

Control Station and Control Panel: Control Box, DCT1 series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Application

DCT1 control boxes are designed for use in hazardous areas classified as Zone 1, Zone 2, Zone 21, and Zone 22.

They are suitable for installation in petroleum refineries, chemical plants, and storage areas where hazardous substances are handled.

The instrument box features a circular or rectangular window and can contain both analog and digital measuring instruments, providing clear indication of the electrical functions performed.

The circuit breakers are suitable for short-circuit and overcurrent protection of service entrance, feeder, branch circuits, lighting circuits, or motor circuits, and also serve as a means of disconnection.

The motor starters are suitable for single-speed, non-reversing starting and stopping of AC squirrel cage induction motors using either direct-on-line or star-delta starting methods.

The circuit breaker panelboards are suitable for the control and distribution of branch circuits such as lighting, 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, SS 304
(optional SS 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	TÜV CY 18 ATEX 0206140X	
Conformity to Standards	EN IEC 60079-0, EN 60079-1, EN IEC 60079-31	
Ambient Temperature	-20°C to +55°C	
Index of Protection	IP66	
Entry Threads	NPT or Metric threads	
Mounting	Wall mount	
Rated Voltage	Max. 613 V AC, 50/60 Hz	

The enclosure
with panel mounted operating devices



Circuit breaker box

Motor starter Box



Circuit breaker panelboard

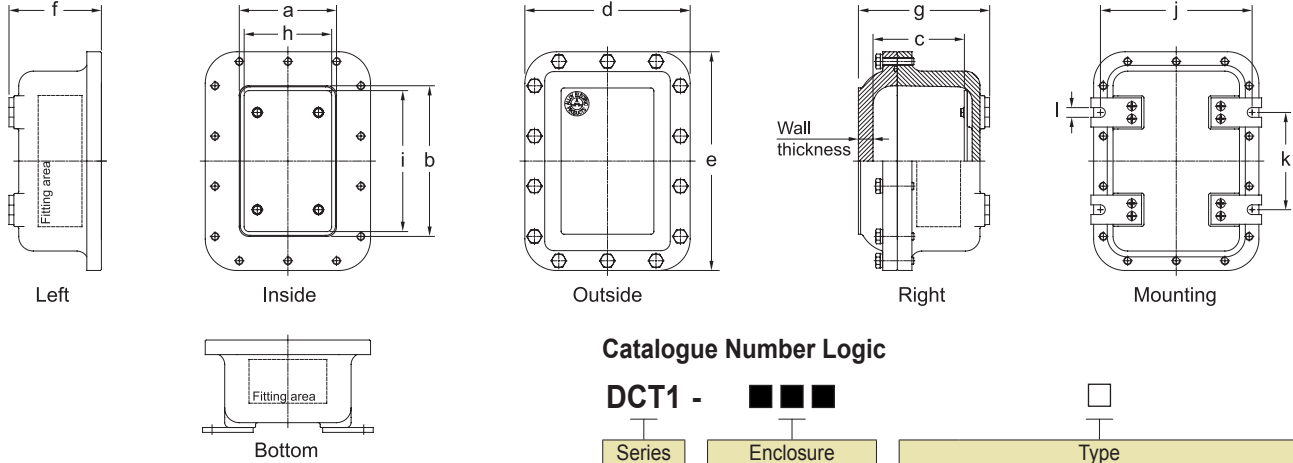


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Dimensions



Catalogue Number Logic

DCT1 -

Series

Enclosure
(see catalogue
number table)

