

SKP Series

SKP15...U.. Gas Valve Actuator with Safety Shutoff Function



Only when assembled to Series VG... Gas valves

Description

SKP15... electro-hydraulic actuators are used in combination with VG... series gas valves to provide safety shut-off control for industrial and commercial burner applications.

The compact SKP15... actuator opens slowly and closes immediately when power is interrupted. The modular design allows the SKP15... to be used in combination with all VG... series gas valve bodies from 1/2-inch to 6 inches in size. The actuator is easily mounted on the square flange of any VG... valve with four pre-mounted screws. A visible position indicator on the front of the actuator displays the entire stroke of the valve. A light indicates when the actuator is powered.

Features

- UL listed, FM approved, CSA certified for USA and Canada, IRI approvable, and ISO 9001 certified. European, Australian and Japanese approved versions available.
- Proof of Closure with Over Travel (POC) versions are available.
- Optional NEMA 4 protection.
- Visual position indication.
- "Power on" indication light
- Quick connect wiring terminals
- Optional adjustable auxiliary switch available.
- Modular design with 360° actuator rotation for easy field wiring and installation.
- Low, 13.5 VA power consumption.

Application

SKP15... series actuators are combined with 1/2-inch to 6-inch VG... series gas valve bodies. VG... series gas valves must be ordered separately (See *VG...U... Technical Instructions*, P/N 155-512P25).

Product Numbers

Table 1.

| Product Number ¹ | Operating Voltage | Proof of Closure Switch ² | Auxiliary Switch ² | Type of Switch |
|-----------------------------|-------------------|--------------------------------------|-------------------------------|----------------|
| SKP15.013U1 | 110 to 120 Vac | – | – | – |
| SKP15.012U1 | | X | X | SPDT SPDT |
| SKP15.011U1 | | X | – | SPDT |
| SKP15.013U2 | 220 to 240 Vac | – | – | – |
| SKP15.012U2 | | X | X | SPDT SPDT |

Note:

1. European, CE certified models are available (see *data sheet 7643*)
2. Proof of closure and auxiliary switches cannot be field installed.

Accessories

AGA66 Sealing gasket to provide NEMA 3, 3R, and 4 protection (for VGG.../VGD...valves)

| | | |
|---------------------------|-----------------------------------|--|
| Specifications | As safety shut-off valve | UL/429, FM/7400, ANSI Z21.21/CGA6.5 C/I Agency marks apply only for SKPxx.xxxU actuators with VGxxx.xxxU series gas valve bodies. |
| Agency approvals | | |
| Power supply | Operating voltage | 110 to 120 Vac + 10% to -15% 220 to 240 Vac + 10% to -15% |
| | Operating frequency | 50 to 60 Hz ± 6% |
| | Power consumption | 13.5 VA |
| | Duty cycle | continuous |
| Operating environment | Ambient operating temperature | 5°F to 140°F (–15°C to 60°C) |
| | Mounting position | Any position except upside down |
| Physical characteristics | Weight | 2.4 lb (1.1 kg) |
| | Enclosure | NEMA 1, 2, 5, and 12 for indoor use NEMA 3, 3R, and 4 with optional AGA66 gasket |
| | Dimensions | See Figure 3 |
| | Specification for valve bodies | See <i>gas valve Technical Instructions</i> , P/N 155-512P25 |
| Operating characteristics | Conduit connection | Two 1/2-inch NPSM threaded knock-outs |
| | Electrical connection | Spring loaded terminals for 14 AWG wires |
| | Output force | 100 lb (450 N) |
| Auxiliary features | Maximum stroke | 1 inch (26 mm) |
| | Opening time for maximum stroke | Varies with valve size, 14 seconds for max. stroke |
| | Closing time | <0.8 seconds |
| Auxiliary features | Proof of closure switch | Non-adjustable |
| | Setting range of auxiliary switch | 40% to 100% of stroke |
| | Switch rating | 6A/250 Vac resistive; 3A/120 Vac pilot duty |

Operation

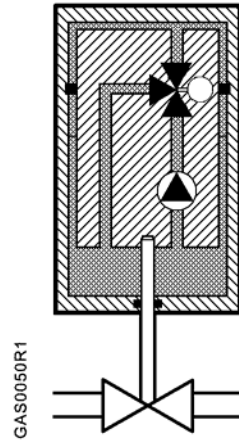


Figure 1. SKP15... Operation.

The electro-hydraulic actuator consists of a cylinder filled with oil, a piston containing an electric oscillating pump, and a relief system. When power is supplied to the actuator, the relief system closes, and the pump moves oil from the reservoir into the pressure chamber. This action causes the piston to move downward in the cylinder, opening the gas valve. When power to the actuator is interrupted, the relief system opens and the gas valve closes in less than 0.8 seconds.

A position indicator, visible through the transparent portion of the terminal cover, shows the entire stroke range of the actuator. A light, which is visible through the lower left transparent portion of the terminal cover, indicates when the actuator receives power. An optional, non-adjustable SPDT proof of closure over travel switch signals the closed position after the gas valve has closed. An optional SPDT auxiliary switch is adjustable between 40% and 100% of the stroke. The adjustment screw and scale are located on the right side in the terminal box, and are visible through the transparent portion of the terminal cover.

