PLC AUTOMATION

MTBF calculations - PLC products

CoE PLC Products, Drive Products



Document history

Revision	Description of changes	Who	Date
1.0	Updated document created for 2022	Rémy Ameloot	28.01.2022
1.1	Updated document created for 2023	Rémy Ameloot	08.09.2023
1.2	Updated document created for 2026	Rémy Ameloot	09.01.2026
1.3	Updated document created for 2026	Rémy Ameloot	16.02.2026

The following document gives an overview of the product MTBF at the time of issue.

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MTBF-Calculation AC500-S

Condition
Standard: SN29500
Temperature: 40°C
Calculation Tool: CARE® BQR , Ver.8.700

Order Number	Type Description	System	MTBF (year)
1SAP282000R0001	AI581-S:S500,Safety Anal.Eingabemod.4SAI	AC500-Safety	102,42
1SAP482000R0001	AI581-S-XC:S500,Safety Anal.Eingabe 4SAI	AC500-Safety	102,42
1SAP284000R0001	DI581-S:S500,Safety Dig. Input Mod.16SDI	AC500-Safety	102,73
1SAP484000R0001	DI581-S-XC:S500,Safety Dig.Eingabe 16SDI	AC500-Safety	102,73
1SAP284100R0001	DX581-S:S500,Safety Dig.E/A Mod.8SDI/SDO	AC500-Safety	73,49
1SAP484100R0001	DX581-S-XC:S500,Safety Dig.E/A 8SDI/SDO	AC500-Safety	73,49
1SAP280000R0001	SM560-S:AC500, Safety Modul - CPU	AC500-Safety	168,80
1SAP286000R0001	SM560-S-FD-1:AC500, Safety module-CPU	AC500-Safety	168,80
1SAP386000R0001	SM560-S-FD-1-XC:AC500, Safety module-CPU	AC500-Safety	168,80
1SAP286100R0001	SM560-S-FD-4:AC500, Safety module-CPU	AC500-Safety	168,80
1SAP386100R0001	SM560-S-FD-4-XC:AC500, Safety module-CPU	AC500-Safety	168,80
1SAP380000R0001	SM560-S-XC:AC500, Safety Modul - CPU	AC500-Safety	168,80
1SAP281200R0001	TU582-S:S500,Safety E/A Klemmen,24VDC	AC500-Safety	2.757,37
1SAP481200R0001	TU582-S-XC:S500,Safety E/A Klemmen,24VDC	AC500-Safety	2.757,37

MTBF-Calculation AC500 Active

Condition
Standard: SN29500
Temperature: 40°C
Calculation Tool: CARE® BQR , Ver.8.920.26

Order Number	Type Description	System	MTBF (year)	
1SAP170902R0101	CM579-ETHCAT:AC500,Komm.Modul ETHERCAT	AC500 / AC500 V3	257,67	
1SAP170901R0101	CM579-PNIO,Komm.Modul PROFINET IO RT	AC500 / AC500 V3	257,67	
1SAP370901R0101	CM579-PNIO-XC,Komm.Modul PROFINET IO	AC500 / AC500 V3	257,67	
1SAP172200R0001	CM582-DP:AC500 PLC,Com. coupler PROFIBUS	AC500 / AC500 V3	190,83	
1SAP372200R0001	CM582-DP-XC:AC500 PLC,Com. coupler PROFIBUS	AC500 / AC500 V3	190,83	
1SAP172900R0011	CM589-PNIO:AC500,Komm.Modul PROFINET IO	AC500 / AC500 V3	276,38	
1SAP372900R0011	CM589-PNIO-XC:AC500,Komm.Modul PROFINET	AC500 / AC500 V3	276,38	
1SAP172900R0111	CM589-PNIO-4:AC500,Komm.Mod.PROFINET IO	AC500 / AC500 V3	276,38	
1SAP372900R0111	CM589-PNIO-4-XC:AC500,Komm.Mod.PROFINET	AC500 / AC500 V3	276,38	
1SAP173200R0001	CM592-DP:AC500,Komm.Modul PROFIBUS	AC500 / AC500 V3	181,72	
1SAP373200R0001	CM592-DP-XC:AC500,Komm.Modul PROFIBUS	AC500 / AC500 V3	181,72	
1SAP173800R0001	CM598-CN:AC500,Komm.Modul CANopen	AC500 / AC500 V3	198,38	
1SAP373800R0001	CM598-CN-XC:AC500,Komm.Modul CANopen	AC500 / AC500 V3	198,38	
1SAP176000R0080	CM5640-2ETH:AC500,Kommunikationsmodul,	AC500 V3	67,27	
1SAP376000R0080	CM5640-2ETH-XC:AC500,Kommunikationsmodul,	AC500 V3	67,27	
1SAP176000R0020	CM5610-2RS:AC500 Kommunikationsmodul,	AC500 V3	79,35	
1SAP376000R0020	CM5610-2RS-XC:AC500 Kommunikationsmodul,	AC500 V3	79,35	
1SAP131000R0378	PM5630-2ETH:AC500,SPS,8MB,24VDC,ETHERNET	AC500 V3	97,00	(*)
1SAP331000R0378	PM5630-2ETH-XC:AC500,SPS,8MB,24VDC,ETHERNET	AC500 V3	97,00	(*)
1SAP141000R0378	PM5650-2ETH:AC500,SPS,80MB,24VDC,ETH	AC500 V3	95,00	(*)
1SAP341000R0378	PM5650-2ETH-XC:AC500,SPS,80MB,24VDC,ETH	AC500 V3	95,00	(*)
1SAP151000R0378	PM5670-2ETH:AC500,SPS,160MB,24VDC,ETH	AC500 V3	84,00	(*)
1SAP351000R0378	PM5670-2ETH-XC:AC500,SPS,160MB,24VDC,ETH	AC500 V3	84,00	(*)
1SAP151500R0378	PM5675-2ETH:AC500,SPS,160MB/8GB,ETH	AC500 V3	In preparation	
1SAP351500R0378	PM5675-2ETH-XC:AC500,SPS,160MB/8GB,ETH	AC500 V3	In preparation	
1SAP152000R0378	PM5680-2ETH:AC500,SPS,160MB,24VDC,ETH	AC500 V3	50,73	
1SAP152500R0378	PM5685-2ETH:AC500,SPS,320MB,24VDC,ETH	AC500 V3	50,73	
1SAP111100R0260	TB511-ARCNET:AC500,Mod.Träger,1Platz	AC500	300,89	
1SAP111100R0270	TB511-ETH:AC500,Mod.Träger,1Platz	AC500	292,02	
1SAP110300R0278	TB5600-2ETH:AC500,Modulträger, 0xPlätze	AC500 V3	348,97	
1SAP310300R0278	TB5600-2ETH-XC:AC500,Modulträger, 0xPlätze	AC500 V3	348,97	
1SAP111300R0278	TB5610-2ETH:AC500,Modulträger, 1xPlatz	AC500 V3	340,24	
1SAP311300R0278	TB5610-2ETH-XC:AC500,Modulträger, 1xPlatz	AC500 V3	340,24	
1SAP112300R0278	TB5620-2ETH:AC500,Modulträger, 2xPlätze	AC500 V3	326,83	
1SAP312300R0278	TB5620-2ETH-XC:AC500,Modulträger, 2xPlätze	AC500 V3	326,83	
1SAP114300R0278	TB5640-2ETH:AC500,Modulträger, 4xPlätze	AC500 V3	308,66	
1SAP314300R0278	TB5640-2ETH-XC:AC500,Modulträger, 4xPlätze	AC500 V3	308,66	
1SAP116300R0278	TB5660-2ETH:AC500,Modulträger, 4xPlätze	AC500 V3	296,00	(*)
1SAP316300R0278	TB5660-2ETH-XC:AC500,Modulträger, 4xPlätze	AC500 V3	296,00	(*)

