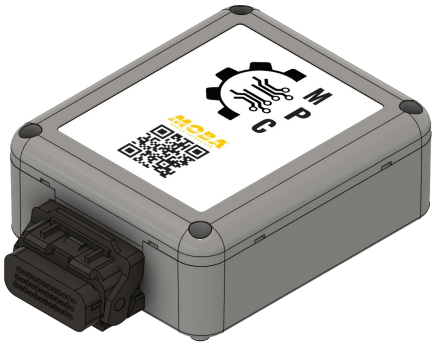
MPC-113, Reduntant Master Controller
Art. no.: 04-25-7011X

Technical data

Electrical properties	
Operating voltage:	8 … 32 V DC
Current consumption:	150 mA @ 12V
Mechanical properties	
Weight:	0.2 kg
Ingress protection:	IP 67
Fitting:	4 x M4
Ambient conditions	
Operating temperature range:	-40 … +85 °C
Storage temperature range:	-40 … +85 °C
General Features	
Inputs:	2x 6 (12) Digital high side / Analog inputs
Outputs:	2x 6 (12) Digital/PWM open loop outputs (2A max) 2x 1 (2) Digital/PWM open loop outputs (5A max)
Connector:	36 pin JST 36ZRO-B-1A
Interfaces	
CAN:	2x CAN BUS (11/29 bit identifier), ISO 11898-2
Electronic features	
Microprocessor:	2x ARM® Cortex®-M4 series, 32bit core (App) 1x ARM® Cortex®-M3 series, 32bit core (WDO)
Clock rate:	168 MHz
FLASH memory size:	2 MB (for each microprocessor)
RAM memory size:	256 KB / 4 KB backup (for each microprocessor)
Datalogger memory size:	256 KB (shared)
Other:	Real Time Clock WDO circuit with internal relays
Standards	
EMC:	EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011
Vibration, Shock and Free Fall:	EN 60068-2-6:2007 / EN 60068-2-27:2009
Temperature:	EN60068-2-1, N14Nb, -2, -78, -30
Failure Rate, DC and CCF	
Internal architecture:	Cat 3 as 13849-1
Analysis method:	Parts count method (assuming 50% dangerous failure)
Data collection:	MIL-HDBK-217F-Notice 2 and manufacturer information
Conditions:	Normal operating condition (40°, mobile application)
Operating time:	Round the clock
Note:	MTTFd related to one of the two redundant channels
λ_d:	21930 FIT/10^{10} hrs
MTTFd:	104 years
DC:	60%
CCF:	Requirements achieved

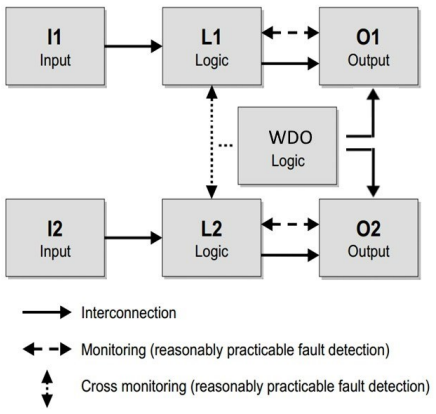


CE CODESYS

Features:

» Inversion of polarity protection.
» Over voltage protection.
» Load Dump Protection.

Architecture block diagram:



Field for notes:

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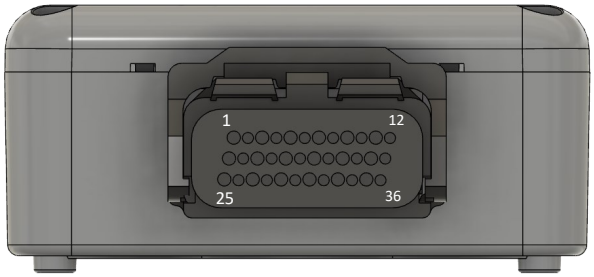
Connections



Connector		
1	DO1_B - PWM1_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
2	DO2_B - PWM2_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
3	DO3_B - PWM3_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
4	DO4_B - PWM4_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
5	DO5_B - PWM5_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
6	DO6_B	Digital high side Output 5A (with ON-OFF status feedback)
7	DO0_A - PWM0_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
8	DO1_A - PWM1_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
9	DO2_A - PWM2_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
10	DO3_A - PWM3_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
11	DO4_A - PWM4_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
12	DO5_A - PWM5_A	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
13	DO0_B - PWM0_B	Digital/PWM high side Output 2A, closed loop (with ON-OFF status feedback)
14	DI0_B - ADC0_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc, Frequency
15	CAN-H 1	CAN-bus 1 high (A-B)
16	CAN-L 1	CAN-bus 1 low (A-B)
17	CAN-H 2	CAN-bus 2 high (A-B)
18	CAN-L 2	CAN-bus 2 low (A-B)
19	DI0_A - ADC0_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc, Frequency
20	DI1_A - ADC1_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc, Frequency
21	DI2_A - ADC2_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
22	DI3_A - ADC3_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
23	DI4_A - ADC4_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
24	DI5_A - ADC5_A	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
25	+ Operating voltage	+ Power supply
26	- Operating voltage	- Power supply
27	DI1_B - ADC1_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc, Frequency
28	DI2_B - ADC2_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
29	DI3_B - ADC3_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
30	DI4_B - ADC4_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
31	DI5_B - ADC5_B	Digita/Analog high side input 0-25 mA, 0-5 Vdc, 0-32 Vdc
32	+VP0_A	+ Power supply for outputs (DO0_A - DO3_A)
33	+VP1_A	+ Power supply for outputs (DO4_A - DO6_A)
34	+VP0_B	+ Power supply for outputs (DO0_B - DO3_B)
35	+VP1_B	+ Power supply for outputs (DO4_B - DO6_B)
36	DO6_A	Digital high side Output 5A (with ON-OFF status feedback)

