



Delos International

Electromechanical Automatic Bollard



Series No.DBO-114E0/E4

TECHNICAL MANUAL

Verb 1.0

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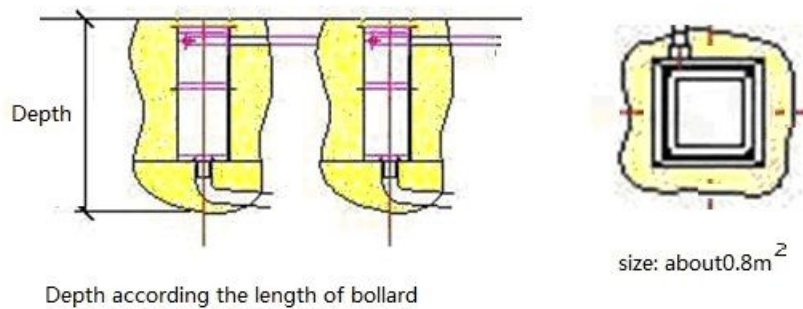
1. SAFETY INSTRUCTIONS

ATTENTION! To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product could cause serious harm to people.

1. Carefully read the instructions before beginning to install the product.
2. Do not leave the packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
3. Store this user guide for future reference.
4. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
5. DELOS declines all liability caused by improper use or use other than that for which the automated system was intended.
6. Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.
7. For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
8. DELOS is not responsible for failure to observe Good Technique in the installation of the DELOS products and relating accessories or for any deformation that may occur during use.
9. Installation must be preformed in compliance with the currently Ruling Standards.
10. Before attempting any job on the system, cut out electrical power.
11. Make sure that the earthing system is perfectly constructed, and connect metal parts to it.
12. The safety devices (EN 12978 standard) protect any danger areas against **mechanical movement risks**.
13. Do not in any modify the components of the DELOS automated system.
14. The installer shall supply technical support, including manual operation of the bollard in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.
15. Do not allow children or adults to stay near the bollard while it is operating.
16. The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.
17. **Anything not expressly specification in these instructions is not permitted.**

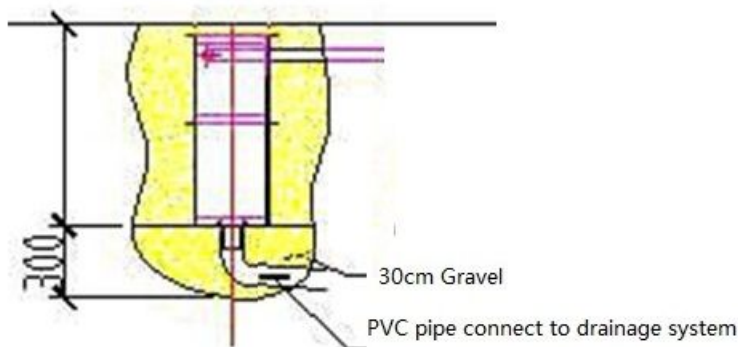
2. INSTALLATION

1. Make sure that the place where the DELOS bollard is to be installed is not a low-lying; or it need install drainage channel equipped with covering grid to protect the DELOS bollard with.
2. Dig up to a hole about 0.8m² and as following depth according your length of bollard. (As our experience, we dig a long deep channel if there is a lot of bollard in one line.)



The depth of hole	The length of raising bollard
1200mm	600mm
1350mm	750mm
1500mm	900mm

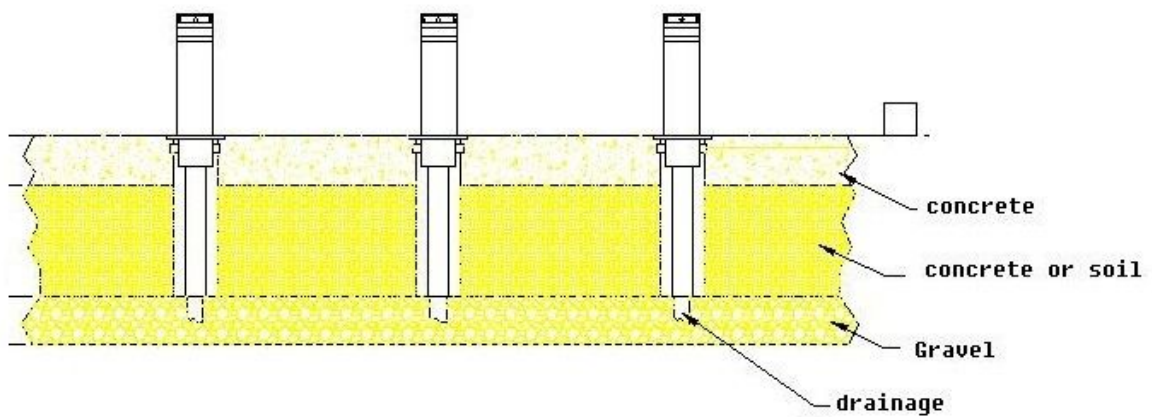
3. Make sure that the ground is able to absorb water: pour about 40L water in the dig and check if draining takes place within 30 minutes. If this is not the case, discharge rainwater by means of a pipeline with a diameter of 100mm connected to the drainage system or, as an alternative, connected to a pit equipped with a drainage system (i.e. motor pump) for the collection and drainage of rainwater.
4. Put gravel (Diameter of approx. 8-20mm) on the bottom to obtain a thickness of about 30cm, taking care to compact it well to avoid future settlements.