(*) Preliminary values

MTBF-Calculation AC500-eCo V3 Active

Condition
Standard: SN29500
Temperature: 40°C
Calculation Tool: CARE® BQR , Ver.8.920.26

Order Number	Type Description	System	MTBF (year)	
1SAP122600R0172	PM5012-T-ETH:AC500,SPS,1MB,6DI/4DOT,ETH	AC500-eCo V3	In preparation	
1SAP122700R0172	PM5012-R-ETH:AC500,SPS,1MB,6DI/4DOR,ETH	AC500-eCo V3	In preparation	
1SAP123400R0172	PM5032-T-ETH:AC500,SPS,2MB,12DI/8DOT/2DC	AC500-eCo V3	In preparation	
1SAP123500R0172	PM5032-R-ETH:AC500,SPS,2MB,12DI/8DOR/2DC	AC500-eCo V3	In preparation	
1SAP124000R0172	PM5052-T-ETH:AC500,SPS,4MB,12DI/8DOT/2DC	AC500-eCo V3	In preparation	
1SAP124100R0172	PM5052-R-ETH:AC500,SPS,4MB,12DI/6DOR/2DC	AC500-eCo V3	In preparation	
1SAP124400R0173	PM5072-T-2ETHW:AC500,SPS,8MB,12DI/8DOT/2	AC500-eCo V3	In preparation	
1SAP124500R0173	PM5072-T-2ETH:AC500,SPS,8MB,12DI/8DOT/2D	AC500-eCo V3	In preparation	
1SAP124600R0173	PM5082-T-2ETH:AC500,SPS,18MB,12DI/8DOT/2D	AC500-eCo V3	In preparation	
1SAP124700R0173	PM5092-T-2ETH:AC500,SPS,24MB,12DI/8DOT/2D	AC500-eCo V3	In preparation	
1SAP187000R0001	TA5101-4DI:AC500,digitale Eingängsmodul	AC500-eCo V3	395,00	(*)
1SAP187000R0201	TA5101-4DIW:AC500,digitale Eingängsmodul	AC500-eCo V3	395,00	(*)
1SAP187000R0002	TA5105-4DOT:AC500,digitale Ausgängsmodul	AC500-eCo V3	162,00	(*)
1SAP187000R0202	TA5105-4DOTW:AC500,digitale Ausgängsmodul	AC500-eCo V3	162,00	(*)
1SAP187000R0003	TA5110-2DI2DOT:AC500,dig.Ein-/Ausgänge	AC500-eCo V3	187,00	(*)
1SAP187000R0203	TA5110-2DI2DOW:AC500,dig.Ein-/Ausgänge	AC500-eCo V3	187,00	(*)
1SAP187100R0001	TA5120-2AI-UI:AC500-eCo, analog input option board, 2AI U/I	AC500-eCo V3	228,81	
1SAP187100R0201	TA5120-2AI-UIW:AC500-eCo, analog input option board, 2AI U/I	AC500-eCo V3	228,81	
1SAP187100R0004	TA5122-2AI-TC:AC500-eCo, analog input option board, 2AI Thermo	AC500-eCo V3	234,95	
1SAP187100R0204	TA5122-2AI-TCW:AC500-eCo,analog input option board, 2AI Thermo	AC500-eCo V3	234,95	
1SAP187100R0002	TA5123-2AI-RTD:AC500-eCo, analog input option board 2AI RTD	AC500-eCo V3	192,65	
1SAP187100R0202	TA5123-2AI-RTW:AC500-eCo, analog input option board 2AI RTD	AC500-eCo V3	192,65	
1SAP187100R0003	TA5126-2AO-UI:AC500-eCo, analog output option board, 2AO U/I	AC500-eCo V3	129,63	
1SAP187100R0203	TA5126-2AO-UIW:AC500-eCo, analog output option board, 2AO U/I	AC500-eCo V3	129,63	
1SAP187100R0005	TA5128-2AI1AO: AC500-eCo.analog in/output option board, 2AI/1AO U/I	AC500-eCo V3	314,17	
1SAP187100R0205	TA5128-2AI1AOW: AC500-eCo.analog in/output option board, 2AI/1AO U/I	AC500-eCo V3	314,17	
1SAP187200R0001	TA5130-KNXPB:AC500, Konfig. Schalter	AC500-eCo V3	801,00	(*)
1SAP187200R0201	TA5130-KNXPBW:AC500, Konfig. Schalter	AC500-eCo V3	801,00	(*)
1SAP187200R0002	TA5131-RTC:AC500,Uhr,ohne Batterie	AC500-eCo V3	813,00	(*)
1SAP187300R0001	TA5141-RS232I:AC500,Ser.Schnittstelle	AC500-eCo V3	178,00	(*)
1SAP187300R0201	TA5141-RS232IW:AC500,Ser.Schnittstelle	AC500-eCo V3	178,00	(*)
1SAP187300R0003	TA5142-RS485:AC500,Ser.Schnittstelle	AC500-eCo V3	249,00	(*)
1SAP187300R0002	TA5142-RS485I:AC500,Ser.Schnittstelle	AC500-eCo V3	176,00	(*)
1SAP187300R0202	TA5142-RS485IW:AC500,Ser.Schnittstelle	AC500-eCo V3	176,00	(*)
1SAP187300R0203	TA5142-RS485W:AC500,Ser.Schnittstelle	AC500-eCo V3	249,00	(*)
1SAP187300R0005	TA5146-CN:AC500, CAN serial interface	AC500-eCo V3	771,00	
1SAP187300R0205	TA5146-CNW:AC500, CAN serial interface	AC500-eCo V3	771,00	