Type

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

Cat. No.	Dimensions in mm												Wall thickness	Volume (cm³)	Empty weight (kg)
	Inside			Outside				Equip. plate		Mounting					
	a	b	c	d	e	f	g	h	i	j	k	l			
DCT1 685	100	155	95	170	225	94	134	85	140	164	100	10	15	1,497	4.8
DCT1 886	138	138	123	210	210	114	164	125	125	206	100	10	15	2,352	6.5
DCT1 8126	135	240	120	207	312	114	164	115	220	204	160	12	15	3,958	9.3
DCT1 8187	136	394	160	208	466	154	204	120	375	204	300	12	15	8,653	15.4
DCT1 9157	164	314	153	237	387	148	198	145	295	232	230	12	15	7,954	14.7
DCT1 9207	162	440	164	230	508	158	208	150	420	232	350	12	15	12,116	19.2
DCT1 101610	174	324	210	263	413	202	260	155	295	244	240	12	18	11,767	19.7
DCT1 11218	210	450	170	299	539	162	220	190	430	280	350	12	18	16,284	25.1
DCT1 12127	244	244	155	333	333	147	205	225	225	314	170	12	18	9,339	17.2
DCT1 15156	300	300	115	389	389	107	165	280	280	370	240	12	18	10,697	20.4
DCT1 151510	300	300	215	389	389	207	267	280	280	370	240	12	20	19,398	28.0
DCT1 15198	298	398	165	387	487	157	217	280	380	368	300	12	20	19,928	29.9
DCT1 162810	330	627	218	423	720	202	279	300	595	406	450	12	22	45,689	59.9
DCT1 20208	424	424	175	522	522	160	237	405	405	523	290	15	22	32,012	51.7
DCT1 202410	430	530	213	534	634	194	271	405	510	517	450	15	22	49,278	62.0
DCT1 20329	423	713	201	532	822	184	262	395	685	514	650	15	23	61,662	77.7
DCT1 203611	408	813	228	524	929	216	296	370	775	515	680	15	25	76,200	105.8
DCT1 284411	600	1,000	228	743	1,143	216	301	565	965	711	800	15	30	138,576	188.9

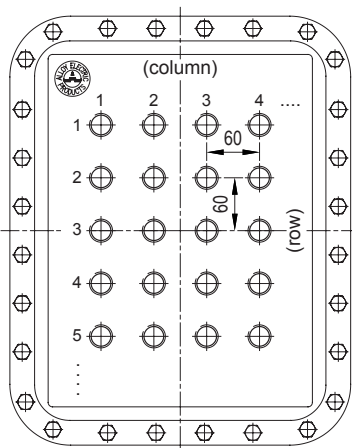
† 6 Mounting feet.

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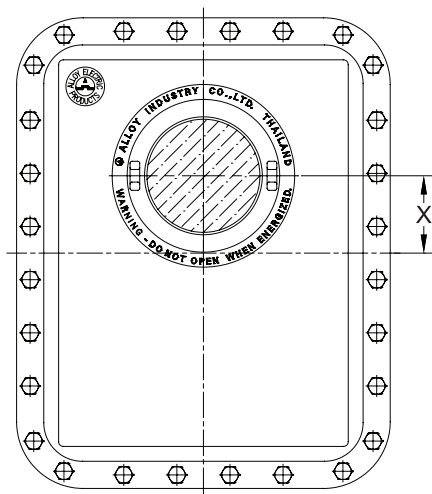
The enclosure with panel mounted operating devices



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

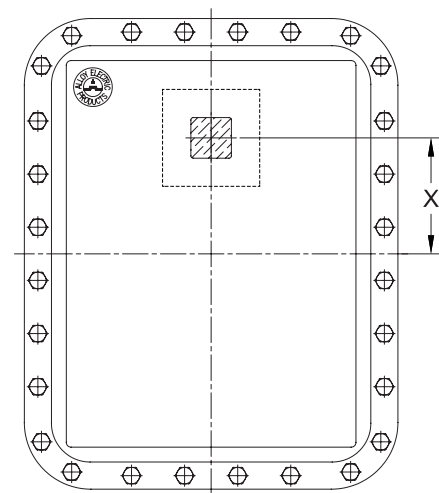
The enclosure with inspection windows

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



DCT1	Series	Enclosure	Type	Pole	IC	Ampere trip	Breaker brand
		(see catalogue number table)	CB Circuit Breaker	2 2 poles 3 3 poles	Rated short-circuit breaking capacities (kA)	Rated current (AT)	M Mitsubishi

