

Overview PI/AP SIL-Products

Process Instruments		(latest) Version				Type													
Release date 26. October 2018	Safety Related Output/Function	HW	SW	Order Number	Add. Information	A = simple HW B = complex HW/SW	SIL	Assess ment Type	PFD _{avg} (1 year)	β	MTTR [h]	T _{Proof} [y]	SFF	HFT	λ _{SD} [FIT]	λ _{SU} [FIT]	λ _{DD} [FIT]	λ _{DU} [FIT]	
Pressure																			
1	SITRANS P320	4...20 mA	1.00.00	1.00.08	7MF0300 - Z C20														
					measuring span <= 63 bar, gauge pressure	B	2/3 ²⁾	certificate	2,43E-04	-	72	see M	91%	0/1	0	77	408	48	
2	SITRANS P320	4...20 mA	1.00.00	1.00.08	7MF0300 - Z C20 7MF0320 - Z C20														
					measuring span >= 160 bar, gauge pressure	B	2/3 ²⁾	certificate	2,35E-04	-	72	see M	91%	0/1	0	77	409	46	
3	SITRANS P320	4...20 mA	1.00.00	1.00.08	7MF0310 - Z C20 7MF0330 - Z C20 7MF0340 - Z C20 7MF0350 - Z C20 7MF0360 - Z C20														
					differential pressure and flow (PN32/160) differential pressure and flow (PN420)	B	2/3 ²⁾	certificate	2,38E-04	-	72	see M	91%	0/1	0	77	443	46	
4	SITRANS P420	4...20 mA	1.00.00	1.00.08	7MF0400 - Z C20														
					measuring span <= 63 bar, gauge pressure	B	2/3 ²⁾	certificate	2,43E-04	-	72	see M	91%	0/1	0	77	408	48	
5	SITRANS P420	4...20 mA	1.00.00	1.00.08	7MF0400 - Z C20 7MF0420 - Z C20														
					measuring span >= 160 bar, gauge pressure	B	2/3 ²⁾	certificate	2,35E-04	-	72	see M	91%	0/1	0	77	409	46	
6	SITRANS P420	4...20 mA	1.00.00	1.00.08	7MF0410 - Z C20 7MF0430 - Z C20 7MF0440 - Z C20 7MF0450 - Z C20 7MF0460 - Z C20														
					differential pressure and flow (PN32/160) differential pressure and flow (PN420)	B	2/3 ²⁾	certificate	2,38E-04	-	72	see M	91%	0/1	0	77	443	46	
7	Diaphragm seals connected to SITRANS P320 / P420				Order Option C20: 7MF0800 7MF0801 7MF0810 7MF0811 7MF0814 7MF0830 7MF0840 7MF0850 7MF0900 7MF0930														
						-	-	-	-	-	-	-	-	-	0	0	0	100	
8	Diaphragm seals connected to SITRANS P320 / P420 (differential)				Order Option C20: 7MF0802 7MF0812 7MF0813 7MF0832 7MF0842 7MF0902														
						-	-	-	-	-	-	-	-	-	0	0	0	190	
9	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2033 - Z C20														
					measuring span <= 63 bar, gauge pressure	B	2	PiU	5,79E-04	-	8	1	80%	0	0	151	381	132	
10	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2033 - Z C20														
					measuring span >= 160 bar, gauge pressure	B	2	PiU	5,70-E04	-	8	1	79%	0	0	142	356	130	
11	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2433 - Z C20														
					differential pressure and flow (PN32/160)	B	2	PiU	5,73-E04	-	8	1	82%	0	0	200	404	131	
12	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2033 - Z C23														
					measuring span <= 63 bar, gauge pressure	B	3 ²⁾	PiU	3,06E-06	2%	72	1	96%	1	0	153	486	26	
13	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2033 - Z C23														
