. Adetten bağımsız.
H	**Kazı derinliği**	C ile aynı; altında 250 mm kaide beton payı.

TÜM MODELLERDE ORTAK

adet bağımsız

PANO ÖLÇÜLERİ

Pano tipi	A	B	C
Ünite Panosu	850	850	1000
Ünite Panosu (EFO)	850	1200	1200
Ünite Panosu (Alternatif)	650	850	1240

Pano beton kaidesi üst görünümde 1200 × 1200, kaide yüksekliği 100.

MONTAJ ÖLÇÜLERİ

Bariyerler arası aks mesafesi	1500
Kazı ucundan ilk aksa	1500
Kaide beton payı	250
Loop dedektörü mesafeleri	1000 + 1000
Kollu bariyer · trafik lambası kaidesi	500 · 200
Drenaj borusu	Ø100 · Ø40
Beton sınıfı	C30

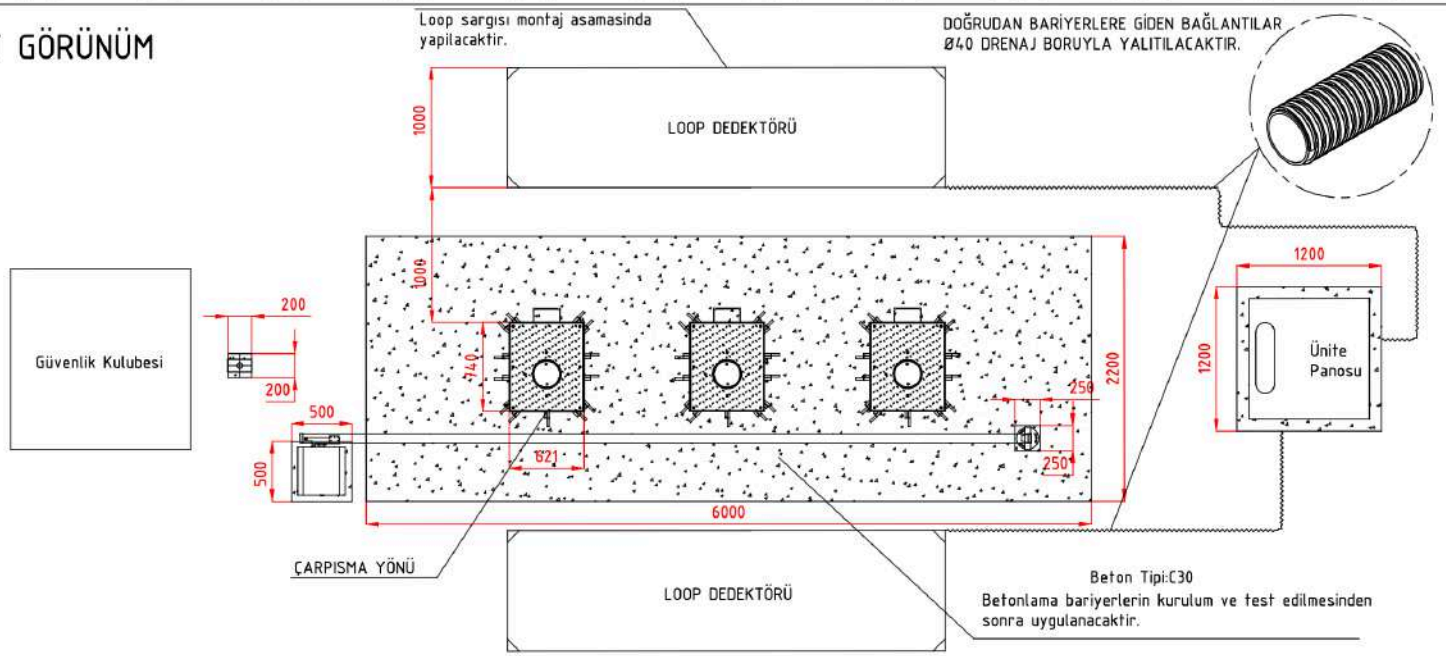
MODEL ÖLÇÜLERİ

6 konfigürasyon

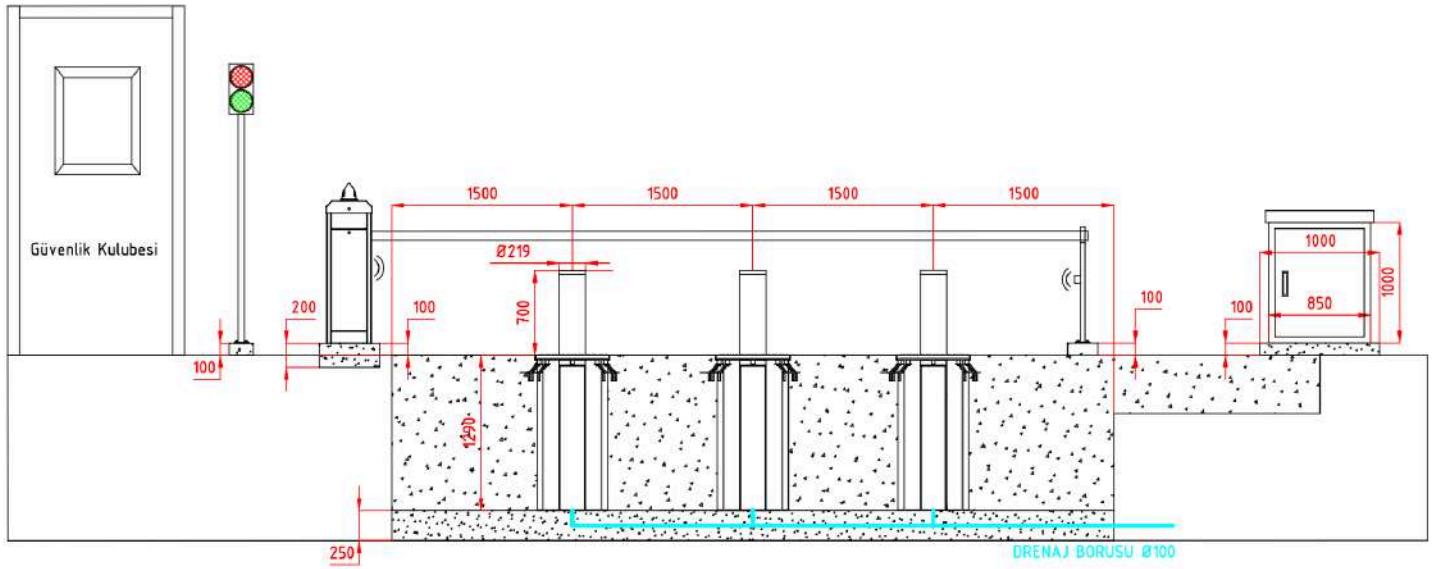
		ÜRÜN ÖLÇÜLERİ					BETON KAZI			AĞIRLIK · KG	
Model	**Adet**	**A** yükseklik	**B** çap	**C** gömme derinliği	**D** gövde boyu	**E** gövde eni	**Uzunluk**	**Genişlik**	**Derinlik**	**Tek** mantar	**Set** toplamı
K4	1'li	**700**	Ø219	**1290**	740	621	3000	2200	1290	497,58	**497,58**
K4	2'li	**700**	Ø219	**1290**	740	621	4500	2200	1290	497,58	**995,16**
K4	3'lü	**700**	Ø219	**1290**	740	621	6000	2200	1290	497,58	**1.492,74**
K4	4'lü	**700**	Ø219	**1290**	740	621	7500	2200	1290	497,58	**1.990,32**
K4	5'li	**700**	Ø219	**1290**	740	621	9000	2200	1290	497,58	**2.487,90**
K4	6'lı	**700**	Ø219	**1290**	740	621	10500	2200	1290	497,58	**2.985,48**

A, B, C, D, E, kazı genişliği ve kazı derinliği adetle değişmez. Adetle ölçeklenen tek boyut kazı uzunluğudur: `kazı uzunluğu = (adet + 1) × 1500` (1500 mm aks, uçlarda 1500 mm). `kazı derinliği = C` (gömme derinliği); ünite altındaki 250 mm kaide beton payıdır. Betonlama bariyerlerin kurulum ve testinden sonra yapılır. **Ağırlık:** AR700 dıştan üniteli hidrolik mantarın komple montaj ağırlığı (montaj resmi antedi). `set toplamı = adet × tek mantar`; pano, kollu bariyer ve beton dahil değildir.

