

CERTIFICATION OF COMPLIANCE

with IEC EN 61508:2010

CERTIFICATE No.: C-2006-SIL-156

LICENCE HOLDER: **FIREPRO SYSTEMS Limited**
8 Faleas Street,
CY - 4101 Limassol – CYPRUS

MANUFACTURER: **FIREPRO SYSTEMS Limited**
8 Faleas Street,
CY - 4101 Limassol – CYPRUS

WE HEREWITH CONFIRM THAT THE ANALYSIS DEVELOPED
BY MEDICAIR, REPORTED IN THE DOCUMENT:

Safety Manual for
Fire extinguishing AEROSOL GENERATOR SYSTEM
Series FP

HAS BEEN ASSESSED AND FOUND TO MEET THE SIL REQUIREMENTS DETAILED
IN THE ANNEXED TABLE FOR THE SAFETY FUNCTION:

*“Correct switching on demand (closed to open) within the specified time,
in low demand mode of operation”*

The above described document was found to meet the standard defined requirements
of the safety levels detailed in the table T-2006-SIL-156 according to IEC EN 61508:2010
Part 1 and 2 under fulfillment of the conditions listed in the

Assessment Report No.: AR-2006-SIL-156 dated July 10th 2020

First issuing date: July 14th 2020

Expiry date: July 2023

NOTE: This certificate excludes any changes to manufacturer documentation after the date of issue of the certificate itself

Milan, 14.07.2020



Dipl.-Ing. J. Moreno
Technical Certifier



Ing. M. Sansone
TUV Thüringen Italia Director



Product description and scope of attestation - The series FP include following generator **types**:

Activation type						
Electrical		Thermal	Thermal + electrical			
Steel housing						
Stainless		Red coated	Stainless			Red coated
Cylinder	Box		Cylinder		Box	
FP20SE	FP1200S	FP1200	FP20TH	FP40T	FP1200TS	FP1200T
FP20T	FP2000S	FP2000		FP80T	FP2000TS	FP2000T
FP40S	FP3000S	FP3000		FP100S	FP3000TS	FP3000T
FP80S	FP5700S	FP5700		FP200S	FP4200TS	FP4200T
				FP500S	FP5700TS	FP5700T

Inspection of the **reliability data** and PFD calculation

	<i>E/EE/EP safety-related system (final element)</i>	Fire extinguishing AEROSOL GENERATOR SYSTEM, Series FP
	System type	Type A
	Configuration	SARGT001, Fig. 2.1.2.4 – typical drawing
	Safety Function Definition	<i>Correct switching on demand (closed to open) in low demand mode of operation. After opening the valve shall be disassembled in order to reactivate the spring</i>
SIL Classification according to IEC EN 62508:2010 (chapters 2, 4, 6, 7)	Max SIL	SIL 2 with HFT = 0, single channel configuration without external diagnostic test SIL3 with HFT = 1, double channel configuration
	Additional requirements for the max SIL classification	<i>Checking equipment regularly. Execution of tests with time interval not higher than 12 months and Full Functional Proof Test with time interval not higher than 6 months</i>
	λ_{TOT}	1,01E-07
	λ_S	1,00E-07
	λ_D	1,00E-09
	PFD ⁽¹⁾	4,39E-04
	DC	0
	SFF	> 90%
	MTTR	< 24 h
	Hardware Safety Integrity	Route 2 _H
	Systematic Safety Integrity	Route 2 _S
	Remarks	
<i>(1) PFD of reference calculated on the basis of a Full Functional Proof Test with time interval reported in the line Additional requirements for the max SIL classification for HFT = 0 configuration. This time intervals are considered by TÜV as reasonably consistent with the implementation of the equipment for safety related-applications, with reference to the overall range of results shown in the report, where other possible combination of time intervals adequate for a classification up to SIL 2 are reported. Note that, concerning Full Proof Tests, time intervals for higher than 36 months are considered by TÜV as not adequate and consistent for equipment for safety related applications.</i>		

The assessment has been performed according to the requirement as per Part 2 – Annex D of the IEC 61508 edition 2010.

Summary of results

All the necessary documentation used for the assessment is archived in electronically format.

The equipment must be used only with specified environmental condition documented in the user manual. The compliance of the existing condition for an application with the specified condition must be checked during the commissioning.