Ordering Requirements

Molded-case circuit breaker "Mitsubishi"						Molded-case circuit breaker "Mitsubishi"					
Model	Frame size (AF)	Rated current (AT)	Pole	Rated short-circuit breaking capacities (kA)	Cat. No.	Model	Frame size (AF)	Rated current (AT)	Pole	Rated short-circuit breaking capacities (kA)	Cat. No.
NF32-SV	32 AF	3	2	7.5 kA at 230 V	DCT1 8126-CB27X5-003M	NF125-SV	125 AF	16	2	50 kA at 230 V	DCT1 9157-CB250-016M
		4			DCT1 8126-CB27X5-004M			20			DCT1 9157-CB250-020M
		6			DCT1 8126-CB27X5-006M			32			DCT1 9157-CB250-032M
		10			DCT1 8126-CB27X5-010M			40			DCT1 9157-CB250-040M
		16			DCT1 8126-CB27X5-016M			50			DCT1 9157-CB250-050M
		20			DCT1 8126-CB27X5-020M			63			DCT1 9157-CB250-063M
		25			DCT1 8126-CB27X5-025M			80			DCT1 9207-CB250-080M
		32			DCT1 8126-CB27X5-032M			100			DCT1 9207-CB250-100M
		3	3	5 kA at 400 V	DCT1 8126-CB305-003M			125			DCT1 9207-CB250-125M
		4			DCT1 8126-CB305-004M			16	3	30 kA at 400 V	DCT1 9157-CB330-016M
		6			DCT1 8126-CB305-006M			20			DCT1 9157-CB330-020M
		10			DCT1 8126-CB305-010M			32			DCT1 9157-CB330-032M
		16			DCT1 8126-CB305-016M			40			DCT1 9157-CB330-040M
		20			DCT1 8126-CB305-020M			50			DCT1 9157-CB330-050M
		25			DCT1 8126-CB305-025M			63			DCT1 9157-CB330-063M
		32			DCT1 8126-CB305-032M			80			DCT1 11218-CB330-080M
	63 AF	10	2	25 kA at 230 V	DCT1 8126-CB225-010M		250 AF	100			DCT1 11218-CB330-100M
		16			DCT1 8126-CB225-016M			125			DCT1 11218-CB330-125M
		20			DCT1 8126-CB225-020M			150	3	36 kA at 400 V	DCT1 162810-CB336-150M
		25			DCT1 8126-CB225-025M			175			DCT1 162810-CB336-175M
		32			DCT1 8126-CB225-032M			200			DCT1 162810-CB336-200M
		40			DCT1 8126-CB225-040M			225			DCT1 162810-CB336-225M
		50			DCT1 9157-CB225-050M			250			DCT1 162810-CB336-250M
		63			DCT1 9157-CB225-063M		NF400-SW	250		45 kA at 400 V	DCT1 20329-CB345-250M
		10	3	10 kA at 400 V	DCT1 8126-CB310-010M			300			DCT1 20329-CB345-300M
		16			DCT1 8126-CB310-016M			350			DCT1 20329-CB345-350M
		20			DCT1 8126-CB310-020M			400			DCT1 20329-CB345-400M
		25			DCT1 8126-CB310-025M		NF630-SW	500	3	50 kA at 400 V	DCT1 203611-CB350-500M
		32			DCT1 8126-CB310-032M			600			DCT1 203611-CB350-600M
		40			DCT1 8126-CB310-040M			630			DCT1 203611-CB350-630M
		50			DCT1 9157-CB310-050M						
		63			DCT1 9157-CB310-063M						

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.)

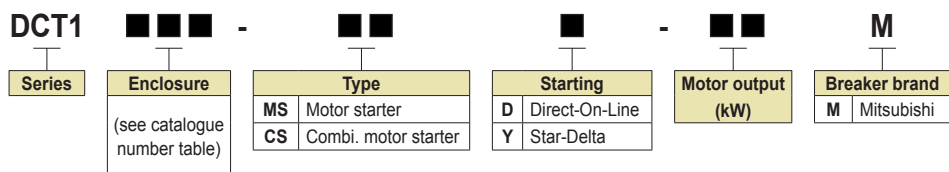
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Ordering Requirements