ÜST GÖRÜNÜM



ARKA GÖRÜNÜM



ArmaKontrol

NOTLAR :

BU ÇİZİMİN MÜLKİYETİ ARMA KONTROL'E AİTTİR ! YAZILI İZNİ OLMADAN KOPYALANAMAZ. DAĞITILAMAZ. ÜÇÜNCÜ TARAFLARA VERİLMEMELİDİR.

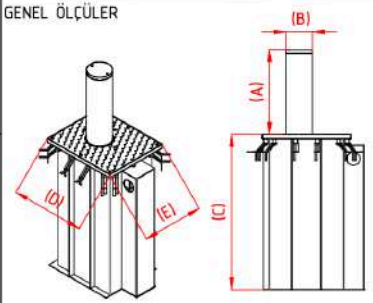
Tel: +90 212 222 75 00
Faks: +90 212 220 32 83

TÜM ÖLÇÜLER MM'DİR.
SADECE BELİRTİLEN ÖLÇÜLER DİKKATE ALINACAKTIR.

TÜM UYUŞMAZLIKLAR MÜHENDİSİN DİKKATİNE SUNULACAK VE ÖNCEDEN ÇÖZÜLECEKTİR.

MİLİMETRE OLARAK TÜM BOYUTLAR AYRICA BELİRTİLMİŞTİR.

GENEL ÖLÇÜLER



A	B	C	D	E
700	219	1290	740	621

UNITE PANO ÖLÇÜLERI

A	B	C		
850	850	1000		

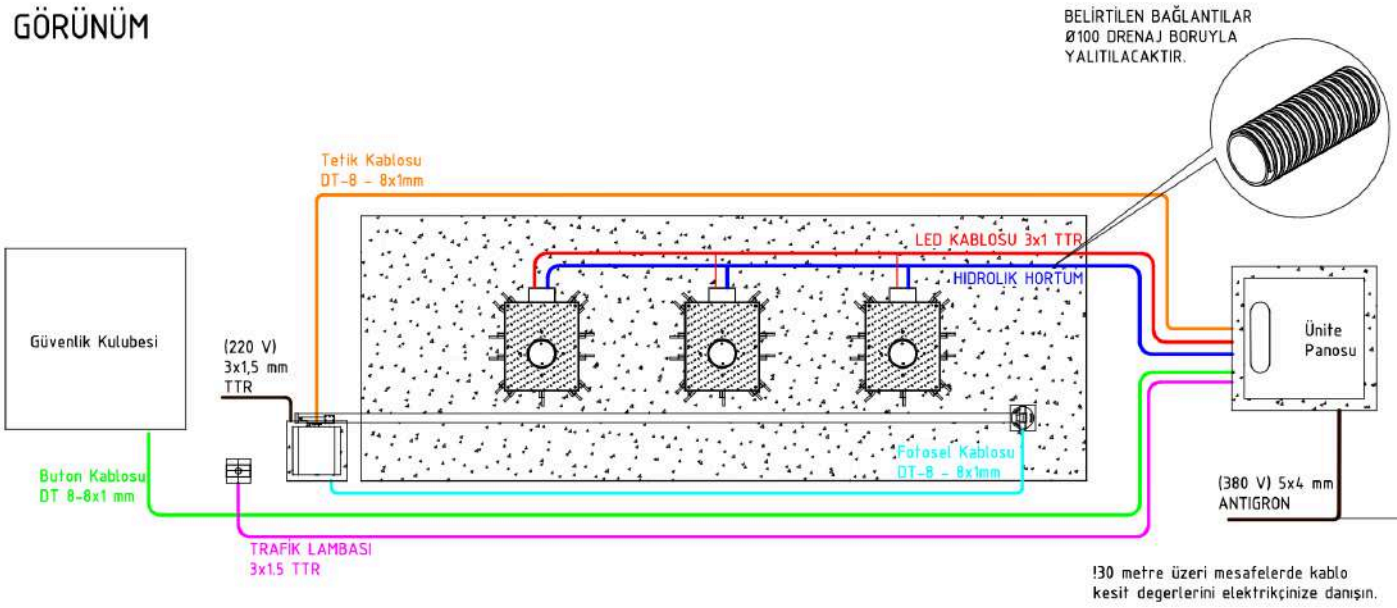
UNITE PANO ÖLÇÜLERI (EFO)

A	B	C		
850	1200	1200		

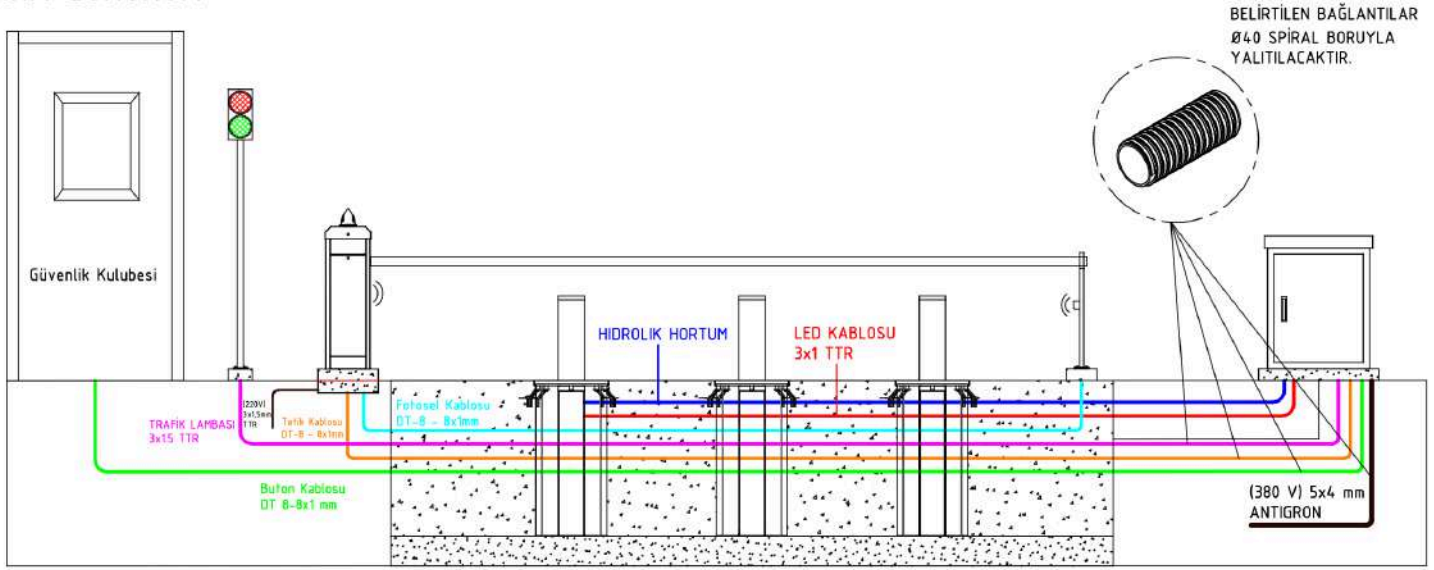
ÖLÇEK	1/1
HAZIRLAYAN	PROJE TASARIM DEP.
	U.GEZERSU

TÜM ÖLÇÜLER MM'DİR

ÜST GÖRÜNÜM



ARKA GÖRÜNÜM



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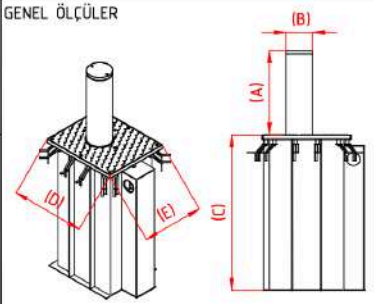
Tel: +90 212 222 75 00
Faks: +90 212 220 32 83

TÜM ÖLÇÜLER MM'DİR.
SADECE BELİRTİLEN ÖLÇÜLER DİKKATE ALINACAKTIR.

TÜM UYUŞMAZLIKLAR MÜHENDİSİN DİKKATİNE SUNULACAK VE ÖNCEDEN ÇÖZÜLECEKTİR.

MİLİMETRE OLARAK TÜM BOYUTLAR AYRICA BELİRTİLMİŞTİR.

