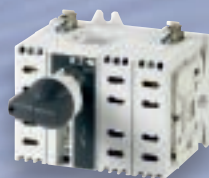


# Robust Dumeco DC Switchgear

## For demanding PV Applications



*Powering Business Worldwide*



## Robust Dumeco DC Switchgear can handle the most demanding PV applications

Eaton has now added DC Switch-disconnectors to their reliable Dumeco range in order to help photovoltaic equipment manufacturers and installers gain a competitive edge within the increasingly significant solar energy market.

These new robust DC Switch-disconnectors provide safe isolation for any photovoltaic or low voltage DC circuit application and are available in four different frame sizes. Accordingly, the devices are suitable for applications ranging from residential and light commercial rooftop sites to large commercial and utility scale installations, as well as solar combiner box, inverter equipment and DC battery storage.

Eaton offers this new generation of DC switchgear in 2-pole configurations that reduce the need for bridging links between the poles. Hence, installation time and copper costs are also reduced. Furthermore its bidirectional pole connection gives installation flexibility.

The whole range of Dumeco DC Switch-disconnectors is suitable for nominal currents up to  $U_e = 1000 \text{ Vdc}$ . All Dumeco DC Switch-disconnectors frame sizes help saving space as they all have a relatively small footprint resulting in a more flexible assembly and additional cost savings.

The Standard assortment consists of configurations with direct handle operation and also a package that includes a 300 mm extension shaft and grey padlockable handle. Alternatively, switches and accessories can be ordered separately to create further switch/shaft/handle combinations, giving more options for the application design.

**The DDC Switch-disconnectors are compliant with standard IEC/EN 60947-3 covering the following certifications: CE, CCC, RoHs, EAC.**

**All devices cover the following technical characteristics:**


- Rated operational voltage  $U_e = 1000 \text{ Vdc}$
- Operator independent switching
- Special designed self-cleaning roller contacts
- Bi-directional pole connection gives installation flexibility (non-polarized)
- Suitable for rear/baseplate mounting
- Optional operating shaft lengths up to 600 mm
- Protection degree D-type door build in installation handles IP 65
- Door interlocking in OFF position by using D-type handle
- Padlockable handles in OFF position, defeatable in ON position

### Product series DDC-0 | DC Switch-disconnectors 63 A, 80 A and 100 A

The Dumeco DC Switch-disconnectors series 0 is the smallest frame size within the DDC-range. It is available in three different options covering 63 A, 80 A and 100 A. With a rated insulation voltage ( $U_i$ ) of 1100 V per pole it is suitable for solar PV applications including combiner boxes and in DC battery systems. With cage clamps the DDC-series 0 can be used for cables up to 35 mm<sup>2</sup>.


**The DDC-0 range has the following features:**

- Full 2-pole DC Isolator rated  $U_i=1100 \text{ V}$  per pole
- High short-circuit ratings, utilization category DC-21B
- No de-rating, fully rated at 65 °C up to 100 A
- Cage clamp connection
- Available as standard in Ci-K5 IP65 polycarbonate enclosure with padlockable handle
- Optional auxiliary switch 1 NO + 1 NC
- Dimensions [mm]: 131 x 90 x 100

	Description	Part no.	Article no.
	DDC 63A 2P with pre-mounted grey handle	<b>DDC-63/2</b>	6098920
	DDC 63A 2P without shaft & handle	<b>DDC-63/2-SK</b>	6098921
	DDC 63A 2P with 300 mm shaft & grey handle	<b>DDC-63/2/M4/P-G</b>	6098922
	DDC 80A 2P with pre-mounted grey handle	<b>DDC-80/2</b>	6098923
	DDC 80A 2P without shaft & handle	<b>DDC-80/2-SK</b>	6098924
	DDC 80A 2P with 300 mm shaft & grey handle	<b>DDC-80/2/M4/P-G</b>	6098925
	DDC 100A 2P with pre-mounted grey handle	<b>DDC-100/2</b>	6098926
	DDC 100A 2P without shaft & handle	<b>DDC-100/2-SK</b>	6098927
	DDC 100A 2P with 300 mm shaft & grey handle	<b>DDC-100/2/M4/P-G</b>	6098928

### Product series DDC-0 | DC Switch-disconnectors 63 A, 80 A and 100 A in Ci-K5 enclosure

The 63 A, 80 A and 100 A 2 pole DC switches come standard in our robust IP65 polycarbonate compact enclosures. The range comes with padlockable handle in two color versions: red/yellow and grey. Dimensions (mm) 200 x 280 x 160.


