

1.0 GENERAL

1.1 Related UBC Guidelines

- .1 UBC Technical Guidelines
- .2 Section 17900
- .3 Section 08710 Door Hardware

1.2 Coordination Requirements

- .1 UBC Secure Access (UBC SA).

1.3 Description

- .1 This section covers requirements for Access Control Systems. The Access Control System is installed by UBC SA. General Requirements for this system for Consultants and Contractors are provided in Section 17900.
- .2 These guidelines provide reference to particular types, grades and models of products. In general, the references include both generic descriptions and specific product details. These references shall not be construed as a directive to sole-source products from any particular vendor except where this is specifically stated.
- .3 Access Control System that monitors and controls occupant access into building(s) and/or area(s) thereof, and that the arming and locking of selected doors is scheduled and controlled electronically to allow authorized user entry via card reader, keypad etc., shall include the following:
 - .1 Access control panel.
 - .2 Access devices.
 - .3 Card readers.
 - .4 Access Tokens.
 - .5 Door position contacts.
 - .6 Request to Exit motion detectors.
 - .7 Hardware egress dry contacts.
 - .8 Electrified locking hardware.
 - .9 Power Supply - Hardware.
 - .10 Power transformers.

2.0 EQUIPMENT SPECIFICATIONS AND REQUIREMENTS

2.1 Control Panel

- .1 Device Location
 - .1 Panels to be mounted in communications room within the protected area. (Exact location to be confirmed by cable facilities). If it is not possible to locate the panel in the communication room, panel should be mounted in a secure room within the protected area.
 - .2 Panels must not be mounted above ceiling if space is "return air" plenum type.
- .2 Raceway
 - .1 Power transformer fed from un-switched 120VAC, dedicated breaker c/w generator and/or UPS backup whenever possible.

- .3 Cabling
 - .1 All related wiring for panels should be concealed and home-run whenever possible. FT4 rated wire, FT6 rated if required.
 - .2 Wire path and dressing within communication rooms to conform to UBC NF standards.
- .4 Device Features
 - .1 Powered from Class 2 step down transformer (typically 16 VAC).
 - .2 Control circuitry housed in a mechanically securable keyed box c/w with tamper.
 - .3 Wall mountable.
 - .4 Provide 5 Vdc to 12 Vdc for related end devices.
 - .5 Minimum two reader ports.
 - .6 Minimum one fully programmable per reader port.
 - .7 Support "end of line resistor" fully supervised zones. Processing capabilities for all major reader formats. Fully programmable or either serially via LAN. Panel to panel expandable either serially or via LAN. Operating software on "Windows NT" or equivalent platform. Operating temperature 0° C to +40° C.

2.2 Card Reader

- .1 Device Location
 - .1 To be wall mounted typically on the restricted entry side of the controlled door.
 - .2 Standard mounting height 36" AFF, disabled 30" if required.
- .2 Raceway
 - .1 ¾" conduit terminated to single gang box, stub to Cable Tray.
 - .2 Surface Wiremold equivalent: V700 raceway to V5747-1 box.
- .3 Cabling
 - .1 3 pair twist/strand/shield c/w drain 22 AWG FT4 rated, FT6 if required. Belden 5542FE or approved equivalent.
 - .2 Home run to control panel.
 - .3 Maximum wire length 250 meters/run unless specified otherwise.
- .4 Device Features
 - .1 5Vdc to 12 Vdc operation.
 - .2 Wiegand and/or other standard protocol
 - .3 2-color LED status display.
 - .4 Sealed weatherproof construction.
 - .5 Operating temperature -40° C to +65° C
 - .6 Encrypted authentication read function, 13.56 MHz.

2.3 Request-to-Exit Motion Detector (RTE)

- .1 Device Location
 - .1 Should be wall-mounted above the controlled door, free from conflict with exit signage.
 - .2 Can be ceiling-mounted if necessary.
- .2 Raceway
 - .1 ¾" conduit terminated to 4x4 box c/w 2 gang plaster ring, stub to Cable Tray.
 - .2 Surface Wiremold equivalent: V700 raceway to V5747-2 box.
- .3 Cabling
 - .1 6/22 FT4 rated wire, FT6 rated if required. Belden 5504UE or approved equivalent.
 - .2 Home run to control panel.
 - .3 Maximum wire length 250 meter/run unless specified.