GENEL ÖLÇÜLER



A	B	C	D	E
700	219	1290	740	621

UNITE PANO ÖLÇÜLERI

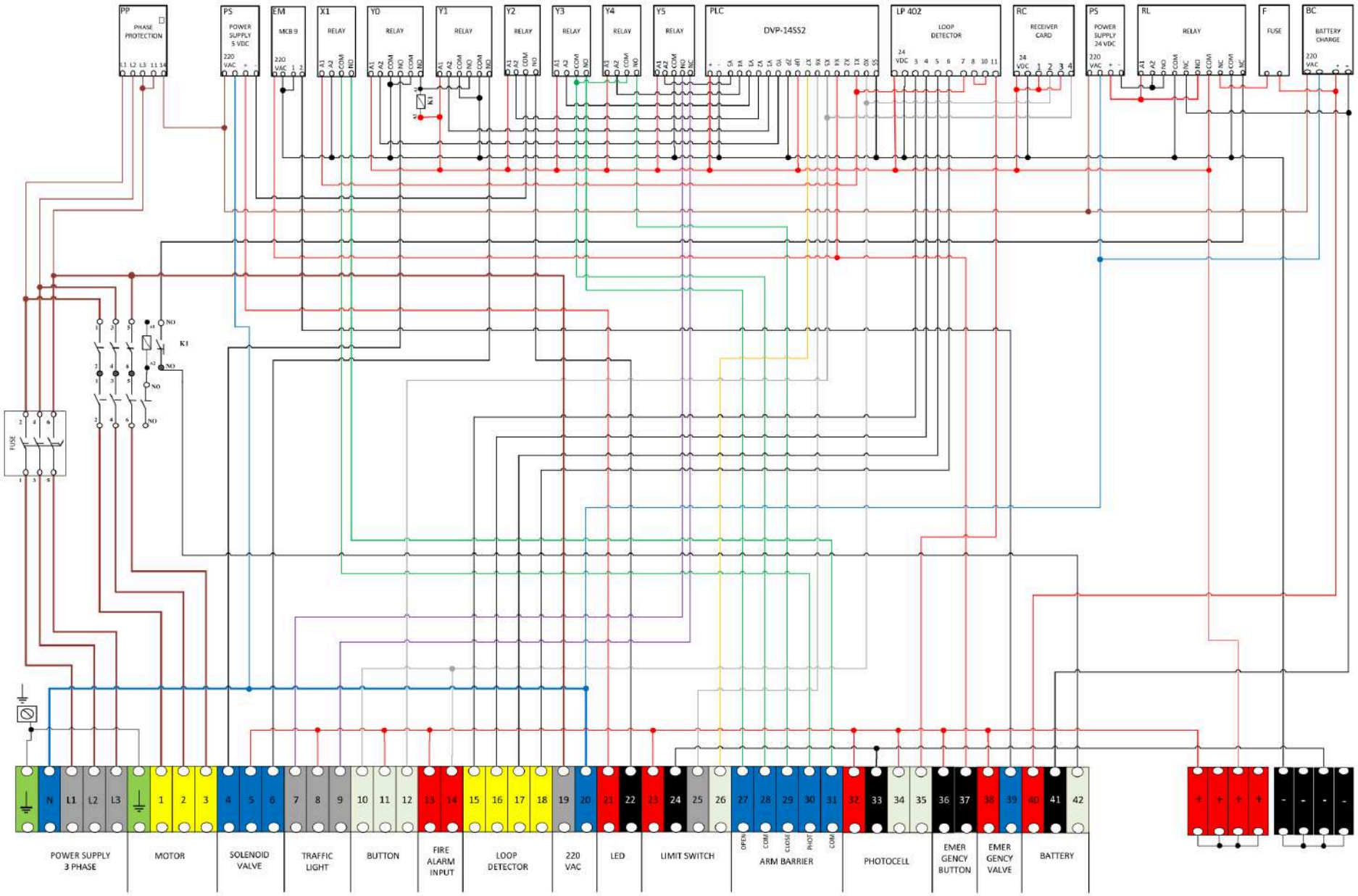
A	B	C		
850	850	1000		

UNITE PANO ÖLÇÜLERI (EFO)

A	B	C		
850	1200	1200		

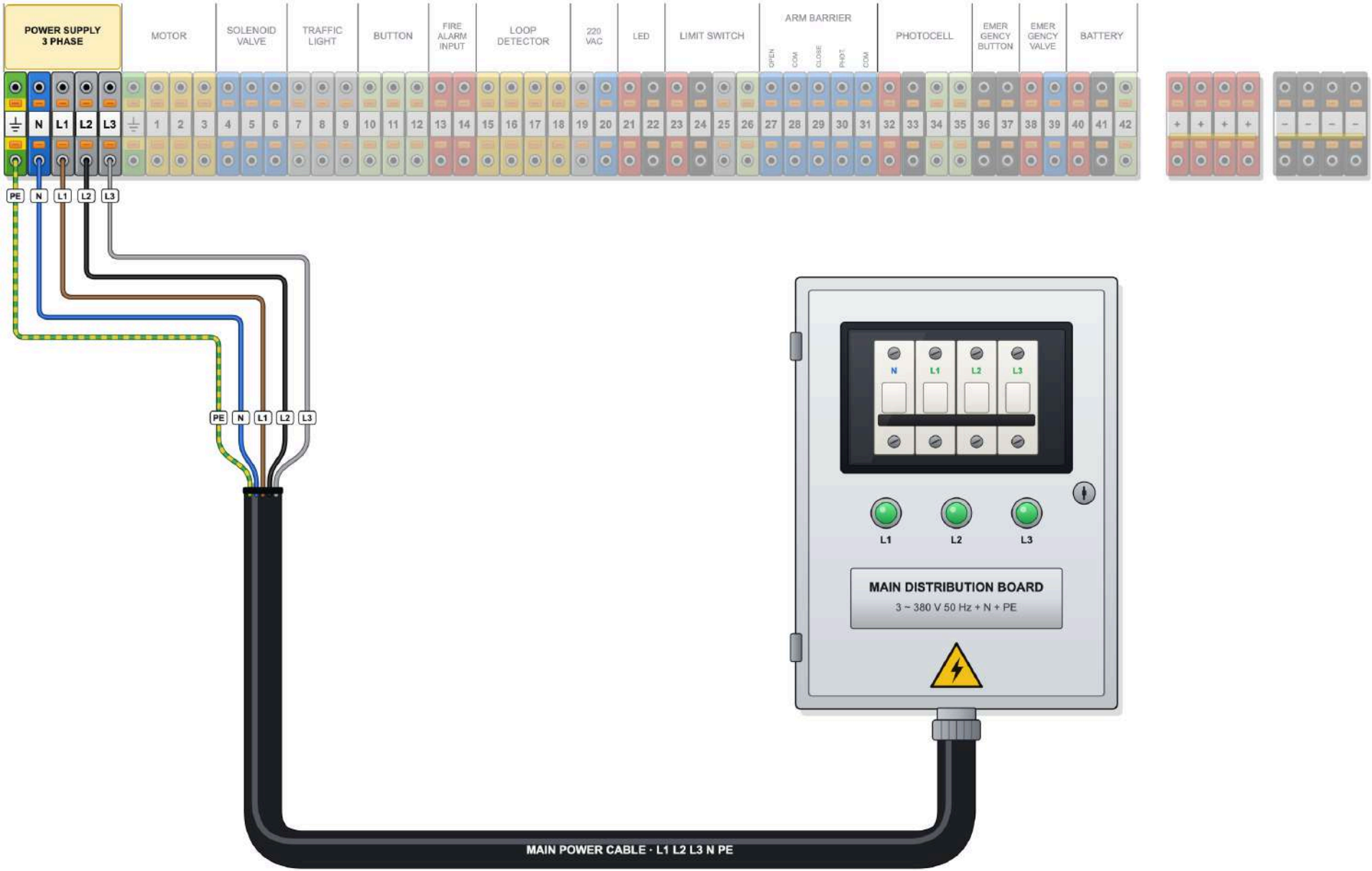
ÖLÇEK	1/1
HAZIRLAYAN	PROJE TASARIM DEP.
	U.GEZERSU