	Description	Part no.	Article no.
	DDC 63A in Ci-K5 with red/yellow handle	<b>DDC-63/2/I5/P-R</b>	184914
	DDC 63A in Ci-K5 with grey handle	<b>DDC-63/2/I5/P-G</b>	184915
	DDC 80A in Ci-K5 with red/yellow handle	<b>DDC-80/2/I5/P-R</b>	184916
	DDC 80A in Ci-K5 with grey handle	<b>DDC-80/2/I5/P-G</b>	184917
	DDC 100A in Ci-K5 with red/yellow handle	<b>DDC-100/2/I5/P-R</b>	184918
	DDC 100A in Ci-K5 with grey handle	<b>DDC-100/2/I5/P-G</b>	184919

## Product series DDC-1 | DC Switch-disconnectors 125 A, 160 A and 200 A

The Dumeco DC Switch-disconnectors series 1 is available in 125 A, 160 A and 200 A versions. The products in this range are suitable for combiner boxes, inverters as well as DC battery switches. The devices from the DDC-1 series feature a rated insulation voltage ( $U_i$ ) of 1200 V per pole, and a small footprint for switches of this rating.

### The DDC-1 range is available with the following features:

- Full 2-pole DC isolator rated  $U_i=1200$  V per pole
- High short-circuit ratings, utilization category DC-21B
- No de-rating, fully rated at 65 °C up to 200 A
- Optional auxiliary switch 2 NO + 2 NC
- Dimensions [mm]: 157 x 83 x 98


	Description	Part no.	Article no.
	DDC 125A 2P with pre-mounted grey handle	<b>DDC-125/2</b>	6098930
	DDC 125A 2P without shaft & handle	<b>DDC-125/2-SK</b>	6098931
	DDC 125A 2P with 300 mm shaft & grey handle	<b>DDC-125/2/M4/P-G</b>	6098932
	DDC 160A 2P with pre-mounted grey handle	<b>DDC-160/2</b>	6098933
	DDC 160A 2P without shaft & handle	<b>DDC-160/2-SK</b>	6098934
	DDC 160A 2P with 300 mm shaft & grey handle	<b>DDC-160/2/M4/P-G</b>	6098935
	DDC 200A 2P with pre-mounted grey handle	<b>DDC-200/2</b>	6098936
	DDC 200A 2P without shaft & handle	<b>DDC-200/2-SK</b>	6098937
	DDC 200A 2P with 300 mm shaft & grey handle	<b>DDC-200/2/M4/P-G</b>	6098938

## Product Series DDC-2 | DC Switch-disconnectors 250 A, 400 A and 630 A

The Dumeco range is extended further with the DC switch-disconnector series 2. It comprises 250 A, 400 A and 630 A devices featuring high short-circuit ratings ( $I_{cw}$ ) of 15 kA (1 sec.). The DDC-2 devices are available with a rated insulation voltage ( $U_i$ ) of 1200 V per pole, suitable for combiner boxes, inverter and UPS systems.

