



<b>SIL-DECLARATION of CONFORMITY</b> <i>SIL-DICHIARAZIONE DI CONFORMITA'</i>	<b>EN 50402 ; EN 61508</b>
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N.E.T. S.r.l. – 20010 Cornaredo (MI) ITALY Via Legnano, 2, hereby declares under its own responsibility that the gas detection units

**Model IRPELL-P-20 – intelligent IR sensor with pellistor-like output**

Are assembled and delivered in accordance to the cited TÜV-Certificate and Report to comply with the following European Standards for Functional Safety:

**EN 50402:2005 + A1:2008 ; EN 61508:2001 parts 1 to 7**

The Functional Safety Assessment was carried out by TÜV-Italia (TÜV-SÜD) (Certificate pending)  
The results are given in the Report (pending) resulting in the following data for the use of single channel (1 out of 1) and redundant (1 out of 2) IRPELL-P-20 sensors.  
To achieve the claimed SIL-compliance for the detectors the conditions for use overleaf have to be obeyed.

	<b>Single sensor 1oo1</b>	<b>Redundant sensors 1oo2</b>
Safety function	a pellistor like voltage output with a signal range of 100mV equivalent to measured gas concentration	
Measuring range	0 – 100 % LEL	
SIL Capability Hardware	2	3
SIL Capability Software	3	3
Type of device	B	
Proof test interval	1 year	
MTTR	24 h	
SFF	95,28 %	
HFT	0	1
β Factor	—	5 %
PFD	$9,30 \times 10^{-5}$	$4,66 \times 10^{-6}$
$\lambda_{du}$	$1,96 \times 10^{-8}$ (per h)	
$\lambda_{dd}$	$2,82 \times 10^{-7}$ (per h)	
$\lambda_{su}$	$1,13 \times 10^{-7}$ (per h)	
$\lambda_{sd}$	0 (per h)	

Cornaredo Date: October 1<sup>st</sup>, 2009

**Dott. Giacomo Frigo**  
(General Director / Amministratore Unico)



**Nano Environmental Technology**  
**The Reliable Alternative**



## Conditions for use

The values for the SIL-Capability of the IRIS-sensor and the determined failure rates are valid only if the following conditions for use will be obeyed (responsibility of the user).

The IRIS-sensor connected to a detector has to be placed at a position suitable for the measuring application, to be connected correctly to a central unit and to be put into operation by an authorized installer company.

Output signals of the sensor 20 mV below zero level (fail low) and 20 mV above full scale (fail high) have to be recognized by an external detector  $\mu$ -P as sensor failure.

The environmental parameters (e.g. the ranges for temperature, humidity and pressure) specified in the users manual have to be observed and followed.

The detector has to be maintained regularly following the instructions of N.E.T. S.r.l. and to be calibrated using a certified calibration gas mixture.

The proof test has to be carried out once per year. As proof test a regular calibration has to be carried out without additional requirements.