- .4 Device Features
 - .1 12 Vdc operation.
 - .2 Alarm output dry contact N/O or Form C if required.
 - .3 Passive infrared detection or microwave if required.
 - .4 Noise filtering adjustable output relay time.
 - .5 LED status indicator.
 - .6 Insect immunity.
 - .7 Fully adjustable viewing angle, vertical and horizontal.

2.4 Door Contacts

- .1 Device location
 - .1 **Frame:** Flush mounted concealed contact to be installed in the top of the door frame 12" from strike side edge. Frame to be provided with 1" wide by 1.5" deep through hole c/w back box for raceway termination.
 - .2 **Door:** Concealed magnet should sit no more the 1/2" away from contact with the door in a fully closed position. Top of door to allow for installation of 1" wide by 1.5" deep magnet assembly.
- .2 Raceway
 - .1 1/2" conduit terminated to frame back box. Stub to Cable Tray.
 - .2 Surface Wiremold equivalent: V500 raceway to V5747-1 box.
- .3 Cabling
 - .1 4/22 FT4 rated wire, FT6 rated if required. Belden 5502UE or approved equivalent.
 - .2 Home run to control panel or keypad/expansion module if applicable
 - .3 Max wire length 250 meters/run unless specified
- .4 Device Features
 - .1 Hermetically sealed, corrosion-proof reed switch.
 - .2 Minimum 1/2" operating gap between contact and magnet.

2.5 Power Transformers

- .1 Device location
 - .1 Should be "wire-in" type and mounted close to the control panel in the communication room. Plug-in type under restricted circumstances.
 - .2 Compatible with any 1/2" punch out conduit box.
 - .3 Must not be installed above false ceiling if space is "return air" plenum type.
- .2 Raceway
 - .1 Power transformer fed from un-switched 120VAC, dedicated breaker c/w generator and/or UPS backup whenever possible.
- .3 Cabling
 - .1 2/18 FT4 rated wire, FT6 rated if required. Belden 5300UE or approved equivalent.
 - .2 Home run directly to control panel
 - .3 In communication room, dress cable to UBC NF standards
- .4 Device Features
 - .1 Fully certified Class 2 rated.
 - .2 ULC and CSA approved.
 - .3 Fail-safe in the event of current overload or short circuit.

2.6 Power Supply - Hardware

- .1 General
 - .1 UBC SA equipment interfaces to Electrified Hardware at Power Supplies.
- .2 Device Location
 - .1 Power Supply locations subject to hardware design.
 - .2 UBC SA equipment interfaces to Electrified Hardware at Power Supplies. Locations subject to hardware design.
- .3 Raceway
 - .1 ¾" conduit terminated directly to Power Supply enclosure. Wiremold equivalent V700.
 - .2 Supply may source power to more than one Electrified Hardware Device. Subject to Hardware design.
- .4 Cabling/Interface
 - .1 Subject to Hardware design.
 - .2 Power Supply to be equipped with "Dry Trigger" function (ie. SDC CR4) to allow complete isolation of UBC SA equipment from Hardware power.
 - .3 "Dry Trigger" cable: 4/22 FT4 rated wire, FT6 rated if required. Belden 5502UE or approved equivalent.
- .5 Power/Features
 - .1 Direct power to Supply fed from un-switched 120VAC, dedicated breaker c/w generator and/or UPS backup whenever possible.
 - .2 Equipped with battery backup whenever possible.
 - .3 Interface to Fire Alarm when required by code.

2.7 Electrified Hardware

- .1 General
 - .1 Electrified Hardware requirements and specifications are not included in this section. See Section 08710 Door Hardware.
 - .2 Hardware interface requirements to UBC SA equipment described above, Power Supply – Hardware