### The DDC-2 range has the following features:

- Full 2-pole DC isolator rated  $U_i=1200$  V per pole
- High short-circuit ratings, utilization category DC-21B
- No de-rating, fully rated at 65 °C up to 250 A
- Optional auxiliary switch 2 NO + 2 NC
- Dimensions [mm]: 240 x 127 x 129

	Description	Part no.	Article no.
	DDC 250A 2P with pre-mounted grey handle	<b>DDC-250/2</b>	6098940
	DDC 250A 2P without shaft & handle	<b>DDC-250/2-SK</b>	6098941
	DDC 250A 2P with 300 mm shaft & grey handle	<b>DDC-250/2/M4/P-G</b>	6098942
	DDC 400A 2P with pre-mounted grey handle	<b>DDC-400/2</b>	6098943
	DDC 400A 2P without shaft & handle	<b>DDC-400/2-SK</b>	6098944
	DDC 400A 2P with 300 mm shaft & grey handle	<b>DDC-400/2/M4/P-G</b>	6098945
	DDC 630A 2P with pre-mounted grey handle	<b>DDC-630/2</b>	6098946
	DDC 630A 2P without shaft & handle	<b>DDC-630/2-SK</b>	6098947
	DDC 630A 2P with 300 mm shaft & grey handle	<b>DDC-630/2/M4/P-G</b>	6098948

## Product Series DDC-3 | DC Switch-disconnectors 800 A, 1000 A and 1250 A

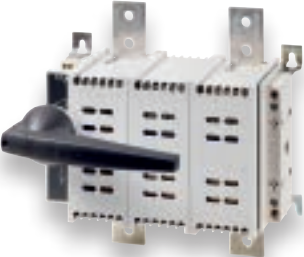
Series 3 from the Dumeco DC Switch-disconnector range features 800 A, 1000 A and 1250 A versions.

They provide a rated insulation voltage ( $U_i$ ) of 1200 V per pole.

The DDC-3 series are extremely compact high Amp DC switch-disconnectors and are suitable for UPS systems and inverters.



### The DDC-3 range features:


- Full 2-pole DC isolator rated  $U_i=1200$  V per pole
- High short-circuit ratings
- Utilization category DC-21B
- Optional auxiliary switch 1 NO + 1 NC
- Dimensions [mm]: 346 x 176 x 160


	Description	Part no.	Article no.
	DDC 800A 2P with pre-mounted grey handle	<b>DDC-800/2</b>	6098950
	DDC 800A 2P without shaft & handle	<b>DDC-800/2-SK</b>	6098951
	DDC 800A 2P with 300 mm shaft & grey handle	<b>DDC-800/2/M4/P-G</b>	6098952
	DDC 1000A 2P with pre-mounted grey handle	<b>DDC-1000/2</b>	6098953
	DDC 1000A 2P without shaft & handle	<b>DDC-1000/2-SK</b>	6098954
	DDC 1000A 2P with 300 mm shaft & grey handle	<b>DDC-1000/2/M4/P-G</b>	6098955
	DDC 1250A 2P with pre-mounted grey handle	<b>DDC-1250/2</b>	6098956
	DDC 1250A 2P without shaft & handle	<b>DDC-1250/2-SK</b>	6098957
	DDC 1250A 2P with 300 mm shaft & grey handle	<b>DDC-1250/2/M4/P-G</b>	6098958


# Accessories for Dumeco DC Switch-disconnectors


In addition to the switch/handle combinations available as standard, the following accessories are available for DDC:


Auxiliary contact set							
	Description	Contacts	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	Auxiliary contact (one pc./switch can be mounted in DDC-0; 2 pcs./switch in DDC-1/-2)	1NO + 1NC	●	●	●		<b>AUX1NO+1NC-BOX012</b> 6028293
	Auxiliary contact, for DDC-3 (one pc./switch can be mounted)					●	<b>AUX1NO+1NC-BOX3</b> 6101137


