

Manufacturer Declaration
Functional Safety (IEC 61508:2010)

Supplement 1 / NE130 From B.1

Endress+Hauser Wetzer GmbH+Co. KG Obere Wank 1, 87484 Nesselwang

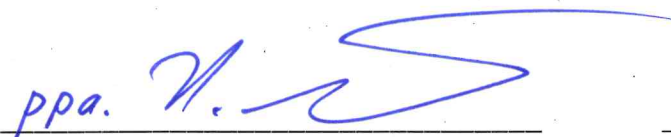
declares as manufacturer, that the following surge protective device

HAW568

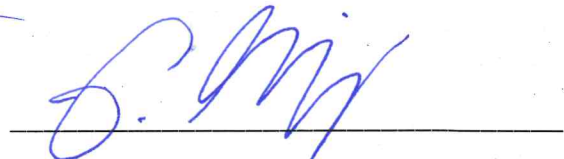
is suitable for use in safety relevant applications up to SIL3 (HFT=0) according to IEC 61508:2010

In safety relevant applications according to IEC 61508, the instructions of the Safety Manual must be followed.

Nesselwang, 24.04.2025
Endress+Hauser Wetzer GmbH+Co. KG



ppa. Harald Müller
Director Technology



i.V. Eva Rizzo
Head of Department Technology Safety

General			
Device designation and permissible types	HAW568-*A (Order code for "Additional approval": Option LA "SIL")		
Safety-related output signal	n/a		
Fault current	n/a		
Process variable/function	Provide surge protection for field equipment		
Safety function(s)	The safety function of Surge Protective Devices is to behave like a piece of copper wire, passing through the process signal without being altered.		
Device type acc. to IEC 61508-2	<input checked="" type="checkbox"/> Type A	<input type="checkbox"/> Type B	
Operating mode	<input checked="" type="checkbox"/> Low Demand Mode	<input checked="" type="checkbox"/> High Demand	<input type="checkbox"/> Continuous Mode
Valid Hardware-Version	n/a		
Valid Software-Version	n/a		
Safety manual	FY01111K/09		
Type of evaluation (check only <u>one</u> box)	<input type="checkbox"/> Complete HW/SW evaluation parallel to development incl. FMEDA and change request acc. to IEC 61508-2, 3 <input type="checkbox"/> Evaluation of "Proven-in-use" performance for HW/SW incl. FMEDA and change request acc. to IEC 61508-2, 3 <input type="checkbox"/> Evaluation of HW/SW field data to verify „prior use" acc. to IEC 61511 <input checked="" type="checkbox"/> Evaluation by FMEA acc. to IEC61508-2 for devices in respect of hardware safety integrity		
Evaluation through / certificate no.	internal assessment		
Test documents	development documents, test reports, data sheets		
SIL - Integrity			
Systematic safety integrity		<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
Hardware safety integrity	2-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
	3-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
	4-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
FMEA		HAW568-*A	
Safety function	The safety function of a Surge Protective Devices is to behave like a piece of copper wire, passing through the process signal without being altered.		
$\lambda_{DU}^{1) 2)}$	2.59E-10 (2-wire), 3.89E-10 (3-wire), 5.18E-10 (4-wire)		
$\lambda_{DD}^{1) 2)}$	1.05E-08 (2-wire), 1.99E-08 (3-wire), 2.09E-08 (4-wire)		
$\lambda_{SD}^{1) 2)}$	0.00E+00		
$\lambda_{SU}^{1) 2)}$	4.77E-09 (2-wire), 9.42E-09 (3-wire), 9.55E-09 (4-wire)		
SFF - Safe Failure Fraction	98.33 % (2-wire), 98.69 % (3-wire), 98.33 % (4-wire)		
$PFD_{avg} T_1 = 5 \text{ year}^{2)}$	5.76E-06 (2-wire), 8.67E-06 (3-wire), 1.15E-05 (4-wire)		
PFH	n/a		
PTC ³⁾	n/a		
Fault reaction time ⁴⁾	n/a		
Diagnostic test interval ⁵⁾	n/a		
Process safety time ⁶⁾	n/a		
MTTF ⁷⁾	n/a		
Declaration			
<input checked="" type="checkbox"/>	Our internal company quality management system ensures information on safety-related systematic faults which become evident in the future		

