

Control Station and Control Panel: Control Box, DCT series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Application

DCT 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 d IIB 2G	Ex tD II 2D
Symbol of Protection	Ex d IIB T6/T5	Ex tD A21 IP66 T85°C/ T100°C
Certificate	PTB 07 ATEX 1071X	
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 type	
Rated Voltage	Max. 800 V AC, 50/60 Hz	

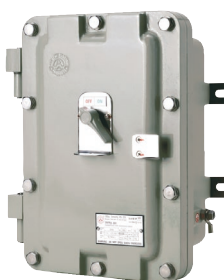
The enclosure with panel mounted operating devices



Motor starter box



Circuit breaker box



Circuit breaker panelboard

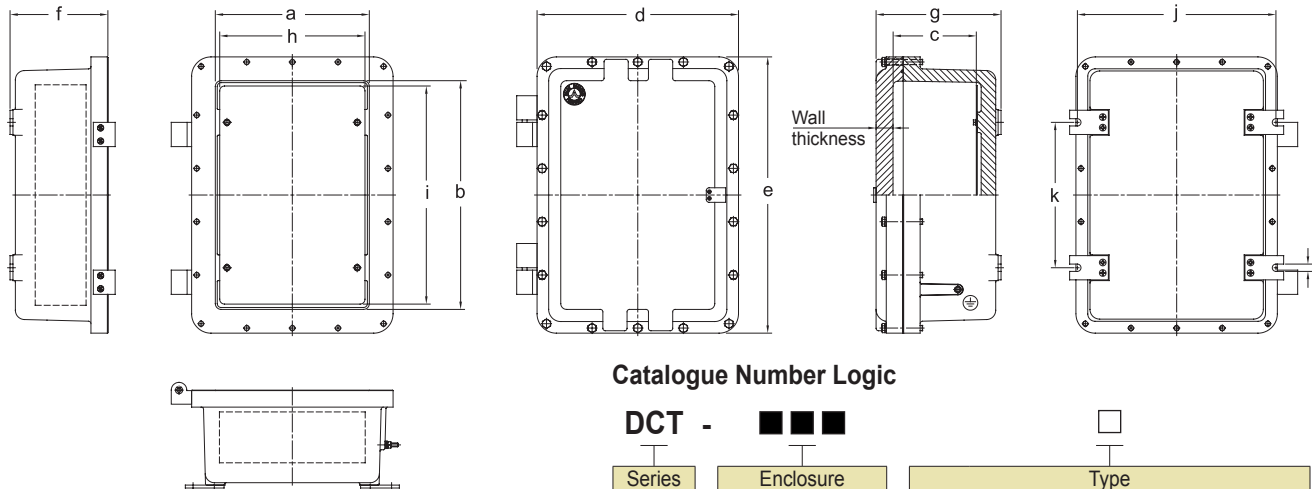


Control Station and Control Panel: Control Box, DCT series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Dimensions



Catalogue Number Logic

DCT - ■ ■ ■

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 thick- ness	Volume (cm³)	Empty weight (kg)
	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

Control Station and Control Panel: Control Box, DCT series

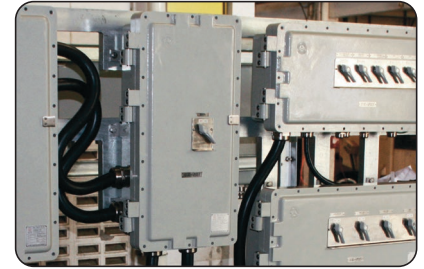
Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Catalogue Number Logic



