SECTION 11 53 33

**ISIMET BGC (Basic Gas Controller) for** **Fire Pits, Grill and Heaters**

(Note to specifying engineer: When specifying systems utilizing this 3-Part CSI formatted specification, please remove any areas indicated in “Red” where not applicable to system design.)

To Safely Control and Gas for Fire Pits, Grill and Heaters.

1. **GENERAL**
	* + 1. **SUMMARY**

This document provides the minimum requirements for safely controlling gas services for fire pits, grills and heaters. This document It also provides the minimum necessary requirements for addressing an emergency condition.

* + - 1. **SCOPE OF WORK AND MINIMUM REQUIREMENTS**
		1. Provide BGC Controller as means to control operation of aforementioned services/utilities.
		2. Each system shall include, at a minimum, the following:
* ISIMET Model: BGC Utility Controller
	+ UL Listed
	+ Clear indicator, by illumination, of gas flowing and gas off.
	+ Push Button for activation of gas.
	+ Method of de-activating gas by one of the three methods:
		- Mushroom Button.
		- Push Button.
		- Keyed Push Button.
	+ Controller must have ability to shut down if an building emergency input is connected.
	+ Metal Stainless Steel cover.
	+ Metal housing/box.
	+ Must fit in a standard double-gang box.
* Gas solenoid or Electronic Ball Valve.
	+ UL Listed
	+ 24VDC voltage.
* Separate 120VAC igniter with configurable timing.
	+ 1. Contractor to provide installation labor, necessary supervision, materials and equipment for complete installation of the controller in each control area and to ensure proper and complete operation of all systems. (Miscellaneous appurtenances are not necessarily specified or indicated on the Drawings. Contractor shall provide all labor and materials not specifically indicated on the Drawings or specified in these Specifications.)
		2. Installation is to be completed per the Manufacturer’s Installation Manual.
			1. **MANUFACTURER QUALIFICATIONS**
		3. ISIMET BGC is the basis of the design. Alternative packages containing all components, as listed in Section 1.2(A) are acceptable as long as the minimum requirements of Section 1.3(C). are met.
		4. Additional components may be provided to the specified system including solenoid valves, enclosures, notification beacon, piping, wiring, conduit, and any other material, as needed, to provide a complete and operational system that complies with this specification.
		5. Any alternative to ISIMET, of any component, shall be submitted for approval prior to installation.
		6. Minimum General Requirements are:

Except for electrical components, the Controller and other components are to be assembled and manufactured in the United States.

Controller shall comply with Underwriter’s Laboratory Standards.

All components referenced in Section 1.2 must be procured from the same manufacturer of the Controller.

Access to the internal components of the Safety Controller must be secured by a metal cover and tamper-resistant screws.

The listed services from Section 1.1 must shutdown upon an emergency condition as a result of the activation of de-activation button. (Section 1.2.B)

The Controller shall have programable features that enable user to change timings and features for the following:

Gas Run time.

120VAC igniter time.

Controller must be manufactured by a company that has been manufacturing similar type controllers for at least 5 years, manufactured in the USA and carries the liability needs required of U.S. registered companies.

* + - 1. **CODES AND REGULATIONS REFERENCES**

General, Publications: The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only. The edition/revision of the referenced publications shall be the latest date as of the date of the Contract Documents, unless otherwise specified.

The Controller must be manufactured and listed to the criteria in Section 1.3.C.

Installation of the Components and Package per the following Regulations

American disabilities Act

Underwriters Laboratory

State and local building codes

National Building Codes

NFPA 70 National Electrical Code

NFPA 72 National Fire Alarm Code Uniform Building Code

All requirements of the local Authority having jurisdiction.