(*) Preliminary values

MTBF-Calculation S500 Active

Condition
Standard: SN29500
Temperature: 40°C
CARE® BQR , Ver.8.700/
Calculation Tool: CARE® BQR , Ver.8.800 (ab 06/2013)

Order Number	Type Description	System	MTBF (year)
1SAP250500R0001	AC522:S500,Anal.E/A.Mod.8AC,U/I/RTD	S500	65,49
1SAP450500R0001	AC522-XC:S500,Anal.E/A.Mod.8AC,U/I/RTD	S500	65,49
1SAP250300R0001	AI523:S500,Anal.Ein.Mod.16AI,U/I/RTD	S500	73,98
1SAP450300R0001	AI523-XC:S500,Anal.Ein.Mod.16AI,U/I/RTD	S500	73,98
1SAP250600R0001	AI531:S500 E/A,Anal.Ein.Mod.8AI,U/I/RTD	S500	65,34
1SAP450600R0001	AI531-XC:S500 E/A,Anal.Ein.Mod.8AI	S500	65,34
1SAP250900R0001	AO522:S500,Anal.Ausg.Mod.8AO,U/I	S500	In preparation
1SAP450900R0001	AO522-XC:S500,Anal.Ausg.Mod.8AO,U/I/RTD	S500	In preparation
1SAP250200R0001	AO523:S500,Anal.Ausg.Mod.16AO,U/I	S500	58,63
1SAP450200R0001	AO523-XC:S500,Anal.Ausg.Mod.16AO,U/I/RTD	S500	58,63
1SAP250100R0001	AX521:S500,Anal.E/A.Mod.4AI/4AO,U/I/RTD	S500	65,34
1SAP450100R0001	AX521-XC:S500,Anal.E/A.Mod.4AI/4AO	S500	65,34
1SAP250000R0001	AX522:S500,Anal.E/A.Mod.8AI/8AO,U/I/RTD	S500	65,34
1SAP450000R0001	AX522-XC:S500,Anal.E/A.Mod.8AI/48O	S500	65,34
1SAP260300R0001	CD522:S500,2xEnkoder Modul,2xPWM Ausgäng	S500	69,29
1SAP460300R0001	CD522-XC:S500,2xEnkoder Modul,2xPWM Ausg	S500	69,29
1SAP220600R0001	CI501-PNIO:S500,Busmod.8DI/8DO/4AI/2AO	S500	50,61
1SAP420600R0001	CI501-PNIO-XC:S500,Busmod.4AI/2AO/8DI/8D	S500	50,61
1SAP220700R0001	CI502-PNIO:S500,Busmod.8DC/8DI/8DO	S500	56,39
1SAP420700R0001	CI502-PNIO-XC:S500,Busmod.8DC/8DI/8DO	S500	56,39
1SAP221300R0001	CI504-PNIO:S500,Bus-Mod.PROFINET/Serial	S500	68,84
1SAP421300R0001	CI504-PNIO-XC:S500,Bus-Mod.PROFINET/Ser.	S500	68,84
1SAP221500R0001	CI506-PNIO:S500,Busmodul PROFINET/Ser/CA	S500	69,15
1SAP421500R0001	CI506-PNIO-XC:S500,Busmodul PROFINET/Ser	S500	69,15
1SAP220900R0001	CI511-ETHCAT:S500,Busmod.8DI/8DO/4AI/2AO	S500	50,61
1SAP221000R0001	CI512-ETHCAT:S500,Busmod.8DC/8DI/8DO	S500	56,39
1SAP222100R0001	CI521-MODTCP:S500,Busmod.4AI/2AO/8DI/8DO	S500	51,17
1SAP422100R0001	CI521-MODTCP-XC:S500,Busmod.4AI/2AO/8DI/	S500	51,17
1SAP222200R0001	CI522-MODTCP:S500,Busmod.8DC/8DI/8DO	S500	61,74
1SAP422200R0001	CI522-MODTCP-XC:S500,Busmod.8DC/8DI/8DO	S500	61,74
1SAP224100R0001	CI541-DP:S500,Busmod.4AI/2AO/8DI/8DO	S500	46,89
1SAP424100R0001	CI541-DP-XC:S500,Busmod.4AI/2AO/8DI/8DO	S500	46,89
1SAP224200R0001	CI542-DP:S500,Busmod.8DC/8DI/8DO	S500	55,62
1SAP424200R0001	CI542-DP-XC:S500,Busmod.8DC/8DI/8DO	S500	55,62
1SAP225100R0001	CI551-DN:S500,Bus-Mod.8DI/8DO/4AI/2AO	S500	48,30
1SAP425100R0001	CI551-DN-XC:S500,Bus-Mod.8DI/8DO/4AI/2AO	S500	48,30
1SAP225200R0001	CI552-DN:S500,Bus-Mod.8DC/8DI/8DO	S500	57,61
1SAP425200R0001	CI552-DN-XC:S500,Bus-Mod.8DC/8DI/8DO	S500	57,61
1SAP228100R0001	CI581-CN:S500,Busmod.4AI/2AO/8DI/8DO	S500	47,82
1SAP428100R0001	CI581-CN-XC:S500,Busmod.4AI/2AO/8DI/8DO	S500	47,82
1SAP228200R0001	CI582-CN:S500,Busmod.8DC/8DI/8DO	S500	56,93
1SAP428200R0001	CI582-CN-XC:S500,Busmod.8DC/8DI/8DO	S500	56,93
1SAP221100R0001	CI590-CS31-HA:S500,Busmod.16DC 1-Leiter	S500	88,92
1SAP421100R0001	CI590-CS31-HA-XC:S500,Busmod.16DC	S500	88,92
1SAP221200R0001	CI592-CS31:S500,Busmodul,8DI/4AI/2AO/8DC	S500	59,57
1SAP421200R0001	CI592-CS31-XC:S500,Busmod.8DI/4AI/2AO/8D	S500	59,57
1SAP250700R0001	DA501:S500,Dig.Analoges Ein/Ausgabemodul	S500	65,07
1SAP450700R0001	DA501-XC:S500,Dig.Analoges A/A Modul	S500	65,07
1SAP250800R0001	DA502:S500,Dig.AnalogesEin./Ausgabemodul	S500	49,54
1SAP450800R0001	DA502-XC:S500,Dig.AnalogesEin./Ausgabemodul	S500	49,54
1SAP220000R0001	DC505-FBP:S500,FBP-Int.Modul,8DI/8DO	S500	114,46
1SAP240600R0001	DC522:S500,Dig.konfig.E/A.Mod.16DC	S500	112,02
1SAP440600R0001	DC522-XC:S500,Dig.konfig.E/A.Mod.16DC	S500	112,02
1SAP240500R0001	DC523:S500,Dig.konfig.E/A.Mod.24DC	S500	88,33
1SAP440500R0001	DC523-XC:S500,Dig.konfig.E/A.Mod.24DC	S500	88,33
1SAP240100R0001	DC532:S500,Dig.E/A.Modul 16DI/16DC	S500	99,99