TÜM ÖLÇÜLER MM'DİR



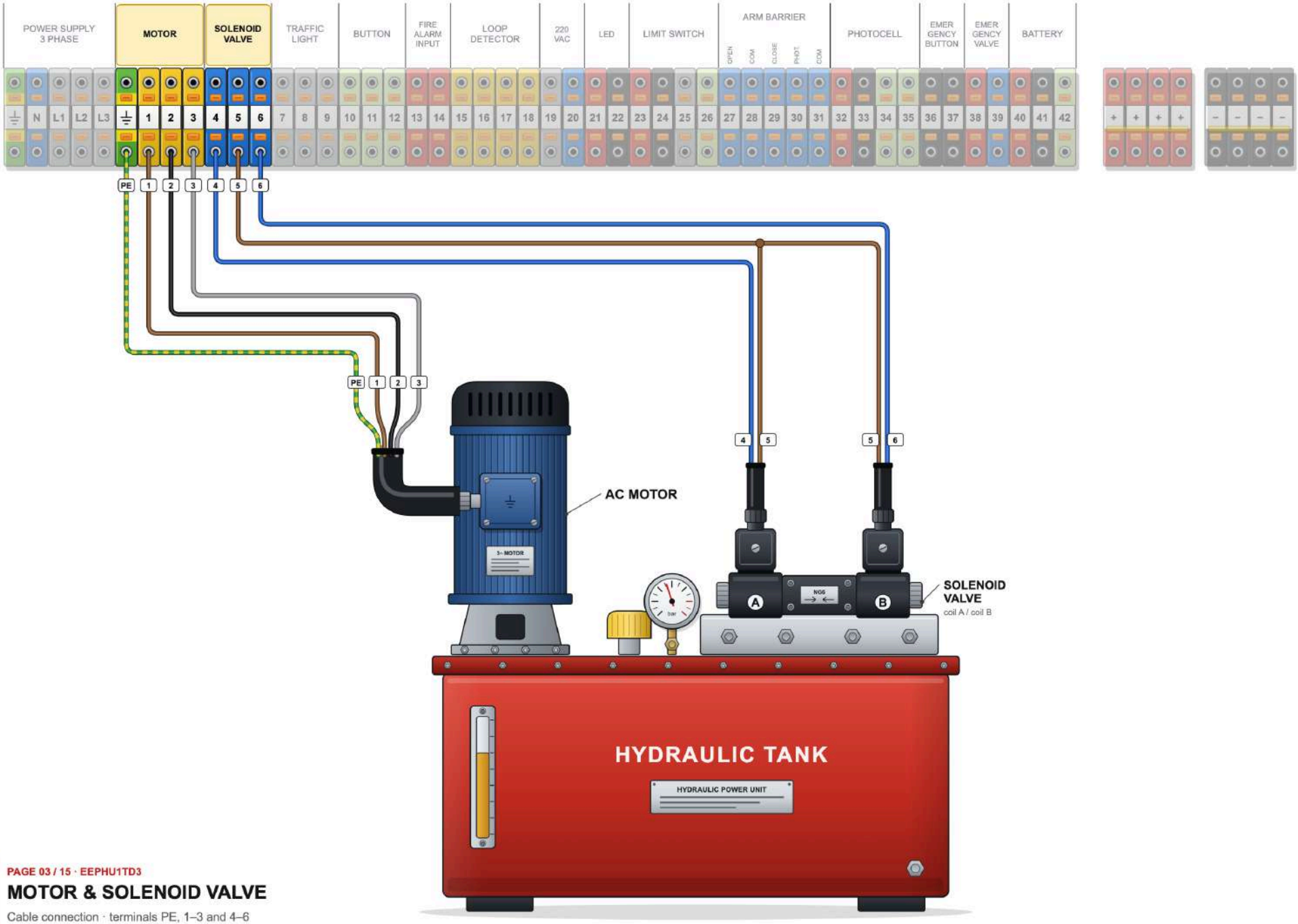
COMPLETE DIAGRAM

Road blocker + rising bollard · control panel wiring



MAIN POWER CABLE

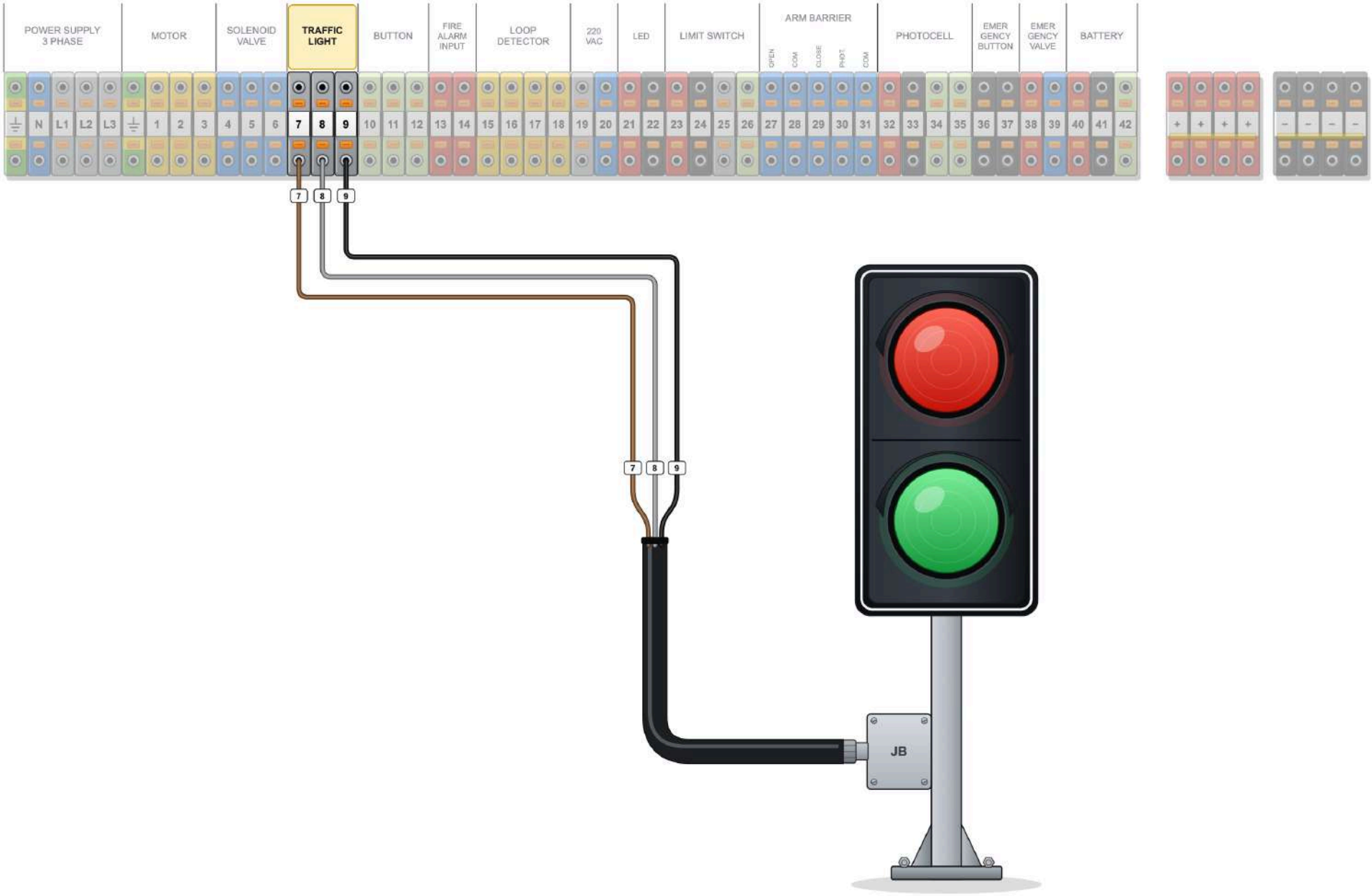
3-phase supply · terminals PE, N, L1, L2, L3



PAGE 03 / 15 · EEPHU1TD3

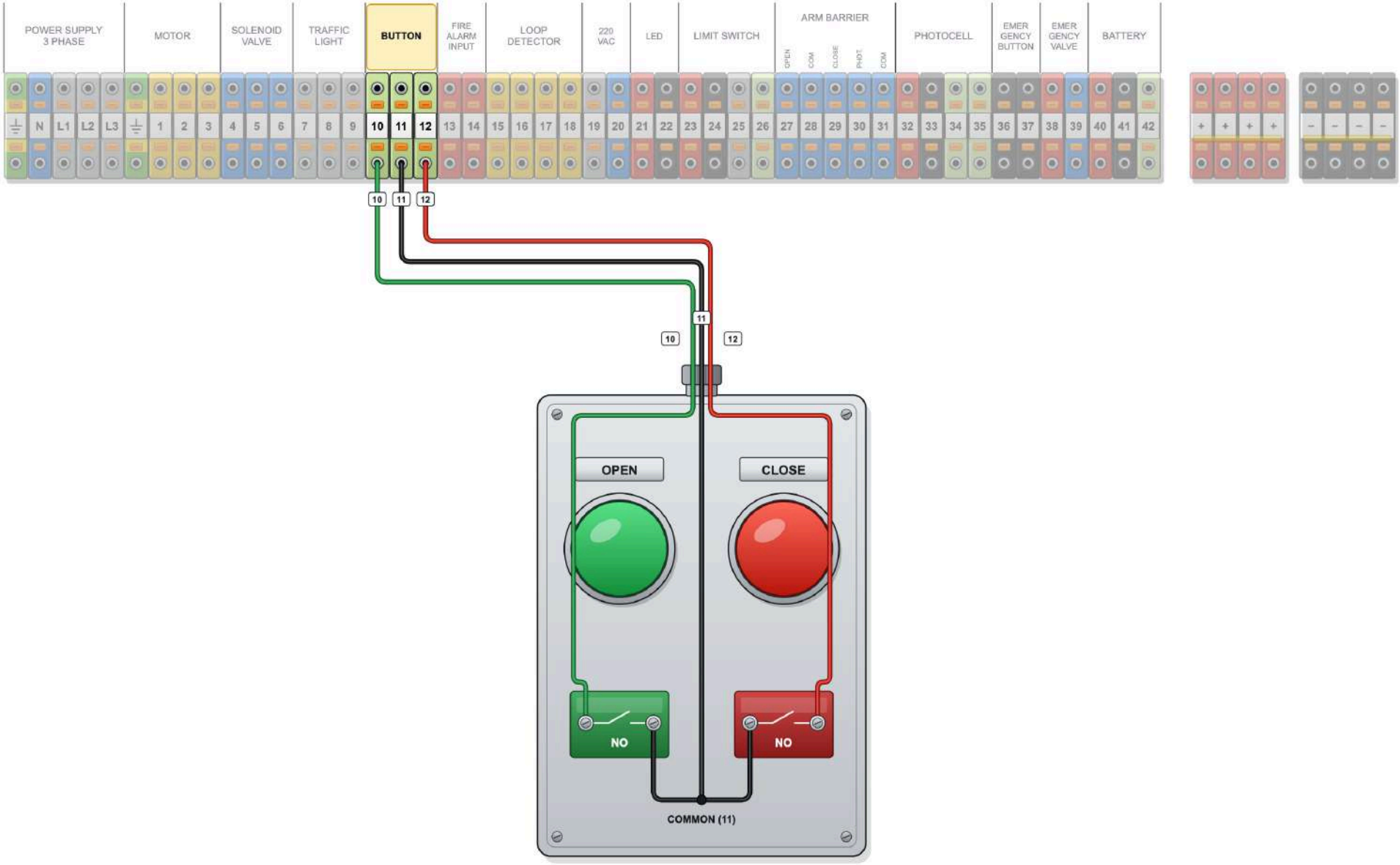
MOTOR & SOLENOID VALVE

Cable connection · terminals PE, 1–3 and 4–6



TRAFFIC LIGHT

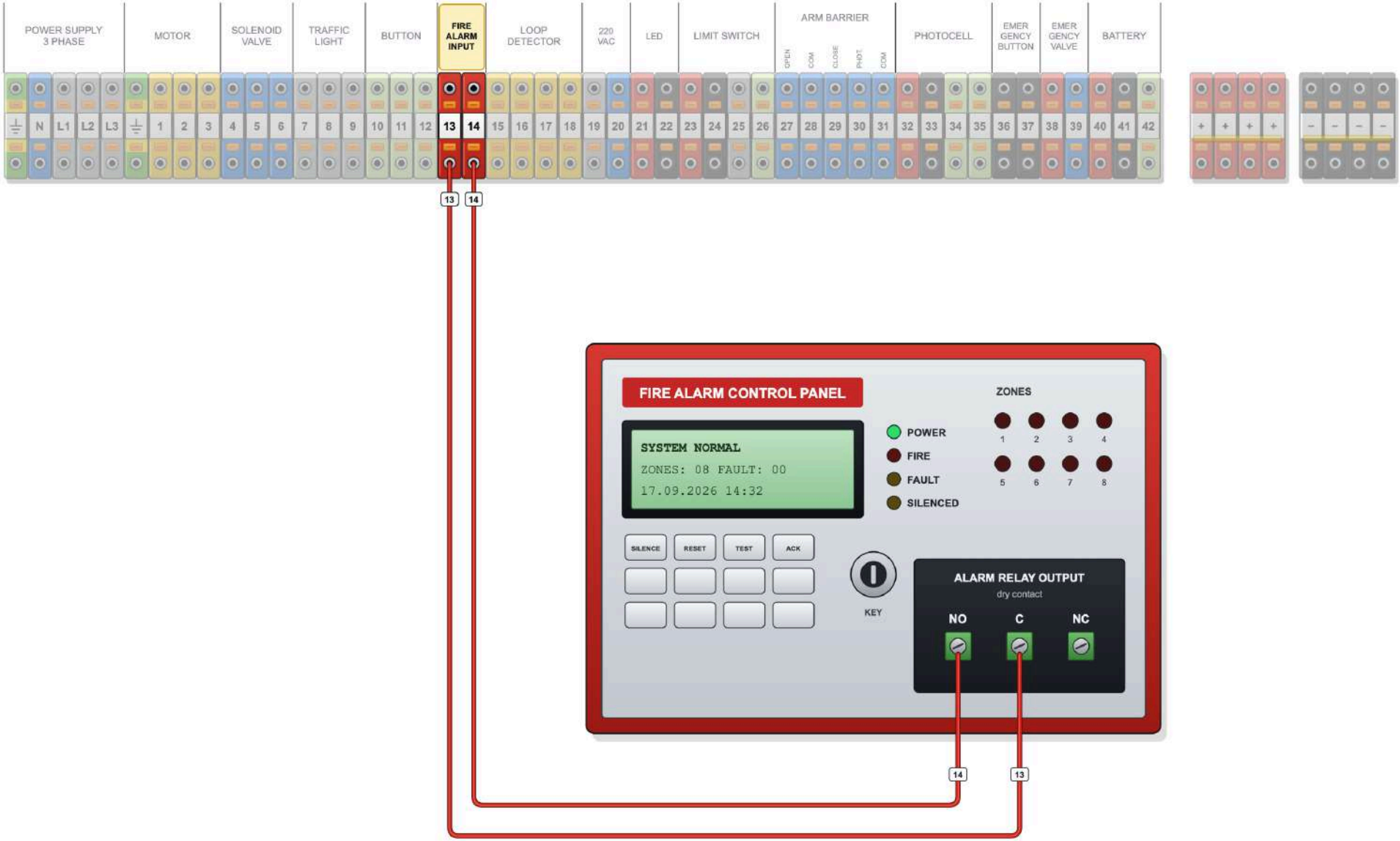
Cable connection · terminals 7, 8, 9



PUSH-BUTTON STATION

BUTTON

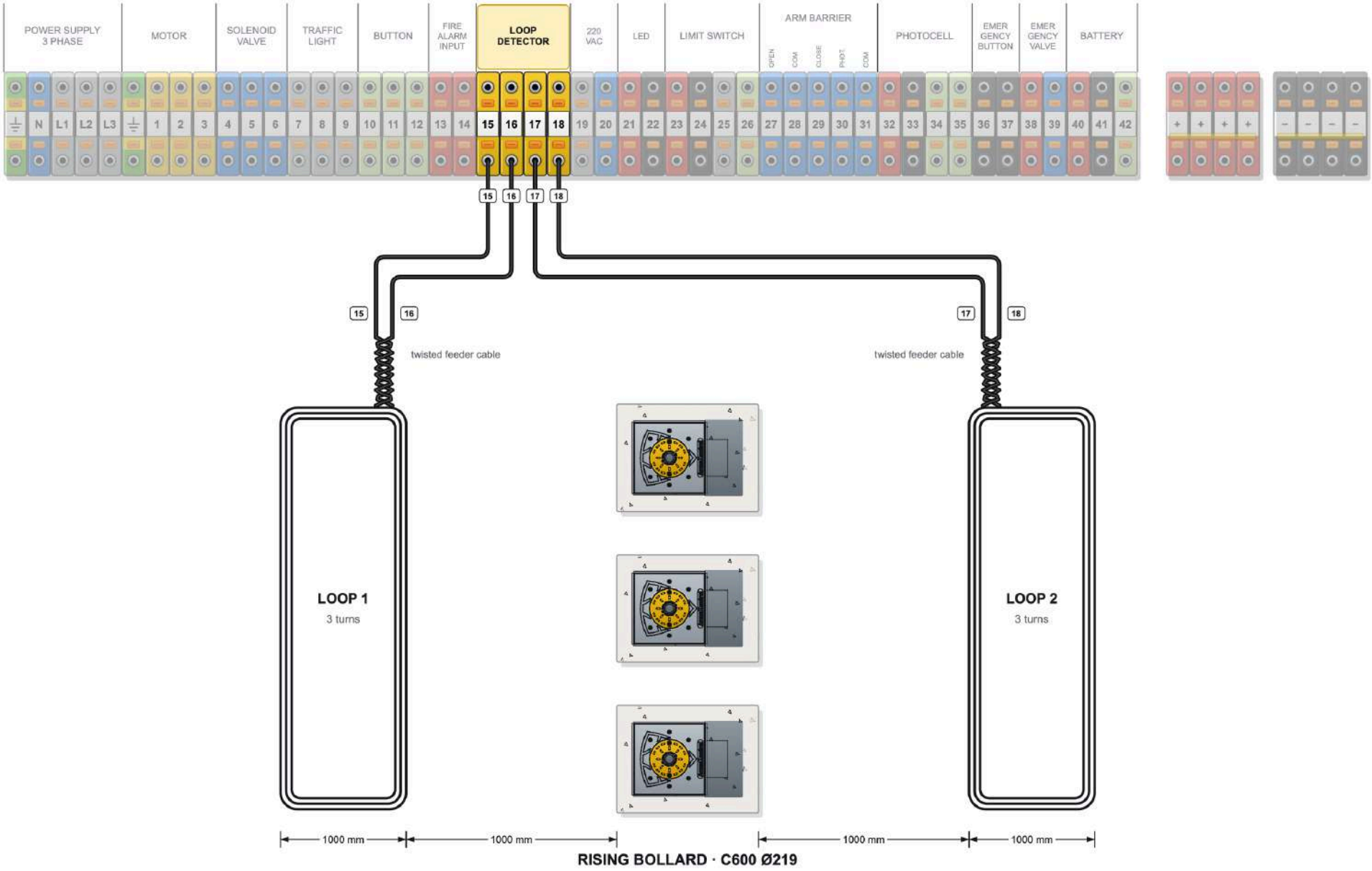
Open / close push-button station · terminals 10, 11, 12