					measuring span >= 160 bar, gauge pressure	B	3 ²⁾	PiU	2,84E-06	2%	72	1	96%	1	0	169	462	24	
14	SITRANS P310	4...20 mA	02.07.02	09.01.06	7MF2433 - Z C23														
					differential pressure and flow (PN32/160)	B	3 ²⁾	PiU	3,01E-06	2%	72	1	96%	1	0	200	509	25	
15	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C20 7MF4133 - Z C20														
					measuring span <= 63 bar, gauge pressure	B	2	PiU	5,79E-04	-	8	1	80%	0	0	151	381	132	
16	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C20 7MF4233 - Z C20														
					measuring span >= 160 bar, gauge pressure absolute pressure (from gauge pressure series)	B	2	PiU	5,70-E04	-	8	1	79%	0	0	142	356	130	
17	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4333 - Z C20 7MF4433 - Z C20 7MF4533 - Z C20 7MF4633 - Z C20														
					absolute pressure (from diff. pressure series) differential pressure and flow (PN32/160) differential pressure and flow (PN420) level	B	2	PiU	5,73-E04	-	8	1	82%	0	0	200	404	131	
18	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C23 7MF4133 - Z C23														
					measuring span <= 63 bar, gauge pressure	B	3 ²⁾	PiU	3,06E-06	2%	72	1	96%	1	0	153	486	26	
19	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C23 7MF4233 - Z C23														
					measuring span >= 160 bar, gauge pressure absolute pressure (from gauge pressure series)	B		PiU	2,84E-06	2%	72	1	96%	1	0	169	462	24	
20	SITRANS P DS III	4...20 mA	02.07.02	11.03.06	7MF4333 - Z C23 7MF4433 - Z C23 7MF4533 - Z C23 7MF4633 - Z C23														
					absolute pressure (from diff. pressure series) differential pressure and flow (PN32/160) differential pressure and flow (PN420) level	B	3 ²⁾	PiU	3,01E-06	2%	72	1	96%	1	0	200	509	25	
21	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C20														
					measuring span <= 63 bar, gauge pressure	B	2	PiU	5,79E-04	-	8	1	80%	0	0	151	381	132	
22	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C20														
					measuring span >= 160 bar, gauge pressure	B	2	PiU	5,70-E04	-	8	1	79%	0	0	142	356	130	
23	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4433 - Z C20 7MF4533 - Z C20														
					differential pressure and flow (PN32/160) differential pressure and flow (PN420)	B	2	PiU	5,73-E04	-	8	1	82%	0	0	200	404	131	
24	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C23														
					measuring span <= 63 bar, gauge pressure	B	3 ²⁾	PiU	3,06E-06	2%	72	1	96%	1	0	153	486	26	
25	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4033 - Z C23														
					measuring span >= 160 bar, gauge pressure	B	3 ²⁾	PiU	2,84E-06	2%	72	1	96%	1	0	169	462	24	
26	SITRANS P410	4...20 mA	02.07.02	11.03.06	7MF4433 - Z C23 7MF4533 - Z C23														
					differential pressure and flow (PN32/160) differential pressure and flow (PN420)	B	3 ²⁾	PiU	3,01E-06	2%	72	1	96%	1	0	200	509	25	