K-line rotary handles								
	Description	Color	Shaft length [mm]	DDC-series				Part No. Article No.
				DDC-0	DDC-1	DDC-2	DDC-3	
	A type for direct mounting.	Grey	42	●				<b>K1AG</b> 1818200
		Red		●				<b>K1AR</b> 1818002
		Grey	77		●			<b>K2AG</b> 1818201
		Red			●			<b>K2AR</b> 1818006
		Grey	146			●		<b>K3AG</b> 1818202
		Red				●		<b>K3AR</b> 1818111
		Grey	249				●	<b>K4AG</b> 1818203
		Red					●	<b>K4AR</b> 1818010
	D type for „Thru the door“ mounting, with door interlock and padlock facilities.	Grey	48	●				<b>K1DG/P</b> 1818031
		Red/ Yellow		●				<b>K1DR/P</b> 1818030
		Grey	95		●			<b>K2DG/P</b> 1818037
		Red/ Yellow			●			<b>K2DR/P</b> 1818036
		Grey	146			●		<b>K3KDG/P</b> 1818069
		Red/ Yellow				●		<b>K3KDR/P</b> 1818096
		Grey	249				●	<b>K4DG/P</b> 1818052
		Red/ Yellow					●	<b>K4DR/P</b> 1818051
	D type for „Thru the door“ mounting, with door interlock and integrated cylinder lock.	Grey	95		●			<b>K2DG/C</b> 1818043
		Red/Yel- low			●			<b>K2DR/C</b> 1818042
		Grey	146			●		<b>K3KDG/C</b> 1818070
		Red/Yel- low				●		<b>K3KDR/C</b> 1818097
		Grey	249				●	<b>K4DG/C</b> 1818055
		Red/Yel- low					●	<b>K4DR/C</b> 1818054


Drive shafts								
	Description	Shaft diameter [mm]	Shaft length [mm]	DDC-series				Part No. Article No.
				DDC-0	DDC-1	DDC-2	DDC-3	
	Drive shafts (for DDC-../2-SK)	6 x 6	300	●				<b>4K6300MMK1/2S</b> 1319831
			600	●				<b>4K6600MMK1/2S</b> 1319832
		8 x 8	300		●			<b>4K8300MMK2</b> 1319311
			600		●			<b>4K8600MMK2</b> 1319301
		10 x 10	300			●		<b>4K10300MMK3</b> 1319319
			600			●		<b>4K10600MMK3</b> 1319322
		12 x 12	300				●	<b>4K12300MMK4</b> 1319326
			600				●	<b>4K12600MMK4</b> 1319329

Shaft extensions							
	Description	Shaft diameter [mm]	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	Shaft connector	12 x 12 - 14 x 14				●	<b>SC4K12/14</b> 6098274

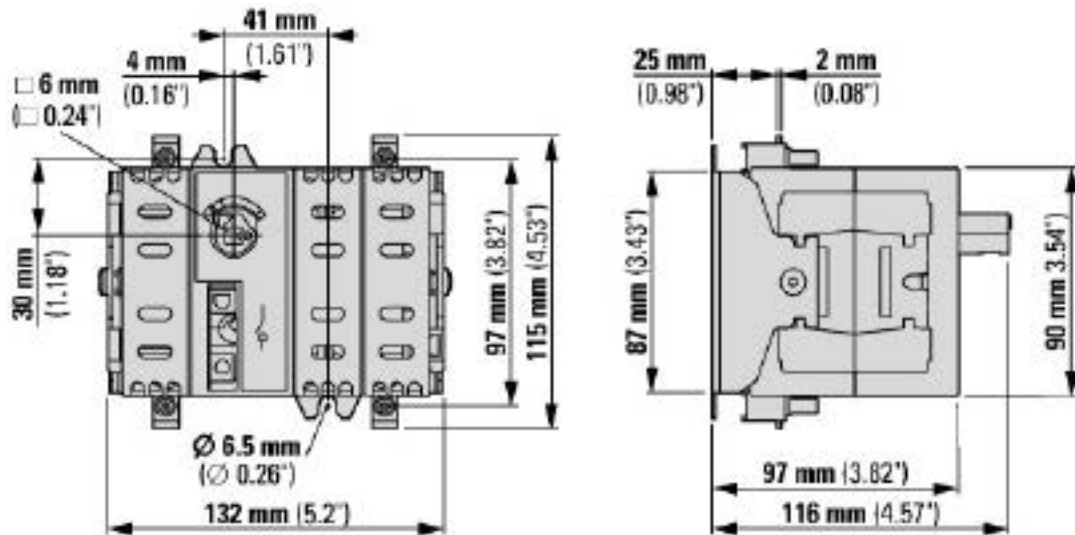
Conversion kit for handle locking in both ON and OFF position (standard locks in OFF position only)							
	Description	Handle	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	For enabling the handle to be lockable in both ON and OFF	K1	●				<b>ADAPTORPADLOCK-K1</b> 1818103
		K2		●			<b>ADAPTORPADLOCK-K2</b> 1818104
		K3			●		<b>ADAPTORPADLOCK-K3</b> 1818105
		K4				●	<b>ADAPTORPADLOCK-K4,K5,K6</b> 1818106

