

Control Station and Control Panel: Control Box, DCT1 series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22



Application

The DCT1 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 db IIB T6/T5 Gb	Ex tb IIIC T85°C/ T100°C Db
Certificate No.	TÜV CY 18 ATEX 0206140X	
Conformity to Standards	EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-31:2014	
Ambient Temperature	-20°C to +55°C	
Index of Protection	IP66	
Entries	NPT or Metric threads	
Mounting	Wall mount	
Rated Voltage	Max. 613V.ac 50/60Hz.	

The enclosure with panel mounted operating devices

Motor starter Box

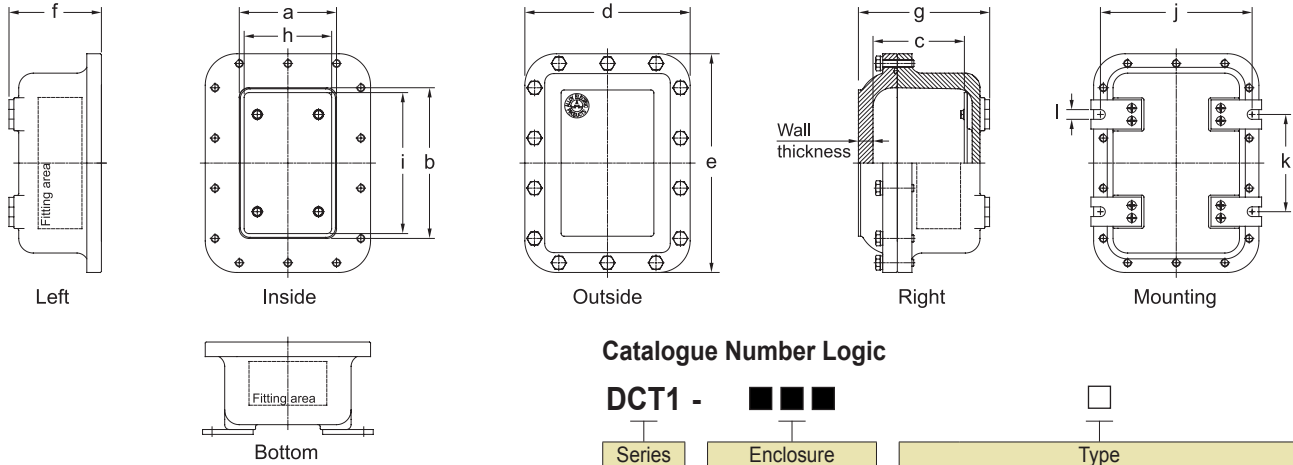


Circuit breaker box

Circuit breaker panelboard



Dimension



Catalogue Number Logic

DCT1 - ■■■ □

Series	Enclosure (see catalogue number table)	Type
		<i>none</i> 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				Equip. Plate		Mounting					
	a	b	c	d	e	f	g	h	i	j	k	l			
DCT1 685	100	155	102	170	225	94	134	85	140	160	100	10	15	1,497	4.8
DCT1 886	138	138	130	210	210	114	164	125	125	202	100	10	15	2,352	6.5
DCT1 8126	135	240	127	207	312	114	164	115	220	200	160	12	15	3,958	9.3
DCT1 8187	136	394	167	208	466	154	204	120	375	200	300	12	15	8,653	15.4
DCT1 9157	164	314	160	237	387	148	198	145	295	228	230	12	15	7,954	14.7
DCT1 9207	162	440	171	230	508	158	208	150	420	228	350	12	15	12,116	19.2
DCT1 101610	174	324	217	263	413	202	260	155	295	240	240	12	18	11,767	19.7
DCT1 11218	210	450	177	299	539	162	220	190	430	276	350	12	18	16,284	25.1
DCT1 12127	244	244	162	333	333	147	205	225	225	310	170	12	18	9,339	17.2
DCT1 15156	300	300	122	389	389	107	165	280	280	366	240	12	18	10,697	20.4
DCT1 151510	300	300	222	389	389	207	267	280	280	366	240	12	20	19,398	28.0
DCT1 15198	298	398	172	387	487	157	217	280	380	364	300	12	20	19,928	29.9
DCT1 162810	330	627	225	423	720	202	279	300	595	402	450	12	22	45,689	59.9
DCT1 20208	424	424	182	522	522	160	237	405	405	519	290	15	22	32,012	51.7
DCT1 202410	430	530	220	534	634	194	271	405	510	513	450	15	22	49,278	62.0
† DCT1 20329	423	713	208	532	822	184	262	395	685	510	650	15	23	61,662	77.7
† DCT1 203611	408	813	235	524	929	216	296	370	775	511	680	15	25	76,200	105.8
† DCT1 284411	600	1000	235	743	1143	216	301	565	965	707	800	15	30	138,576	188.9