PAGE 06 / 15 · EEPHU1TD3

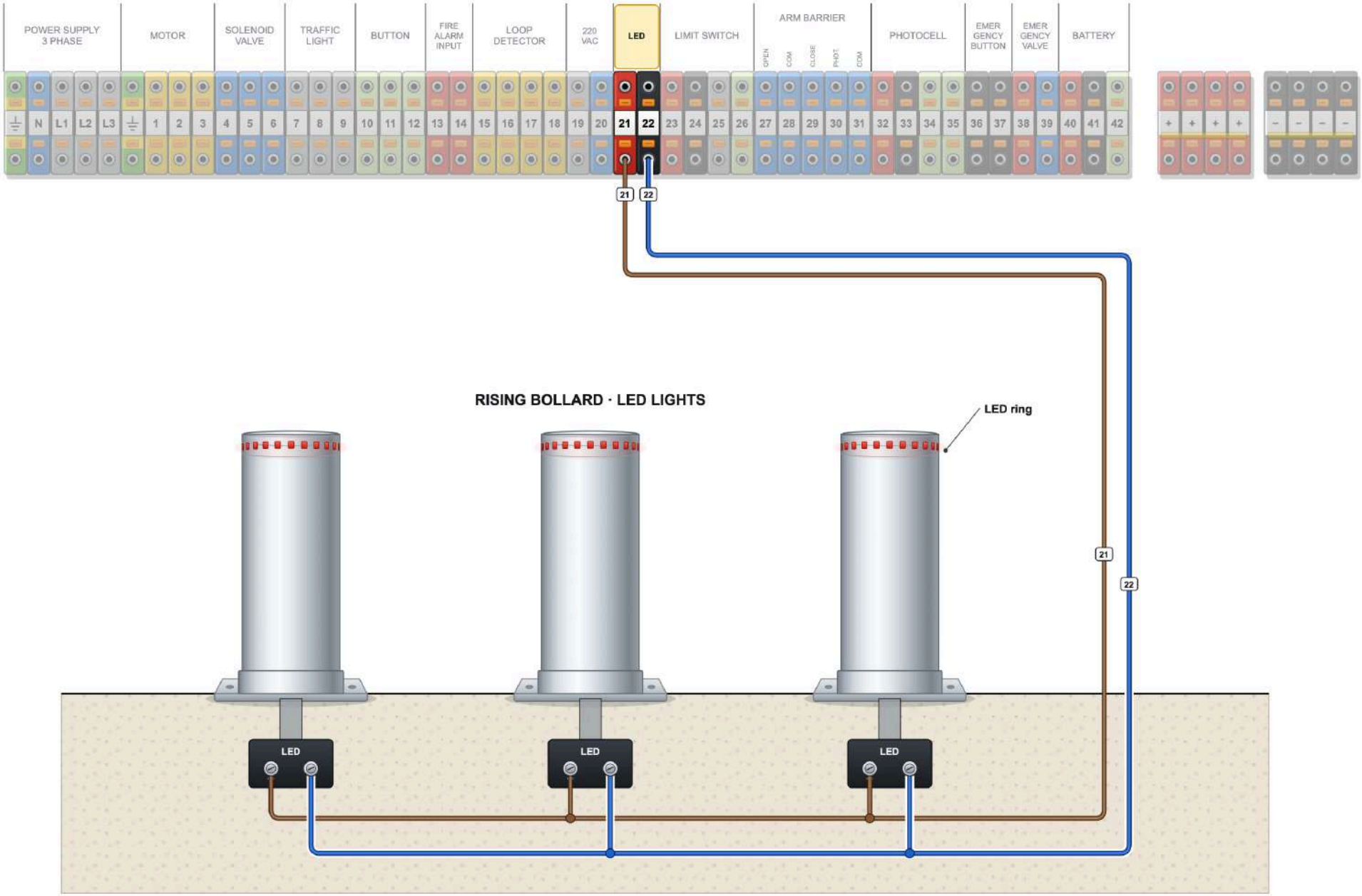
FIRE ALARM INPUT

Dry contact from the fire alarm panel · terminals 13, 14



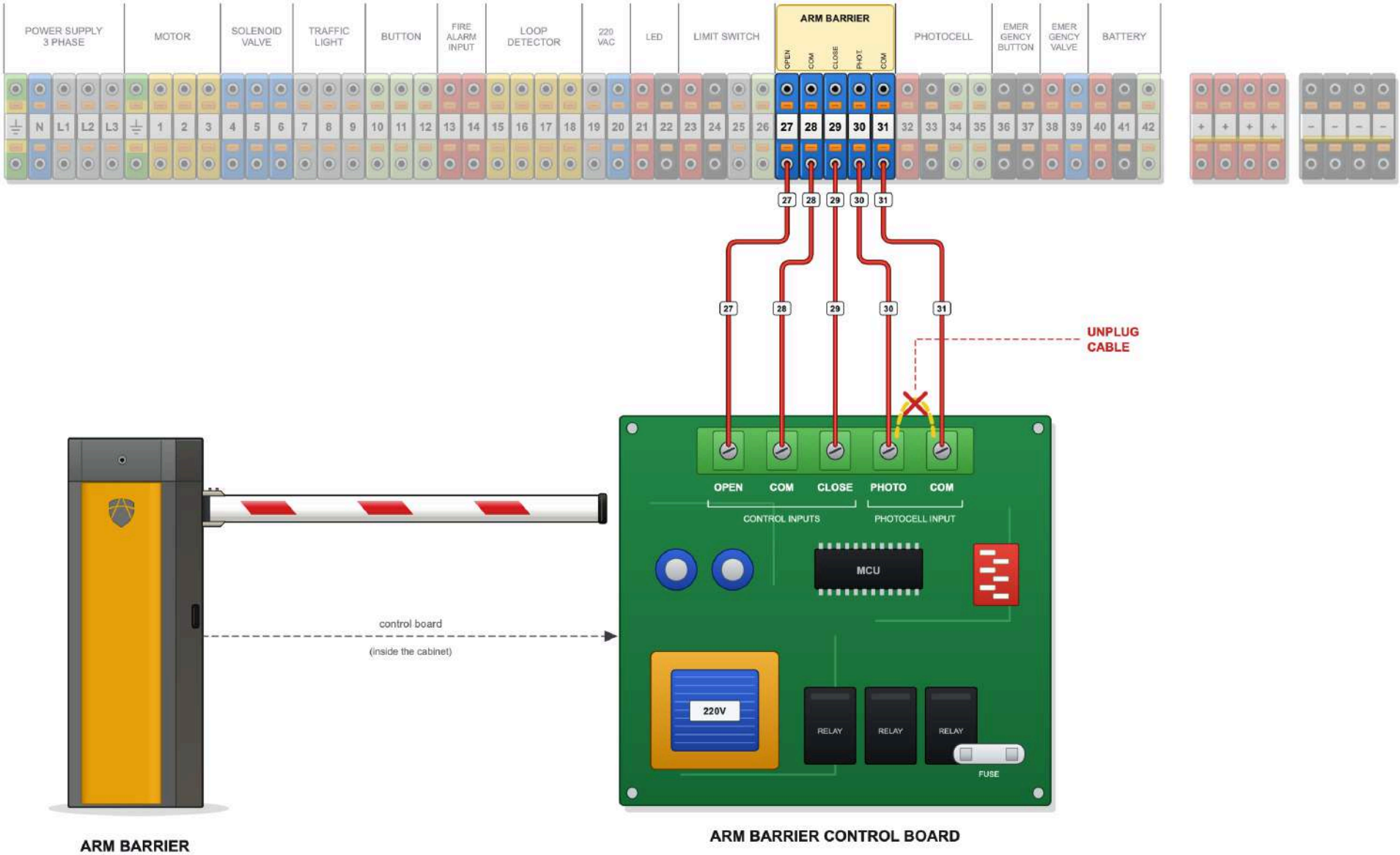
LOOP DETECTOR · RISING BOLLARD

Loop 1: terminals 15, 16 · Loop 2: terminals 17, 18



