

Control Station and Control Panel: Control Box, DCT series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22



Application

The DCT control boxes are designed for use

- in hazardous areas, zone 1, 2 and zone 21, 22.
- installation in petroleum refineries, chemical plants, storage areas where hazardous substances are handled.
- instrument box with circular or rectangular window.
- containing analogue and digital measuring instruments.
- indicating the electrical function performed.

The circuit breakers are suitable for

- short circuit and overcurrent protection of service entrance, feeder, branch circuit, lighting or motor circuit and serve as a disconnecting mean.

The motor starters are suitable for

- single speed, non-reversing starting and stopping of AC squirrel cage induction motors.
- direct-on-line or star-delta starting method.

The circuit breaker panelboards are suitable for

- control of branch circuit distribution such as lighting circuits, receptacles, pumps or motors.

Specification

- Body, cover : Marine grade copper-free aluminium alloy with polyester powder coated, RAL 7032 (Grey)
(optional offshore painting- acrylic polyurethane coating)
- Bolts : Stainless steel, SUS 304
(optional SUS 316)
- Sealing (O-ring) : Silicone

Technical Data

Hazardous Area	Gas	Dust
Zones	1 & 2	21 & 22
Equipment Group/Category	Ex II 2G	Ex II 2D
Symbol of Protection	Ex d IIB T6/T5	Ex tD A21 IP66 T85°C/ T100°C
Certificate No.	PTB 07 ATEX 1071X	
Conformity to Standards	EN 60079-0:2006, EN 60079-1:2004, EN 61241-0:2006, EN 61241-1:2004	
Ambient Temperature	-20°C to +55°C	
Index of Protection	IP66	
Entries	NPT or Metric threads	
Mounting	Wall type	
Rated Voltage	Max. 800V.ac 50/60Hz.	

The enclosure with panel mounted operating devices



Motor starter Box



Circuit breaker box



Circuit breaker panelboard

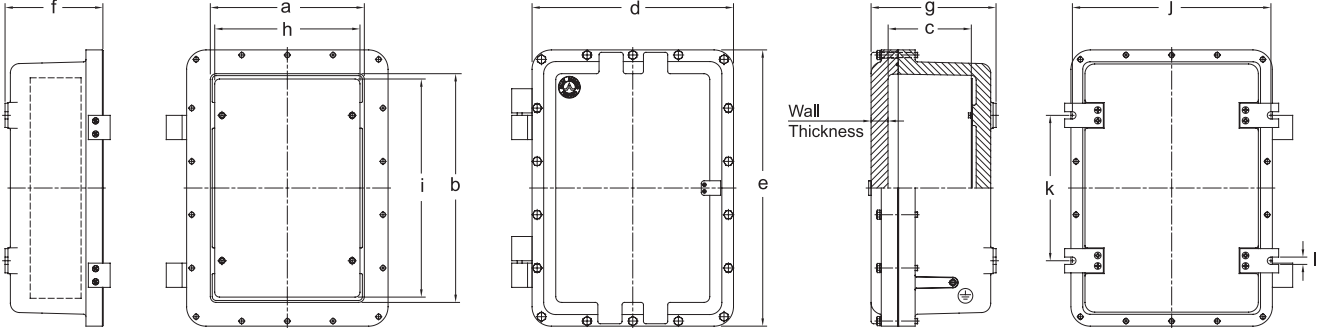


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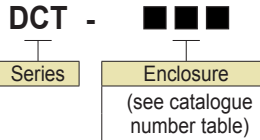
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Dimension



Catalogue Number Logic



Type	
none	only terminal block or panel mounted
CB	Circuit breaker
MS	Motor starter
CS	Combination motor starter
PN	Panelboard

