**Section 22 05 23**

**Timed Gas Control System for Outdoor Grill Area**

PART 1 – GENERAL

1.1 SUMMARY:

1. Furnishings and installation of the Timed Gas Controller as shown on the Drawings as herein specified.

1.2 SCOPE OF WORK:

A. Provide a timed gas supply system at each outdoor area as shown on the Drawings.

1. Each system shall include, but not be limited to, a control panel, solenoid valves, remote emergency shut off buttons, timers, and all interconnections. The Plumbing Contractor shall provide all materials. Installation shall be in accordance with Part 3 of this section.

1.3 CODES AND REGULATIONS:

1. NFPA 70, National Electrical Code.
2. NFPA 72, National Fire Alarm Code.
3. NFPA 54, National Fuel Gas Code.
4. Uniform Building Codes (UBC).
5. Local and State Building Codes.
6. All requirements of the local Authority Having Jurisdiction.
7. UL61010-1 3rd Edition – Electrical Equipment for Measurement, control Use

1.4 WARRANTY:

1. Provide a manufacturer’s parts warranty covering 3 Years from date of completion.
2. Refer to Division 01 section “Warranties”

1.5 MANUFACTURER:

1. Canadian Gas Safety is the basis of design. Approved equals meeting all specifications and drawing requirements are acceptable.
2. Separate components may be provided in lieu of the specified manufactured system. Including but not limited to enclosures, remote shut off buttons, contactors and solenoid valves. The system shall include all piping, wiring, conduits, and final connections for a complete operational system.
   1. SUBMITTALS:
3. Comply with Division 01 Section “Submittals Procedures”
4. Product Data:
5. Manufacturer
6. Model Number
7. Catalog Data sheet with Photographs
8. Wiring and equipment connection diagrams clearly showing factory equipment and field installed equipment.
9. Provide all equipment, devices, conduit, operating power and other provisions for the Laboratory Safety System.
10. Shop Drawings
11. Include plans, elevations, sections and mounting and attachments details.
12. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
13. Wiring Diagrams
14. Detail wiring for signal, power and control wiring
15. Operation and Maintenance Data
16. Include in Emergency, Operation and Maintenance manuals.
17. Refer to Division 01 Section “Operation and Maintenance Data”
18. Manufacturer’s recommended detailed installation instructions.
19. Equipment is not to be ordered without approved submittals

PART 2 – PRODUCTS

2.1 PRODUCTS IN THIS SECTION:

All Products and Devices for a complete System with all components designed to operate together as a system. The system shall and be UL compliant and be as listed in the Equipment Schedule of this Section.

2.2TIMED GAS CONTROL PANEL:

Provide a Controller with fascia panel mounted on / off buttons to activate remote solenoids and relays to control natural gas, or other indicated services or devices. Controller shall be able to accept line voltage or 24vdc and provide the same signal for output circuits. Controller shall provide in-built automatic timeout function to automatically shut down the connected utility. Controller shall provide inputs for remote EPO’s. Controller shall provide a clear LED indication of on / off and panic status. Controller shall provide a visual indication of 10minuites remaining time. In panic alarm the controller shall zero out any remaining time in the controller and turn off the gas supply. Basis of design CGS TGC.

2.3 GAS SOLENOID VALVE:

Where shown on Drawings, provide a Gas Solenoid Valve: UL Listed 429, CSA Certified, FM 400 liquid or gas safety shut-off valve. Aluminium body two-way normally closed valve rated for natural gas (methane) and LPG (liquid petroleum gas). Size to be same as pipe size indicated on plans, 120 volt ac single phase actuator, 15 watts, and 5 PSI maximum operating pressure capacity. Interlock Gas Solenoid Valve Valve with CGS TGC controller output. Basis of design: Canadian Gas Safety (CGS) series CGSGSV\*\*\* or equivalent.