MTBF-Calculation S500 Active

Order Number	Type Description	System	MTBF (year)	
1SAP440100R0001	DC532-XC:S500,Dig.E/A.Modul 16DI/16DC	S500	99,99	
1SAP220500R0001	DC551-CS31:S500, Busmod.8DI/16DC	S500	87,57	
1SAP420500R0001	DC551-CS31-XC:S500, Busmod.8DI/16DC	S500	87,57	
1SAP240000R0001	DI524:S500,Dig.Eingang Modul,32DI	S500	156,29	
1SAP440000R0001	DI524-XC:S500,Dig.Eingang Modul,32DI	S500	156,29	
1SAP240700R0001	DO524:S500,Dig.Ausg.Mod.32DO-Transistor	S500	69,91	
1SAP440700R0001	DO524-XC:S500,Dig.Ausg.Mod.32DO-Transistor	S500	69,91	
1SAP240800R0001	DO526:S500,Dig.Aus.Mod.8DO-Transistor 2A	S500	77,32	
1SAP440800R0001	DO526-XC:S500,Dig.Aus.Mod.8DO-Transistor 2A	S500	77,32	
1SAP245200R0001	DX522:S500,Dig.E/A.Mod.8DI/8DO-Relais	S500	174,73	
1SAP445200R0001	DX522-XC:S500,Dig.E/A.Mod.8DI/8DO-Relais	S500	174,73	
1SAP245000R0001	DX531:S500E/A,Dig.E/A.Mod.8DI/4Rel.230VA	S500	167,75	
1SAP260400R0001	FM502:S500,Condition Monitoring System	S500	44,71	
1SAP460400R0001	FM502-XC:S500,Condition MonitoringSystem	S500	44,71	
1SAP210200R0001	TU505-FBP:S500,FBP-Klemm.block,Schraub	S500	4.548,02	
1SAP210200R0001	TU506-FBP:S500,FBP-Klemm.block,Feder	S500	4.062,46	
1SAP214200R0001	TU507-ETH	S500	2.278,55	
1SAP214000R0001	TU508-ETH	S500	2.212,31	
1SAP414000R0001	TU508-ETH-XC	S500	2.212,31	
1SAP211000R0001	TU509	S500	2.800,00	(*)
1SAP210800R0001	TU510	S500	2.737,54	
1SAP410800R0001	TU510-XC	S500	2.737,54	
1SAP212200R0001	TU515	S500	4.459,19	
1SAP212000R0001	TU516	S500	2.942,15	
1SAP215000R0001	TU516-H	S500	1.183,12	
1SAP415000R0001	TU516-H-XC	S500	1.183,12	
1SAP412000R0001	TU516-XC	S500	2.942,15	
1SAP211400R0001	TU517	S500	2.750,00	(*)
1SAP211200R0001	TU518	S500	2.698,71	
1SAP411200R0001	TU518-XC	S500	2.698,71	
1SAP214400R0001	TU520-ETH	S500	2.452,32	
1SAP414400R0001	TU520-ETH-XC	S500	2.452,32	
1SAP217200R0001	TU531	S500	3.882,83	
1SAP217000R0001	TU532	S500	3.224,72	
1SAP215100R0001	TU532-H	S500	1.183,12	
1SAP415100R0001	TU532-H-XC	S500	1.183,12	
1SAP417000R0001	TU532-XC	S500	3.224,72	
1SAP213000R0001	TU541	S500	3.660,00	(*)
1SAP213200R0001	TU542	S500	3.612,51	
1SAP215200R0001	TU542-H	S500	1.183,12	
1SAP415200R0001	TU542-H-XC	S500	1.183,12	
1SAP413200R0001	TU542-XC	S500	3.612,51	
1SAP210600R0001	TU551-CS31-XC:S500,Bus Klem.block Schraub	S500	4.529,97	
1SAP210400R0001	TU552-CS31:S500,Bus Klem.block Feder	S500	3.658,82	
1SAP410400R0001	TU552-CS31-XC:S500,Bus Klem.block Feder	S500	3.658,82	