Lock multiplier for K-line handles							
	Description	Shackle [mm]	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	Lock multiplier for three additional locks	9	●	●	●	●	<b>LOCKMULTIPLIER-K1-6</b> 1059849

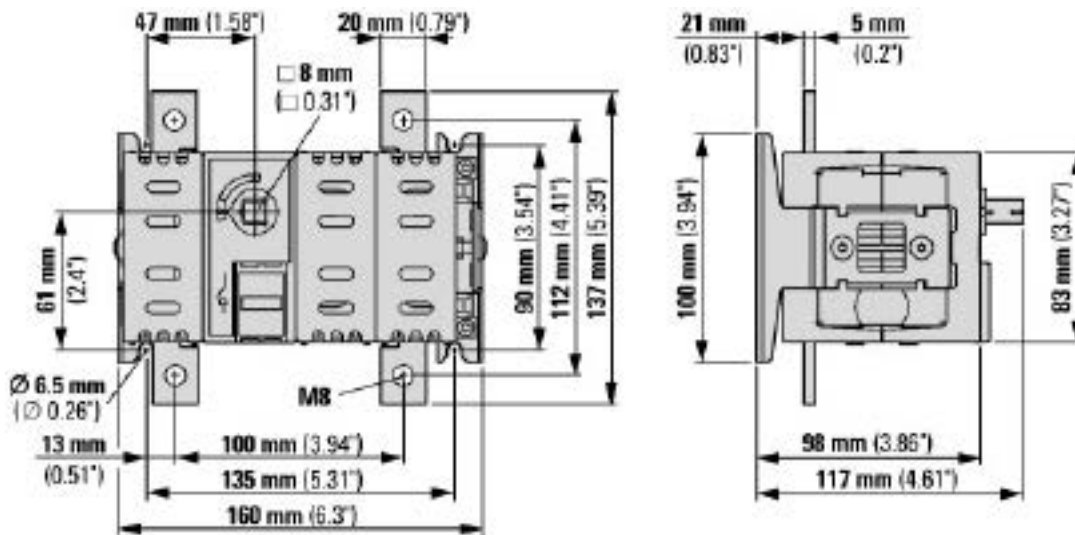
Connection kit							
	Description	Bolt size	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	Connection kit	M8 x 20 mm		●			<b>KITM8X20</b> 1314927
		M10 x 20 mm			●		<b>KITM10X20</b> 1314915
		M10 x 30 mm			●		<b>KITM10X30</b> 1314648
		M12 x 35 mm				●	<b>KITM12X35</b> 1314857

Terminal covers							
	Description	Bolt size	DDC-series				Part No. Article No.
			DDC-0	DDC-1	DDC-2	DDC-3	
	Terminal cover 1 piece per pole	M8		●			<b>QSACOVER1PM8</b> 1319411
		M10			●		<b>QSACOVER1PM10</b> 1319413
		M12				●	<b>QSACOVER1PM12</b> 1319415