¹⁾ FIT = Failure In Time, Number of failures per 10⁹ h

²⁾ Valid for average ambient temperature up to +80 °C (+176 °F)

For continuous operation at ambient temperature close to +80 °C (+176 °F), a factor of 2 should be applied

³⁾ PTC = Proof Test Coverage

⁴⁾ Maximum time between error recognition and error response

⁵⁾ All online diagnostic functions are performed at least once within the Diagnostic test interval (32 min incl. memory test)

⁶⁾ The Process safety time is: Diagnostic test interval x 100 (calculated acc. to IEC 61508)

⁷⁾ MTTF (Mean Time To Failure) is the predicted elapsed time between inherent failures of a system during operation in accordance to Siemens SN29500

General			
Device designation and permissible types	HAW568-*B (Order code for "Additional approval": Option LA "SIL")		
Safety-related output signal	n/a		
Fault current	n/a		
Process variable/function	Provide surge protection for field equipment		
Safety function(s)	The safety function of Surge Protective Devices is to behave like a piece of copper wire, passing through the process signal without being altered.		
Device type acc. to IEC 61508-2	<input checked="" type="checkbox"/> Type A	<input type="checkbox"/> Type B	
Operating mode	<input checked="" type="checkbox"/> Low Demand Mode	<input checked="" type="checkbox"/> High Demand	<input type="checkbox"/> Continuous Mode
Valid Hardware-Version	n/a		
Valid Software-Version	n/a		
Safety manual	FY01111K/09		
Type of evaluation (check only <u>one</u> box)	<input type="checkbox"/>	Complete HW/SW evaluation parallel to development incl. FMEDA and change request acc. to IEC 61508-2, 3	
	<input type="checkbox"/>	Evaluation of "Proven-in-use" performance for HW/SW incl. FMEDA and change request acc. to IEC 61508-2, 3	
	<input type="checkbox"/>	Evaluation of HW/SW field data to verify „prior use“ acc. to IEC 61511	
	<input checked="" type="checkbox"/>	Evaluation by FMEA acc. to IEC61508-2 for devices in respect of hardware safety integrity	
Evaluation through / certificate no.	internal assessment		
Test documents	development documents, test reports, data sheets		
SIL - Integrity			
Systematic safety integrity		<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
Hardware safety integrity	2-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
	3-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
	4-wire use (HFT = 0)	<input type="checkbox"/> SIL 2 capable	<input checked="" type="checkbox"/> SIL 3 capable
FMEA		HAW568-*B	
Safety function	The safety function of a Surge Protective Devices is to behave like a piece of copper wire, passing through the process signal without being altered.		
$\lambda_{DU}^{1) 2)}$	0.00E+00		
$\lambda_{DD}^{1) 2)}$	8.39E-09 (2-wire), 1.68E-08 (3-wire), 1.68E-08 (4-wire)		
$\lambda_{SD}^{1) 2)}$	0.00E+00		
$\lambda_{SU}^{1) 2)}$	4.52E-09 (2-wire), 9.03E-09 (3-wire), 9.03E-09 (4-wire)		
SFF - Safe Failure Fraction	100%		
$PFD_{avg} T_1 = 5 \text{ year}^{2)}$	6.71E-08 (2-wire), 1.34E-07 (3-wire), 1.34E-07 (4-wire)		
PFH	n/a		
PTC ³⁾	n/a		
Fault reaction time ⁴⁾	n/a		
Diagnostic test interval ⁵⁾	n/a		
Process safety time ⁶⁾	n/a		
MTTF ⁷⁾	n/a		
Declaration			
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