Installation



WARNING:

- Personal injury or loss of life may occur if procedures are not followed as specified.
 - All installations must be performed by qualified personnel only.
 - Do not pull the actuator shaft.
 - The AGA66 gasket must be installed between the actuator and the gas valve body to provide NEMA 3, 3R, and 4 protection rating for VGG... and VGD... valves.
- The SKP15... actuator is directly coupled to the VG... series valve body by four pre-mounted 4 mm Allen key screws.
 - The square mounting flange can be rotated in steps of 90° to provide four different mounting positions. The SKP15... actuator can be mounted in any position except upside down.
 - The actuator can be mounted or replaced while the valve body is under pressure.
 - The SKP15... actuator has two knock-outs for the installation of 1/2"-14 NPSM conduit connections.
 - When conduit routing is connected, flexible conduit must be used.
 - Liquid tight conduit must be used in combination with AGA66 to provide NEMA 3, 3R, and 4 protection.
 - The terminal marked GND, located above the wiring terminals, must be connected to the electrical ground.

Installation, Continued

NOTE: Wiring must meet all relevant electrical codes.

Wiring and Switch Adjustment

(See *Terminal
Designations*)

- The actuator is equipped with spring-loaded terminals for 14 AWG wires.
- The actuator has two line and two neutral terminals.
- Insert one wire into the opening of the terminal while pressing the lever downward with a screwdriver or hard object. Make sure that all strands insert into the opening.
- Adjust the auxiliary switch (if provided) according to the wiring diagram on the label below the terminals (see Figure 2). The adjustment screw and scale are located on the right side of the terminal box, and are visible through the transparent portion of the terminal cover.

- NOTES:**
1. The auxiliary switch is adjustable between 40% and 100% of the stroke. The factory setting is at 40%.
 2. The auxiliary switch must not be used for proof of closure detection or other safety interlock functions.
 3. The Proof of Closure Switch is non-adjustable.

Service

There are no serviceable parts on the SKP15... series actuators. If inoperative, replace the entire actuator. Tag wires before servicing.

Terminal Designations

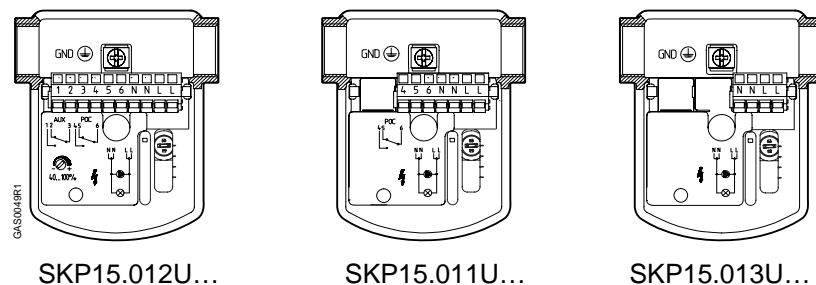


Figure 2. Terminal Designations.

Dimensions

(Dimensions in inches;
 millimeters in parentheses)

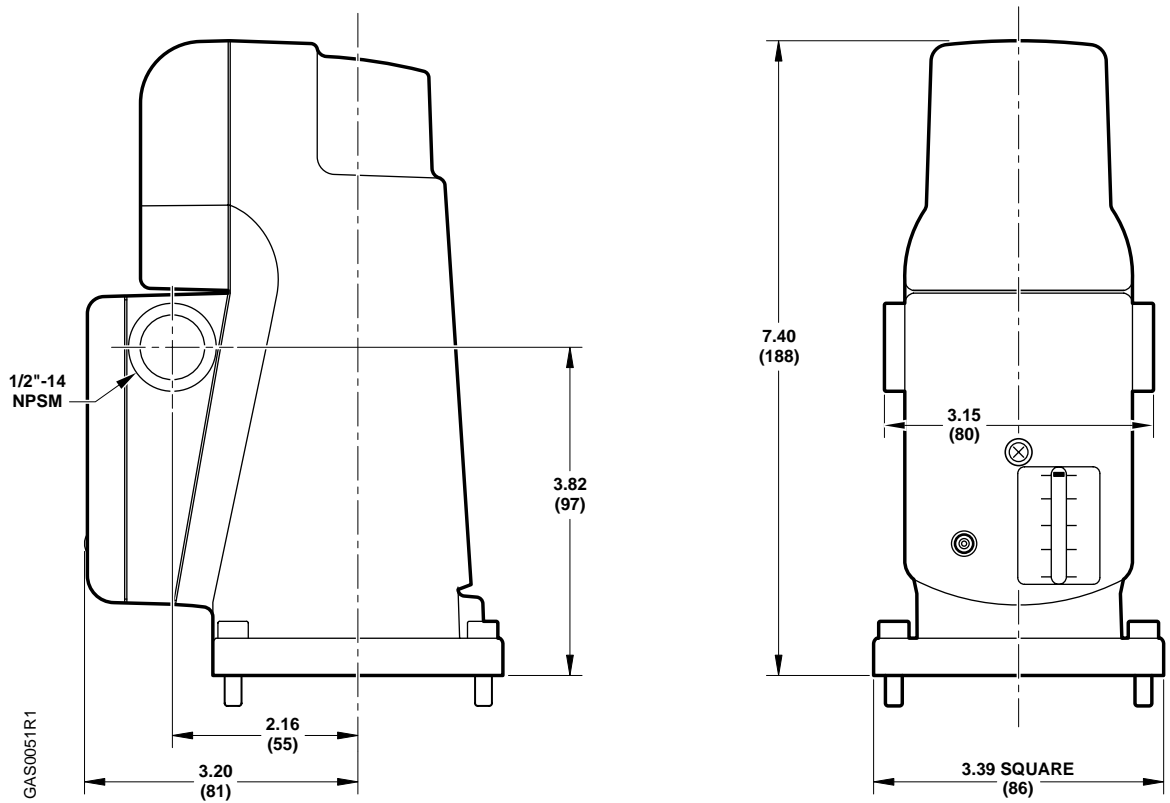


Figure 3. SKP15...U.. Dimensions.

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