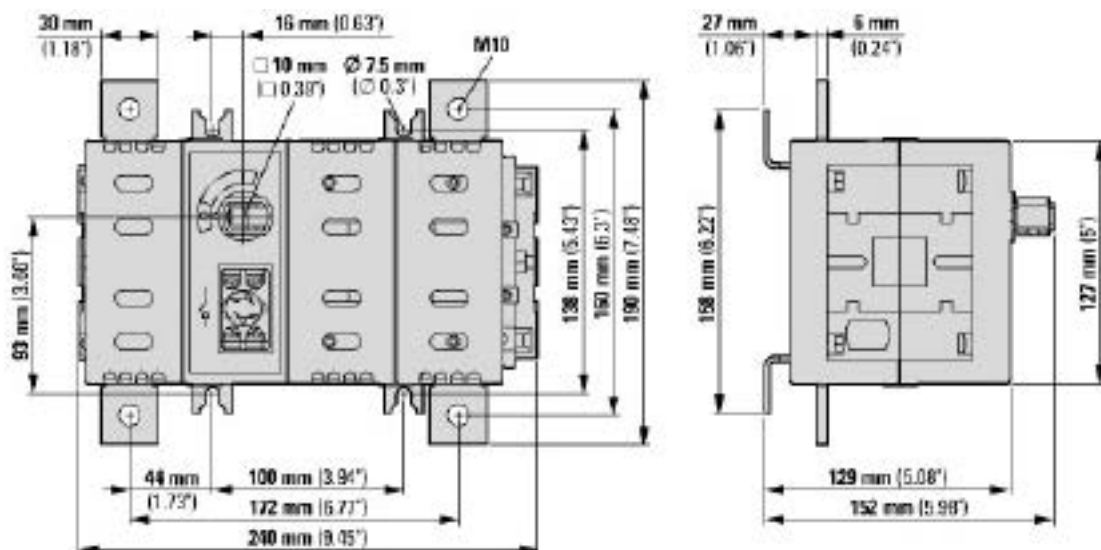
Dimensions DDC-0 series | DDC-63, DDC-80, DDC-100



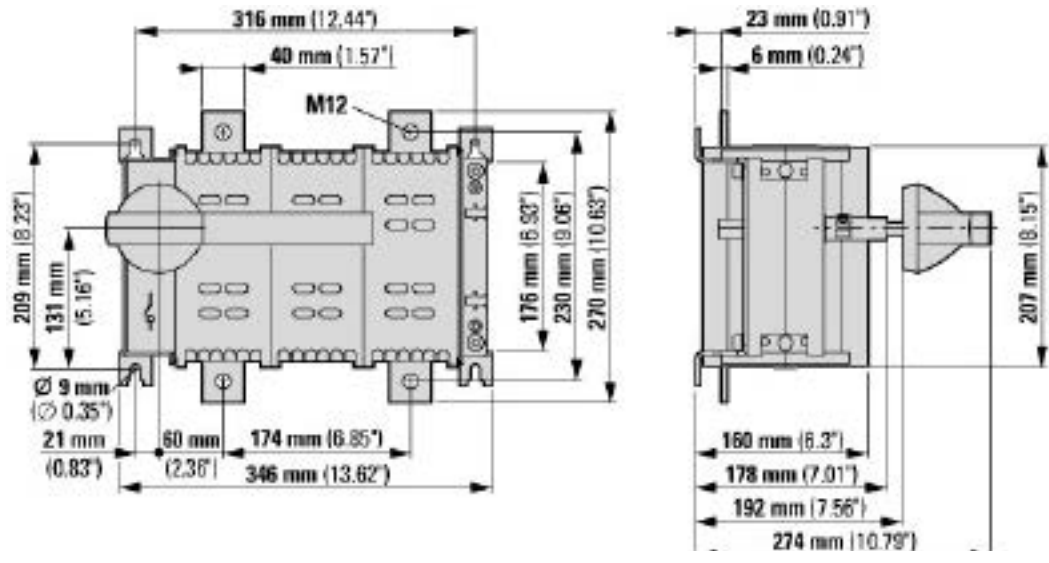
Dimensions DDC-1 series | DDC-125, DDC-160, DDC-200



