



TECHNICAL REPORT - MTBF -

No.RT304-E15146

製品名/ Product Name : FC6A Series Micro Smart

形番/ Part Number : FC6A-C***** (CPU module / All-in-one, CAN)
FC6A-PH1 (HMI module)
FC6A-EXM2 (Booster Module)
FC6A-PC1/PC3 (Communication cartridge)
FC6A-N***,T***,R***,M*** (Expansion I/O Modules)
FC6A-J***,K***,L***,F*** (Functional Modules / Analog,PID)

定格/Rating: Rated Voltage 100V AC (AC Power)
24V DC (DC Power)
12V DC (DC Power)

適用規格/ Applicable Standards : MIL-HDBK-217F

Subject: Calculating MTBF about following products, based on The Notice2 appendix A
MIL-HDBK-217F

Environmental factor: G_B
Quality factor: MIL-SPEC or JAN rank Equivalency product.
Ambient Temperature: 30°C

承認/Approved by :



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Failure Rate & Fit & MTBF

Part Number		FR/FIT/ MTBF	Ta=30°C
CPU module / All-in-one, CAN	FC6A-C40R1AE	FR	12.629×10^{-6}
		MTBF	79,184h(9.0year)
	FC6A-C40R1CE	FR	12.184×10^{-6}
		MTBF	82,073h(9.4year)
	FC6A-C40P1CE	FR	14.473×10^{-6}
		MTBF	69,096h(7.9year)
	FC6A-C40K1CE	FR	13.380×10^{-6}
		MTBF	74,738h(8.5year)
	FC6A-C40R1DE	FR	12.092×10^{-6}
		MTBF	82,699h(9.4year)
	FC6A-C40P1DE	FR	14.380×10^{-6}
		MTBF	69,539h(7.9year)
	FC6A-C40K1DE	FR	13.288×10^{-6}
		MTBF	75,257h(8.6year)
	FC6B-C40R1A	FR	11.005×10^{-6}
		MTBF	90,870h(10.4year)
	FC6B-C40R1C	FR	10.635×10^{-6}
		MTBF	94,029h(10.7year)
	FC6B-C40P1C	FR	12.923×10^{-6}
		MTBF	77,379h(8.8year)
	FC6B-C40K1C	FR	11.831×10^{-6}
		MTBF	84,525h(9.6year)
	FC6A-C24R1AE	FR	10.296×10^{-6}
		MTBF	97,381h(11.1year)
	FC6A-C24R1CE	FR	10.001×10^{-6}
		MTBF	99,988h(11.4year)
	FC6A-C24P1CE	FR	11.629×10^{-6}
		MTBF	85,991h(9.8year)
	FC6A-C24K1CE	FR	10.867×10^{-6}
		MTBF	92,020h(10.5year)
	FC6B-C24R1A	FR	8.777×10^{-6}
		MTBF	113,939h(13.0year)
	FC6B-C24R1C	FR	8.473×10^{-6}
		MTBF	118,023h(13.5year)
	FC6B-C24P1C	FR	10.101×10^{-6}
		MTBF	99,002h(11.3year)
	FC6B-C24K1C	FR	9.339×10^{-6}
		MTBF	107,079h(12.2year)
	FC6A-C16R1AE	FR	9.186×10^{-6}
		MTBF	108,861h(12.4year)
	FC6A-C16R1CE	FR	8.992×10^{-6}
		MTBF	111,207h(12.7year)
	FC6A-C16P1CE	FR	10.209×10^{-6}
		MTBF	97.951h(11.2year)
FC6A-C16K1CE	FR	9.721×10^{-6}	
	MTBF	102,867h(11.7year)	
FC6B-C16R1A	FR	7.393×10^{-6}	
	MTBF	135,266h(15.4year)	

