



# EXPLOSION PROTECTION

## CERTIFICATE OF CONFORMITY

Cert NO.GYJ17.1408X

This is to certify that the product

**HART Capable Positioner**

manufactured by **SAMSON AG Mess, und Regeltechnik**  
(Address: Weismüllerstr. 3, D-60314 Frankfurt, Germany)

which model is **3730-31**

Ex marking **Ex ia IIC T4~T6 Gb**  
**Ex iaD 21 T80**

product standard /

drawing number **3730-31 01-Q、 3730-310..1 01-Q**

has been inspected and certified by NEPSI, and that it conforms  
to **GB 3836.1-2010, GB 3836.4-2010, GB 12476.1-2013, GB 12476.4-2010**

This Approval shall remain in force until **2022.11.20**

Remarks **1. Conditions for safe use are specified in the attachment to this certificate.**  
**2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.**  
**3. Intrinsic safety parameters specified in the attachment to this certificate.**

Director



National Supervision and Inspection Centre for  
Explosion Protection and Safety of Instrumentation

Issued Date **2017.11.21**

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

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# 国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for  
Explosion Protection and Safety of Instrumentation

(GYJ17.1408X)

(Attachment I)

## Attachment I

(Translation)

HART capable positioner type 3730 - 31 series, manufactured by SAMSON AG Mess, und Regeltechnik, have been approved by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) in accordance with the following standards:

GB3836.1 - 2010 Explosive atmospheres - Part 1: Equipment - General requirements

GB3836.4 - 2010 Explosive atmospheres - Part 4: Equipment protection by intrinsic safety "i"

GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust  
- Part 1: Equipment - General requirements

GB12476.4-2010 Electrical apparatus for use in the presence of combustible dust  
- Part 4: Protection by intrinsic safety "iD"

Ex marking: Ex ia IIC T4~T6 Gb

Ex iaD 20 T80

The certificate number is GYJ17.1408X, the IP degree is IP66.

The correlation between the temperature classification and the permissible maximum ambient temperature is shown in the table below:

Temperature class	T6	T5	T4 / T80
Maximum ambient temperature (°C)	-55°C~+60°C	-55°C~+70°C	-55°C~+80°C

If the option is vibration sensor, the correlation between the temperature classification and the permissible maximum ambient temperature is shown in the table below:

Temperature class	T6	T5	T4 / T80
Maximum ambient temperature (°C)	-40°C~+60°C	-40°C~+70°C	-40°C~+80°C

### 1. SPECIAL CONDITIONS FOR SAFE USE

Precautions should be adopted by the installation in order to avoid the risk of electrostatic charge on the plastic part of enclosure.

## 2. SPECIAL REQUIREMENTS

2.1 The positioner can be connected to the following Slot - Type sensors (type2 and type3) , which manufactured by PEPPERL+FUCHS GmbH:

SC2-N0□

SJ2,2-N□

SJ2-N□

The above Slot - Type sensors (type2 and type3) have been certified under GYJ16.1391X by NEPSI in accordance with GB3836.1 - 2010 and GB3836.4 - 2010, and approved with explosion marking of Ex ia II CT1 ~ T6 Ga.

The correlation between the temperature classification and the permissible maximum ambient temperature is shown in the attachment to the GYJ16.1391X, at the same time the permissible ambient temperature of the positioner doesn't higher than the less permissible maximum ambient temperature between the positioner and the Slot - Type sensors (type2 and type3) at the same temperature classification.

2.2 Only be connected to the certified associated apparatus, the positioner could be used in the explosive atmosphere. The connection should be complied with the requirements of the manual of the associated apparatus and the position.

2.2.1 The maximum values for connection to a certified associated apparatus are shown in the table below:

Terminal code	Max. input Voltage $U_i$ (V)	Max. input current $I_i$ (mA)	Max. input power $P_i$ (mW)	Max. internal parameter	
				$C_i$ (nF)	$L_i$ (mH)
11-12 Signal Circuit	28	115	1000	35	0
31-32 Position Indicator	28	115	1000	5.3	0
31-32 * Binary input	30	100	250	56.3	0
41-42 Slot - Type Sensors	16 16	25 52	64 169	See the attachment to GYJ16.1391X	
41-42 / 51-52 Software Limit switch	20	60	250	5.3	0
81-82 Forced Venting Function	28	115	500	5.3	0
83-84 Fault alarm output	20	60	250	5.3	0

\* **Optional circuits can be connected to terminals 31/32, these circuits include the position indicator, binary input, or the vibration sensor manufactured by SAMSON GA Mess und Regeltechnik.**

2.2.2 The maximum values of the serial interface for connection to a certified associated apparatus are shown in the table below:

Max. input Voltage $U_i$ (V)	Max. input current $I_i$ (mA)	Max. input power $P_i$ (mW)	Max. internal parameter	
			$C_i$ ( $\mu$ F)	$L_i$ (mH)
16	25	64	0	0

  

Max.output Voltage $U_o$ (V)	Max. output current $I_o$ (mA)	Max. output power $P_o$ (mW)	Max. external parameter	
			$C_o$ ( $\mu$ F)	$L_o$ (mH)
7.88	61.8	120	0.65	10

2.2.3 The cable with shield is suitable for connection, and the shield should be connected to the earth.

2.3 The enclosure shall be kept from the dust, but the dust shall not be blown by compressed air.

2.4 Forbid user to change the configuration to ensure the equipment's explosion protection performance. Whatever should be done only by experts from the manufacturer.

2.5 During installation, operation and maintenance, users must comply with the relevant requirements of the product instruction manual, GB3836.13-2013 "Explosive atmospheres-Part 13: Equipment repair, overhaul and reclamation", GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres Part 15: Electrical installations in hazardous areas (other than mines)", GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres Part 16: Inspection and maintenance of electrical installation (other than mines)", GB15577-2007 "Safety regulations for dust explosion prevention and protection", GB12476.2-2010 "Electrical apparatus for use in the presence of combustible dust Part 2: Selection and installation" and GB50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

### 3. MANUFACTURER'S RESPONSIBILITY

3.1 The instruction manual should include all the items mentioned above.

3.2 The manufacturer must strictly produce according to the documents approved by NEPSI.

3.3 The following contents are added to the nameplate of the positioner:

3.3.1 Identification of NEPSI.

3.3.2 Certificate No. GYJ17.1408X.

**National Supervision and Inspection Center  
For Explosion Protection and Safety of Instrumentation  
Nov. 21, 2017**