

SECTION 28 31 00

ELECTRONIC INTRUSION DETECTION SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

- A. General Description: This specification section covers the furnishing and installation of a complete, low-voltage, Electronic Intrusion Detection System (EIDS).
- B. Contractor shall furnish and install security hardware devices, mounting brackets, power supplies, control equipment, and other components of the system as shown and specified.
- C. Contractor shall furnish and install outlets, junction boxes, conduit, connectors, wiring, and other accessories necessary to complete the system installation. Requirements shall be in accordance with Division 26, Electrical.
- D. Contractor shall coordinate with the telecommunications contractor to furnish connectors, wiring and other accessories necessary to complete the system installation. Requirements shall be in accordance with Division 27, Communications.
- E. General Conditions: Provide the work in accordance with Section 28 05 00, Security General Requirements.

1.2 PRECEDENCE

Obtain, read and comply with General Conditions and applicable sub-sections of the contract specifications. Where a discrepancy may exist between any applicable sub-section and directions as contained herein, this section shall govern.

1.3 GENERAL CONDITIONS

In accordance with Section 28 05 00, Security General Requirements

1.4 RELATED WORK

In accordance with Section 28 05 00, Security General Requirements

1.5 APPLICABLE PUBLICATIONS

In accordance with Section 28 05 00, Security General Requirements

1.6 SHOP DRAWINGS & EQUIPMENT SUBMITTAL

In accordance with Section 28 05 00, Security General Requirements

1.7 OPERATING AND MAINTENANCE MANUALS

In accordance with Section 28 05 00, Security General Requirements.

1.8 WARRANTY

In accordance with Section 28 05 00, Security General Requirements

1.9 OWNER'S RIGHT TO USE EQUIPMENT

The Owner reserves the right to use equipment, material and services provided as part of this work prior to Acceptance of the Work, without incurring additional charges and without commencement of the Warranty period.

1.10 TECHNICAL REQUIREMENTS, ELECTRONIC INTRUSION DETECTION SYSTEM (EIDS)

- A. Purpose: The Electronic Intrusion Detection System is designed to monitor security alarm devices, and to report to the DPS Safety and Security Communications Center on the activity of security alarm devices throughout the building.
- B. Attributes
 - 1. General
 - a. The system shall comprise Electronic Intrusion Detection System field devices including but not limited to intrusion detectors, door position switches, located as shown on the drawings and connected together to provide a complete and operational system.
 - b. The EIDS shall be based on a distributed system of individual point monitoring modules, access keypads and alarm control centers (ACC).
 - c. The system shall be U.L. listed for Central Station, Local and Auxiliary, and Burglary (UL Central Station and Local) applications and shall be compatible with the Owner's existing alarm receiving station.
 - 2. TCP/IP LAN/WAN Communications: The system shall have the ability to communicate alarm signals to a central station or dedicated PC (equipped with appropriate software), through a constant connection providing full supervision of the link between the panel and the TCP/IP receiver. Communication shall be via a LAN or WAN, compatible with 10BaseT and 100BaseT Ethernet TCP/IP communications.
 - 3. System Event Buffer: The system shall have an event buffer. All events shall be viewable by upload/download to a PC.
 - 4. System Programming
 - a. The system shall be fully programmable from the LCD keypads and shall also allow event buffer viewing at the keypads.
 - b. All system programming shall be maintained in nonvolatile memory so that programming information is retained even if all AC and battery power is removed.

PART 2 - PRODUCTS

2.01 GENERAL

Product Acceptability: The Products section contains lists of acceptable products. If product substitutions are proposed, they must be made based upon a comparison of equivalence to the product specified. Considerations may include but shall not be limited to functional, physical, aesthetic and/or interface aspects. The Owner shall be the sole judge of whether or not a submitted substitution is deemed to be "equivalent" to that specified.

2.02 ELECTRONIC INTRUSION DETECTION SYSTEM

A. System Control Panel

- 1. Control/Communicator Panel: Bosch B8512G-C, with transformer, fire-rated enclosure, battery back-up, modem/TCP/IP interface, and phone line interfaces. Contractor shall confirm compatibility with Owner receiver.

B. Peripheral Control Equipment

1. Zone Expansion Bosch B208.
2. Keypad Bosch B920

C. Power Supply

1. LifeSafety Power FPO150-E1, or,
2. Altronix AL400ULX, or,
3. Lifetime Series Pro FPX200A/100-A8D8E2.
4. Battery Back-up: Provide battery back-up to retain functions of all electronics for a period of twenty-four (24) hours upon loss of 120VAC power.

