



Certificate of Compliance

Certificate: 1478630 **Master Contract:** 177550
Project: 80188570 **Date Issued:** 11/15/2023
Issued to: Precima-Magnettechnik GmbH (Bückeburg)
 Röckerstrasse 16
 Bückeburg, Lower Saxony 31675
 Germany
Attention: Sebastian Ihme

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Franklin ten Haaf
Franklin ten Haaf

PRODUCTS

C321107 INDUSTRIAL CONTROL EQUIPMENT - Miscellaneous Apparatus
 C321187 INDUSTRIAL CONTROL EQUIPMENT - Miscellaneous Apparatus - Certified to US Standards

Component type electrical motor brake series:

Models
FDB, FDD, FDR, FDS, FDW, FDX, FLC, FMB, OLB / OLK / OLG / OMB

FDB		max. permissible electrical coil power [W] I _{max} : 6,4 A / U _{max} : 340 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%

	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
6		12	14	24	> 24 - 30	24	> 24 - 30
8		19	22	37	> 37 - 47	37	> 37 - 47
10		29	33	56	> 56 - 70	56	> 56 - 70
13		41	47	80	> 80 - 100	80	> 80 - 100
15		53	61	104	> 104 - 140	104	> 104 - 140
17		70	81	138	> 138 - 180	138	> 138 - 180
20		93	107	182	> 182 - 225	182	> 182 - 225
23		122	140	239	> 239 - 300	239	> 239 - 300
26		154	176	301	> 301 - 380	301	> 301 - 380
30		200	230	392	> 392 - 485	392	> 392 - 485
40		319	365	622	> 622 - 770	622	> 622 - 770

FDD		max. permissible electrical coil power [W] I _{max} : 6,4 A / U _{max} : 340 VDC					
brake size	ventilation	w/o fan				fan (min. 750 l/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
6		12	14	24	> 24 - 30	24	> 24 - 30
8		19	22	37	> 37 - 47	37	> 37 - 47
10		29	33	56	> 56 - 70	56	> 56 - 70
13		41	47	80	> 80 - 100	80	> 80 - 100
15		53	61	104	> 104 - 140	104	> 104 - 140
17		70	81	138	> 138 - 180	138	> 138 - 180
20		93	107	182	> 182 - 225	182	> 182 - 225
23		122	140	239	> 239 - 300	239	> 239 - 300
26		154	176	301	> 301 - 380	301	> 301 - 380
30		200	230	392	> 392 - 485	392	> 392 - 485
40		319	365	622	> 622 - 770	622	> 622 - 770

FDR		max. permissible electrical coil power [W] I _{max} : 6 A / U _{max} : 340 VDC					
brake size	ventilation	w/o fan				fan (min. 750 l/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
23		122	140	239	> 239 - 300	239	> 239 - 300

26	154	176	301	> 301 - 380	301	> 301 - 380
30	200	230	392	> 392 - 485	392	> 392 - 485

FDW		max. permissible electrical coil power [W] I _{max} : 7,3 A / U _{max} : 360 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
5		11	13	22	> 22 - 28	22	> 22 - 28
6		18	21	36	> 36 - 45	36	> 36 - 45
7		22	25	43	> 43 - 54	43	> 43 - 54
8		30	35	59	> 59 - 74	59	> 59 - 74
10		42	48	83	> 83 - 100	83	> 83 - 100
13		61	70	120	> 120 - 145	120	> 120 - 145
15		81	93	158	> 158 - 195	158	> 158 - 195
17		106	122	208	> 208 - 260	208	> 208 - 260
20		136	155	265	> 265 - 325	265	> 265 - 325
23		175	201	343	> 343 - 425	343	> 343 - 425
26		217	249	425	> 425 - 525	425	> 425 - 525
30		282	322	550	> 550 - 680	550	> 550 - 680

FDX		max. permissible electrical coil power [W] I _{max} : 5,5 A / U _{max} : 230 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
26		190	218	372	> 372 - 460	372	> 372 - 460
30		252	289	493	> 493 - 610	493	> 493 - 610
40		389	445	760	> 760 - 930	760	> 760 - 930

FDS		max. permissible electrical coil power [W] I _{max} : 2,4 A / U _{max} : 255 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
8		23	27	46	> 46 - 57	46	> 46 - 57
10		29	34	58	> 58 - 72	58	> 58 - 72
13		46	53	90	> 90 - 112	90	> 90 - 112