Cat. No.	Dimension in mm.												Wall Thickness	Volume (cm ³)	Empty Weight (kgs.)	
	Inside			Outside			Equipment Plate		Mounting							
	a	b	c	d	e	f	g	h	i	j	k	l				
DCT 796 *	□	111	160	100	183	232	120	145	95	140	148	91	7.5	17	1,900	6.08
DCT 10126	□	162	212	110	248	298	127	163	144	195	218	135	10	17	4,300	12.05
DCT 10128	□	168	219	159	254	305	175	211	151	196	218	135	10	17	5,000	13.90
DCT 9147	□	152	261	126	238	347	146	181	139	246	205	133	10	20	5,400	13.00
DCT 10158	□	174	295	139	260	381	156	194	156	277	223	179	10	17	7,300	15.85
DCT 12128	□	217	217	161	303	303	178	216	203	203	269	134	10	20	8,300	16.60
DCT 12168	□	216	321	119	310	415	143	193	195	300	274	197	12	30	8,700	30.55
DCT 10208	□	164	423	133	258	517	159	207	148	403	224	308	12	30	8,900	28.00
DCT 12149	□	217	268	162	311	362	189	236	197	248	270	163	12	30	9,400	25.00
DCT 14149	□	265	265	166	359	359	190	238	247	247	327	163	12	30	10,500	29.00
DCT 11199	□	192	384	158	286	478	185	230	174	364	248	280	12	30	11,600	30.55
DCT 12169	□	216	321	163	310	415	187	237	195	300	270	198	12	30	11,700	31.00
DCT 121810	□	217	373	171	311	467	195	245	197	351	274	239	12	30	13,700	33.00
DCT 12219	□	212	435	164	306	529	190	237	198	420	273	326	12	30	14,900	36.85
DCT 16169	□	312	312	155	410	410	190	239	301	301	376	197	12	35	18,000	42.65
DCT 12239	□	217	496	157	315	594	190	241	202	480	278	363	12	35	19,600	46.05
DCT 13269	□	244	569	157	342	667	187	241	224	546	307	441	12	35	25,300	57.45
DCT 132610	□	244	569	179	342	667	208	262	224	546	307	407	12	35	26,000	58.82
DCT 162210	□	318	472	173	416	570	202	258	300	450	410	300	15	35	27,300	60.55
DCT 181812	□	370	370	222	468	468	251	306	338	338	435	237	12	35	28,200	57.25
DCT 162012	□	315	419	226	413	517	254	309	290	395	376	274	12	35	29,600	56.85
DCT 15319	□	280	680	149	378	778	184	234	250	650	353	503	15	35	30,700	65.00

* no hinge

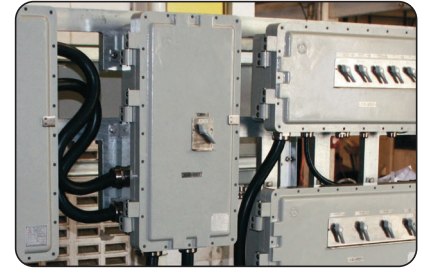
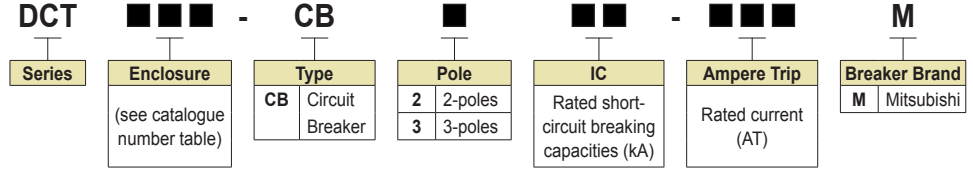
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Ordering Requirements