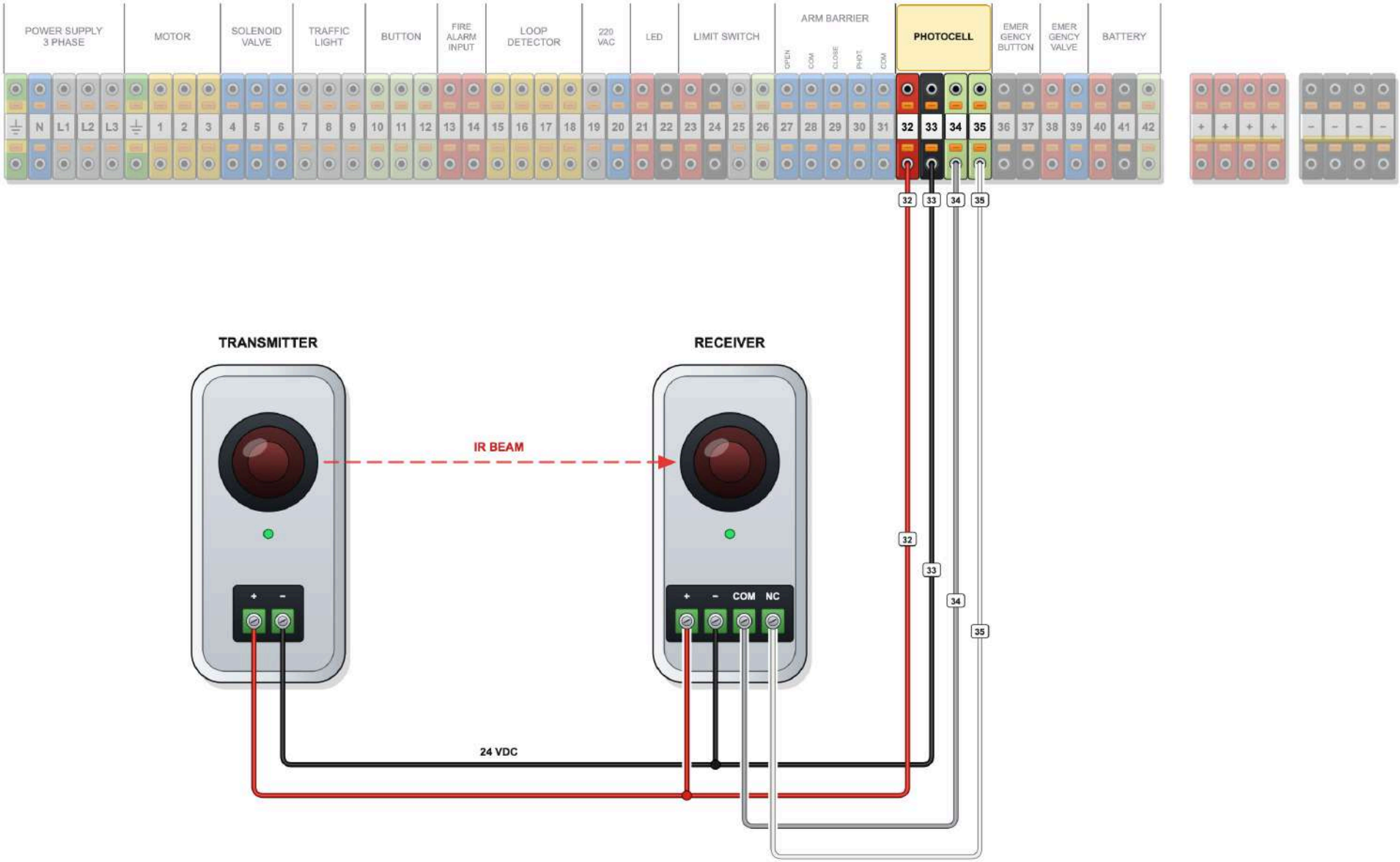
LED

Bollard LED lights, connected in parallel · terminals 21 (+), 22 (−)



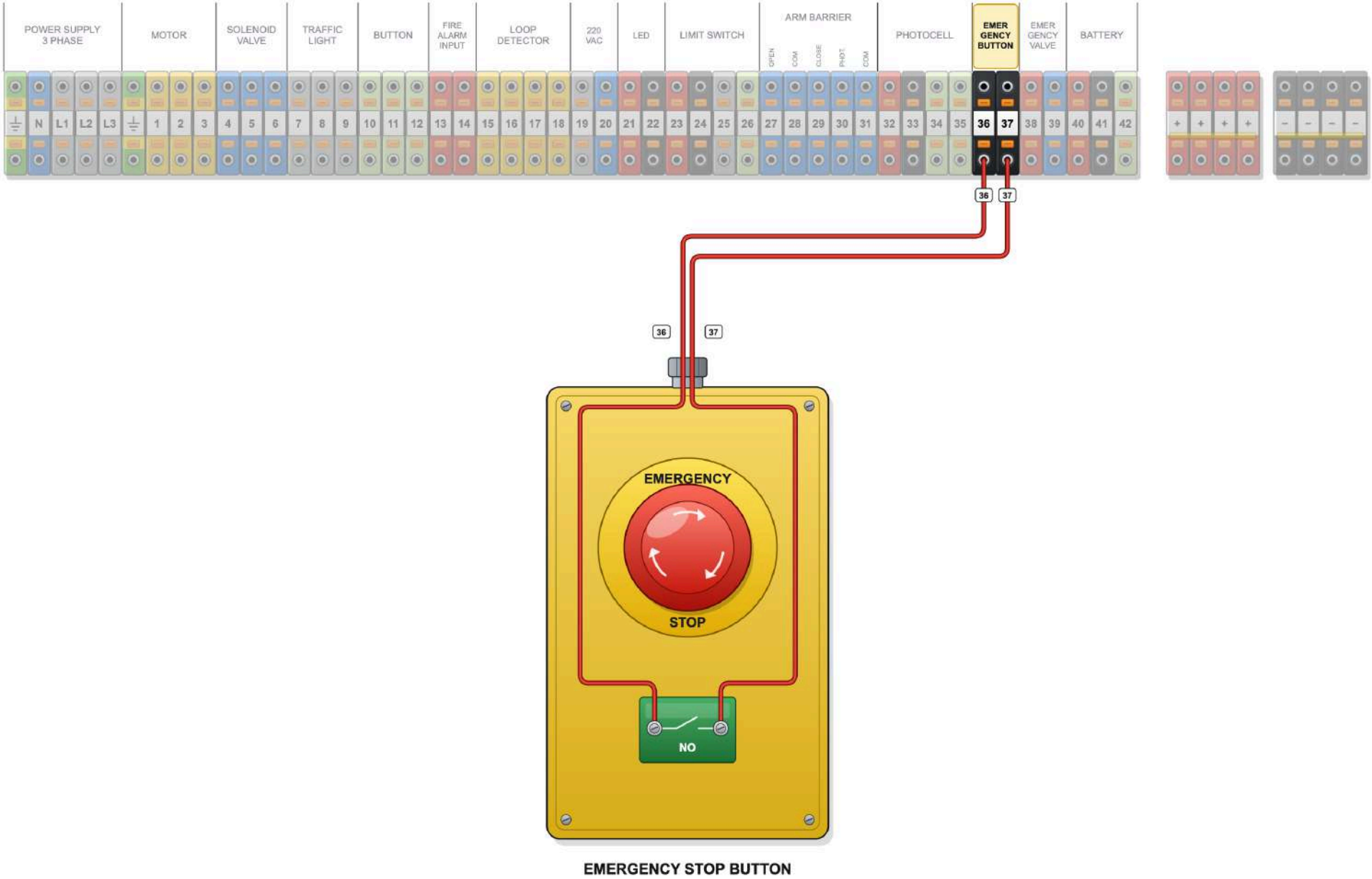
ARM BARRIER

Control board inputs · terminals 27 (open), 28 (com), 29 (close), 30 (phot.), 31 (com)



