

E-Mobility Controllers Portfolio | Overview and Comparison



Part Nr	IBMC48V140A1	IBMC48V140A2	MC48V280A1	IBMC48V280A1	IBMC48V600A1	DDMO48V500A1	MC96V600A1	MC400V180A1	DDMO400V450A1
Nr. of Integr. Inverters	1	1	1	1	1	2	1	1	2
Nominal Voltage	48V	48V	48V	48V	48V	48V	96V	400V	400V
Voltage Range	36V - 54V	36V - 54V	36V - 54V	36V - 54V	36V - 54V	30V - 80V	72V - 118V	360V - 440V	350V - 450V
Continuous Current rms	50A	115A	115A	115A	200A	230A	200A	90A	205A
1. Peak Current rms (time)	140A (10s)	140A (10s)	280A (10s)	280A (10s)	600A (10s)	500A (10s)	600A (10s)	180A (10s)	450A (10s)
2. Peak Current rms (time)	120A (300s)	130A (90s)	-	-	-	-	460A (120s)	-	-
Power per Inverter cont/pk	2,8kVA / 7kVA	6kVA / 7kVA	6kVA / 15kVA	6kVA / 15kVA	10kVA / 32kVA	12kVA / 26kVA	24kVA / 67kVA	25kVA / 80kVA	90kVA / 200kVA
Isolation	No	No	No	No	No	Yes	CAN	Yes	Yes
Motor Position Sensors	Hall, Encoder	Hall, Encoder	Hall, Encoder, Sin/Cos (opt.)	Hall, Encoder, Sin/Cos (opt.)	Hall, Encoder, Sin/Cos	Hall, Sin/Cos, SSI, RS485	Hall, Encoder, Sin/Cos (opt.)	Hall, Encoder, SSI, Sin/Cos	Hall, Sin/Cos, SSI, RS485
Motor Control Algorithm	FOC	FOC	FOC	FOC	FOC	FOC	FOC	FOC	FOC
Recuperation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Field Weakening	Yes	Yes	Yes	Yes	Yes	Yes	yes	Yes	Yes
Cooling	Air	Air	Air	Air	Air	Air	Air	Liquid	Liquid
Logic Supply by HV Battery	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Bodycontrol Integrated	Yes	Yes	No	Yes	Yes	No	No	No	No
VMU Integrated	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
On Board Diagnostic	No	No	OBD-2	OBD-2	OBD-2	OBD-2 in dev.	OBD-2	OBD-2	OBD-2 in dev.
Functional Safety Readiness	No	No	No	No	Yes	Yes	No	tbd	Yes
Nr. of Drive modes	5	4	-	4	3	2	tbd	tbd	2
Protection (A, °C, Derating)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Phase Connectors	M6 glands	M6 glands	M6 glands	M6 glands	M8 glands	M6 glands	M8 glands	tbd	M5 glands
Battery Connectors	M6 glands	M6 glands	M6 glands	M6 glands	M8 glands	M6 glands	M8 glands	tbd	M5 glands
Signal Connector	30&36-pin Molex	48-pin CMC	48-pin CMC	48-pin CMC	64-pin CMC	64-pin CMC	10&14-pin FEP	tbd	64-pin CMC
Dimension (L/WL/H)	403x62x27mm	152x142x44mm	152x142x44mm	152x142x44mm	250x115x44mm	277x207x67mm	140x150x81mm	~130x100x80mm	390x680x120mm
Weight	650g	780g	780g	780g	1.100g	4kg - 3.5l	2kg	tbd	9kg - 6.5l
IP Class	65	67	67	67	67	67	66	67 or 69	69
Status	Production	Production	Production	Production	Prototypes	Demonstrator	Prototypes	In Development	Demonstrator