¹⁾ Valid wildcard values are defined in "SIL Declaration of Conformity"

²⁾ for SIL 3 always 2 devices required

PiU: Proven-in-Use

see M: see Safety Manual

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Process Instruments		(latest) Version				Type													
Release date 26. October 2018	Safety Related Output/Function	HW	SW	Order Number	Add. Information	A = simple HW B = complex HW/SW	SIL	Assess ment Type	PFD _{AVG} (1 year)	β	MTTR [h]	T _{Proof} [y]	SFF	HFT	λ _{SD} [FIT]	λ _{SU} [FIT]	λ _{DD} [FIT]	λ _{DU} [FIT]	
27	SITRANS P DS III PA	PROFIsafe	02.04.01	0301.02.05	7MF4034 - Z C21 7MF4134 - Z C21	measuring span <= 63 bar, gauge pressure	B	2	PiU	4,36E-04	-	72	1	86%	0	2	169	472	100
28	SITRANS P DS III PA	PROFIsafe	02.04.01	0301.02.05	7MF4034 - Z C21 7MF4234 - Z C21	measuring span >= 160 bar, gauge pressure absolute pressure (from gauge pressure series)	B	2	PiU	4,27E-04	-	72	1	86%	0	2	185	447	98
29	SITRANS P DS III PA	PROFIsafe	02.04.01	0301.02.05	7MF4334 - Z C21 7MF4434 - Z C21 7MF4534 - Z C21 7MF4634 - Z C21	absolute pressure (from diff. pressure series) differential pressure and flow (PN32/160) differential pressure and flow (PN420) level	B	2	PiU	4,32E-04	-	72	1	87%	0	2	216	495	99
30	SITRANS P500	4...20 mA	11.01.01	35.03.00	7MF54*3-****0 - Z C20 7MF56*3-****0 - Z C20		B	2	PiU	4,44E-04	-	8	1	90%	0	24	406	529	102
31	Diaphragm seals connected to SITRANS P310 / DS III / P410				Order Option C20: 7MF4900 7MF4910 7MF4920 7MF4930 7MF4940 7MF4960 7MF4901 7MF4912 7MF4921 7MF4943 7MF4980 7MF4903 7MF4913 7MF4923 7MF4933 7MF4950 7MF4983		-	-	-	-	-	-	-	-	0	47	3	14	
32	Diaphragm seals connected to SITRANS P310 / DS III / P410				Order Option C23: 7MF4900 7MF4910 7MF4920 7MF4930 7MF4940 7MF4960 7MF4901 7MF4912 7MF4921 7MF4943 7MF4980 7MF4903 7MF4913 7MF4923 7MF4933 7MF4950 7MF4983		-	-	-	-	-	-	-	-	0	47	16	1	
Temperature																			
1	SITRANS TW Series	4...20 mA			7NG3242		B	1	PiU	8,57E-04	-	8	1	62%	0	0	117	204	196
2	SITRANS TH200 / TH300	4...20 mA	01.02	01.01.07	7NG3211-1*N00- Z C20 7NG3212-0*N00- Z C20		B	2	PiU	5,50E-04	-	72	1	76%	0	0	190	225	126
3	SITRANS TH320 SITRANS TH420	4...20 mA	01.xx.xx		7NG0310-****0*AO-Z C20 ¹⁾ 7NG0410-****0*AO-Z C20 ¹⁾		B	2/3 ²⁾	certificate		-	24	-	94%	0/1	0	0	443	27
4	SITRANS TR200 / TR300	4...20 mA	01.02	01.01.07	7NG3032-*JN00- Z C20 7NG3033-*JN00- Z C20		B	2	PiU	5,60E-04	-	72	1	76%	0	0	189	223	127
5	SITRANS TR320 SITRANS TR420	4...20 mA	01.xx.xx		7NG0320-****0*AO-Z C20 ¹⁾ 7NG0420-****0*AO-Z C20 ¹⁾		B	2/3 ²⁾	certificate		-	24	-	94%	0/1	0	0	443	27
6	SITRANS TF with TH200 / TH300	4...20 mA	01.02	01.01.07	7NG3135-****- Z C20 7NG3136-****- Z C20		B	2	PiU	6,90E-04	-	72	1	77%	0	0	207	327	158
7	SITRANS TH200 / TH300	4...20 mA	01.02	01.01.07	7NG3211-1*N00- Z C23 7NG3212-0*N00- Z C23		B	3 ²⁾	PiU	1,78E-06	2%	72	1	97%	1	0	190	337	15
8	SITRANS TR200 / TR300	4...20 mA	01.02	01.01.07	7NG3032-*JN00- Z C23 7NG3033-*JN00- Z C23		B	3 ²⁾	PiU	1,70E-06	2%	72	1	97%	1	0	190	336	14
9	SITRANS TF with TH200 / TH300	4...20 mA	01.02	01.01.07	7NG3135-****- Z C23 7NG3136-****- Z C23		B	3 ²⁾	PiU	2,13E-06	2%	72	1	98%	1	0	207	469	17
¹⁾ Valid wildcard values are defined in "SIL Declaration of Conformity"										²⁾ for SIL 3 always 2 devices required					PIU: Proven-in-Use see M: see Safety Manual				