Molded-Case Circuit Breaker "Mitsubishi"					Cat. No.	
Model	Frame Size (AF)	Rated Current (AT)	Pole	Rated short-circuit breaking capacities (kA)		
NF32-SV	32AF	3	2	7.5kA. at 230V.	DCT10158-CB27X5-003M	
		4			DCT10158-CB27X5-004M	
		6			DCT10158-CB27X5-006M	
		10			DCT10158-CB27X5-010M	
		16			DCT10158-CB27X5-016M	
		20			DCT10158-CB27X5-020M	
		25			DCT10158-CB27X5-025M	
		32			DCT10158-CB27X5-032M	
		3			3	5kA. at 400V.
	4	DCT10158-CB305-004M				
	6	DCT10158-CB305-006M				
	10	DCT10158-CB305-010M				
	16	DCT10158-CB305-016M				
	20	DCT10158-CB305-020M				
	25	DCT10158-CB305-025M				
	32	DCT10158-CB305-032M				
	NF63-HV	63AF	10	2		
			16		DCT10158-CB225-016M	
20			DCT10158-CB225-020M			
25			DCT10158-CB225-025M			
32			DCT10158-CB225-032M			
40			DCT10158-CB225-040M			
50			DCT12168-CB225-050M			
63			DCT12168-CB225-063M			
10			3		10kA. at 400V.	DCT10158-CB310-010M
16		DCT10158-CB310-016M				
20		DCT10158-CB310-020M				
25		DCT10158-CB310-025M				
32		DCT10158-CB310-032M				
40		DCT10158-CB310-040M				
50		DCT12168-CB310-050M				
63		DCT12168-CB310-063M				

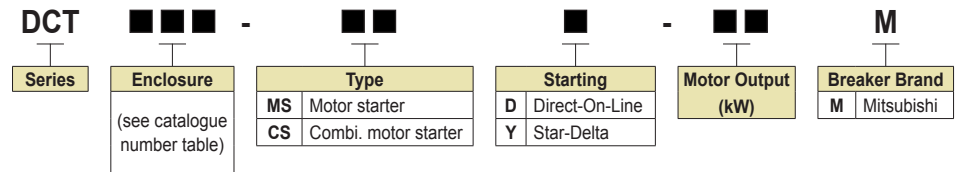
Molded-Case Circuit Breaker "Mitsubishi"					Cat. No.
Model	Frame Size (AF)	Rated Current (AT)	Pole	Rated short-circuit breaking capacities (kA)	
NF125-SV	125AF	16	2	50kA. at 230V.	DCT10158-CB250-016M
		20			DCT10158-CB250-020M
		32			DCT10158-CB250-032M
		40			DCT10158-CB250-040M
		50			DCT12168-CB250-050M
		63			DCT12168-CB250-063M
		80			DCT12219-CB250-080M
		100			DCT12219-CB250-100M
		125			DCT12219-CB250-125M
		16	3	30kA. at 400V.	DCT10158-CB330-016M
		20			DCT10158-CB330-020M
		32			DCT10158-CB330-032M
		40			DCT10158-CB330-040M
		50			DCT12168-CB330-050M
		63			DCT12168-CB330-063M
NF250-SV	250AF	80	3	36kA. at 400V.	DCT12219-CB330-080M
		100			DCT12219-CB330-100M
		125			DCT12219-CB330-125M
		150			DCT15319-CB336-150M
		175			DCT15319-CB336-175M
		200			DCT15319-CB336-200M
225	DCT15319-CB336-225M				
250	DCT15319-CB336-250M				

Accessories

- Internal accessories of circuit breaker
 - **Alarm switch** (Indicates that the breaker has tripped.)
 - **Auxiliary switch** (Indicates whether the breaker is ON or OFF)
 - **Shunt trip** (Trip the breaker electrically by Mushroom-head push button.)
 - **Undervoltage trip** (Trip the breaker automatically when the voltage drops.)