3-phase motor 220/380 V AC		Average full load (I _{FL})	Cat. No.			
			Motor starter		Combination motor starter	
kW	HP		Direct-On-Line	Star-Delta	Direct-On-Line	Star-Delta
0.37	0.5	1.2 A	DCT1 9157-MSD-X37M	–	DCT1 9207-CSD-X37M	–
0.55	0.75	1.6 A	DCT1 9157-MSD-X55M	–	DCT1 9207-CSD-X55M	–
0.75	1	2 A	DCT1 9157-MSD-X75M	–	DCT1 9207-CSD-X75M	–
1.1	1.5	2.6 A	DCT1 9157-MSD-1X1M	–	DCT1 9207-CSD-1X1M	–
1.5	2	3.5 A	DCT1 9157-MSD-1X5M	–	DCT1 9207-CSD-1X5M	–
2.2	3	5 A	DCT1 9157-MSD-2X2M	–	DCT1 9207-CSD-2X2M	–
3	4	6.6 A	DCT1 9157-MSD-3M	DCT1 15198-MSY-3M	DCT1 9207-CSD-3M	DCT1 15198-CSY-3M
3.7	5	8.2 A	DCT1 9157-MSD-3X7M	DCT1 15198-MSY-3X7M	DCT1 9207-CSD-3X7M	DCT1 15198-CSY-3X7M
4	5.5	8.5 A	DCT1 9157-MSD-4M	DCT1 15198-MSY-4M	DCT1 9207-CSD-4M	DCT1 15198-CSY-4M
5.5	7.5	11.5 A	DCT1 9157-MSD-5X5M	DCT1 15198-MSY-5X5M	DCT1 11218-CSD-5X5M	DCT1 15198-CSY-5X5M
7.5	10	15.5 A	DCT1 9157-MSD-7X5M	DCT1 15198-MSY-7X5M	DCT1 11218-CSD-7X5M	DCT1 15198-CSY-7X5M
11	15	22 A	DCT1 9207-MSD-11M	DCT1 15198-MSY-11M	DCT1 15198-CSD-11M	DCT1 15198-CSY-11M
15	20	30 A	DCT1 9207-MSD-15M	DCT1 15198-MSY-15M	DCT1 15198-CSD-15M	DCT1 15198-CSY-15M
18.5	25	37 A	DCT1 11218-MSD-18X5M	DCT1 20208-MSY-18X5M	DCT1 15198-CSD-18X5M	DCT1 20208-CSY-18X5M
22	30	44 A	DCT1 11218-MSD-22M	DCT1 20208-MSY-22M	DCT1 20208-CSD-22M	DCT1 20208-CSY-22M
30	40	60 A	DCT1 11218-MSD-30M	DCT1 162810-MSY-30M	DCT1 20208-CSD-30M	DCT1 162810-CSY-30M
37	50	72 A	DCT1 15198-MSD-37M	DCT1 162810-MSY-37M	DCT1 20208-CSD-37M	DCT1 162810-CSY-37M
45	60	85 A	DCT1 15198-MSD-45M	DCT1 20329-MSY-45M	DCT1 20208-CSD-45M	DCT1 20329-CSY-45M
55	75	105 A	DCT1 202410-MSD-55M	DCT1 20329-MSY-55M	DCT1 202410-CSD-55M	DCT1 203611-CSY-55M
75	100	140 A	DCT1 202410-MSD-75M	DCT1 203611-MSY-75M	DCT1 202410-CSD-75M	DCT1 203611-CSY-75M
90	125	170 A	DCT1 20329-MSD-90M	DCT1 284411-MSY-90M	DCT1 284411-CSD-90M	consult factory
110	150	205 A	DCT1 20329-MSD-110M	DCT1 284411-MSY-110M	DCT1 284411-CSD-110M	consult factory
132	180	245 A	DCT1 203611-MSD-132M	DCT1 284411-MSY-132M	DCT1 284411-CSD-132M	consult factory

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DCT1	■ ■ ■	-	PN	■	■	-	■ ■	M
Series	Enclosure (see catalogue number table)		Type PN Panelboard	Incoming L Main lug M Main breaker	Supply 1 1 phase 3 3 phase		Circuit element	Breaker brand A ABB

Ordering Requirements

No. of circuit	Main	Branch breaker (MCB)		Cat. No.	
		Poles	Ampere	220 V AC, 50 Hz	220/380 V AC, 50 Hz
6	100 A 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	125 A max. Main breaker	2	6, 10, 16, 20, or 32	DCT1 20208- PNM1-08A	DCT1 20208- PNM3-08A
		3		—	DCT1 20208- PNM3-12A
6		2		DCT1 20208- PNM1-12A	DCT1 20208- PNM3-12A1
		3		—	DCT1 202410- PNM3-18A
8		2		DCT1 202410- PNM1-16A	DCT1 202410- PNM3-16A
		3		—	DCT1 202410- PNM3-24A
12		2		DCT1 20329- PNM1-24A	DCT1 20329- PNM3-24A
		3		—	DCT1 20329- PNM3-36A
14		2		DCT1 20329- PNM1-28A	DCT1 20329- PNM3-28A
		3		—	DCT1 203611- PNM3-42A
16		2		DCT1 203611- PNM1-32A	DCT1 203611- PNM3-32A