D-FRAME SERIES CIRCUIT BREAKERS

APPLICATIONS

- AC and DC Branch Circuit Installations
- Telecom DC Power Distribution
- UPS Equipment
- Mobile Power-Generation Equipment
- Power Conditioning
- Alternative Energy Equipment
- Lighting Controls

FEATURES

- Hydraulic-Magnetic Technology
- 100% Rating Capability
- Up to Six Poles
- UL, CSA, VDE, and TUV Approved
- Ratings up to 250 A
- Optional Trip Alarm Switch and Auxiliary Switch
- Wide Range of Mounting Termination and Time Delays Available

TECHNICAL DATA

DD				
Approval	UL489/CSA	UL489/CSA/VDE (IEC60947-2)	UL489A/VDE (IEC60947-2)	UL508/VDE (IEC60947-3)
No of Poles	1	2	2	2
Voltage	120 VAC	120/240 VAC	80 VDC	240 VAC
Min Amp	0.1	0.1	0.1	
Max Amp	80	50	250	50
kA Rating	10 kA	5 kA	10 kA	
Notes	CB	CB	CB	SWITCH
Operating Temperature Range			-40°C TO +85°C	

D			
Approval	UL1077/CSA	VDE (IEC60934)	UL1077/CSA/VDE (IEC60934)
No of Poles	1 TO 6	1 TO 4	2
Voltage	277/480 VAC	240/415 VAC	8 VDC0
Min Amp	0.02	1	0.1
Max Amp	100	100	125
kA Rating	2 kA	3 kA	3 kA (UL 1077/CSA); 5 kA VDE
Notes	5kA With Fuse Back-up		
Operating Temperature Range			-40°C TO +85°C

SUPERIOR PRODUCTS THROUGH EXPERIENCE

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TECHNICAL DATA D-FRAME SERIES CIRCUIT BREAKERS

Part Number Coding

Example Code: D - DA - A - B - A - 1 - PA - B - 0 - X - B - P - AS - 1500 - X - 1

Group Number: 0 1 2 3 4 5 6 & 7 8 9 10 11 12 13 14 15 16

Group 0: Type

Code	Description
D*	**UL489 Approved**
	UL1077 Approved

Group 1: Frame and Mounting

Code	Description
DA*	**Front Mounting (Standard)**
DB	Snap-In Mounting
DC	Front Mounting, C-Frame Aperture
DE	Front Mounting, Standard Rocker
DF	Front Mounting, Illuminated Rocker
DG	Flush Mounting, Standard Rocker
DK	Flush Mounting, Illuminated Rocker
DL*	**Flush Mounting, Flush Rocker**

Group 2: Terminations

Code	Description
A*	**Rear Studs for Eye Lugs (M5 or 10-32)**
B	Rear Clamp, 30 A Max.
C	Rear Push-On, 25 A Max.
M*	**Rear Studs for Eye Lugs (M6 or 1/4-20)**
N	Rear Studs (M5 or 10-32) + Flat Base Plate
P	Rear Studs (M6 or 1/4-20) + Flat Base Plate
Q	Studs for Main Circuit, Push-on Terminals for Control Circuit
2*	**Plug-in Terminals (6.25 dia. x 21.5)**
3*	**Plug-in Terminals (7.80 dia. x 24.5)**
4*	**Rear Screw Terminal (M5 or 10-32)**
Z	Special

Group 3: Mounting System and Interphase Barriers

Code	Description
A*	**Metric, No Interphase Barriers**
B	Metric, Type A (Small) Interphase Barriers
C*	**Imperial, No Interphase Barriers**
D	Imperial, Type A (Small) Interphase Barriers
E*	Metric, Type B (Large) Interphase Barriers
F*	Imperial, Type B (Large) Interphase Barriers

Group 4: Handle Configuration

Code	Description
A*	**1 Handle / Pole**
D	Rocker with Guards
E*	**Rocker without Guards**
G*	**Reduced Standard Handles / Unit**

Group 5: Number of Poles

Code	Description
1*	**Single-Pole Unit**
2*	**Double-Pole Unit**
3	Triple-Pole Unit
4	Four-Pole Unit
5	Five-Pole Unit
6	Six-Pole Unit

Group 6: Rated Voltages

Code	Description
H	277 VAC
M*	**80 VDC / 240 VAC**
N*	**80 VDC**
P	240 VAC
Q	240 / 415 VAC
R	277 / 480 VAC
S*	**120 / 240 VAC**
T*	**120 VAC**
U*	**80 VDC / 120 VAC**
Z	Special (Specify)