(*) Preliminary values

MTBF-Calculation S500-eCo Active

Condition
Standard: SN29500
Temperature: 40°C
CARE® BQR , Ver.8.700/
Calculation Tool: CARE® BQR , Ver.8.800 (ab 06/2013)

Order Number	Type Description	Production Index	System	MTBF (year)
1TNE968902R1101	AI561, analog input module, 4 AI, U/I		S500-eCo	140
1TNE968902R1101	AI561, analog input module, 4 AI, U/I	from index E0	S500-eCo	188
1TNE968902R1102	AI562:2AI,RTD		S500-eCo	133
1TNE968902R1102	AI562:2AI,RTD	from index E0	S500-eCo	139
1TNE968902R1103	AI563:4 AI,TC		S500-eCo	141
1TNE968902R1103	AI563:4 AI,TC	from index E0	S500-eCo	133
1SAP235000 R0000	AI564: analog input module, 8 AI, thermocouple		S500-eCo	108
1SAP235600 R0000	AI565: analog input module, 4 AI, RTD		S500-eCo	118
1SAP235200R0000	AI568, analog input module, 8 AI, U/I , NTC sensor		S500-eCo	103
1TNE968902R1201	AO561, analog output module, 2 AO, U/I		S500-eCo	146
1TNE968902R1201	AO561, analog output module, 2 AO, U/I	from index E0	S500-eCo	171
1SAP235300R0000	AO562, analog output module, 4AO, U/I		S500-eCo	106
1SAP235500R0000	AO568, analog output, 8AO, U/I		S500-eCo	70
1TNE968902R1301	AX561, analog input/output module, 4 AI, 2 AO, U/I		S500-eCo	105
1TNE968902R1301	AX561, analog input/output module, 4 AI, 2 AO, U/I	from index E0	S500-eCo	130
1TNE968902R2001	DC561: 16 Configurable DI/DO Module,Transistor Output,Interfast Connection		S500-eCo	82
1SAP231900R0000	DC562: 16 Configurable DI/DO Module,Transistor Output		S500-eCo	83
1TNE968902R2101	DI561:8 DI, 24 VDC		S500-eCo	244
1TNE968902R2101	DI561:8 DI, 24 VDC	from index E0	S500-eCo	259
1TNE968902R2102	DI562:16 DI, 24 VDC		S500-eCo	127
1TNE968902R2102	DI562:16 DI, 24 VDC	from index E0	S500-eCo	163
1TNE968902R2103	DI571:8 DI, 100-240 VAC		S500-eCo	198
1TNE968902R2201	DO561:8 DO, Transistor Output		S500-eCo	253
1TNE968902R2201	DO561:8 DO, Transistor Output	from index E0	S500-eCo	217
1SAP230900R0000	DO562:16 DO, Transistor Output		S500-eCo	151
1TNE968902R2202	DO571:8 DO, Relay Output		S500-eCo	58
1TNE968902R2203	DO572:8 DO, Triac Output		S500-eCo	128
1SAP231300R0000	DO573:16 DO, Relay Output		S500-eCo	37
1TNE968902R2301	DX561:8 DI 24 VDC, 8 DO 24 VDC, Transistor Output		S500-eCo	155
1TNE968902R2301	DX561:8 DI 24 VDC, 8 DO 24 VDC, Transistor Output	from index E0	S500-eCo	146
1TNE968902R2302	DX571:8 DI 24 VDC, 8 DO, Relay Output		S500-eCo	48
1SAP238000 R0001	FM565: function module, 1 AI, strain gauge input; 1 DO, 24V DC output		S500-eCo	127
1SAP238100 R0001	FM566: function module, 2 AI, strain gauge input; 2 DO, 24V DC output		S500-eCo	97
1TNE968901R3102	TA563-11: Pluggable screw terminal block, 11 pole, Screw front / cable side		S500-eCo	20.756
1TNE968901R3101	TA563-9: Pluggable screw terminal block, 9 pole, Screw front / cable side		S500-eCo	25.368
1TNE968901R3104	TA564-11: Pluggable screw terminal block, 11 pole, Screw front / cable front		S500-eCo	20.756
1TNE968901R3103	TA564-9: Pluggable screw terminal block, 9 pole, Screw front / cable front		S500-eCo	25.368
1TNE968901R3106	TA565-11: Pluggable spring terminal block, 11 pole, Spring front / cable front		S500-eCo	20.756
1TNE968901R3105	TA565-9: Pluggable spring terminal block, 9 pole, Spring front / cable front		S500-eCo	25.368