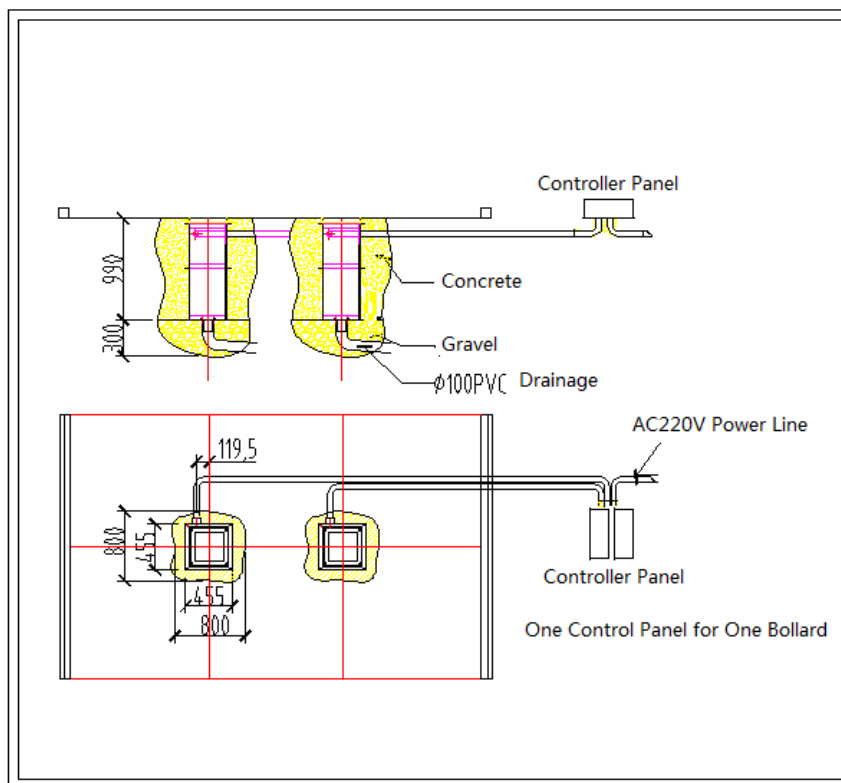
5. Install the bollard underground parts inside of the hole, taking care to position it vertical. Raise the cylinder to the highest position and make sure all the bollards are on the same line and level.



6. In the condition of good drainage system, fill the hole with concrete or Ram down with soil to approx. 30-50cm from the floor surface.