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Process Instruments		(latest) Version				Type													
Release date 26. October 2018	Safety Related Output/Function	HW	SW	Order Number	Add. Information	A = simple HW B = complex HW/SW	SIL	Assess ment Type	PFD _{AVG} (1 year)	β	MTTR [h]	T _{Proof} [y]	SFF	HFT	λ _{SD} [FIT]	λ _{SU} [FIT]	λ _{DD} [FIT]	λ _{DU} [FIT]	
Level																			
1	SITRANS LG240	4...20 mA	1.0.0	1.0.0	7ML5880-****-2***		B	2 / 3 ²⁾	certificate	1,33E-03	-	8	1	93%	0/1	0	0	2273	159
2	SITRANS LG250	4...20 mA	1.0.0	1.0.0	7ML5881-****-2***		B	2 / 3 ²⁾	certificate	1,33E-03	-	8	1	93%	0/1	0	0	2273	159
3	SITRANS LG260	4...20 mA	1.0.0	1.0.0	7ML5882-****-2***		B	2 / 3 ²⁾	certificate	1,33E-03	-	8	1	93%	0/1	0	0	2273	159
4	SITRANS LG270	4...20 mA	1.0.0	1.0.0	7ML5883-****-2***		B	2 / 3 ²⁾	certificate	1,33E-03	-	8	1	93%	0/1	0	0	2273	159
5	SITRANS LPS200	Relay		3.30	7ML5725-****-***0 - Z x ¹⁾ 7ML5726-****-**** - Z x ¹⁾ 7ML5727-****-***0 - Z x ¹⁾ 7ML5728-****-***0 - Z x ¹⁾ 7ML5730-****-**** - Z x ¹⁾		B	2	FMEDA	3,20E-04	-	24	1	91%	0	323	269	196	71
6	SITRANS LR250	4...20 mA	2.xx.xx	1.03.04	7ML5431-****0-**** - Z C20 ¹⁾ 7ML5432-0**20-*A*0 - Z C20 ¹⁾ 7ML5433-****0-*A** - Z C20 ¹⁾		B	2	PiU	1,01E-03	-	72	1	78%	0	0	321	488	231
7	SITRANS LVL200 S/E C	Contactless electronic switch			7ML5746-1****-**A0 - Z C20 7ML5747-1****-**** - Z C20		A	2	FMEDA	2,83E-04	-	24	1	82%	0	0	162	0	34
8	SITRANS LVL200 S/E R	Double relay (DPDT)			7ML5746-2****-**A0 - Z C20 7ML5747-2****-**** - Z C20		A	2	FMEDA	2,66E-04	-	24	1	84%	0	0	166	0	32
9	SITRANS LVL200 S/E N	2-wire NAMUR output			7ML5746-4****-**A0 - Z C20 7ML5747-4****-**** - Z C20		A	2	FMEDA	3,74E-04	-	24	1	77%	0	0	126	18	45
10	SITRANS LVL200 S/E T	Transistor NPN/PNP			7ML5746-5****-**A0 - Z C20 7ML5747-5****-**** - Z C20		A	2	FMEDA	2,49E-04	-	24	1	84%	0	0	160	0	30
11	SITRANS LVL 200 S/E Z	Two-wire 8/16 mA			7ML5746-6****-**A0 - Z C20 7ML5747-6****-**** - Z C20		A	2	FMEDA	2,95E-04	-	24	1	84%	0	0	7	176	35
12	SITRANS LVL200H S/E R	Double relay (DPDT)			7ML5748-****-4***		A	2 / 3 ²⁾	certificate	3,00E-04	-	8	see M	>90%	0/1	0	329	186	36
13	SITRANS LVL200H S/E T	Transistor NPN/PNP			7ML5748-****-5***		A	2 / 3 ²⁾	certificate	2,60E-04	-	8	see M	>90%	0/1	0	211	167	31
14	SITRANS LVL 200H S/E Z	Two-wire 8/16 mA			7ML5748-****-6***		A	2 / 3 ²⁾	certificate	2,50E-04	-	8	see M	>90%	0/1	0	0	391	29
15	SITRANS SCSC (single channel)	Relay			7ML5760-**A21-*A**		A	2 / 3 ²⁾	certificate	4,10E-04	-	8	see M	>60%	0/1	0	241	30	49
16	SITRANS TCSC (two channel)	Relay			7ML5761-**A21-1A**		A	2 / 3 ²⁾	certificate	6,60E-04	-	8	see M	>60%	0/1	0	323	45	79
17	Pointek CLS 200 (Standard)	Relay / solid- state switch	2.xx.xx		7ML5630-****-***0 - Z C20 7ML5631-****-***0 - Z C20 7ML5632-****-***0 - Z C20 7ML5633-****-***0 - Z C20 7ML5634-****-***0 - Z C20		A	2	PiU	8,80E-04		8	1	65%	0	0	202	92	160
Positioner																			
1	SIPART PS 2	Depressurizing		5.01.**	6DR501*-0**** - Z C20 ¹⁾ 6DR511*-0N**** - Z C20	2-wire variants	A	2	PiU	5,69E-04		8	1	88%	0	0	1034	5	131
2	SIPART PS 2	Depressurizing		5.01.**	6DR521*-0**** - Z C20 ¹⁾ 6DR531*-0N**** - Z C20	2-, 3-, 4-wire variants	A	2	PiU	5,69E-04		8	1	88%	0	0	1034	5	131
3	SIPART PS 2 PA SIPART PS 2 FF	Depressurizing		6.00.** 3.00.**	6DR551* - Z C20 ¹⁾ 6DR561* - Z C20	digital shut down input	A	2	PiU	6,70E-04	-	8	1	87%	0	0	1010	13	152
1) Valid wildcard values are defined in "SIL Declaration of Conformity"						2) for SIL 3 always 2 devices required						PiU: Proven-in-Use see M: see Safety Manual							