† 6 Mounting feet.

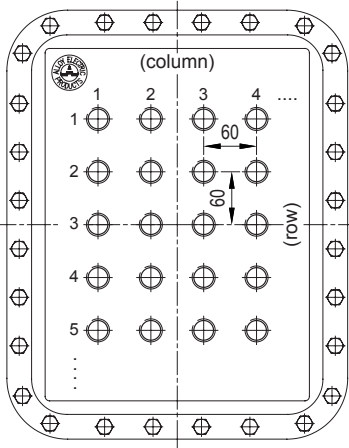
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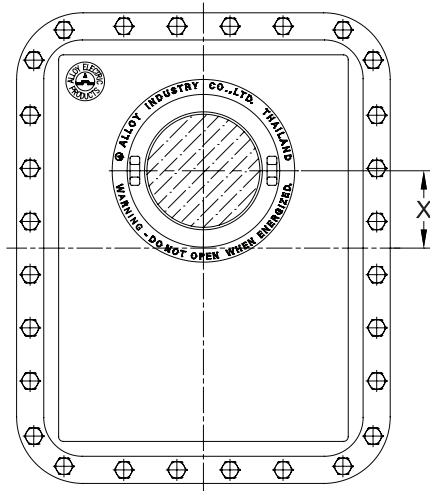
The enclosure with panel mounted operating devices



Cat. No.	Operating devices		Total
	Row	Column	
DCT1 685	1	1	1
DCT1 886	1	2	2
DCT1 8126	3	2	6
DCT1 8187	5	2	10
DCT1 9157	4	2	8
DCT1 9207	6	2	12
DCT1 101610	4	2	8
DCT1 11218	6	3	18
DCT1 12127	3	4	12
DCT1 15156	4	4	16
DCT1 151510	4	4	16
DCT1 15198	5	4	20
DCT1 162810	9	5	45
DCT1 20208	5	6	30
DCT1 202410	7	6	42
DCT1 20329	10	6	60
DCT1 203611	12	6	72
DCT1 284411	14	9	126

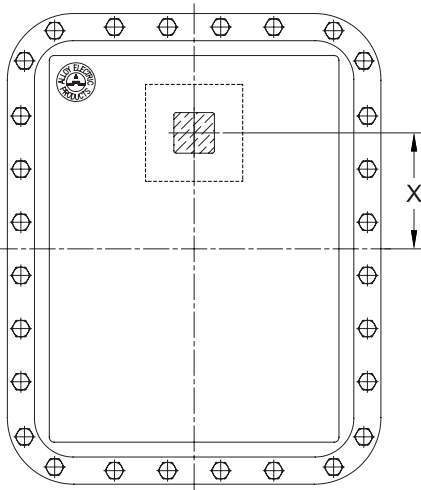
The enclosure with inspection windows

Round type, LGCR series



Cat. No.	X = Maximum center line of Cover to center line of Inspection window (unit : mm.)			
	LGCR1-50-M85	LGCR-113	LGCR-217	LGCR-320
DCT1 685	—	—	—	—
DCT1 886	0 (center)	—	—	—
DCT1 8126	50	—	—	—
DCT1 8187	120	—	—	—
DCT1 9157	90	—	—	—
DCT1 9207	150	—	—	—
DCT1 101610	100	—	—	—
DCT1 11218	150	100	—	—
DCT1 12127	50	0 (center)	—	—
DCT1 15156	80	30	0 (center)	0 (center)
DCT1 151510	80	30	0 (center)	0 (center)
DCT1 15198	120	80	50	0 (center)
DCT1 162810	230	200	170	150
DCT1 20208	140	100	50	50
DCT1 202410	190	150	120	100
DCT1 20329	250	220	200	200
DCT1 203611	300	270	250	250
DCT1 284411	400	350	300	300