Group 7: Voltage Type

Code	Description
A*	**AC**
D*	**DC**
M*	**AC/DC**

Group 8: Circuit

Code	Description
1*	**Series Mid-Trip**
A*	**Switch**
B*	**Series Trip**
C	Relay Trip (Current Sensing)
D	Relay Trip (Voltage Sensing)
E	Shunt Trip (Current Sensing)
F	Shunt Trip (Voltage Sensing)
H*	**Dual Control (3 Terminals) - Shunt Trip**
J	Dual Control (4 Terminals) - Relay Trip
Z	Special (Specify)

Group 9: Auxiliary Switches

Code	Description
0*	**None**
5*	**Trip Alarm (5 A 125 / 250 VAC)**
7*	**1 x Change-Over (6 A 250 VAC)**
8*	**Integral Change-Over (0.1 A 250 VAC)**
9*	**Special (Specify)**

Group 10: Voltages for Illuminated Rocker Units

Code	Description
X*	**Not Applicable**
1	100 - 125 VAC
2	220 - 240 VAC
3	8 - 16 VDC
4	16 - 24 VDC
5	24 - 32 VDC
6	32 - 48 VDC
7	48 - 65 VDC
8	65 - 80 VDC
Z	Special (Specify)

Options without * are not applicable to UL489 product.

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Group 11: Colour of Front Plate

Code	Description
B*	**Black**
Z	Special (Specify)

Group 12: Handle Colour and Marking Details

Code	Description (I-ON / O-OFF)
K*	**White (I - O) / On - Off**
L*	**Black (I - O) / On - Off**
Z	Special (specify)

Group 14: Main Circuit Current

Code	Description
120M	20 mA
100M*	**100mA**
0100*	**1 A**
1000*	**10 A**
1375*	**13.75 A**
1500*	**15 A**
2000*	**20 A**
2500*	**25 A**
K100*	**100 A**
K125*	**125 A (multipole configuration only)**
K250*	**250 A (multipole configuration only)**

Group 15: Du-Con Or Relay Trip Units

Ratings for Voltage Coils		*OR* Ratings for Current Coils	
Code	**Description**	**Code**	**Description**
X	Not Applicable	**X***	Not Applicable
D110	110 - 120 VDC	M020	20 mA
D125*	**125 VDC**	M100	100 mA
A125*	**125 VAC**	K005	5 A
A220	220 - 240 VAC		

Group 16: Approvals

Code	Description
1*	**All applicable approvals**
2*	**No approvals required**

Group 13: Time Delay

Code	Time Delay Details	System	Pulse Tolerance	Comments
AS*	**Long Time Delay**	**50/60 Hz, DC**	**8 x In**	
AI*	**Long Time Delay**	**50/60 Hz, DC**	**20 x In**	**AS + Inertia Delay**
AH*	**Long Time Delay**	**50/60 Hz**	**20 x In**	
BS*	**Medium Time Delay**	**50/60 Hz, DC**	**8 x In**	
BI*	**Medium Time Delay**	**50/60 Hz, DC**	**20 x In**	**BS + Inertia Delay**
BH*	**Medium Time Delay**	**50/60 Hz**	**20 x In**	
CS*	**Short Time Delay**	**50/60 Hz, DC**	**6 x In**	
CI*	**Short Time Delay**	**50/60 Hz, DC**	**15 x In**	**CS + Inertia Delay**
CH*	**Short Time Delay**	**50/60 Hz**	**15 x In**	
US	Ultra-Short Delay	50/60 Hz, DC	--	
OP*	**Instantaneous**	**50/60 Hz, DC**	--	
AE	Long Time Delay	50/60 Hz	35 x In	AH + Inertia Delay
BE	Medium Time Delay	50/60 Hz	35 x In	BH + Inertia Delay
CE	Short Time Delay	50/60 Hz	35 x In	CH + Inertia Delay
AD*	**Long Time Delay**	**Dual Rated: 50/60 Hz/DC**	**8 x In**	
BD*	**Medium Time Delay**	**Dual Rated: 50/60 Hz/DC**	**8 x In**	
CD*	**Short Time Delay**	**Dual Rated: 50/60 Hz/DC**	**8 x In**	
AW	Long Time Delay	Dual Rated: 50/60 Hz/DC	20 x In	AD + Inertia Delay
BW	Medium Time Delay	Dual Rated: 50/60 Hz/DC	20 x In	BD + Inertia Delay
CW	Short Time Delay	Dual Rated: 50/60 Hz/DC	15 x In	CD + Inertia Delay
0X	Switch			