(*) Preliminary values

MTBF-Calculation CP600-Pro

Condition
Standard:
Temperature: 40°C
Calculation Tool: Arrhenius

Order Number	Type Description	System	MTBF (year)
1SAP560710R0001	CP6607:CP600-Pro 7.0"	CP600-Pro	7,00
1SAP561010R0001	CP6610:CP600-Pro 10.1"	CP600-Pro	7,10
1SAP561510R0001	CP6615:CP600-Pro 15.6"	CP600-Pro	7,50

MTBF-Calculation AC31-Adapter products

Condition	
Standard:	SN29500
Temperature:	40°C
Calculation Tool:	CARE® BQR , Ver.8.700/ CARE® BQR , Ver.8.800 (ab 06/2013) CARE® BQR , Ver.8.920.26 (ab 03/2015)

Order Number	Type Description	System	MTBF (year)
1SAP800000R0010	07AC91-AD:AC500, analoges EA Modul 16AO	AC31-Adapter	47,27
1SAP800100R0010	07AC91-AD2:AC500, ana.EA Modul 8AI/8AO	AC31-Adapter	51,54
1SAP800200R0010	07AI91-AD:AC500, analoges EA Modul 16A	AC31-Adapter	57,92
1SAP800300R0010	07DC91-AD:AC500,dig. EA Modul 16DI/16DC	AC31-Adapter	73,95
1SAP800500R0010	07DC92-AD:AC500,dig. EA Modul 32DC	AC31-Adapter	55,75
1SAP800400R0010	DC501-CS31-AD:AC500,dig.EA Mod.16DI/16D	AC31-Adapter	61,25
1SAP801000R0061	07KT94-ARC-AD:AC500, SPS 16DI/16DO/16DC/	AC31-Adapter	20,64
1SAP801400R0060	07KT98-ARC-AD:AC500, SPS 16DI/16DO/16DC	AC31-Adapter	19,43
1SAP801100R0062	07KT98-ARC-DP-AD:AC500, SPS 16DI/16DO/	AC31-Adapter	17,58
1SAP801200R0067	07KT98-ARC-ETH-AD:AC500, SPS 16DI/16DO/	AC31-Adapter	19,33
1SAP801500R0062	07KT98-ARC-ETH-DP-AD:AC500, SPS 16DI/D	AC31-Adapter	17,50
1SAP801300R0072	07KT98-ETH-DP-AD:AC500, SPS 16DI/16DO/	AC31-Adapter	18,51

MTBF-Calculation AC500 Legacy products

Condition
Standard: SN29500
Temperature: 40°C
Calculation Tool: CARE® BQR , Ver.8.700

