Basic requirements for on-site Access Control System equipment (traffic lights, barriers and locking devices)

Basic requirements for traffic lights:
· Number of lenses: 2 items;
· Color of lenses: red and green;
· A system feature which allows all lenses to turn yellow simultaneously (when in emergency mode);
· Output aperture of lenses (diameter): 200mm;
· Type of emitter: LED lighting;
· Housing: modular, external (IP54), shockproof ABS plastic, black, mountable both vertically and horizontally;
· Axial luminous intensity of traffic signal: red - at least 200 cd, yellow - at least 250 cd, green - at least 200 cd;
· Power consumption: no more than 25 W/lens;
· Operating temperature range: from -30ºC to +55 °C.

Basic requirements for barriers:
· Boom length: 3.0-4.5 m;
· Boom type: material - aluminum, semi-oval section with a shockproof kick plate, low windage, with a pluggable red/yellow duralight rope light, reflective:
· Protection rating: IP 54;
· Voltage: 230 V, AC;
· Motor voltage: 24 V, DC;
· Installation power: no more than 0.4 kW;
· Opening time at 90°: 2-6 seconds;
· Intensity of use: intensive use;
· Torque: 200 N-m;
· Operating temperature range: from -30° to +55°;
· Switch to manual mode: feature available.
· Activation system: 1 - radio control module equipped with a remote unit, 2 - pulse control from external access control system via wire pair.

·   Security systems: 1 - shockproof elastic kick plate on the lower side of the boom, 2 - a set of single-beam infrared security sensors (the transmitter on the stand and the receiver on the opposite support), 3 - Boom protection system from impacts caused by vehicles.

·   System of outputting the 'open'-'closed' boom position signal to an external data display console.

Basic requirements for local control panels:

1. ·Attachable and installable on a table;
2. ·Boom barrier control button(s) with the state of the boom displayed;
3. ·Traffic signal green light button (bottom lens of the traffic signal) with display feature, green;
4. ·Traffic signal red light button (upper lens of the traffic signal) with display feature, red;
5. ·Traffic signal yellow light button (for both lenses) with display feature, yellow;
6. ·Traffic signal 'off' button, black.
7. The local module must provide control of connected devices (traffic light, boom barrier) in three ways:
- automatically, by receiving control commands over the local network from the e-ticket system and the computerized center (control room);
- in manual mode, using the local module (by pressing the corresponding buttons;
- in manual mode, using the radio remote control buttons. A radio remote control can only control one local module and must be registered when configuring the control system. (up to 4 radio remote controls can be connected to one local module)
8. The hand control panel can be manufactured in 3 versions:
- to control one traffic light and one boom barrier
- to control only one traffic light
- to control only one boom barrier.
9. The local module for automatic control and monitoring must include and support:

Functionality	Details
Type of equipment	Programmable controller Mounting on DIN rail
User interface	WEB (built-in web server), serial port or control via the Ethernet interface
Input/output interfaces	A minimum of 8 digital inputs (programmable) A minimum of 4 digital inputs (programmable) Analog input (0-5V) RS-232 interface RS-485 interface

	Wiegand interface
	Dallas One-wire interface
Network	RJ-45 10/100 integrated connector (autodetection)
Modbus (TCP) support	Slave (RTU)
Relay outputs	A minimum of 2 outputs (250V, 5A)
Network interface	Support TCP/IP, UDP, ICMP, DHCP, AutoIP, IPzator™, XML, SOAP, Modbus/TCP, SNMP, CGI, HTTP web server for control, state and configuration. The option to add other interfaces and commands, using programming languages provided by the manufacturer.
Other options	Direct connection to the Modbus Master; The option to work with external applications or change standard software, using the programming language provided by the manufacturer; The option to remotely monitor and control through external applications or standard software.

10. Automatic control must have priority over manual control.
11. The local module must communicate via local network (if the local network is functional) and display on its front panel the transition to manual control and the return to automatic control.
12. The local module must have a radio remote control registration and de-registration mechanism.
13. The local module must communicate via local network (if the local network is functional) the registration number of the radio remote control and the actions performed with it.

Basic requirements for the information board:
· Protection rating: IP 54;
· Voltage: 230 V, AC;
· Installation power: no more than 1.2 kW;
· Operating mode: 24/7;
· Board dimensions: no more than 1.0m(h) x 1.2m(w);
· Dimensions of displayed element (1 digit): at least 350mm(h) x 175mm(w);
· Color of displayed elements: orange;
· Displayed information: 1 - current time, 2 - outside temperature at the installation site.
  The option to connect the display to the local network in order to set up and control the displayed data.

Basic requirements for the forced stop system for vehicles:

- Exterior design, attachable on roadbed.
- Control of locking devices: local only, from vehicle checkpoint (positions 1A and 1B in accordance with the general plan).
- Dimensions: no more than 3.0-4.0m(l) x 1.5m(w) x 0.108m(h);
- Safety platform lifting height: no less than 0.48 m;
- Axle weight limit of passing vehicle: 40 tons.
- Locking device remote control: included with the main product.