

CERTIFICATE

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The product:

**High Temperature Velocity Transducer
5485C**

Manufactured by:

Metrix Instrument Co.
8824 Fallbrook Drive, Houston
Texas 77064
United States

Is suitable for the following safety function(s):

Generate an emf directly proportional to the oscillatory velocity applied to the sensor body by the external environment, suitable to vibration monitoring of rotating machinery.

Has been assessed per the relevant requirements of:

IEC 61508:2010 Parts 1 to 7

and meets the requirements providing the following:

Systematic Capability:

The compliance with the requirements for the avoidance of systematic faults and the requirements for the control of systematic faults have been achieved following the compliance route 1_s.

SC 3

Hardware Safety Integrity:

The constraints on hardware safety integrity have been verified in order to achieve a sufficiently robust architecture taking into account the level of element and subsystem complexity following the compliance route 1_H.

**Type
A**

Random Safety Integrity:

The estimated safety integrity, for each safety function, due to random hardware failures (including soft-errors) and random failures of data communication processes.

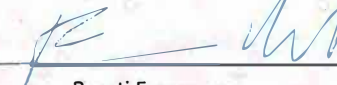
**See
page
2**

The architectural constraints and the effects of random failures (PFD_{AVG}) must be verified for each specific application and safety function implemented by the E/E/PE safety-related system.

Certified by:

HON
CONSULTING

Legal Representative:



Rosati Francesco

President of HON Consulting S.r.l.



CERTIFICATE NO:
MIC-5485-E01-ESLC-S01
Revision: A

Issued:
February 28th, 2017

Valid until:
February 27th, 2022

The owner of a valid certificate for an assessed product is authorized to affix the following mark to all recognized devices which are identical to the product assessed.



With the following
ID number:

17-105S01A

**METRIX DOCUMENT NO: 1699560
REV: A**

The design of each Safety Instrumented Function shall meet the requirements listed in the reference standards that shall be selected by taking into account the specific application.

Specific activities necessary to investigate and reach a judgment on the adequacy of the functional safety achieved by the E/E/PE safety-related system or compliant items (elements/subsystems) has been conducted by an independent assessor.

The following failure rates data shall be used to the PFD_{AVG} estimation, taking into consideration all parameters such as redundancy, architectural constraints, diagnostic capability, also introduced by the whole system, including the considerations about the proof test and its effectiveness, mean time of restoration, up to the maintenance capability and its minimum characteristics.

Failure rate of 5485C High Temperature Velocity Transducer

with removable cable (5485C-AAA + 4850-AAA)				with integral cable (5485C-AAA-BBB)			
λ_{SU}	λ_{SD}	λ_{DU}	λ_{DD}	λ_{SU}	λ_{SD}	λ_{DU}	λ_{DD}
0	0	98	716	0	0	104	712

Note:

- All failure rates are in FIT (Failure In Time 1 FIT = 1 failure / 10⁹ hours).

The prescriptions contained in the safety manual, available on the Metrix website, shall be followed.



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The Functional Safety
Assessment report no.

C306-105-021600_ESLC-S01_01

dated:
February 27st, 2017

is an integral part of this
certificate