Order Number	Type Description	System	MTBF (year)
1SAP170200R0001	CM572-DP:AC500,Komm.Modul PROFIBUS	AC500	264,77
1SAP370200R0001	CM572-DP-XC:AC500,Komm.Modul PROFIBUS	AC500	264,77
1SAP170401R0001	CM574-RCOM:AC500,Komm.Modul,RCOM Prot.	AC500	187,48
1SAP170401R0201	CM574-RCOM:AC500,Komm.Modul,RCOM Prot.	AC500	187,48
1SAP170400R0001	CM574-RS:AC500,Komm.Modul,2xRS-232/485	AC500	187,48
1SAP170400R0201	CM574-RS:AC500,Komm.Modul,2xRS-232/485	AC500	187,48
1SAP170500R0001	CM575-DN:AC500,Komm.Modul DeviceNet	AC500	247,12
1SAP170700R0001	CM577-ETH:AC500,Komm. Modul ETHERNET	AC500	211,14
1SAP370700R0001	CM577-ETH-XC:AC500,Komm. Modul ETHERNET	AC500	211,14
1SAP170800R0001	CM578-CN:AC500,Komm.Modul CANopen	AC500	236,18
1SAP370800R0001	CM578-CN-XC:AC500,Komm.Modul CANopen	AC500	236,18
1SAP170902R0001	CM579-ETHCAT:AC500,Komm.Modul ETHERCAT	AC500	265,23
1SAP170901R0001	CM579-PNIO,Komm.Modul PROFINET IO	AC500	265,23
1SAP370901R0001	CM579-PNIO-XC,Komm.Modul PROFINET IO	AC500	265,23
1SAP172800R0001	CM588-CN:AC500,Komm.Modul CANopen Slave	AC500	209,29
1SAP372800R0001	CM588-CN-XC:AC500,Komm.Modul CANopen Slave	AC500	204,95
1SAP173700R0001	CM597-ETH:AC500,Komm. Modul ETHERNET	AC500	276,38
1SAP373700R0001	CM597-ETH-XC:AC500,Komm. Modul ETHERNET	AC500	124,50
1SAP270000R0001	DC541-CM:AC500,Dig.Schnell.Mod.8DC	AC500	124,65
1SAP470000R0001	DC541-CM-XC:AC500,Dig.Schnell.Mod.8DC	AC500	124,65
1SAP131000R0278	PM5630-2ETH:AC500,SPS,8MB,24VDC,ETHERNET	AC500 V3	124,53
1SAP331000R0278	PM5630-2ETH-XC:AC500,SPS,8MB,24VDC,ETHERNET	AC500 V3	124,53
1SAP141000R0278	PM5650-2ETH:AC500,SPS,80MB,24VDC,ETH	AC500 V3	121,69
1SAP341000R0278	PM5650-2ETH-XC:AC500,SPS,80MB,24VDC,ETH	AC500 V3	121,69
1SAP151000R0278	PM5670-2ETH:AC500,SPS,160MB,24VDC,ETH	AC500 V3	109,31
1SAP351000R0278	PM5670-2ETH-XC:AC500,SPS,160MB,24VDC,ETH	AC500 V3	109,31
1SAP151500R0278	PM5675-2ETH:AC500,SPS,160MB/8GB,ETH	AC500 V3	93,92
1SAP351500R0278	PM5675-2ETH-XC:AC500,SPS,160MB/8GB,ETH	AC500 V3	93,92
1SAP130100R0100	PM571:AC500,CPU,64kB,24VDC	AC500	204,02
1SAP130100R0200	PM571:AC500,CPU,64kB,24VDC	AC500	182,51
1SAP130100R0170	PM571-ETH:AC500,CPU,64kB,24VDC,ETHERNET	AC500	127,26
1SAP130100R0270	PM571-ETH:AC500,CPU,64kB,24VDC,ETHERNET	AC500	118,55
1SAP130200R0200	PM572:AC500,CPU,128kB,24VDC	AC500	182,51
1SAP130300R0271	PM573-ETH:AC500,CPU,512kB,24VDC,ETHERNET	AC500	170,35
1SAP330300R0271	PM573-ETH-XC:AC500,CPU,512kB,24VDC,ETH	AC500	170,35
1SAP140100R0100	PM581:AC500,CPU,256kB,24VDC	AC500	197,01
1SAP140100R0200	PM581:AC500,CPU,256kB,24VDC	AC500	182,15
1SAP140100R0260	PM581-ARCNET:AC500,CPU,256kB,24VDC,ARCNE	AC500	116,25
1SAP140100R0160	PM581-ARCNET:AC500,CPU,256kB,24VDC,ARCNET	AC500	122,23
1SAP140100R0170	PM581-ETH:AC500,CPU,256kB,24VDC,ETHERNET	AC500	124,50
1SAP140100R0270	PM581-ETH:AC500,CPU,256kB,24VDC,ETHERNET	AC500	118,39
1SAP140200R0100	PM582:AC500,CPU,512kB,24VDC	AC500	197,01
1SAP140200R0200	PM582:AC500,CPU,512kB,24VDC	AC500	182,15
1SAP140200R0201	PM582:AC500,CPU,512kB,24VDC	AC500	182,15
1SAP140200R0160	PM582-ARCNET:AC500,CPU,512kB,24VDC,ARCNE	AC500	122,23
1SAP140200R0260	PM582-ARCNET:AC500,CPU,512kB,24VDC,ARCNE	AC500	116,25
1SAP140200R0170	PM582-ETH:AC500,CPU,512kB,24VDC,ETHERNET	AC500	124,50
1SAP140200R0270	PM582-ETH:AC500,CPU,512kB,24VDC,ETHERNET	AC500	169,09
1SAP340200R0201	PM582-XC:AC500,CPU,512kB,24VDC	AC500	182,15
1SAP140300R0271	PM583-ETH:AC500,CPU,1MB,24VDC,ETHERNET	AC500	170,35
1SAP340300R0271	PM583-ETH-XC:AC500,CPU,1MB,24VDC,ETH	AC500	170,35
1SAP140500R0271	PM585-ETH:AC500,CPU,1MB,24VDC,ETHERNET	AC500	143,44
1SAP150000R0100	PM590:AC500,CPU,2MB,24VDC	AC500	163,32
1SAP150000R0200	PM590:AC500,CPU,2MB,24VDC	AC500	149,02
1SAP150000R0160	PM590-ARCNET:AC500,CPU,2MB,24VDC,ARCNET	AC500	108,36
1SAP150000R0260	PM590-ARCNET:AC500,CPU,2MB,24VDC,ARCNET	AC500	101,81
1SAP150000R0261	PM590-ARCNET:AC500,CPU,2MB,24VDC,ARCNET	AC500	101,81
1SAP150000R0170	PM590-ETH:AC500,CPU,2MB,24VDC,ETHERNET	AC500	110,14
1SAP150000R0270	PM590-ETH:AC500,CPU,2MB,24VDC,ETHERNET	AC500	103,45

MTBF-Calculation AC500 Legacy products

Order Number	Type Description	System	MTBF (year)
1SAP150000R0271	PM590-ETH:AC500,CPU,2MB,24VDC,ETHERNET	AC500	143,44
1SAP150100R0100	PM591:AC500,CPU,4MB,24VDC	AC500	163,32
1SAP150100R0200	PM591:AC500,CPU,4MB,24VDC	AC500	149,02
1SAP150100R0277	PM591-2ETH:AC500,CPU,4MB,24VDC,2xET	AC500	144,39
1SAP150100R0160	PM591-ARCNET:AC500,CPU,4MB,24VDC,ARCNET	AC500	108,36
1SAP150100R0260	PM591-ARCNET:AC500,CPU,4MB,24VDC,ARCNET	AC500	101,81
1SAP150100R0170	PM591-ETH:AC500,CPU,4MB,24VDC,ETHERNET	AC500	110,14
1SAP150100R0270	PM591-ETH:AC500,CPU,4MB,24VDC,ETHERNET	AC500	103,45
1SAP150100R0271	PM591-ETH:AC500,CPU,4MB,24VDC,ETHERNET	AC500	143,44
1SAP350100R0271	PM591-ETH-XC:AC500,CPU,4MB,24VDC,ETH	AC500	143,44
1SAP150200R0271	PM592-ETH:AC500,CPU,4MB,24VDC,ETH	AC500	109,19
1SAP350200R0271	PM592-ETH-XC:AC500,CPU,4MB,24VDC,ETH	AC500	109,19
1SAP155500R0279	PM595-4ETH-F:AC500,SPS 1.3GHz,16MB,4xETH	AC500	33,49
1SAP355500R0279	PM595-4ETH-M-XC:AC500,SPS 1GHz,16MB,4xETH	AC500	33,49
1SAP111100R0160	TB511-ARCNET:AC500,Mod.Träger,1Platz	AC500	297,61
1SAP111100R0170	TB511-ETH:AC500,Mod.Träger,1Platz	AC500	295,46
1SAP311100R0270	TB511-ETH-XC:AC500,Mod.Träger,1Platz	AC500	292,02
1SAP112100R0160	TB521-ARCNET:AC500,Mod.Träger,2Plätze	AC500	275,22
1SAP112100R0260	TB521-ARCNET:AC500,Mod.Träger,2Plätze	AC500	293,11
1SAP112100R0170	TB521-ETH:AC500,Mod.Träger,2Plätze	AC500	271,53
1SAP112100R0270	TB521-ETH:AC500,Mod.Träger,2Plätze	AC500	284,69
1SAP312100R0270	TB521-ETH-XC:AC500,Mod.Träger,2Plätze	AC500	284,69
1SAP112300R0277	TB523-2ETH:AC500,Terminal Base,2slots	AC500	377,74
1SAP114100R0170	TB541-ETH:AC500,Mod.Träger,4Plätze	AC500	272,35
1SAP114100R0270	TB541-ETH:AC500,Mod.Träger,4Plätze	AC500	269,88
1SAP314100R0270	TB541-ETH-XC:AC500,Mod.Träger,4Plätze	AC500	269,88
1SAP117000R0271	TF501-CMS:AC500,Funkt.mod.träger 1+0Platz	AC500	318,94
1SAP317000R0271	TF501-CMS-XC:AC500,Funkt.mod.träger 1+0Platz	AC500	318,94
1SAP117200R0271	TF521-CMS:AC500,Funkt.mod.träger 1+2Plätze	AC500	298,53
1SAP317200R0271	TF521-CMS-XC:AC500,Funkt.mod.träger1+2Plätze	AC500	298,53