Catalogue Number Logic



Ordering Requirements

3Ph. Motor 220/380V.ac		Average Full Load (I _{FL})	Cat. No.			
kW.	HP.		Motor Starter		Combination Motor Starter	
			Direct-On-Line	Star-Delta	Direct-On-Line	Star-Delta
0.37	0.5	1.2A.	DCT10158-MSD-X37M	-	DCT12219-CSD-X37M	-
0.55	0.75	1.6A.	DCT10158-MSD-X55M	-	DCT12219-CSD-X55M	-
0.75	1	2A.	DCT10158-MSD-X75M	-	DCT12219-CSD-X75M	-
1.1	1.5	2.6A.	DCT10158-MSD-1X1M	-	DCT12219-CSD-1X1M	-
1.5	2	3.5A.	DCT10158-MSD-1X5M	-	DCT12219-CSD-1X5M	-
2.2	3	5A.	DCT10158-MSD-2X2M	-	DCT12219-CSD-2X2M	-
3	4	6.6A.	DCT10158-MSD-3M	DCT16169-MSY-3M	DCT12219-CSD-3M	DCT162012-CSY-3M
3.7	5	8.2A.	DCT10158-MSD-3X7M	DCT16169-MSY-3X7M	DCT12219-CSD-3X7M	DCT162012-CSY-3X7M
4	5.5	8.5A.	DCT10158-MSD-4M	DCT16169-MSY-4M	DCT12219-CSD-4M	DCT162012-CSY-4M
5.5	7.5	11.5A.	DCT10158-MSD-5X5M	DCT16169-MSY-5X5M	DCT12219-CSD-5X5M	DCT162012-CSY-5X5M
7.5	10	15.5A.	DCT10158-MSD-7X5M	DCT16169-MSY-7X5M	DCT12219-CSD-7X5M	DCT162012-CSY-7X5M
11	15	22A.	DCT10158-MSD-11M	DCT16169-MSY-11M	DCT181812-CSD-11M	DCT162012-CSY-11M
15	20	30A.	DCT121810-MSD-15M	DCT16169-MSY-15M	DCT181812-CSD-15M	DCT162012-CSY-15M
18.5	25	37A.	DCT121810-MSD-18X5M	<i>consult factory</i>	DCT181812-CSD-18X5M	<i>consult factory</i>
22	30	44A.	DCT121810-MSD-22M	<i>consult factory</i>	DCT181812-CSD-22M	<i>consult factory</i>
30	40	60A.	DCT162012-MSD- 30M	<i>consult factory</i>	DCT15319-CSD-30M	<i>consult factory</i>

A

B

C

D

E

F

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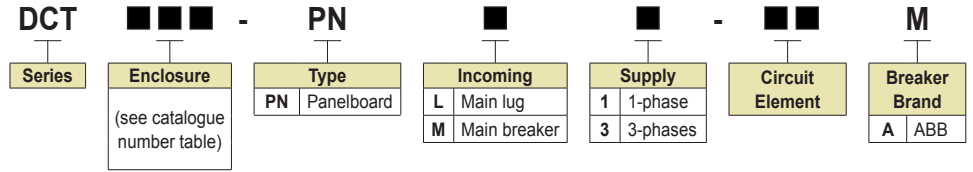
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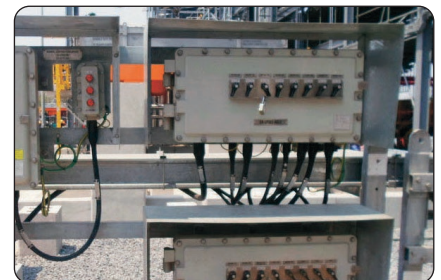
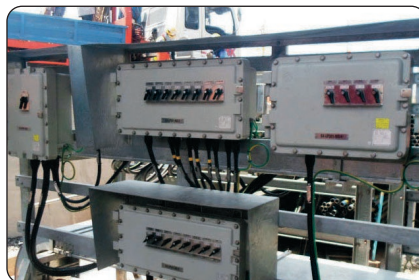


Catalogue Number Logic



Ordering Requirements

No. of Circuit	Main	Branch Breaker (MCB)		Cat. No.		
		Poles	Amp.	220V.ac 50Hz.	220/380V.ac 50Hz.	
4	100A. max. Main Lug	2	6, 10, 16, or 20	DCT181812- PNL1-08A	DCT181812- PNL3-08A	
		3		-	DCT162210- PNL3-12A	
6		2		DCT181812- PNL1-12A	DCT162210- PNL3-12A	
		3		-	DCT15319- PNL3-18A	
8		2		DCT181812- PNL1-16A	-	
4		60A. max. Main Breaker		2	6, 10, 16, or 20	DCT162210- PNM1-08A
	3		-	DCT162210- PNM3-12A		
	6		2	DCT162210- PNM1-12A		DCT15319- PNM3-12A
			3	-		DCT15319- PNM3-18A



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