[CPU module / All-in-one, CAN]	FC6B-C16R1C	FR	7.111×10^{-6}
		MTBF	140,625h(16.1year)
	FC6B-C16P1C	FR	8.328×10^{-6}
		MTBF	120,077h(13.7year)
	FC6B-C16K1C	FR	7.840×10^{-6}
		MTBF	127,549h(14.6year)
	FC6A-C40R1AEJ	FR	12.349×10^{-6}
		MTBF	80,981h(8.2year)
	FC6A-C40R1CEJ	FR	11.617×10^{-6}
		MTBF	86,082h(9.8year)
	FC6A-C40P1CEJ	FR	14.670×10^{-6}
		MTBF	68,166h(year)
	FC6A-C40K1CEJ	FR	13.825×10^{-6}
		MTBF	72,332h(8.3year)
	FC6A-C40R1DEJ	FR	11.768×10^{-6}
		MTBF	84,978h(9.7year)
FC6A-C40P1DEJ	FR	14.821×10^{-6}	
	MTBF	67,471h(7.7year)	
FC6A-C40K1DEJ	FR	13.976×10^{-6}	
	MTBF	71,550h(8.2year)	
HMI module	FC6A – PH1	FR	5.487×10^{-6}
		MTBF	182,247h(20.8year)
Booster Module	FC6A – EXM2	FR	1.586×10^{-6}
		MTBF	630,684h(72.0year)
Communication cartridge	FC6A – PC1	FR	0.862×10^{-6}
		MTBF	1,159,555h(132.4year)
	FC6A – PC3	FR	0.771×10^{-6}
		MTBF	1,296,412h(148.0year)
Expansion I/O Modules (Digital IO module)	FC6A-N08B1 & N08B4	FR	2.168×10^{-6}
		MTBF	461,313h(52.7year)
	FC6A-N16B1 & N16B4	FR	3.296×10^{-6}
		MTBF	303,366h(34.6year)
	FC6A-N16B3	FR	3.179×10^{-6}
		MTBF	314,520h(35.9year)
	FC6A-N32B3	FR	5.478×10^{-6}
		MTBF	182,562h(20.8year)
	FC6A-R081 & R084	FR	2.601×10^{-6}
		MTBF	384,534h(43.9year)
	FC6A-R161 & R164	FR	2.841×10^{-6}
		MTBF	351,960h(40.2year)
	FC6A-T08K1 & T08K4	FR	2.540×10^{-6}
		MTBF	393,716h(44.9year)
FC6A-T16K1 & T16K4	FR	4.031×10^{-6}	
	MTBF	248,057h(28.3year)	

[Expansion I/O Modules (Digital IO module)]	FC6A-T16K3	FR	3.634×10^{-6}
		MTBF	275,189h(31.4year)
	FC6A-T32K3	FR	7.118×10^{-6}
		MTBF	140,493h(16.0year)
	FC6A-T08P1 & T08P4	FR	2.294×10^{-6}
		MTBF	435,862h(49.8year)
	FC6A-T16P1 & T16P4	FR	3.431×10^{-6}
		MTBF	291,460h(33.3year)
	FC6A-T16P3	FR	3.570×10^{-6}
		MTBF	280,135h(32.0year)
	FC6A-T32P3	FR	5.725×10^{-6}
		MTBF	174,663h(19.9year)
	FC6A-M08BR1 & M08BR4	FR	2.176×10^{-6}
		MTBF	459,472h(52.5year)
FC6A-M24BR1 & M24BR4	FR	4.288×10^{-6}	
	MTBF	233,187h(26.6year)	
TM3XTYS4	FR	4.278×10^{-6}	
	MTBF	233,741h(26.7year)	
FC6A-N08A11 & N08A14	FR	3.595×10^{-6}	
	MTBF	278,192h(31.8year)	
Functional Modules (Analog,PID)	FC6A-J2C1	FR	2.936×10^{-6}
		MTBF	340,638h(38.9year)
	FC6A-J4A1	FR	3.652×10^{-6}
		MTBF	273,855h(31.3year)
	FC6A-J8A1	FR	6.000×10^{-6}
		MTBF	166,670h(19.0year)
	FC6A-K4A1	FR	2.929×10^{-6}
		MTBF	341,417h(39.0year)
	FC6A-K4A1	FR	3.659×10^{-6}
		MTBF	273,271h(31.2year)
	FC6A-L06A1	FR	6.755×10^{-6}
		MTBF	148,037h(16.9year)
	FC6A-L03CN1	FR	4.712×10^{-6}
		MTBF	212,208h(24.2year)
	FC6A-J4CN1	FR	5.345×10^{-6}
		MTBF	187,099h(21.4year)
	FC6A-J8CU1	FR	3.608×10^{-6}
		MTBF	277,167h(31.6year)
	FC6A-F2M1	FR	6.654×10^{-6}
		MTBF	150,287h(17.2year)
FC6A-F2MR1	FR	5.971×10^{-6}	
	MTBF	167,472h(19.1year)	

FR (Failure Rate)

MTBF (Mean Time Between Failure)