MTBF-Calculation AC500 Legacy products

Condition
Standard: SN29500
Temperature: 40°C
Calculation Tool: CARE® BQR , Ver.8.700

Order Number	Type Description	System	MTBF (year)
1SAP122700R0072	PM5012-R-ETH:AC500,SPS,1MB,6DI/4DOR,ETH	AC500-eCo V3	58,22
1SAP122600R0072	PM5012-T-ETH:AC500,SPS,1MB,6DI/4DOT,ETH	AC500-eCo V3	59,60
1SAP123500R0072	PM5032-R-ETH:AC500,SPS,2MB,12DI/8DOR/2DC	AC500-eCo V3	42,36
1SAP123400R0072	PM5032-T-ETH:AC500,SPS,2MB,12DI/8DOT/2DC	AC500-eCo V3	42,64
1SAP124100R0072	PM5052-R-ETH:AC500,SPS,4MB,12DI/6DOR/2DC	AC500-eCo V3	41,90
1SAP124000R0072	PM5052-T-ETH:AC500,SPS,4MB,12DI/8DOT/2DC	AC500-eCo V3	42,17
1SAP124500R0073	PM5072-T-2ETH:AC500,SPS,8MB,12DI/8DOT/2D	AC500-eCo V3	41,10
1SAP124400R0073	PM5072-T-2ETHW:AC500,SPS,8MB,12DI/8DOT/2	AC500-eCo V3	41,10
1SAP120700R0001	PM554-R:8DI/6DO-R,24VDC	AC500-eCo	36,00
1SAP120800R0001	PM554-R-AC:8DI/6DO-R,100-240VAC	AC500-eCo	32,00
1SAP120600R0001	PM554-T:8DI/6DO-T,24VDC	AC500-eCo	68,00
1SAP120600R0071	PM554-T-ETH:8DI/6DO-T, Ethernet interface,24VDC	AC500-eCo	63,00
1SAP121200R0071	PM556-TP-ETH:AC500,Prog.Logic Controller,512kB,8DI/6DO-T,ETH,24VDC,1xRS485,2xOption Slot	AC500-eCo	63,00
1SAP121000R0001	PM564-R:6DI/6DO-R/2AI/1AO,24VDC	AC500-eCo	34,00
1SAP121100R0001	PM564-R-AC:6DI/6DO-R/2AI/1AO,100- 240VAC	AC500-eCo	30,00
1SAP121000R0071	PM564-R-ETH:6DI/6DO-R/2AI/1AO,Ethernet interface,24VDC	AC500-eCo	32,00
1SAP121100R0071	PM564-R-ETH-AC:6DI/6DO-R/2AI/1AO, Ethernet interface,100-240VAC	AC500-eCo	29,00
1SAP120900R0001	PM564-T:6DI/6DO-T/2AI/1AO,24VDC	AC500-eCo	59,00
1SAP120900R0071	PM564-T-ETH:6DI/6DO-T/2AI/1AO, Ethernet interface,24VDC	AC500-eCo	56,00
1SAP121500R0071	PM566-TP-ETH:AC500,Prog.Logic Controller,512kB,6DI/2AI/6DO-T/1AO,ETH,24VDC, 1xRS485,2xOp	AC500-eCo	56,00
1SAP233100R0001	FM562:S500,PTO Module 2 axis	AC500-eCo	120,00
1TNE968901R0100	MC503: memory card option board	AC500-eCo	3.202,00
1TNE968901R3201	TA560:CR2032 Lithium battery from K.T.S. for TA561-RTC and TA562-RS-RTC	AC500-eCo	0.58
1TNE968901R3200	TA561-RTC:RTC option board	AC500-eCo	725,00
1TNE968901R4300	TA562-RS:RS option board	AC500-eCo	930,00
1TNE968901R5210	TA562-RS-RTC:RS-RTC option board	AC500-eCo	476,00
1TNE968901R3203	TA570:Spare Part Set for AC500-eCo CPUs	AC500-eCo	3.805,00
1TNE968900R1100	TK503:USB programming cable TK503	AC500-eCo	691,00
1TNE968900R1220	TK504:USB programming cable TK504	AC500-eCo	567,00