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Process Instruments	Safety Related Output/Function	(latest) Version		Order Number	Add. Information	Type		Assessment Type	PFD _{AVG} (1 year)	β	MTTR [h]	T _{Proof} [y]	SFF	HFT	λ _{SD} [FIT]	λ _{SU} [FIT]	λ _{DD} [FIT]	λ _{DU} [FIT]
		HW	SW			A = simple HW B = complex HW/SW	SIL											
Analytics																		
1 OXYMAT 6	4...20 mA		4.8.x	7MB2011, 7MB2017 7MB2021, 7MB2027 7MB2023, 7MB2028 7MB2024, 7MB2026	OXYMAT 6 OXYMAT 6 ULTRAMAT / OXYMAT 6E ULTRAMAT / OXYMAT 6E	B	1	FMEDA	1,62E-03	-	8	1	74%	0	0	425	659	369
2 OXYMAT 6 / 61	4...20 mA		4.8.*	7MB2001-**-A00-****- Z+C20+*** 7MB2011-***0*-****- Z+C20+*** 7MB2021-****0-****- Z+C20+*** 7MB2017-***0*-****- Z+C20+*** 7MB2027-****0-****- Z+C20+***		B	2	PiU	4,10E-04	-	8	1/4	70%	0	0	100	780	379
4 ULTRAMAT 6	4...20 mA		4.8.x	7MB2111, 7MB2117, 7MB2112, 7MB2118, 7MB2121, 7MB2127, 7MB2123, 7MB2128, 7MB2124, 7MB2126, 7MB2023, 7MB2028, 7MB2024, 7MB2026	ULTRAMAT 6F ULTRAMAT 6F ULTRAMAT 6E ULTRAMAT 6E ULTRAMAT 6E ULTRAMAT OXYMAT6E ULTRAMAT OXYMAT6E	B	1	FMEDA	3,03E-03	-	8	1	68%	0	0	344	1129	691
5 ULTRAMAT 6	4...20 mA		4.8.*	7MB2111/12-****-**A* -Z+C20+*** 7MB2121 -****-**AA* -Z+C20+*** 7MB2123/24-****-****-Z+C20+*** 7MB2023/24-****-****-Z+C20+***		B	2	PiU	1,03E-03 2,07E-03	-	8	1/4	75%	0	0	53 106	668 1336	235 469
6 CALOMAT 6	4...20 mA		1.3.x	7MB2511, 7MB2517, 7MB2521, 7MB2527	CALOMAT 6F CALOMAT 6E	B	1	FMEDA	2,01E-03	-	8	1	61%	0	0	237	506	460
7 Laser Gas Analyzer SITRANS SL	4...20 mA		Cfg 2.30.09 SW 2.40.09	7MB6221-**A*0*-****- Z C20	Measurement component: O ₂	B	1	PiU	5,10E-03	-	72	1	73%	0	0	739	2480	1170

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²⁾ for SIL 3 always 2 devices required

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