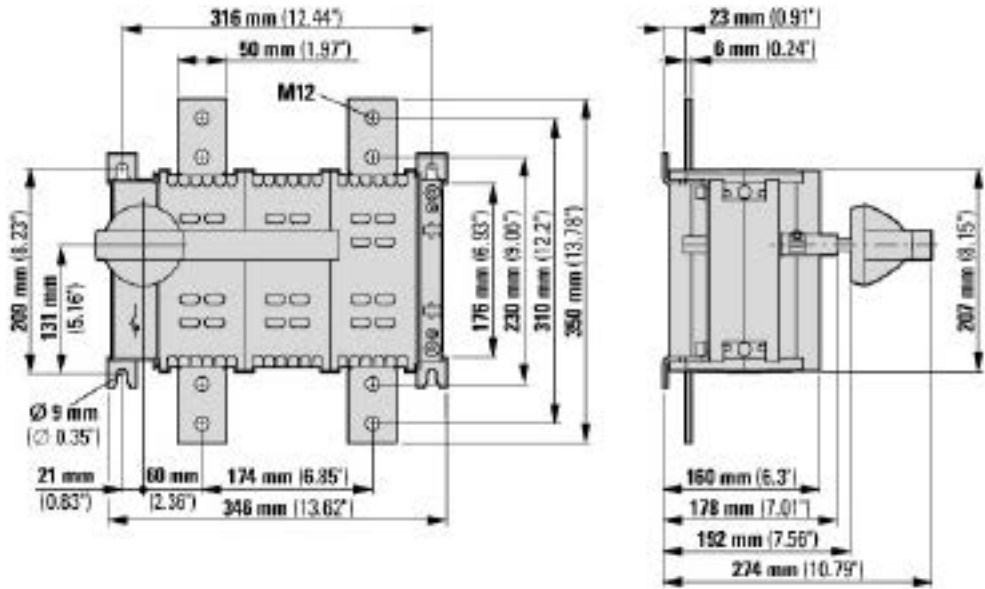
Dimensions DDC-2 series | DDC-250, DDC-400, DDC-630



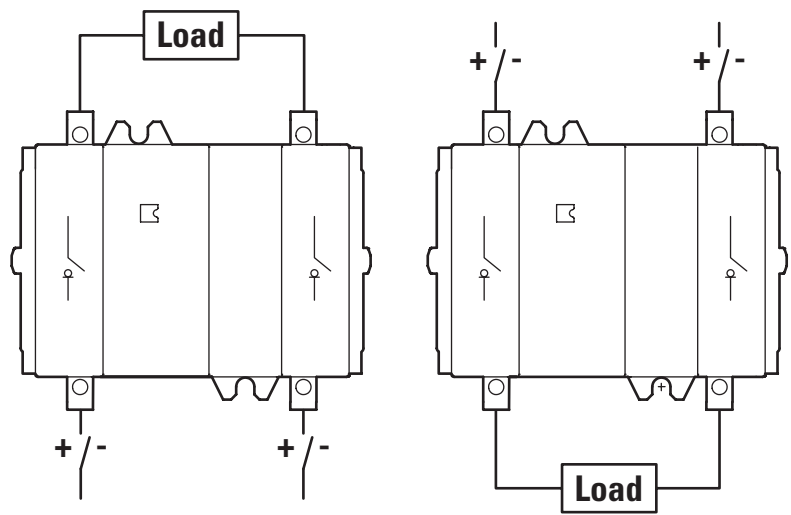
Dimensions DDC-3 series | DDC-800



Dimensions DDC-3 series | DDC-1000 & DDC-1250



Wiring Diagram for DDC-series





# Technical datasheet

Dumeco – DDC-63A to DDC-1250A

Type			DDC-0			DDC-1			DDC-2			DDC-3		
General			63A	80A	100A	125A	160A	200A	250A	400A	630A	800A	1000A	1250A
Free-air thermal current I <sub>th</sub>	A		63	80	100	125	160	200	250	400	630	800	1000	1250
Enclosed thermal current I <sub>the</sub>	35 °C	A	63	80	100	125	160	200	250	400	630	800	1000	1250
	50 °C	A	63	80	100	125	160	200	250	400	560	800	1000	1200
	65 °C	A	63	80	100	125	160	200	250	380	480	700	900	1000
Pole Configuration			2P			2P			2P			2P		
Standards			IEC 60947-3			IEC 60947-3			IEC 60947-3			IEC 60947-3		
Approvals			CE, RoHs, EAC, CCC			CE, RoHs, EAC, CCC			CE, RoHs, EAC, CCC			CE, RoHs, EAC, CCC		
Rated operational voltage	U <sub>e</sub>	V <sub>dc</sub>	1000			1000			1000			1000		
Pollution Degree I Protection Class			III/3   IP20			III/3   IP20			III/3   IP20			III/3   IP20		
Rated insulation voltage per pole	U <sub>i</sub>	V <sub>dc</sub>	1100			1200			1200			1200		
Rated impulse withstand voltage	U <sub>imp</sub>	kV	8			8			12			12		
Storage temperature (min/max)			-40 °C...+80 °C			-40 °C...+80 °C			-40 °C...+80 °C			-40 °C...+80 °C		