TIME DELAY DATA

Std. Curve Codes	Limits	Percentage of Rated Current Trip Time in Seconds											
		125%	**130%**	**135%**	**150%**	**200%**	**300%**	**400%**	**500%**	**600%**	**800%**	**1000%**	**1200%**
AS	Min (s)	80	68	60	48	21	7	3.5	2	0.45	0.01	0.0075	0.005
	Max (s)	560	500	375	260	80	32	17	19	6.8	0.8	0.08	0.005
BS	Min (s)	12	9	7.5	5.5	2	0.55	0.21	0.12	0.02	0.007	0.006	0.005
	Max (s)	100	90	75	40	14	5	2.8	1.8	1.2	0.5	0.08	0.05
CS	Min (s)	0.6	0.5	0.4	0.3	0.13	0.031	0.014	0.008	0.007	0.005	0.0043	0.0042
	Max (s)	10	6	5	3.5	1	0.2	0.075	0.04	0.03	0.02	0.018	0.018

Contact your nearest CBI office for availability of additional Ratings and Time Delay Curves.
Curves are available online at www.cbibreakers.com or www.cbi.co.za

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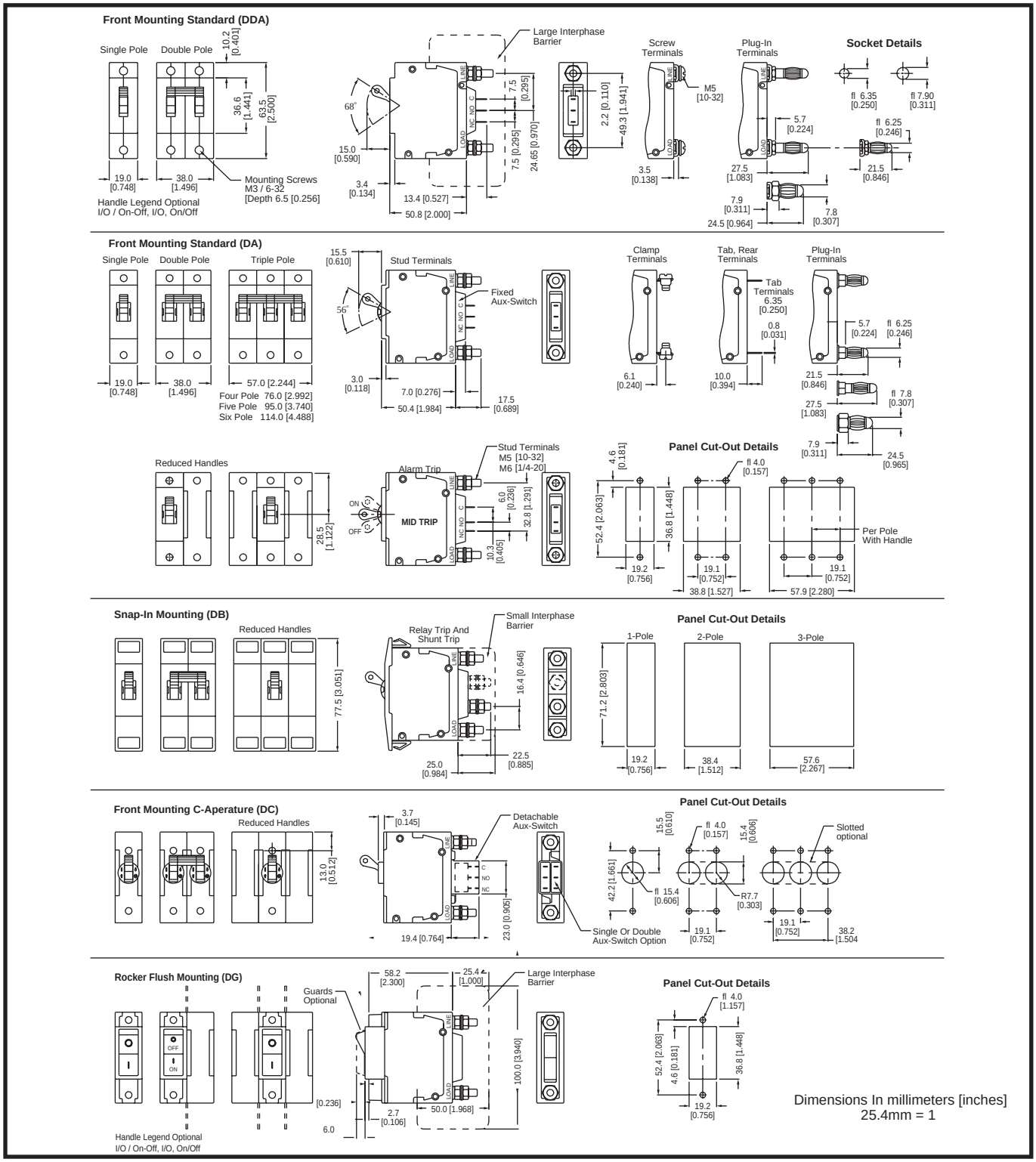

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