FLC		max. permissible electrical coil power [W] I _{max} : 2 A / U _{max} : 260 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
5		9	10	18	> 18 - 23	18	> 18 - 23
6		13	15	26	> 26 - 32	26	> 26 - 32
8		19	22	38	> 38 - 47	38	> 38 - 47

FMB		max. permissible electrical coil power [W] I _{max} : 4 A / U _{max} : 48 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
70		18	20	35	> 35 - 44	35	> 35 - 44
80		21	25	42	> 42 - 53	42	> 42 - 53
130		39	45	77	> 77 - 93	77	> 77 - 93

OLB / OLK / OLG / OMB		max. permissible electrical coil power [W] I _{max} : 14 A / U _{max} : 400 VDC					
brake size	ventilation	w/o fan				fan (min. 750 1/min)	
	duty cycle	100%	60%	50%	30%	100%	60%
	APD [W/dm ²]	≤ 8,3	> 8,3 ≤ 9,5	> 9,5 ≤ 16,2	> 16,2	≤ 16,2	> 16,2
65		17	19	34	> 34 - 42	34	> 34 - 42
80		22	26	44	> 44 - 55	44	> 44 - 55
100		26	30	52	> 52 - 65	52	> 52 - 65
160		65	75	128	> 128 - 157	128	> 128 - 157

Component type rectifier types for use with motor brakes:

Models	Voltage (VAC)	Current (A max)	Characteristic
PMB (A), (AF), (F)	400	2	Bridge rectifier
PME (A), (AF), (F)	400	1	Single waive
PMG	400	1.5	Fast excitation



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Notes:

1. Certified only as components, for use with other Certified equipment, where the suitability of the combination is determined by CSA Group or other NRTL.
2. The series designations are to be followed by suffixes indicating e.g. size, mechanical features, supply voltage, braking torque, etc. for brakes and rectifiers. Rectifiers are certified for installation in pollution degree 2 environments.
3. Rectifiers must be installed in a CSA certified or UL listed enclosure.
4. Rectifiers with suffix (A) - with diode, (F) - with spring clamps and (AF) is the product of (A) and (F).
5. Uncertified additional component "Micro switch with cable" are allowed when supplied by a UL listed or CSA certified CLASS 2 power supply with extra low voltage outputs (30Vrms or 42.2Vdc max.) and limited energy (100/V, max., V = Open circuit voltage secondary). "Micro Switch with cable" shall be safely installed according to the Canadian Electrical Code, part I.



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APPLICABLE REQUIREMENTS

CSA C22.2 NO. 14-18 - Industrial control equipment

UL 508 (Eighteenth Ed.) - Industrial Control Equipment



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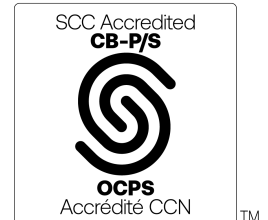
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Notes:

Products certified under Class C321107 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80188570	November 15, 2023	Update to Report 1478630 to add alternative cable glands, cables and typo correction.
80142642	June 15, 2023	Update to Report 1478630 to add alternative varistor, Type 7M420, to solve FIR (FC#177551) dated 20220127.
70220970	March 25, 2021	Update to report 1478630 related to FIR 177551-180418 and additional requested additions. - Addition of alternative material for windings, connector and cable of brake type: FDB15 - Change the Internal Wiring to AWG 19 (Point 7 in Report) - Redo all test to show compliance at rated duty cycles - CSA C22.2 14-13 and UL508, 17th edition shall be superseded by new editions CSA C22.2 No. 14-18 and UL508, 18th edition
70011260	December 15, 2014	Update to Report 1478630 to include alternate components according standard C22.2 No. 14-13 and UL508, 17th edition.
2295940	April 16, 2010	Update to Report 1478630 to include the new types FDS and FDY.
2129731	January 16, 2009	Update to Report 1478630 to include alternate components and new models for motor brakes and rectifiers.
1569071	June 21, 2004	Update to Report 1478630 for addition of standard UL 508 and CSA 14 to part A, modification of Class Nos.
1478630	October 01, 2003	Update to include new type designation, Types FDB, FDW, FDD, FDR, FLC, FMB and Rectifiers PME400, PME500, PMB400, PMB500, PMG400. Conversion of Report LR 076927-1 to new CSA numbering system.