DCT	Series	Enclosure	CB	Type	Pole	IC	Ampere trip	M	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"					Cat. No.
Model	Frame size (AF)	Rated current (AT)	Pole	Rated short-circuit breaking capacities (kA)	
NF32-SV	32 AF	3	2	7.5 kA at 230 V	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
	32 AF	3	3	5 kA at 400 V	DCT10158-CB305-003M
		4			DCT10158-CB305-004M
		6			DCT10158-CB305-006M
		10			DCT10158-CB305-010M
		16			DCT10158-CB305-016M
		20			DCT10158-CB305-020M
NF63-HV	63 AF	25	2	25 kA at 230 V	DCT10158-CB305-025M
		32			DCT10158-CB305-032M
		10	3	10k A at 400V.	DCT10158-CB225-010M
		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
	63 AF	10	3	10k A 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	125 AF	16	2	50 kA at 230 V	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
	125 AF	16	3	30 kA at 400 V	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	250 AF	80	3	36 kA at 400 V	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.)



Control Station and Control Panel: Control Box, DCT series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Catalogue Number Logic



DCT	Series	Enclosure	Type	Starting	Motor output (kW)	Breaker brand
		(see catalogue number table)	MS Motor starter CS Combi. motor starter	D Direct-On-Line Y Star-Delta		M Mitsubishi



Ordering Requirements

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

Control Station and Control Panel: Control Box, DCT series

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

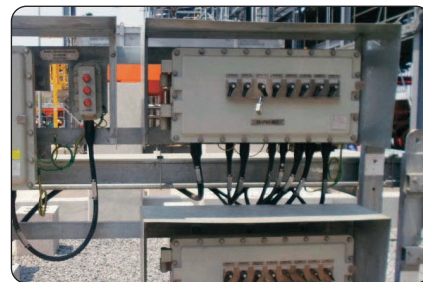
Catalogue Number Logic



DCT	■ ■ ■	-	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
4	100 A 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	60 A max. Main breaker	2	6, 10, 16, or 20	DCT162210- PNM1-08A	DCT162210- PNM3-08A
		3		–	DCT162210- PNM3-12A
6		2		DCT162210- PNM1-12A	DCT15319- PNM3-12A
		3		–	DCT15319- PNM3-18A

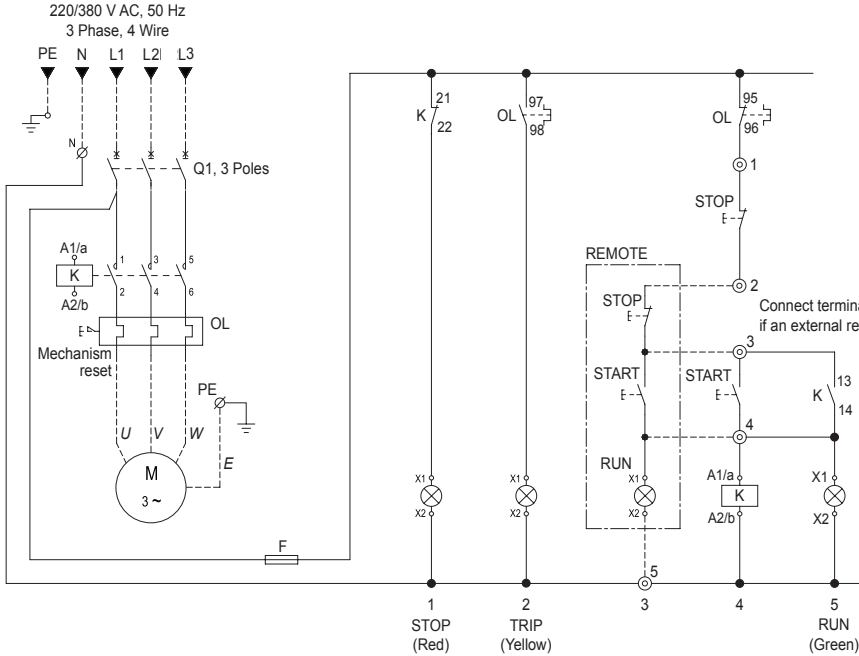


Control Station and Control Panel: Control Box, Motor Starter Wiring Diagram

Flameproof and Dust protection by enclosure

Zone 1 & 2 – 21 & 22

Direct-On-line starting method



Star-Delta starting method

