EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYJ17.1409X

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 3730-38

Ex marking
Ex ic IIC T4～T6 Gc
Ex nA IIC T4～T6 Gc
Ex tD A22 IP66 T80°C

product standard /

drawing number 3730–38 01–Q、3730–380..1 01–Q

has been inspected and certified by NEPSI, and that it conforms to GB 3836.1-2010,GB 3836.4-2010,GB 3836.8-2014,GB 12476.1-2013, GB 12476.5-2013

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.Safe 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

(GYJ17.1409X) (Attachment I)

Attachment Ⅰ

(Translation)

HART capable positioner type 3730－38 series, manufactured by SAMSON GA 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"

GB3836.8–2014 Electrical atmospheres – Part 8: Equipment protection by type of protection "n"

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

GB12476.5–2013 Electrical apparatus for use in the presence of combustible dust – Part 5: Protection by enclosures"tD"

Ex marking：Ex ic IIC T4～T6 Gc

Ex nA IIC T4～T6 Gc

Ex tD A22 IP66 T80℃

The certificate number is GYJ17.1409, 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（℃）	-55℃～+60℃	-55℃～+70℃	-55℃～+80℃

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（℃）	-40℃～+60℃	-40℃～+70℃	-40℃～+80℃

1. SPECIAL CONDITIONS FOR SAFE USE

1.1 Protection shall be provided within the signal circuit (terminal: 11-12) to avoid the reversal of the polarity, for example, a single diode is connected infallibly in series to the signal circuit.

1.2 The signal circuit (terminal: 11-12) shall be preceded by a fuse installed outside of the hazardous, this fuse shall comply with In ≤63mA, the rated voltage ≥ Ui and installed in front of the associated energy-limited apparatus.

1.3 The serial interface shall be preceded in the "2V7 * "connection by a fuse installed outside of the hazardous, this fuse shall comply with In ≤40mA, the rated voltage ≥ Ui and installed behind the associated energy-limited apparatus.

2. SPECIAL REQUIREMENTS(Ex Marking: Ex icⅡCT4～T6 Gc)

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 GB3836.4－2014, and approved with explosion marking of Ex ic Ⅱ C T1～T6 Gc.

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 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 energy-limited 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 Ui (V)	Max. input current Ii (mA)	Max. input power Pi (mW)	Max. internal parameter	
				Ci(nF)	Li(mH)
11-12 Signal Circuit	30 28	100 115	1000	5.3	0
31-32 Position Indicator	30 28	100 115	1000	5.3	0
31-32 * Binary input	32	132	---	56.3	0
41-42 Slot - Type Sensors	20 20	25 52	64 169	See the attachment to GY16.1391X	
41-42 / 51-52 Software Limit switch	20	60	250	5.3	0
81-82 Forced Venting Function	30 28	100 115	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 AG Mess und Regeltechnik.**

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

Max. input Voltage Ui (V)	Max. input current Ii (mA)	Max. input power Pi (mW)	Max. internal parameter	
			Ci(μ F)	Li(mH)
16	25	64	0	0

Max.output Voltage Uo (V)	Max. output current Io (mA)	Max. output power Po(mW)	Max. external parameter	
			Co(μ F)	Lo(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. SPECIAL REQUIREMENTS

(Ex Marking: Ex nA IIC T4～T6 Gc and Ex tD A22 IP66 T80℃)

3.1 Do not open the cover when explosive gas may be present.

3.2 The internal and external earthing terminal should be connected to the ground reliably at site.

3.3 The normal electrical parameters are shown as below：

Terminal code	Normal electrical parameters
11-12 Signal Circuit	4～20mA
31-32 * Position Indicator/Binary input	4～20mA
41-42 Slot - Type Sensors	U = 8V I = 8mA
41-42 / 51-52 Software Limit switch	U = 8V I = 8mA
81-82 Forced Venting Function	6～24Vd.c.
83-84 Fault alarm output	U = 8V I = 8mA

*** 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.**

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

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

3.6 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".

4. MANUFACTURER'S RESPONSIBILITY

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

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

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

4.3.1 Identification of NEPSI.

4.3.2 Certificate No. GYJ17.1409X.

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