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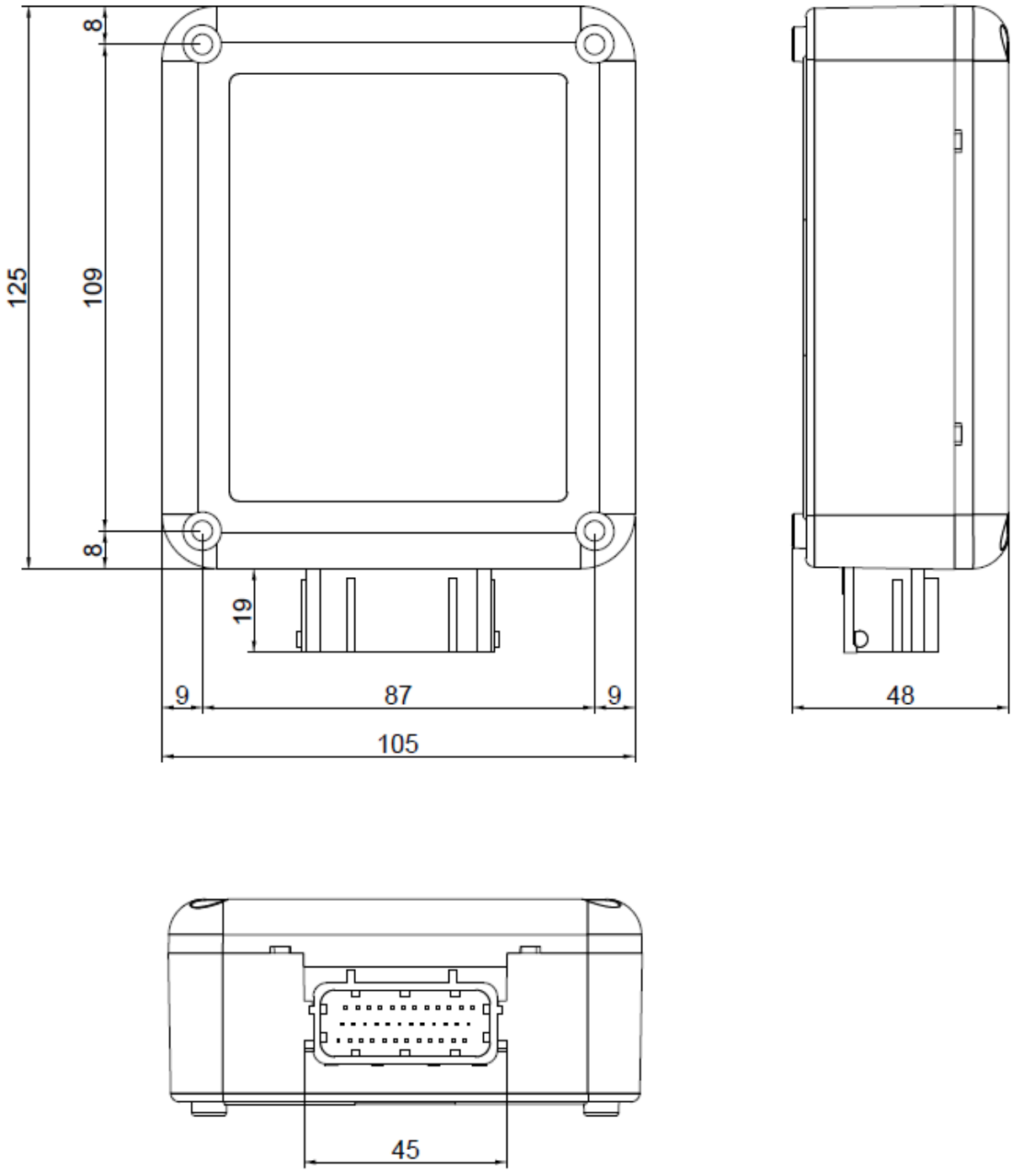
Dimensions (mm)



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