D. Alarm Initiating Devices

1. See Section 4.0 - Equipment Schedule.

2.03 WIRE AND CABLE

A. General: Cables which are not installed in conduit shall be rated for plenum use.

B. Intrusion drops; 22 gauge – 4 conductor, stranded, or as recommended by the manufacturer to insure performance.

C. Keypad drops; 22 gauge – 6 conductor, stranded, or as recommended by the manufacturer to insure performance.

D. Module drops; 18 gauge – 6 conductor, stranded, shielded

1. Module B must originate from main control panel. If installing more than one module, additional modules (labeled C, D, etc.) may be daisy chained from Module B or a subsequent module which originated from Module B, or may connect to the main control panel

E. Other system cable: As recommended by the Manufacturer and approved by the Owner.

F. Cable installed below grade shall be rated for immersion in water.

2.04 IDENTIFICATION AND TAGGING

A. Color coding cable and wire

1. See standard security drawings

B. Wire and cable identification

1. Identify wire and cable per Division 27 standards.
2. Label both ends of each wire and cable to identify the device it feeds.

C. Labeling

1. Label the emergency panel circuit serving the security equipment.

2. Permanently label each power supply, device, equipment item, UPS, junction box, module, etc.

PART 3 - EXECUTION

3.1 GENERAL

In accordance with Section 28 05 00

3.2 SYSTEM PERFORMANCE TESTING AND ADJUSTING PROCEDURES

A. Electronic Intrusion Detection System Testing

1. Test and verify the normal operation of every alarm point in all four states at each alarm panel. Test each alarm point for the alarm function by normal operation of the alarm point, i.e.: for a door position switch, open the door and so forth.
2. Test each intrusion detector during its programmed secure and bypass time periods to assure that it operates by the pre-programmed schedule.
3. Verify system integration schemes function automatically and correctly.
4. Verify activity at the Digital Alarm Communications Receiver is designated as directed by the Owner.

PART 4.0 – EQUIPMENT SCHEDULE

28 31 00 - Intrusion Detection System (IDS)			
	Manufacturer/Part Number		
DESCRIPTION	MFG	Part Number	Special Rqmt
PANEL W/TRANSFORMER, D8103 ENCLOSURE, LOCK AND KEY	BOSCH	B8512G-C	
8 INPUT MODULE FOR SDI2 BUS	BOSCH	B208	
CONETTIX IP ETHERNET INTERFACE	BOSCH	B426	
UNIVERSAL ENCLOSURE	BOSCH	D8103	
LOCK AND KEY SET	BOSCH	D101	
ALPHA NUMERIC KEYPAD	BOSCH	B920	
OVERHEAD DOOR CONTACT	HONYWELL	985	
STEEL DOOR CONTACT	GE/SENTROL	1076D-N	DPDT
WIDE GAP SURFACE MOUNT, STEEL ARMORED CABLE	GE/INTERLOGIX	2505A	
DOOR CONTACTS - WIDE - GAP	HONYWELL	960	
NEMA 1 HINGED COVER ENCLOSURE, 12"X12"X6" W/STANDARD LATCH	HONYWELL	A12N126	
MOTION DETECTOR - 60' X 60'	BOSCH	DS860	
MOTION DETECTOR - 200' X 15' LONG RANGE	BOSCH	DS778	
MOTION DETECTOR - 360 DEGREES	BOSCH	DS9360	
MOTION DETECTOR	BOSCH	DS970	
SIREN	ADEMCO	WAVE2	

PART 5.0 – DRAWINGS

- A. 28 31 00-1 Security Panel One Line Diagram
- B. 28 31 00-2 Security System One Line Diagram
- C. 28 31 00-4 3 Security Alarm Panel Wiring Diagram
- D. 28 31 00- 4 Security Alarm Zone Module Wiring Diagram
- E. 28 31 00- 5 Security Alarm Keypad Wiring Diagram
- F. 28 31 00- 6 Security Motion Detector 360 Wiring Diagram
- G. 28 31 00- 7 Security Steel Door Contact Wiring Diagram
- H. 28 31 00- 8 Security Motion Detector Long Range Wiring Diagram

END OF SECTION 28 31 00