Rectangular type, LGCS series



Cat. No.	X = Maximum center line of Cover to center line of Inspection window (unit : mm.)					
	LGCS-142	LGCS-260	LGCS-383	LGCS-430	LGCS-5120	LGCS-6200
DCT1 685	—	—	—	—	—	—
DCT1 886	0 (center)	—	—	—	—	—
DCT1 8126	50	40	—	—	—	—
DCT1 8187	120	120	—	—	—	—
DCT1 9157	80	80	70	—	—	—
DCT1 9207	150	150	120	—	—	—
DCT1 101610	90	90	70	—	—	—
DCT1 11218	150	150	130	—	100	—
DCT1 12127	50	50	30	50	0 (center)	0 (center)
DCT1 15156	80	70	60	70	40	0 (center)
DCT1 151510	80	70	60	70	40	0 (center)
DCT1 15198	120	120	100	130	80	30
DCT1 162810	240	230	210	230	200	140
DCT1 20208	140	120	120	140	100	50
DCT1 202410	190	180	160	200	150	100
DCT1 20329	250	250	250	250	230	170
DCT1 203611	300	300	300	300	280	220
DCT1 284411	400	400	370	400	350	320





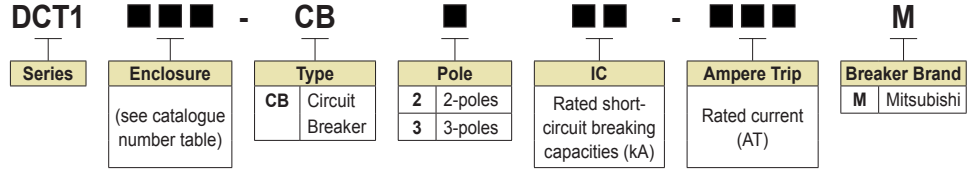
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Catalogue Number Logic



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	7.5kA. at 230V.	2	3	DCT1 8126-CB27X5-003M	
				4	DCT1 8126-CB27X5-004M	
				6	DCT1 8126-CB27X5-006M	
				10	DCT1 8126-CB27X5-010M	
				16	DCT1 8126-CB27X5-016M	
				20	DCT1 8126-CB27X5-020M	
				25	DCT1 8126-CB27X5-025M	
				32	DCT1 8126-CB27X5-032M	
				63AF	5kA. at 400V.	3
	4	DCT1 8126-CB305-004M				
	6	DCT1 8126-CB305-006M				
	10	DCT1 8126-CB305-010M				
	16	DCT1 8126-CB305-016M				
	20	DCT1 8126-CB305-020M				
	25	DCT1 8126-CB305-025M				
	32	DCT1 8126-CB305-032M				
	NF63-HV	63AF	25kA. at 230V.			
				16	DCT1 8126-CB225-016M	
20				DCT1 8126-CB225-020M		
25				DCT1 8126-CB225-025M		
32				DCT1 8126-CB225-032M		
40				DCT1 8126-CB225-040M		
63AF		10kA. at 400V.	3	50	DCT1 9157-CB225-050M	
				63	DCT1 9157-CB225-063M	
				10	DCT1 8126-CB310-010M	
				16	DCT1 8126-CB310-016M	
				20	DCT1 8126-CB310-020M	
				25	DCT1 8126-CB310-025M	
63AF	10kA. at 400V.	3	32	DCT1 8126-CB310-032M		
			40	DCT1 8126-CB310-040M		
			50	DCT1 9157-CB310-050M		
			63	DCT1 9157-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	50kA. at 230V.	2	16	DCT1 9157-CB250-016M
				20	DCT1 9157-CB250-020M
				32	DCT1 9157-CB250-032M
				40	DCT1 9157-CB250-040M
				50	DCT1 9157-CB250-050M
				63	DCT1 9157-CB250-063M
		30kA. at 400V.	3	80	DCT1 9207-CB250-080M
				100	DCT1 9207-CB250-100M
				125	DCT1 9207-CB250-125M
				16	DCT1 9157-CB330-016M
				20	DCT1 9157-CB330-020M
				32	DCT1 9157-CB330-032M
NF250-SV	250AF	36kA. at 400V.	3	40	DCT1 9157-CB330-040M
				50	DCT1 9157-CB330-050M
				63	DCT1 9157-CB330-063M
				80	DCT1 11218-CB330-080M
				100	DCT1 11218-CB330-100M
				125	DCT1 11218-CB330-125M
NF400-SW	400AF	45kA. at 400V.	3	150	DCT1 162810-CB336-150M
				175	DCT1 162810-CB336-175M
				200	DCT1 162810-CB336-200M
				225	DCT1 162810-CB336-225M
				250	DCT1 162810-CB336-250M
NF630-SW	630AF	50kA. at 400V.	3	250	DCT1 20329-CB345-250M
				300	DCT1 20329-CB345-300M
				350	DCT1 20329-CB345-350M
				400	DCT1 20329-CB345-400M
630AF	630	50kA. at 400V.	3	500	DCT1 203611-CB350-500M
				600	DCT1 203611-CB350-600M
				630	DCT1 203611-CB350-630M