IEC Contact rating														
Rated operational current I <sub>e</sub> (DC-21B)	U <sub>e</sub> =480V	A	63	80	100	125	160	200	250	400	630	800	1000	1250
	U <sub>e</sub> =600V	A	63	80	100	125	160	200	250	400	630	800	1000	1250
	U <sub>e</sub> =1000V	A	63	80	100	125	160	200	250	400	630	800	1000	1250
Switching category			B			B			B			B		

Product characteristics																
Rated short-time withstand current	I <sub>cw</sub> (1sec.)	kAs	3			4			15			25				
Rated short circuit making capacity	I <sub>cm</sub>	kA	4.3			6			25			54.5				
Power dissipation per contact at I <sub>th</sub>		W	3	4	6	8	13	21	15	39	97	34	53	83		
Durability - maximum cycles (on+off)			10,000			10,000			10,000			5,000				
Terminal tightening torque		Nm	3			14			20			28				
Terminal bolt size		mm	-			M8			M10			M10	2x M12			
Cross Section	Stranded	mm <sup>2</sup>	6 - 35			1 x 120			1 x 240		2 x 185		2 x 240		-	-
	Flexible	mm <sup>2</sup>	6 - 25			-			-			-			-	-
	Bus bars	mm <sup>2</sup>	-			1 x 30 x 3 / 2 x 20 x 3			1 x 25 x 6	2 x 25 x 6	2 x 40 x 5	2 x 50 x 5	2 x 60 x 5	2 x 80 x 5	-	-
Auxiliary contacts (M22-CK11)	1NO+1NC	pcs	1			2			2			1				
Weight		kg	1.5			2			5			13.5		14		
Dimensions	Width	mm	132			160			240			346				
	Height	mm	90			83			127			207				
	Depth	mm	97			98			129			160				

At Eaton, we're energized by the challenge of powering a world that demands more. With over 100 years experience in electrical power management, we have the expertise to see beyond today. From groundbreaking products to turnkey design and engineering services, critical industries around the globe count on Eaton.

We power businesses with reliable, efficient and safe electrical power management solutions. Combined with our personal service, support and bold thinking, we are answering tomorrow's needs today. Follow the charge with Eaton. **Visit [eaton.eu](http://eaton.eu).**

**To contact an Eaton salesperson or local distributor/agent, please visit [www.eaton.eu/electrical/customersupport](http://www.eaton.eu/electrical/customersupport)**

Changes to the products, to the information contained in this document, and to prices are reserved; so are errors and omissions. Only order confirmations and technical documentation by Eaton is binding. Photos and pictures also do not warrant a specific layout or functionality. Their use in whatever form is subject to prior approval by Eaton. The same applies to Trademarks (especially Eaton, Moeller, Cutler-Hammer, Cooper, Bussmann). The Terms and Conditions of Eaton apply, as referenced on Eaton internet pages and Eaton order confirmations.

**Eaton Industries GmbH**  
Hein-Moeller-Str. 7-11  
D-53115 Bonn/Germany

© 2016 by Eaton Corporation  
All rights reserved  
Publication No.: FL038009EN  
ip May 2016

Eaton is a registered trademark of Eaton Corporation

All other trademarks are property of their respective owners.

SmartWire-DT® is a registered trademark of Eaton Corporation.



*Powering Business Worldwide*