2.4 LOCAL APPLIANCE GAS VALVE ENCLOSURE:

If required, provide a gas valve enclosure so that the valve is protected from the elements and from tampering. Provide a 16guage mild steel type box in either flush mount or wall mount style depending on architectural elevations. Ensure box is adequate size to accommodate gas valve when closed. Provide quarter turn or lockable latch. Locate enclosure as per drawings. Basis of design CGS ENC12126.

2.5 REMOTE PANIC BUTTON:

Where shown on Drawing, provide a Remote Panic Button. Button shall be red mushroom twist re-set type recessed in a yellow polycarbonate enclosure with a clear lift up protective weatherproof shield. Button shall be ULC listed and provide clear label text “Emergency Gas Shut Off”. Assembly shall be located as shown on Drawings and as stipulated in Equipment Schedule. Interlock the button with the CGS TGC controller via 2# 22AWG. Basis of design: Canadian Gas Safety (CGS) EGOTW

PART 3 – INTERGRATION AND CONFIGERATION

3.1 SYSTEM CONFIGURATION:

1. Controller shall be factory configured to the standard configurations and shall be capable of field adjustments to meet specific project modification requirements. Configurations are limited to DIP switch adjustments on rear of fascia panel without the requirement of additional equipment.
2. Gas Supply:

Control of services can be combined onto one output circuit as indicated on Drawings. Services shall be activated by the engaging of the control buttons and the activation of the adjustable timed output. Reactivation of the services after an alarm / panic condition shall be restricted to the user by means of the control buttons activation button and the remaining timed supply shall be zeroed. If individual control is required, a controller per feature shall be required.

1. Panic Alarm Re-Set:

Remote panic buttons wired in series report back to the control panel. Unless stated elsewhere on Drawings, the Controller shall only re-set from panic alarm after the local panic button has been re-set and the activation of the control buttons.

1. Fire Alarm Re-set:

Unless stated elsewhere on Drawings, the Controller shall be configured so that continued fire alarm signal to Controller shall prevent re-set.

PART 4 – EXECUTION

4.1 INSTALLATION:

1. Install in accordance with manufacturer’s recommendations and instructions. Verify manufacturer’s mounting heights to comply with ADA current standards.
2. Finish and install all devices as shown in Drawings and as specified herein. Where device is to be installed by other trades, furnish and then turn over to appropriate trade for installation.
3. Furnish, install and make final connections to monitoring and remote EPO’s and Panic Buttons as indicated on Drawings and specified herein.

4.2 PLUMBING:

1. Make final connections to all piping systems where indicated by Drawings and specifications. Install in accordance with SECTION 221000.

4.3 ELECTRICAL:

1. Electrical Contractor shall furnish all conduit and wiring, making final wiring connections to all equipment as indicated by Drawings and specifications. Contractor shall be responsible for all system configurations, integration, test and start-up.

4.4 SYSTEM TEST AND START-UP

1. Prior to placing the Controller into service, perform all start-up procedures and checklists as stated in Manufacturer’s Operations and Maintenance Procedure
2. Verify that all components and devices comply with manufacturer’s requirements and recommendations and that all devices and installations conform to Drawings and specification requirements.
3. Upon completion of ALL Start-Up tests, place the system into service. Complete all warranty registration documents. Submit originals with other project related closeout and O & M documentation. Review all operating procedures with a representative of the owner. Provide all System Authority Keys to the owner’s representative.

PART 5 – EQUIPMENT SCHEDULE

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| Product | Model | Description | Remarks |
| Controller | CGSTGC | Gas |  |
| Controller Weatherproof Cover | CGSTGCWMWP  CGSTGCFMWP | Wall Mount  Flush Mount | Clear weatherproof lift cover |
| Gas Valve | CGSGSV\*\*\*\* | 0-5PSI 110V NC NPT | Size Dependant |
| Gas Valve Enclosure | CGSENC12126PC  CGSENC12126FM | Wall Mount  Flush Mount | Powder Coated 16 gauge steel quarter turn latch |
| Remote Panic Button | CGSEGOTW  CGSEPOFMCOVER | Red Mushroom Twist Release Clear Cover | Weatherproof |