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.)

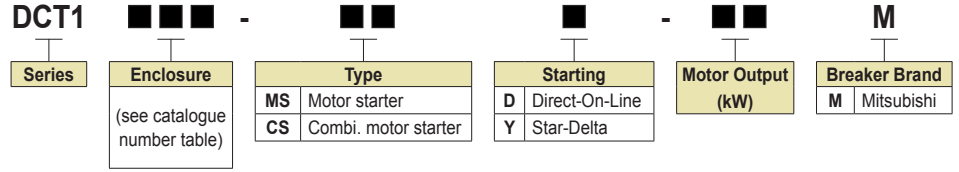
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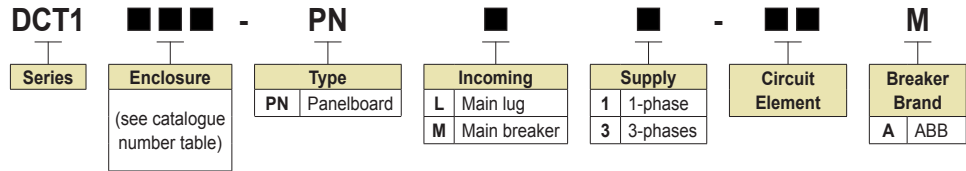


Ordering Requirements

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.	DCT1 9157-MSD-X37M	-	DCT1 9207-CSD-X37M	-
0.55	0.75	1.6A.	DCT1 9157-MSD-X55M	-	DCT1 9207-CSD-X55M	-
0.75	1	2A.	DCT1 9157-MSD-X75M	-	DCT1 9207-CSD-X75M	-
1.1	1.5	2.6A.	DCT1 9157-MSD-1X1M	-	DCT1 9207-CSD-1X1M	-
1.5	2	3.5A.	DCT1 9157-MSD-1X5M	-	DCT1 9207-CSD-1X5M	-
2.2	3	5A.	DCT1 9157-MSD-2X2M	-	DCT1 9207-CSD-2X2M	-
3	4	6.6A.	DCT1 9157-MSD-3M	DCT1 15198-MSY-3M	DCT1 9207-CSD-3M	DCT1 15198-CSY-3M
3.7	5	8.2A.	DCT1 9157-MSD-3X7M	DCT1 15198-MSY-3X7M	DCT1 9207-CSD-3X7M	DCT1 15198-CSY-3X7M
4	5.5	8.5A.	DCT1 9157-MSD-4M	DCT1 15198-MSY-4M	DCT1 9207-CSD-4M	DCT1 15198-CSY-4M
5.5	7.5	11.5A.	DCT1 9157-MSD-5X5M	DCT1 15198-MSY-5X5M	DCT1 11218-CSD-5X5M	DCT1 15198-CSY-5X5M
7.5	10	15.5A.	DCT1 9157-MSD-7X5M	DCT1 15198-MSY-7X5M	DCT1 11218-CSD-7X5M	DCT1 15198-CSY-7X5M
11	15	22A.	DCT1 9207-MSD-11M	DCT1 15198-MSY-11M	DCT1 15198-CSD-11M	DCT1 15198-CSY-11M
15	20	30A.	DCT1 9207-MSD-15M	DCT1 15198-MSY-15M	DCT1 15198-CSD-15M	DCT1 15198-CSY-15M
18.5	25	37A.	DCT1 11218-MSD-18X5M	DCT1 20208-MSY-18X5M	DCT1 15198-CSD-18X5M	DCT1 20208-CSY-18X5M
22	30	44A.	DCT1 11218-MSD-22M	DCT1 20208-MSY-22M	DCT1 20208-CSD-22M	DCT1 20208-CSY-22M
30	40	60A.	DCT1 11218-MSD-30M	DCT1 162810-MSY-30M	DCT1 20208-CSD-30M	DCT1 162810-CSY-30M
37	50	72A.	DCT1 15198-MSD-37M	DCT1 162810-MSY-37M	DCT1 20208-CSD-37M	DCT1 162810-CSY-37M
45	60	85A.	DCT1 15198-MSD-45M	DCT1 20329-MSY-45M	DCT1 20208-CSD-45M	DCT1 20329-CSY-45M