* + - 1. **QUALITY ASSURANCE**
1. General
	1. It is the intent of these Specifications and the Drawings, to secure the highest quality in all equipment and materials, and to require first-class workmanship, in order to facilitate trouble free operation and minimum maintenance of the electrical system.
	2. All work, including installation, connection, calibration, testing and adjustment, shall be performed by qualified, experienced personnel who are technically skilled in their trades, are thoroughly instructed, and are competently supervised by a certified electrician. The resulting complete installation shall reflect professional quality work, employing industrial standards and methods. Any and all defective material or inferior workmanship shall be corrected immediately at no additional cost.
	3. All equipment and materials shall be new, listed by UL and bearing the UL label, unless exception to this requirement is inherent to an individual item specified herein, or exception is otherwise specified, or approved, via a written allowance.
	4. Equipment and materials shall be the products of reputable, experienced manufacturers. Singular items in the project shall be the products of the same manufacturer. All equipment and materials shall be of industrial grade and heavy-duty construction, shall be of sturdy design and manufacture, and shall be capable of long, reliable, trouble-free service.
	5. Contractor shall furnish manufacturer's equipment of the types and sizes specified which has successfully operated for not less than the past five years, except where specific types are named by manufacturer and catalog number or designation under other Sections of the Contract Documents.
		* 1. **Warranty Requirements**
				1. Provide verification that the warranty of the Controller is at least 5 years.
				2. Once the contractor verifies the system is installed correctly, provide the acknowledgement that manufacturer of the system components has received the warranty card.
			2. **Submittals**
				1. General: Comply with Division 1 Submittals Procedure
				2. Equipment is not to be ordered without approved submittals.
				3. Product Data: (For each Component of the Control Package.)
			3. Manufacturer,
			4. Model Number
			5. Detail all options and accessories
			6. Catalog Data Sheet
				1. All deviations from the Contract Documents shall be indicated within a submittal. Each deviation shall reference the corresponding drawing or specification number, show the contract document requirement text and/or illustration, and shall be accompanied by a detailed written justification for the deviation.
				2. Provide detail wiring diagram for power and wiring between all components and integration into the building system.
				3. Provide Manufacturer’s operation and maintenance information as well as Installation instructions.
				4. Provide specific Control System location.
2. **PRODUCTS**

The ISIMET Model: BGC Package includes the minimum components and devices to independently secure any service located within local area of the installation. The following Package components shall be provided as shown on Drawings and as listed in the Equipment Schedule.

**CONTROLLER:**

At each area indicated in this document, or elsewhere as shown on Drawings, provide a Controller with push button switch to activate remote solenoid(s), contactor(s) and/or other means of control of the services as indicated by Drawings. The Controller shall be restricted by means of an enabling push button that activates and deactivates output circuits.

**SYSTEM COMPANIONS:**

**Gas Systems:** *(Designer: Choose one and delete the companion controls)*

Provide and locate the following companions to the controller, as shown on drawings.

1. Solenoid(s) or Self-Closing Electronic Ball Valve: Shall be suitable for gas. located near and integrated with Controller.
2. Solenoid Valve Assembly(s): Shall be solenoid valve(s) assembly(s), suitable for gas provided with “Factory Pressure Tested” ball valve, solenoid, integral in-line strainer and union assembly for each service specified. Assemblies may be stand alone or rack mounted; located near and integrated with Controller as shown on drawings. Pipe sizes are as noted in Equipment Schedule.
3. Solenoid Valve Assembly(s) Enclosure: Shall be pre-assembled solenoid valve(s) assembly(s), suitable for gas with “Factory Pressure Tested” ball valve, solenoid, integral in-line strainer and union for each service specified. Enclosures to be located near and integrated with Controller as shown on drawings. Pipe sizes and arrangement are as noted in Equipment Schedules and details.

**Remote Emergency Shut-Off Button:**

Provide and locate as shown on Drawings and/or Equipment Schedule, Remote Emergency Shut-Off Button(s), which shall be installed in accordance with local and national codes and regulations. Install any additional Emergency Shut-Off Buttons in line-of-sight locations that are readily accessible at points of egress, or as otherwise directed. Integrate Assembly with Controller.

**PART 3 – INTEGRATION AND CONFIGURATION**

**Integration of Building Alarm System:**

Where shown on Drawings, Controller shall have ability to be wired to accept a fire call/alarm input signal from Building Alarm system for automatic shutdown.

**PART 4- EXECUTION**

INSTALLATION: Install in accordance with manufacturer’s recommendations and instructions and codes per 1.4.B

Furnish and install all devices as shown on Drawings and as specified herein. Where device is to be installed by other trades, furnish and then turn over to appropriate trade for installation.

PLUMBING: Contractor shall furnish necessary piping and fittings.

ELECTRICAL: 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.