PHOTOCELL

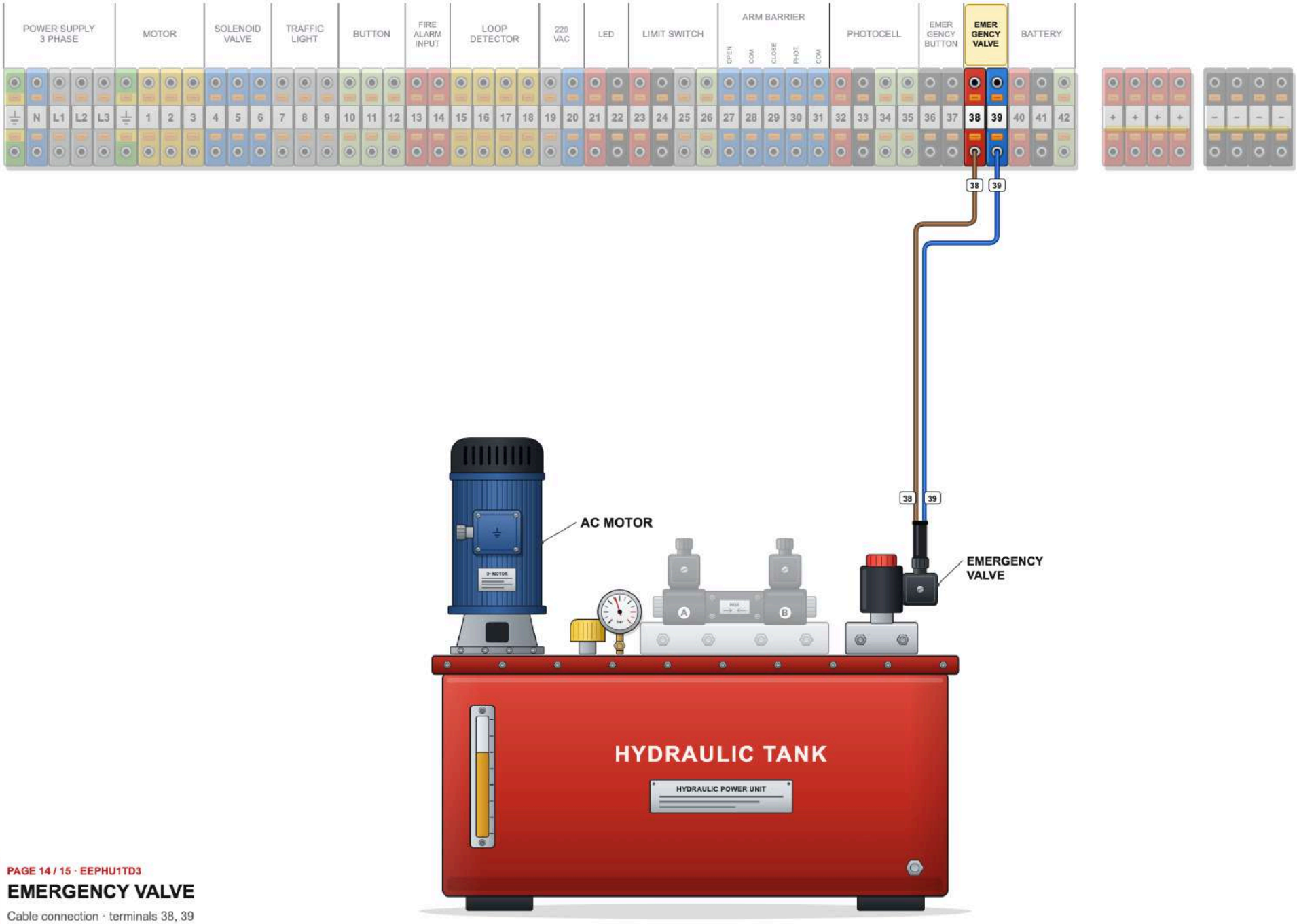
24 VDC supply: 32 (+), 33 (−) · contact: 34 (COM), 35 (NC)



EMERGENCY STOP BUTTON

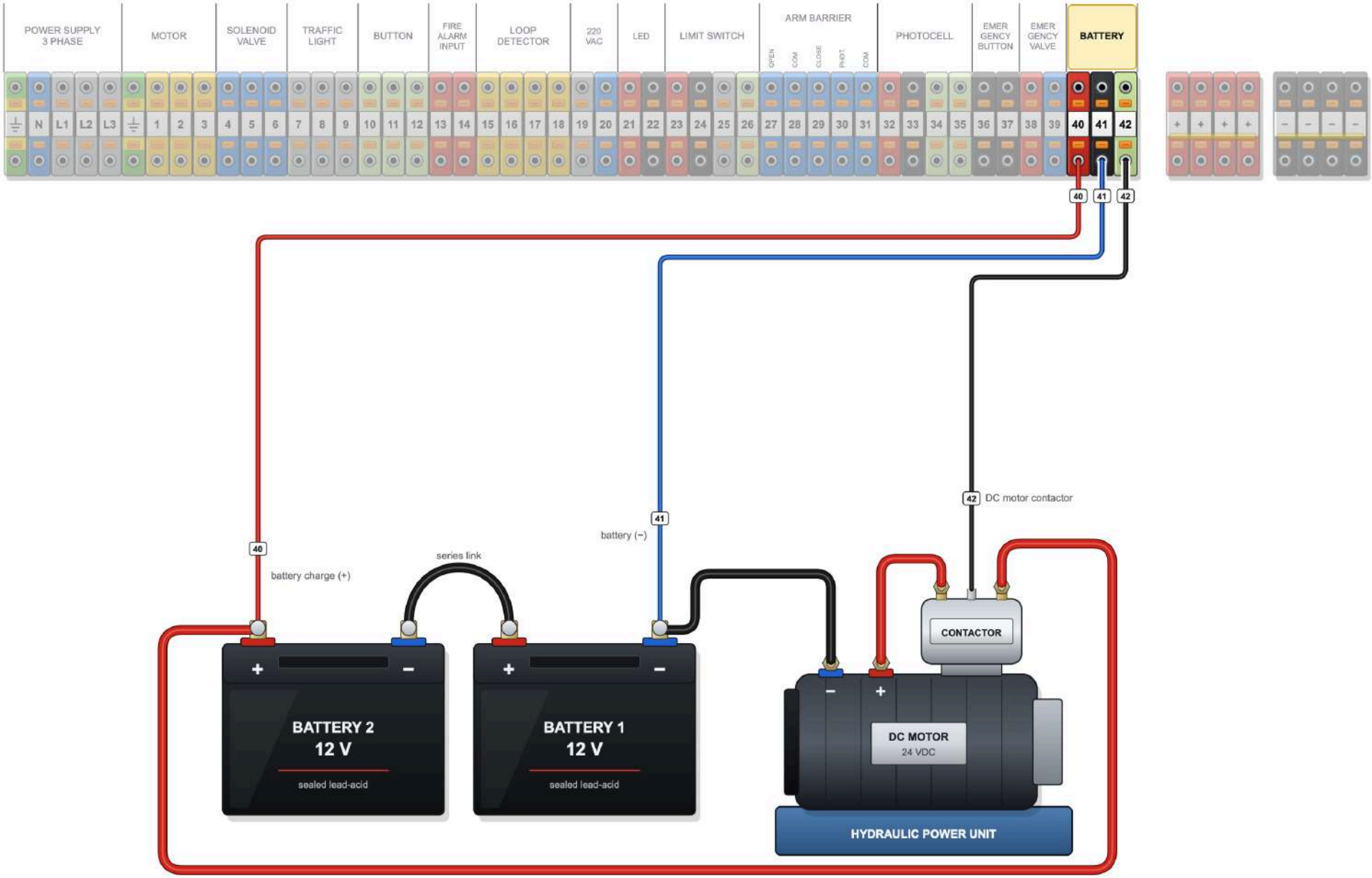
EMERGENCY BUTTON

Emergency stop station · terminals 36, 37



EMERGENCY VALVE

Cable connection · terminals 38, 39



UPS SYSTEM · BATTERY

40: battery charge (+) · 41: battery (−) · 42: DC motor contactor