55	75	105A.	DCT1 202410-MSD-55M	DCT1 20329-MSY-55M	DCT1 202410-CSD-55M	DCT1 203611-CSY-55M
75	100	140A.	DCT1 202410-MSD-75M	DCT1 203611-MSY-75M	DCT1 202410-CSD-75M	DCT1 203611-CSY-75M
90	125	170A.	DCT1 20329-MSD-90M	DCT1 284411-MSY-90M	DCT1 284411-CSD-90M	consult factory
110	150	205A.	DCT1 20329-MSD-110M	DCT1 284411-MSY-110M	DCT1 284411-CSD-110M	consult factory
132	180	245A.	DCT1 203611-MSD-132M	DCT1 284411-MSY-132M	DCT1 284411-CSD-132M	consult factory



Catalogue Number Logic



Ordering Requirements

No. of Circuit	Main	Branch Breaker (MCB)		Cat. No.			
		Poles	Amp.	220V.ac 50Hz.	220/380V.ac 50Hz.		
6	100A. max. Main Lug	2	6, 10, 16, 20, or 32	DCT1 20208- PNL1-12A	DCT1 20208- PNL3-12A		
		3		-	DCT1 20208- PNL3-18A		
8		2		DCT1 20208- PNL1-16A	DCT1 20208- PNL3-16A		
		3		-	DCT1 202410- PNL3-24A		
10		2		DCT1 202410- PNL1-20A	DCT1 202410- PNL3-20A		
		3		-	DCT1 202410- PNL3-30A		
14		2		DCT1 20329- PNL1-28A	DCT1 20329- PNL3-28A		
		3		-	DCT1 203611- PNL3-42A		
18		2		DCT1 20329- PNL1-36A	DCT1 203611- PNL3-36A		
		3		-	DCT1 203611- PNL3-54A		
20		2		DCT1 203611- PNL1-40A	DCT1 203611- PNL3-40A		
		3		-	DCT1 203611- PNL3-60A		
4		125A. max. Main Breaker		2	6, 10, 16, 20, or 32	DCT1 20208- PNM1-08A	DCT1 20208- PNM3-08A
6				3		-	DCT1 20208- PNM3-12A
	2		DCT1 20208- PNM1-12A	DCT1 20208- PNM3-12A1			
8	3		-	DCT1 202410- PNM3-18A			
	2		DCT1 202410- PNM1-16A	DCT1 202410- PNM3-16A			
12	3		-	DCT1 202410- PNM3-24A			
	2		DCT1 20329- PNM1-24A	DCT1 20329- PNM3-24A			
14	3		-	DCT1 20329- PNM3-36A			
	2		DCT1 20329- PNM1-28A	DCT1 20329- PNM3-28A			
16	3		-	DCT1 203611- PNM3-42A			
	2		DCT1 203611- PNM1-32A	DCT1 203611- PNM3-32A			