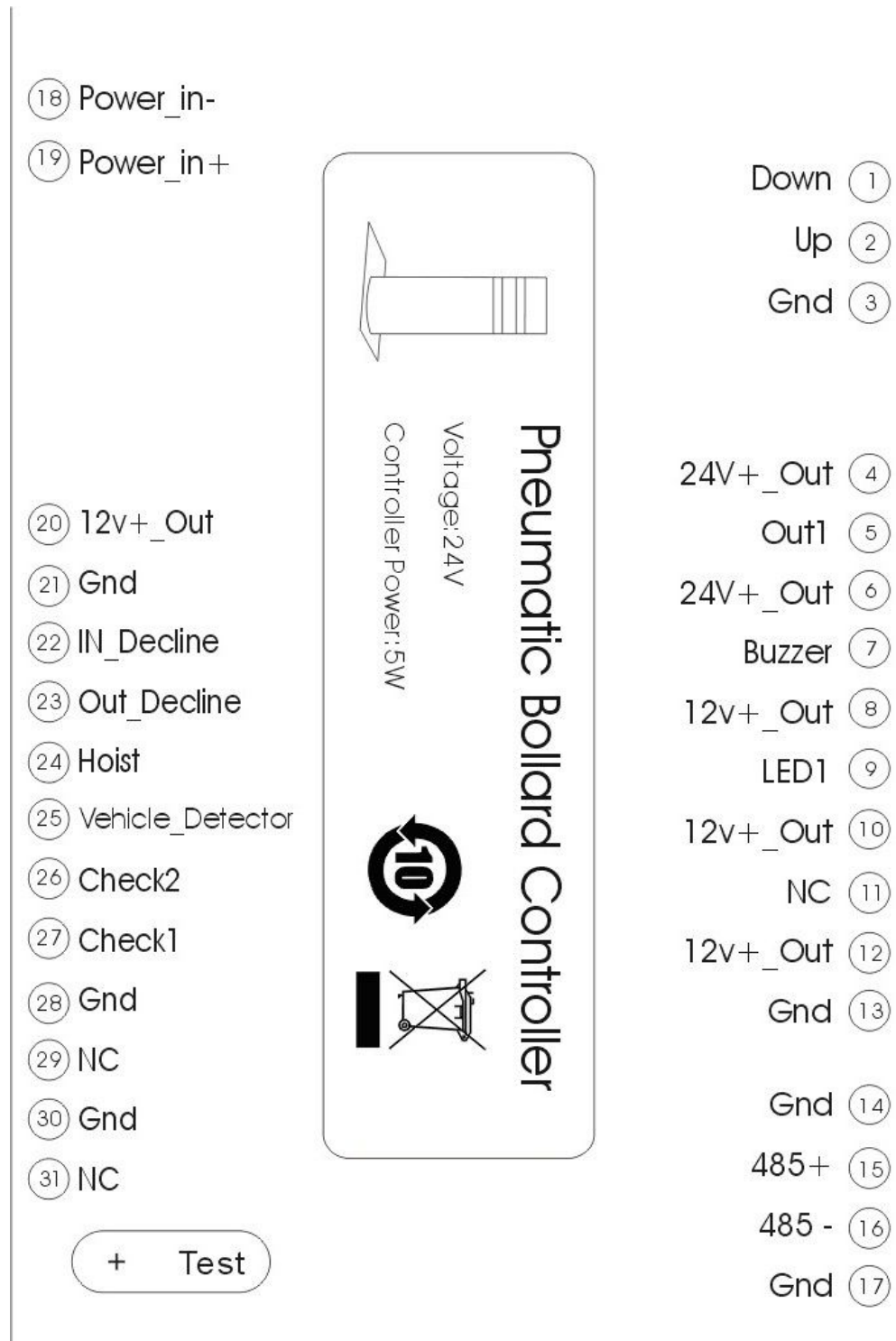


7. Lay the necessary PVC pipe or soft for the protection the line between the control panel and bollard.



8. Suggest never cut down the cable between bollard and control panel.
9. Input PLC and DC 24V power supplier, connect AC 220V to control panel.
10. Connect necessary control cable to control panel.

3. Control Panel



NO.	Terminal	Use	No.	Terminal	Use
1	Down	Lower Signal Output (connect to valve)	17	Gnd	Gnd
2	Up	Rising Signal Output (connect to valve)	18	Power in-	Gnd (Power in)
3	Gnd	Common Port Output (connect to valve)	19	Power in+	24V+ Input (Power in)
4	24V+Out	24V+ Output (reserved)	20	12V+ Out	12V+ Output (reserved)
5	Out	NC (reserved)	21	Gnd	Gnd
6	24V+Out	Alarm 24V+ Output (reserved)	22	Down_dirction1	Lower Signal Input 1 (connect to lower signal form direction 1)
7	Buzzer	Alarm OC Output (reserved)	23	Down_dirction2	Lower Signal Input 2 (connect to lower signal form direction 2)
8	12V+Out	LED 12V+ Output (connect to LED +)	24	Hoist	Rising Signal Input (connect to rising signal)
9	LED1	LED OC Output (connect to LED -)	25	Vehicle Detector	Safety Loop input
10	12V+Out	12V+ Output (reserved)	26	Check 2	Direction Loop 2
11	NC	NC (reserved)	27	Check 1	Direction Loop 1
12	12V+Out	12V+Output (reserved)	28	Gnd	Gnd
13	Gnd	Gnd	29	NC	NC (reserved)
14	Gnd	Gnd	30	Gnd	Gnd (reserved)
15	485+	485+ (connect to master 485+)	31	NC	NC
16	485-	485- (connect to master 485-)			

Notice: Please use a switch, TTL or a low level pulse (>100ms) to be the input signal.

+ Test

There is a black button for debugging, press for rise and lower.

In factory the manufacturer have connected all the cables for default standard function, the other disconnect ports are reserved for advance function.