

# CERTIFICATE OF COMPLIANCE

Certificate Number:  
335831-PA-DNV GL-KOR

Rev 0

Project No:  
PRJN-174381-2019-PA-KOR

*This Certificate consists of 3 pages including this page.*

*This is to certify that the product(s)*

## **Smart Valve Positioner**

*With name and/or type designation(s)*

**SS2 and SS3**

*Manufactured by*

**Power-Genex Ltd**

**address**

99, Eunbong-ro, Namdong-gu, Incheon 21639 South Korea

*has been assessed with respect to*

IEC 61508:2010 Parts 1 and 2

*To comply the hardware safety integrity requirement of*

Safety Integrity Level (SIL) 2 Capable with 1001 configuration and SIL 3 with 1002 configuration.

*Further details of the product and conditions for approval are given overleaf.*

**Seoul, 2019-12-30**  
for **DNV GL Business Assurance**

*This Certificate is valid until*  
**2024-12-29**



Jang Sup Lee  
Country Representative

DNV GL BA office:  
**Seoul**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

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### Certificate history

Revision	Description	Assessment Report No.	Issue Date
0	Original certificate	2019-9693, Rev 0	2019-12-30

### Products covered by this Certificate

Product	Product name
Smart Valve Positioner	SS2
	- PG-SS2-01, Rev A
	- PG-SS2-02, Rev A
Smart Valve Positioner	SS3
	- PG-SS3-01, Rev A
	- PG-SS3-02, Rev A

### Technical Documentation

Assessment report: 2019-9693, Rev 0

### Verification covered by this Certificate

Hardware Element Type:

- Type A

Safety Function:

- The positioner moves to the safety position by spring inside the pilot valve.
- The safety position means OUT1 pressure is cut off and pressure is output to OUT2.
- The safety position should be checked by the user and properly piped to the actuator.

#### Determination of SIL:

Classification	PFD <sub>AVG</sub>	Proof test interval*	Safe Failure Fraction (SFF)	Determination of SIL
SS2	1.17E-04	1 year (8760 h)	65.52 %	SIL 2 (HFT = 0) SIL 3 (HFT = 1)
SS3	1.17E-04	1 year (8760 h)	65.52 %	SIL 2 (HFT = 0) SIL 3 (HFT = 1)

\* The hardware SIL shall be verified in further application with periodical proof test.

#### Failure rates in FIT:

Product Name	$\lambda_{Total}$	$\lambda_S$	$\lambda_{DD}$	$\lambda_{DU}$
SS2	76.92	44.60	5.80	26.52
SS3	76.92	44.60	5.80	26.52

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## Validity of Certificate

The Certificate holder is to keep DNV GL informed of any significant changes in its configuration management and requirement other conditions that may affect.

### Renewal of Certificate

The Certificate holder is to apply for renewal of Certificate at least three (3) months before the period of validity expires.

### Suspension/withdrawal of approval

If the Certificate holder fails to fulfil the conditions of certification, DNV GL may suspend/withdraw the certificate at any time.

## Terms and conditions

The certificate is subject to the following terms and conditions:

*The Certificate is only valid for the product(s) listed above  
The Certificate is concerned with the design of the product, only*

END OF CERTIFICATE