EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYJ16.1195X

This is to certify that the product

OPTIWAVE 7300C /OPTIWAVE 7300C-L Radar Level Transmitter

manufactured by KROHNE S.A.S

(Address:2 allée des Ors, Romans, France)

which model is VF700 Series VF704 Series SF709 Series

Ex marking Ex d ia IIC T3~T6 Ga/Gb Ex iaD tD A20/A21 IP6X T95℃

product standard /

drawing number APPR F0820950520 APPR F0870315101

has been inspected and certified by NEPSI, and that it conforms to GB 3836.1-2010,GB 3836.2-2010,GB 3836.4-2010,GB 3836.20-2010, GB 12476.1-2013,GB 12476.4-2010,GB 12476.5-2013

This Approval shall remain in force until 2021.04.23

Remarks
1.Conditions for safe use are specified in the attachment(s) 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.Model designation is specified in the attachment(s) to this certificate.
4.Intrinsic safety parameters specified in the attachment(s) to this certificate.

Director

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

Issued Date 2016.04.24

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

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(GYJ16.1195X) (Attachment Ⅰ)

Attachment Ⅰ to GYJ16.1195X

VF700 Series, VF704 Series and SF709 Series OPTIWAVE 7300C /OPTIWAVE 7300C-L Radar Level Transmitter, manufactured by KROHNE S.A.S, have been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI).

Radar Level Transmitter accords with following standards:

GB 3836.1-2010 Explosive atmospheres Part 1: Equipment-General requirements
GB 3836.2-2010 Explosive atmospheres Part 2: Equipment protection by flameproof enclosures "d"
GB 3836.4-2010 Explosive atmospheres Part 4: Equipment protection by intrinsic safety"i"
GB 3836.20-2010 Explosive atmospheres Part 20: Equipment with equipment protection level (EPL) Ga
GB 12476.1-2013 Electrical appratus for use in the presence of combustible dust – Part 1: General requirements
GB 12476.4-2010 Electrical appratus for use in the presence of combustible dust – Part 1: Protection by intrinsic safety "iD"
GB 12476.5-2010 Electrical appratus for use in the presence of combustible dust – Part 4: Protection by intrinsic safety "tD"

Radar Level Transmitter has the Ex-marking Ex d ia Ⅱ C T3～T6 Ga/Gb Ex iaD tD A20/A21 IP6X T95℃.

Following Radar Level Transmitter are approved.

VF700 *abcdefghijklmnopqrs*
VF704 *abcdefghijklmnopqrs*
SF709 *abcdefghijklmnopqrs*

a : F

b : 0、1、2、3

c : 3、4、5、6、7、8、F、G、H、L、N、P、R、S、T、U、V、W、X、Y、

d : 0、1、2、3、4、5、6、7、8、A、B 、P、R、S、T

e : 0、1、2、3、4、5、B、C、F、G、H、K

f : 0、3、5、6、7、8、A、B、C、D、E、F、L、M、N、P、R、S、U、V

g : 0、3、5、6、7、8、A、B、C、D、E、G、L、N、P、R、S、U、V、W、X

h : 0、3、5、6、7、8、A、B、C、F、L、P、V、W、X、Y

i : 0、2

j : 0、1、4、A、B、E

k : 0、2

l : Not Ex relevant

m : 0、A、B

nopqrs : Not Ex relevant

1. Special condition for safe use

Symbol "X" denotes special condition for safe use: when radar level transmitter made of aluminum alloy is installed in Zone 0, take protective measure to avoid the ignition source due to impact or friction. Take protective measure to avoid electrostatic charge on the enclosure. Contact KROHNE S.A.S for information about flameproof joints.

2. Condition for safe use

2.1 Radar Level Transmitters shall be connected to the equipotential bonding system reliably.

2.2 The relation among EPL, temperature of flange and ambient temperature range of Radar level transmitter is listed in following table.

EPL	Ambient temp.	Flange temp.
Ga	(-20～+60) ℃	(-20～+60) ℃
Ga/Gb	(-40～+80) ℃	(-20～+60) ℃
Gb	(-40～+80) ℃	(-40*～+200) ℃
A20、A20/A21、A21	(-40～+80) ℃	(-40*～+200) ℃

Note: "*" A flange temperature is no less than -50℃ is allowed if EPDM gaskets are used.

2.3 The temperature class and maximum surface temperature depends on the ambient temperature and flange temperature, which are listed in following table.

EPL	Temp. Class	Ambient temp.			Flange Temp.
		Hygienic antennas	Drop and Horn antennas	Drop and Horn antennas with distance piece	
Ga	T6	57℃	57℃	57℃	60℃
Ga/Gb	T6	57℃	57℃	57℃	60℃
	T5	72℃	72℃	50℃	60℃
	T4	80℃	80℃	80℃	60℃
Gb	T6	57℃	57℃	57℃	60℃
		50℃	47℃	51℃	85℃
	T5	72℃	72℃	72℃	75℃
		65℃	62℃	66℃	100℃
	T4	80℃	80℃	80℃	85℃
		76℃	74℃	79℃	100℃
		73℃	70℃	74℃	110℃
		66℃	60℃	68℃	135℃
	T3	62℃	54℃	64℃	150℃
		-	-	57℃	180℃
		-	-	52℃	200℃
A20、A20/A21、A21	T67℃	60℃			60℃
	T82℃	75℃			75℃
	T92℃	80℃			85℃
	T90℃	67℃	59℃	62℃	150℃
		-	-	57℃	200℃

Note: "-" denotes not applicable.

2.4 Um=253V

2.5 When Radar level transmitter is installed in explosive gas atmosphere, cable glands and blanking plugs with Ex d IIC Gb marking according to GB 3836.1-2010 and GB 3836.2-2010 shall be incorporated. Engaged threads shall be not less than 5.

2.6 When Radar level transmitter is installed in combustible dust atmosphere, cable glands and blanking plugs with IP6X degree of protection according to GB 12476.1-2013 and GB 12476.4-2010 shall be incorporated.

2.7 When the ambient temperature exceeds 70℃, the cable, cable entry devices and blanking elements shall be suitable for at least 80℃.

2.8 Observe the warning " Delay X mins. Before opening". The relation between X and temperature class is listed in following table.

Temp. Class	X
T6	20
T5	10
T2~T4	0

2.9 No corrosive gases to aluminum alloy enclosure is permitted.

2.10 Maintenance could be made when no explosive gas atmosphere exists.

2.11 End users is not permitted to change any components inside.

2.12 During installation, use and maintenance of Radar level transmitter, observe following standards.

GB 3836.13-2013 Explosive atmospheres-Part 13:Equipment repair,overhaul and reclamation

GB 3836.15-2000 Electrical apparatus for explosive gas atmospheres - Part 15:Electrical installations in hazardous area (other than mines)

GB 3836.16-2006 Electrical apparatus for explosive gas atmospheres - Part 16: Inspection and maintenance of electrical installation in hazardous areas (other than mines)

GB 3836.18-2010 Explosive atmospheres Part 20: intrisically safe system

GB 3836.20-2010 Explosive atmospheres Part 20: Equipment with equipment protection level (EPL) Ga

GB 50257:2014 Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering

GB 12476.2-2010 Electrical apparatus for use in the presence of combustible dust. Part 2:Selection and installation

GB 15577-2007 Safety regulations for dust explosion prevention and protection

3. Manufacturer's Responsibility

3.1Special condition for safe use specified above should be included in the instruction manual.

3.2Manufacturing should be done according to the documentation approved by NEPSI.

3.3Any modification with influence on the type of protection should be submitted to NEPSI before application.

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
April 24th, 2016