



Certificate No:
TAA00002YS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Detector

with type designation(s)
Spectrex SharpEye 40/40 series Flame Detectors & 975 Series Flame Detectors

Issued to
Rosemount Inc.
Shakopee, MN, USA

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	D

Issued at **Hamburg** on **2021-05-25**

for **DNV**

This Certificate is valid until **2026-05-24**.

DNV local station: **Certification & Inspection Services**

Approval Engineer: **Didier Girardin**

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Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

The SharpEye 40/40 series Flame Detectors & 975 Series Flame Detectors are manufactured from stainless steel or aluminium.

Nomenclature SharpEye 40/40 series 40/40D-x-xxxxxxxx [40/40D-x ₁ -x ₂ x ₃ x ₄ x ₅ x ₆ x ₇ x ₈ x ₉] ¹⁾		
X ₁ Sensor type	I	IR3 (Triple IR)
	M	Hydrogen + Hydrocarbon
	LB	with BIT (UV/IR)
	L4B	IR at 4. μM with BIT (UV/IR)
X ₂ Wiring	6	Universal
X ₃ Temperature	3	-60°C-+85°C
X ₄ (Elec. Entries)	1	M25
	2	3/4"NPT
X ₅ Enclosure	S	Stainless Steel
	A	Aluminium
X ₆ ²⁾ EX -Approval	B	Immetro,
	F	FM, FM, FMC, CSA US/C
	C	ATEX, IECEX
	R	EAC CU TR
X ₇ Mounting	Y	Tilt Mount
	N	Not Tilt Mounted
X ₈ ²⁾ Protective Cover	0	without,
	7	Plastic,
	8	Stainless steel
X ₉	H	Hot CO ₂

Nomenclature 975 Series 975xxxxxxxx [975x ₁ x ₂ x ₃ x ₄ x ₅ x ₆ x ₇ x ₈ x ₉] ¹⁾		
X ₁ Sensor type	MR	IR3 (Triple IR)
	HR	Hydrogen + Hydrocarbon
	UF	with BIT (UV/IR)
	UR	IR at 4. μM with BIT (UV/IR)
X ₂ Wiring	4U	Universal
X ₃ (Elec. Entries)	8	M25
	6	3/4"NPT
X ₄ Enclosure	S	Stainless Steel
	A	Aluminium
X ₅ Temperature	3	-60°C-+85°C
X ₆ ²⁾ EX -Approval	E2	Immetro,
	A2	FM, FM, FMC, CSA US/C
	A1	ATEX, IECEX
	EM	EAC CU TR
X ₇ Mounting	Y	Tilt Mount
	N	Not Tilt Mounted
X ₈ ²⁾ Protective Cover	0	without,
	7	Plastic,
	8	Stainless steel
X ₉	H	Hot CO ₂

Note:

- ¹⁾ Firmware: S87701, S87702
- ²⁾ Not covered by present certificate

Approval conditions

The Type Approval covers hardware listed under Product description and basic software listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram including location of detectors
- Power supply arrangement (may be part of the System block diagram)

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the vessel

Application/Limitation

- Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-Certificate issued by a notified/recognized Certification Body.
- The SharpEye 40/40 Series Flame Detectors can be fitted with an unmoulded (non-encapsulated), End of Line (EOL) Resistor. Such a resistor can only be fitted into the flameproof 'Ex d' compartment as indicated in the instructions. The EOL Resistor shall be rated at 1.56 k Ω , 1 W minimum
- Each Delivery is to be provided with an Installation and user manual

Place of manufacture

Hidden

Hidden

Rosemount, Inc.
6021 Innovation Blvd,
Shakopee,
MN 55379,
USA

Spectronix LTD,
8 Kehilat Milano,
Sderot, 8714508
Israel

End of Hidden

Type Approval documentation

Hidden

Hidden: The 975 Series Flame Detectors is a rebranding of the SharpEye 40/40 series Flame Detectors. Both products are completely identical except for the brand and supporting documents.

Test Report	Vers/Ed.	Issuing day
20190221-1437	01	2019.03.03
20200106-0932	01	2020.02.11
SPC 230620	01	2020.06.23
SPC 240620	01	2020.06.24
SPC 080919	02	2020.10.22
2122A12788	02	2021.02.21
N80077231A	03	2021.04.15
N80077231B	03	2021.04.21
Drawings		
877-SPX-FM	Bf	2018.03.18
888176	A	2012.09.20
00913-0100-4975	AA-M	2020.07
00913-0100-4976	AA-I	2020.07
00913-0100-4977	AA-LB	2020.07
00913-0100-4978	AA-L4B	2020.07
E877039	Ae	2019.11.18
E877139	Ae	2019.11.18
Description SharpEye 40/40-DNV	Aa	
Extract SharpEye 40/40-DNV	Aa	
Description 975-DNV	Aa	
Extract 975-DNV	Aa	
00813-0100-4976	BA-MR	
00813-0100-4975	BA -HR	
00813-0100-4978	BA -UF	
00813-0100-4977	BA -UR	
Description SharpEye 975-DNV	Aa	
Extract SharpEye 975-DNV	Aa	

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate



Job Id: **262.1-034978-1**
Certificate No: **TAA00002YS**

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE