

# NHD INDUSTRIAL CO., LTD.

## CATALOGUE

- Page 2~3 : AC Contactor : C-Series
- Page 4 : AC/DC Control Relays : C-Series
- Page 5 : Auxiliary Contactor Blocks and Mechanical Interlock
- Page 6~7 : Thermal Overload Relays: NTH-Series
- Page 8 : Enclosed Starters Non- Reversing Starters MS1-Series
- Page 9 : Enclosed Starters Non- Reversing Starters MS-Series
- Page 10 : Enclosed Starters Non- Reversing Starters MSP-Series
- Page 11 : Enclosed Starters Non- Reversing Starters MSP-Series
- Page 12 : Star-Delta Starters : C-Series
- Page 13 : 4 Pole AC Contactor : C-Series
- Page 14~15 : AC Contactor : SMC-Series
- Page 16~17 : AC Contactor : S-C Series
- Page 18~19 : Thermal Overload Relays: TH-Series
- Page 20 : Enclosed Starters Non- Reversing Starters MSP-Series
- Page 21 : Enclosed Starters Non- Reversing Starters MSN-Series
- Page 22 : Star-Delta Starters : S-C Series

# Three Pole Contactors

“C”- Series 9A to 100A (AC3)

CONTROL CIRCUIT: AC



**C-06D10**



**C-09D10**



**C-18D10**



**C-35D10**











**C-45D11**



**C-80D11**

catalogue name	Instantaneous Auxiliary contacts		Rated Insulation Voltage	AC1 duty $\theta \leq 40^\circ\text{C}$	I <sub>e</sub>	Rated operational power in AC-3			Rated operational power in AC-3			Weight (Kg)	Approval
	N/O	N/C	U <sub>i</sub>	I <sub>th</sub>		3Phase			1Phase				
	220V	380V	440V	575V		120V	230V	KW	KW	KW	KW		
<b>C-06D10</b>	1	-	1000V	16A	9A	2.2	3.7	3.7	3.7	0.2	1.1	0.177	CE
<b>C-06D01</b>	-	1				3	5	5	5	1/3	1.5		
<b>C-09D10</b>	1	-	1000V	20A	9A	2.2	3.7	3.7	3.7	0.37	1.5	0.350	UL C E SP <sup>®</sup> <sub>US</sub>
<b>C-09D01</b>	-	1				3	5	5	5	0.5	2		
<b>C-11D10</b>	1	-	1000V	25A	12A	3	5.5	5.5	5.5	0.55	1.5	0.350	UL C E SP <sup>®</sup> <sub>US</sub>
<b>C-11D01</b>	-	1				4	7.5	7.5	7.5	0.75	2		
<b>C-12D10</b>	1	-	1000V	25A	16A	4	7.5	7.5	7.5	0.75	2.2	0.350	UL C E SP <sup>®</sup> <sub>US</sub>
<b>C-12D01</b>	-	1				5.5	10	10	10	1	3		

# Three Pole Contactors

catalogue name	Instantaneous Auxiliary contacts		Rated Insulation Voltage	AC1 duty $\theta \leq 40^\circ\text{C}$	I <sub>e</sub>	Rated operational power in AC-3 3Phase			Rated operational power in AC-3 1Phase		Weight (Kg)	Approval	
	N/O	N/C	U <sub>i</sub>	I <sub>th</sub>		220V	380V	440V	575V	120V			230V
	KW HP	KW HP	KW HP	KW HP		KW HP	KW HP						
<b>C-18D10</b>	1	-	1000V	32A	22A	5.5	11	11	11	1.5	3.7	0.380	
<b>C-18D01</b>	-	1				7.5	15	15	15	2	5		
<b>C-25D10</b>	1	-	1000V	40A	32A	7.5	15	15	15	2.2	4	0.525	
<b>C-25D01</b>	-	1				10	20	20	20	3	5.5		
<b>C-35D10</b>	1	-	1000V	50A	42A	11	19	19	19	3	5.5	0.550	
<b>C-35D01</b>	-	1				15	25	25	25	4	7.5		
<b>C-45D11</b>	1	1	1000V	60A	55A	15	30	30	30			1.100	
						20	40	40	40				
<b>C-55D11</b>	1	1	1000V	80A	65A	19	33	33	33			1.100	
						25	45	45	45				
<b>C-65D11</b>	1	1	1000V	90A	80A	22	37	37	37			1.100	
						30	50	50	50				
<b>C-80D11</b>	1	1	1000V	125A	105A	25	45	55	55			1.430	
						35	60	75	75				
<b>C-100D11</b>	1	1	1000V	130A	110A	30	55	55	60			1.430	
						40	75	75	80				

# Control Relays






## CONTROL CIRCUIT : AC / DC

				
<b>CR2-1022</b>	<b>CR2-1031</b>	<b>CR2-1040</b>	<b>CR2-1013</b>	<b>CR2-1004</b>

Catalogue name	Instantaneous Auxiliary Contacts	Insulation Voltage	Thermal Current	Approval
	N/O	N/C		
CR2-1040	4	-	660V	10A
CR2-1031	3	1		
CR2-1022	2	2		
CR2-1013	1	3		
CR2-1004	-	4		
CR2-2030	3	-	660V	10A
CR2-2021	2	1		
CR2-2012	1	2		
CR2-2003	-	3		



# Auxiliary Contacts Blocks

				
<b>CA1-D11</b>	<b>CA1-D02</b>	<b>CA1-D31</b>	<b>CA8-D11</b>	<b>CA9-D02</b>

Catalogue name	Applicable Contactor	Auxiliary Contacts		Insulation Voltage	Thermal Current	Approval
		N/O	N/C			
CA1-D20		2	-			
CA1-D11		1	1			
CA1-D02		-	2			
CA1-D40		4	-			
CA1-D31		3	1	660V	10A	
CA1-D22	C-09D to C-100D11	2	2			
CA1-D13		1	3			
CA1-D04		-	4			
CA8-D20		2	-			
CA8-D11		1	1			
CA8-D02		-	2			
CA9-D02		-	2			



**CA1 : Top Auxiliary Contacts Blocks**

**CA8 : Side Auxiliary Contacts Blocks**


**CA9 : Mechanical Interlock**

# THERMAL OVERLOAD RELAYS

Compensated and differential overload relays with 1 N/O + 1 N/C electrically separated auxiliary contacts

For direct connection with "C"- series and SMC- series contactors



Catalogue Name	Relay Setting Range RC (FLC) A	Contactors	Weight Kg	Approval
NTH - 0.5	0.35 - 0.5A	C - 09D	0.14	
NTH - 0.75	0.5 - 0.75A	C - 09D	0.14	
NTH - 10.5	0.75 - 1.05A	C - 09D	0.14	
NTH - 1.45	1.05 - 1.45A	C - 09D	0.14	
NTH - 1.9	1.4 - 1.9A	C - 09D	0.14	
NTH - 2.5	1.8 - 2.5A	C - 09D	0.14	
NTH - 3	2.4 - 3A	C - 09D	0.14	
NTH - 4	2.9 - 4A	C - 09D	0.14	
NTH - 5	3.8 - 5A	C - 09D	0.14	
NTH - 6.5	4.5 - 6.5A	C - 09D	0.14	
NTH - 8	6 - 8A	C - 09D	0.14	
NTH - 11	8 - 11A	C - 11D	0.14	
NTH - 14	11 - 14A	C - 12D	0.14	
NTH - 15	10 - 15A	C - 12D	0.14	
NTH - 17	14 - 17A	C - 12D	0.14	

# THERMAL OVERLOAD RELAYS



Catalogue Name	Relay Setting Range RC (FLC) A	Contactors	Weight Kg	Approval
NTH - 21	17 - 21A	C - 18D	0.15	CE UL
NTH - 25	21 - 25A	C - 25D	0.15	CE UL
NTH - 28	24 - 28A	C - 25D	0.15	CE UL
NTH - 32	26 - 32A	C - 25D	0.15	CE UL
NTH - 38	30 - 38A	C - 35D	0.18	CE
NTH - 44	36 - 44A	C - 35D	0.18	CE
BTH-60	12~18A	C-45D11	0.43	CE
BTH-60	18~26A	C-45D11	0.43	CE
BTH-60	26~40A	C-45D11	0.43	CE
BTH-60	33~50A	C-55D11	0.43	CE
BTH-60	43~65A	C-65D11	0.43	CE
BTH-80	54~80A	C-65D11	0.43	CE
BTH-80	64~96A	C-80D11	0.43	CE
BTH-80	85~126A	C-100D11	0.43	CE

Note : Select and set the overload relay according to the current value on the motor rating plate.

Direct mounting on the underside of the contactors.

Terminals protected against direct finger contact and fitted with ready to tighten screws.

Lockable and salable Man/Auto switch. Trip Test. Cover locks the function.

# Enclosed Starters Non- Reversing Starters MS1 IP65



**MS1-09D**



**MS1-18D-R**



**MS1-18D**



**MS1-35D**

Catalogue name	3 Phase				1 Phase		Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V HP	380V HP	440V HP	575V HP	120V HP	230V HP		N/O	N/C
MS1-09D	3	5	5	5	0.5	2	NTH-Series	1	-
MS1-11D	4	7.5	7.5	7.5	0.75	2	NTH-Series	1	-
MS1-12D	5.5	10	10	10	1	3	NTH-Series	1	-
MS1-18D	7.5	15	15	15	2	5	NTH-Series	1	-
MS1-25D	10	20	20	20	3	5.5	NTH-Series	1	-
MS1-35D	15	25	25	25	4	7.5	NTH-Series	1	-

# Enclosed Starters Non- Reversing Starters MS IP65



**MS-09D**



**MS-18D**



**MS-25D**



**MS-35D**

Catalogue name	3 Phase				1 Phase		Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V	380V	440V	575V	120V	240V		N/O	N/C
<b>Without Push Button</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>		<b>N/O</b>	<b>N/C</b>
<b>MS-09D</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0.5</b>	<b>2</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>
<b>MS-11D</b>	<b>4</b>	<b>7.5</b>	<b>7.5</b>	<b>7.5</b>	<b>0.75</b>	<b>2</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>
<b>MS-12D</b>	<b>5.5</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>3</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>
<b>MS-18D</b>	<b>7.5</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>2</b>	<b>5</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>
<b>MS-25D</b>	<b>10</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>3</b>	<b>5.5</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>
<b>MS-35D</b>	<b>15</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>4</b>	<b>7.5</b>	<b>NTH-Series</b>	<b>1</b>	<b>-</b>

# Enclosed Starters Non-Reversing Starters MSP IP42



**MSP21-09D-PB**



**MSP21-12D-PB**



**MSP21-18D-PB**



**MSP21-25D-PB**

Catalogue name	3 Phase				1 Phase		Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V HP	380V HP	440V HP	575V HP	120V HP	240V HP		N/O	N/C
<b>MSP21-09D-PB</b>	3	5	5	5	0.5	2	NTH-Series	1	-
<b>MSP21-11D-PB</b>	4	7.5	7.5	7.5	0.75	2	NTH-Series	1	-
<b>MSP21-12D-PB</b>	5.5	10	10	10	1	3	NTH-Series	1	-
<b>MSP21-18D-PB</b>	7.5	15	15	15	2	5	NTH-Series	1	-
<b>MSP21-25D-PB</b>	10	20	20	20	3	5.5	NTH-Series	1	-
<b>MSP35-35D-PB</b>	15	25	25	25	4	7.5	NTH-Series	1	-

# Enclosed Starters Non-Reversing Starters MSP IP42



**MSP21-09D**



**MSP21-12D**



**MSP21-18D**



**MSP21-25D**

Catalogue name	3 Phase				1 Phase		Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V	380V	440V	575V	120V	240V		N/O	N/C
<b>Without Push Button</b>	HP	HP	HP	HP	HP	HP			
<b>MSP21-09D</b>	3	5	5	5	0.5	2	NTH-Series	1	-
<b>MSP21-11D</b>	4	7.5	7.5	7.5	0.75	2	NTH-Series	1	-
<b>MSP21-12D</b>	5.5	10	10	10	1	3	NTH-Series	1	-
<b>MSP21-18D</b>	7.5	15	15	15	2	5	NTH-Series	1	-
<b>MSP21-25D</b>	10	20	20	20	3	5.5	NTH-Series	1	-
<b>MSP35-35D</b>	15	25	25	25	4	7.5	NTH-Series	1	-

# Star-Delta Starters

# CONTROL CIRCUIT : AC



## "C" Series

Type	220~240V		380~415V		MCM	MCY	MCA
	HP	A	HP	A			
<b>EYD<sub>3</sub>-12D</b>	<b>7.5~10</b>	<b>22~30A</b>	<b>10~15</b>	<b>15~22A</b>	<b>C-12D10</b>	<b>C-12D10+CA8-D11</b>	<b>C-12D10+CA8-D11</b>
<b>EYD<sub>3</sub>-25D</b>	<b>15~20</b>	<b>41~54A</b>	<b>20~30</b>	<b>30~41A</b>	<b>C-25D10</b>	<b>C-12D10+CA8-D11</b>	<b>C-25D10+CA8-D11</b>
<b>EYD<sub>3</sub>-35D</b>	<b>25~30</b>	<b>67~80A</b>	<b>40~50</b>	<b>54~67A</b>	<b>C-35D10</b>	<b>C-25D10+CA8-D11</b>	<b>C-35D10+CA8-D11</b>
<b>EYD<sub>3</sub>-55D</b>	<b>40</b>	<b>105A</b>	<b>60</b>	<b>80A</b>	<b>C-55D11</b>	<b>C-35D10+CA8-D11</b>	<b>C-55D11 +CA8-D11</b>
<b>EYD<sub>3</sub>-65D</b>	<b>50</b>	<b>2CT+NTH-6.5</b>	<b>75</b>	<b>105A</b>	<b>C-65D11</b>	<b>C-45D11</b>	<b>C-65D11 +CA8-D11</b>
<b>EYD<sub>3</sub>-80D</b>	<b>60</b>	<b>2CT+NTH-6.5</b>	<b>100</b>	<b>2CT+NTH-6.5</b>	<b>C-80D11</b>	<b>C-55D11</b>	<b>C-80D11 +CA8-D11</b>
<b>EYD<sub>3</sub>-100D</b>	<b>75</b>	<b>2CT+NTH-6.5</b>	<b>125</b>	<b>2CT+NTH-6.5</b>	<b>C-100D11</b>	<b>C-65D11</b>	<b>C-100D11 +CA8-D11</b>

# 4 Pole Contactors

“C”- Series 9A to 32A (AC3)

CONTROL CIRCUIT: AC



**C-09D22**

**C-11D22**

**C-12D22**

**C-25D22**

**C-25D40**

**C-25D04**

Catalogue name	Instantaneous Auxiliary Contacts		Insulation Voltage Ui	AC1 duty $\theta \leq 40^\circ\text{C}$	
	N/O	N/C		Ith	Ie
C-09D40	4	-	1000V	20A	9A
C-09D22	2	2			
C-09D04	-	4			
C-11D40	4	-	1000V	25A	12A
C-11D22	2	2			
C-11D04	-	4			
C-12D40	4	-	1000V	25A	16A
C-12D22	2	2			
C-12D04	-	4			
C-25D40	4	-	1000V	40A	32A
C-25D22	2	2			
C-25D04	-	4			

# Three Pole Contactors

SMC™- Series 9A to 105A (AC3)

CONTROL CIRCUIT: AC



**SMC-09**

**SMC-12**

**SMC-32**

**SMC-40**

**SMC-50**

**SMC-85**

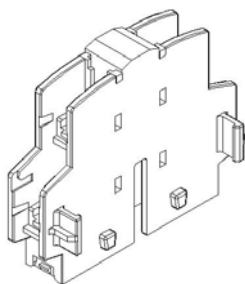
catalogue name	Instantaneous Auxiliary contacts		Rated Insulation Voltage	AC1 duty $\theta \leq 40^\circ\text{C}$	I <sub>e</sub>	Rated operational power in AC-3 3Phase				Rated operational power in AC-3 1Phase		Weight (Kg)	Approval
	N/O	N/C	U <sub>i</sub>	I <sub>th</sub>		220V	380V	440V	575V	120V	230V		
						KW HP	KW HP	KW HP	KW HP	KW HP	KW HP		
<b>SMC-09</b>	<b>1</b>	<b>1</b>	<b>1000V</b>	<b>20A</b>	<b>9A</b>	<b>2.2</b> <b>3</b>	<b>3.7</b> <b>5</b>	<b>3.7</b> <b>5</b>	<b>3.7</b> <b>5</b>	<b>0.37</b> <b>0.5</b>	<b>1.5</b> <b>2</b>	<b>0.36</b>	<b>CE</b>
<b>SMC-12</b>	<b>1</b>	<b>1</b>	<b>1000V</b>	<b>25A</b>	<b>12A</b>	<b>3</b> <b>4</b>	<b>5.5</b> <b>7.5</b>	<b>5.5</b> <b>7.5</b>	<b>5.5</b> <b>7.5</b>	<b>0.55</b> <b>0.75</b>	<b>1.5</b> <b>2</b>	<b>0.36</b>	<b>CE</b>
<b>SMC-18</b>	<b>1</b>	<b>1</b>	<b>1000V</b>	<b>32A</b>	<b>15A</b>	<b>3.7</b> <b>5</b>	<b>7.5</b> <b>10</b>	<b>7.5</b> <b>10</b>	<b>7.5</b> <b>10</b>	<b>0.75</b> <b>1</b>	<b>2.2</b> <b>3</b>	<b>0.37</b>	<b>CE</b>
<b>SMC-22</b>	<b>1</b>	<b>1</b>	<b>1000V</b>	<b>40A</b>	<b>22A</b>	<b>5.5</b> <b>7.5</b>	<b>11</b> <b>15</b>	<b>11</b> <b>15</b>	<b>11</b> <b>15</b>	<b>1.5</b> <b>2</b>	<b>3.7</b> <b>5</b>	<b>0.37</b>	<b>CE</b>
<b>SMC-32</b>	<b>2</b>	<b>2</b>	<b>1000V</b>	<b>50A</b>	<b>32A</b>	<b>7.5</b> <b>10</b>	<b>15</b> <b>20</b>	<b>15</b> <b>20</b>	<b>15</b> <b>20</b>	<b>2.2</b> <b>3</b>	<b>4</b> <b>5.5</b>	<b>0.48</b>	<b>CE</b>

# Three Pole Contactors

catalogue name	Instantaneous Auxiliary contacts		Rated Insulation Voltage	AC1 duty $\theta \leq 40^\circ\text{C}$	Ie	Rated operational power in AC-3				Rated operational power in AC-3		Weight (Kg)	Approval
	N/O	N/C	Ui	Ith		3Phase				1Phase			
						220V	380V	440V	575V	120V	230V		
					KW HP	KW HP	KW HP	KW HP	KW HP	KW HP			
SMC-40	2	2	1000V	60A	42A	11 15	19 25	19 25	19 25	3 4	5.5 7.5	0.48	CE
SMC-50	2	2	1000V	80A	55A	15 20	30 40	30 40	30 40			1.30	CE
SMC-65	2	2	1000V	100A	65A	19 25	33 45	33 45	33 45			1.30	CE
SMC-75	2	2	1000V	110A	80A	22 30	37 50	37 50	37 50			1.30	CE
SMC-85	2	2	1000V	135A	105A	25 35	45 60	55 75	55 75			1.30	CE

Note : SMC-32~SMC-85 includes of 2PCS SMC-11

## Auxiliary Contacts Blocks



## SMC-D11

Note: SMC-09 ~ SMC-22 include of 1pc SMC-D11 only

Note: rated 10A max at 600Vac

Ui : 600V Ith : 10A

Contactor : SMC-09 to SMC-85

Instantaneous Auxiliary Contacts : 1NO + 1NC

# Three Pole Contactors



## "S-C" type 12A to 220A (AC3)

CONTROL CIRCUIT: AC

Catalogue name	Instantaneous Auxiliary contacts		AC1 duty	AC3 duty 1 Phase		AC3 duty 3 Phase				Ie
	N/O	N/C	θ≤40°C	110V	220V	220V	380V	415V	500V	
				KW HP	KW HP	KW HP	KW HP	KW HP	KW HP	
S-C11	1	-	20A	0.55	1.2	3	4	4	4	12A
	-	1		0.75	1.5	4	5.5	5.5	5.5	
S-C12	1	1	20A	0.55	1.2	3	4	4	4	12A
	2	-		0.75	1.5	4	5.5	5.5	5.5	
S-C16	1	1	30A	0.75	1.5	4	5.5	5.5	5.5	16A
				1	2	5.5	7.5	7.5	7.5	
S-C21	2	2	36A	1.2	2.2	5.5	11	11	11	24A
				1.5	3	7.5	15	15	15	
S-C35	2	2	45A	2.2	4	9	15	15	15	35A
				3	5.5	12.5	20	20	20	
S-C50	2	2	65A	3	5.5	13	24	24	24	50A
				4	7.5	17.5	32	32	32	

# Three Pole Contactors



"S-C" type 12A to 220A (AC3)

CONTROL CIRCUIT: AC

Catalogue name	Instantaneous Auxiliary contacts		AC1 duty $\theta \leq 40^\circ\text{C}$	AC3 duty 1 Phase		AC3 duty 3 Phase				Ie
	N/O	N/C		110V	220V	220V	380V	415V	500V	
				KW HP	KW HP	KW HP	KW HP	KW HP	KW HP	
S-C60	2	2	80A	4 5.5	7.5 10	15 20	30 40	30 40	30 40	58A
S-C65	2	2	100A		11 15	19 25	37 50	37 50	37 50	67A
S-C80	2	2	125A		15 20	22 30	44 60	44 60	44 60	85A
S-C100	2	2	145A			30 40	60 80	60 80	60 80	110A
S-C125	2	2	165A				37 50	75 100	75 100	135A
S-C150	2	2	200A				45 60	90 125	90 125	165A
S-C220	2	2	250A				65 85	110 150	110 150	220A

# THERMAL OVERLOAD RELAYS "TH"-series 0.64A to 160A”

Compensated and differential overload relays with 1 N/O + 1 N/C (1com) auxiliary contacts

For direct connection with "S-C" series contactors

**TH-12**



**TH-20**



**TH-60**



**TH-60T**



**TH-120**



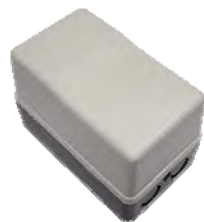
Catalogue Name	Relay Setting Range RC (FLC) A	Standard A	Contactors	Weight Kg	Motor Capacity (HP)				
					1 Phase		3 Phase		
					100-110V	200-220V	200-220V	380-440V	500-550V
TH-12	0.64~0.96A	0.8A	S-C11~S-C12	0.095			1/8	1/4	1/2
TH-12	0.9~1.5A	1.2A	S-C11~S-C12	0.095			1/4	1/2	3/4
TH-12	1.6~2.6A	2.1A	S-C11~S-C12	0.095		1/4	1/2	1	1.5
TH-12	2.8~4.2A	3.5A	S-C11~S-C12	0.095	1/8	1/2	1	2	3
TH-12	4~6A	5A	S-C11~S-C12	0.095	1/4	3/4	1.5	3	4
TH-12	5~8A	6.5A	S-C11~S-C12	0.095	1/2	1	2	4	
TH-12	7~11A	9A	S-C11~S-C12	0.095			3	5	7.5
TH-12	9~13A	11A	S-C12	0.095	3/4	1.5	4	7.5	10
TH-12	12~18A	15A	S-C16	0.095	1	2	5	10	
TH-20	1.6~2.6A	2.1A	S-C16~S-C21	0.135			1/2	1	1.5
TH-20	2.8~4.2A	3.5A	S-C16~S-C21	0.135	1/8	1/2	1	2	3

Catalogue Name	Relay Setting Range RC (FLC) A	Standard A	Contactors	Weight Kg	Motor Capacity (HP)				
					1 Phase		3 Phase		
					100-110V	200-220V	200-220V	380-440V	500-550V
TH-20	1.6~2.6A	2.1A	S-C16~S-C21	0.135			1/2	1	1.5
TH-20	2.8~4.2A	3.5A	S-C16~S-C21	0.135	1/8	1/2	1	2	3
TH-20	4~6A	5A	S-C16~S-C21	0.135	1/4	3/4	1-1/2	3	4
TH-20	5~8A	6.5A	S-C16~S-C21	0.135	1/2	1	2	4	
TH-20	7~11A	9A	S-C16~S-C21	0.135			3	5	7.5
TH-20	9~13A	11A	S-C16~S-C21	0.135	3/4	1.5	4	7.5	10
TH-20 (T)	12~18A	15A	S-C16~S-C21	0.135	1	2	5	10	
TH-20 (T)	18-26A	22A	S-C21	0.135	1-1/2		7.5	15	20
TH-20 (T)	24~36A	30A	S-C21	0.165		5	10	20	
TH-20 (T)	33-50A	41A	S-C35	0.165	3	7.5	15	30	40
TH-60	24~36A	30A	S-C35	0.225		5	10	20	
TH-60	33~50A	41A	S-C50	0.225	3	7.5	15	30	40
TH-60	43~65A	54A	S-C60	0.225			20	40	50
TH-60 (T)	54~80A	67A	S-C65	0.225	6		25	50	60
TH-60 (T)	60~100A	80A	S-C80	0.225			30	60	75
TH-120	60~100A	80A	S-C100	0.490			30	60	75
TH-120	80~130A	105A	S-C100	0.490			40	75	100
TH-120	100~160A	130A	S-C125	0.490			50	100	125

## Enclosed Starters Non-Reversing Starters MSP IP42

Catalogue name	3 Phase				Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V	380V	440V	575V		N/O	N/C
<b>Non Push Button</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>			
<b>MSP11-C11</b>	<b>4</b>	<b>5.5</b>	<b>5.5</b>	<b>5.5</b>	<b>TH-12</b>	<b>1</b>	<b>-</b>
<b>MSP21-C12</b>	<b>4</b>	<b>5.5</b>	<b>5.5</b>	<b>5.5</b>	<b>TH-12</b>	<b>1</b>	<b>1</b>
<b>MSP21-C16</b>	<b>5.5</b>	<b>7.5</b>	<b>7.5</b>	<b>7.5</b>	<b>TH-20</b>	<b>1</b>	<b>1</b>
<b>MSP21-C21</b>	<b>7.5</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>TH-20</b>	<b>2</b>	<b>2</b>
<b>MSP35-C35</b>	<b>12.5</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>TH-20</b>	<b>2</b>	<b>2</b>

**MSP21-C21**



## Enclosed Starters Non-Reversing Starters MSP IP42

Catalogue name	3 Phase				Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V	380V	440V	575V		N/O	N/C
	<b>HP</b>	<b>HP</b>	<b>HP</b>	<b>HP</b>			
<b>MSP11-C11-PB</b>	<b>4</b>	<b>5.5</b>	<b>5.5</b>	<b>5.5</b>	<b>TH-12</b>	<b>1</b>	<b>-</b>
<b>MSP21-C12-PB</b>	<b>4</b>	<b>5.5</b>	<b>5.5</b>	<b>5.5</b>	<b>TH-12</b>	<b>1</b>	<b>1</b>
<b>MSP21-C16-PB</b>	<b>5.5</b>	<b>7.5</b>	<b>7.5</b>	<b>7.5</b>	<b>TH-20</b>	<b>1</b>	<b>1</b>
<b>MSP21-C21-PB</b>	<b>7.5</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>TH-20</b>	<b>2</b>	<b>2</b>
<b>MSP35-C35-PB</b>	<b>12.5</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>TH-20</b>	<b>2</b>	<b>2</b>



# Enclosed Starters Non-Reversing Starters MSP IP42



Catalogue name	3 Phase				Overload Relay Type	Instantaneous Auxiliary Contacts	
	220V HP	380V HP	440V HP	575V HP		N/O	N/C
MSN12C11-PB	4	5.5	5.5	5.5	TH-12	1	-
MSN12-C12-PB	4	5.5	5.5	5.5	TH-12	1	1
MSN21-C16-PB	5.5	7.5	7.5	7.5	TH-20	1	1
MSN21-C21-PB	7.5	15	15	15	TH-20	2	2
MSN35-C35-PB	12.5	20	20	20	TH-20	2	2
MSN65-C50-PB	17.5	32	32	32	TH-60	2	2
MSN65-C60-PB	20	40	40	40	TH-60	2	2
MSN65-C65-PB	25	50	50	50	TH-60	2	2
MSN65-C80-PB	30	60	60	60	TH-60	2	2
MSN100-C100-PB	40	80	80	80	TH-120	2	2
MSN100-C125-PB	50	100	100	100	TH-120	2	2
MSN100-45D-PB	20	40	40	40	BTH-60	1	1
MSN100-55D-PB	25	45	45	45	BTH-60	1	1
MSN100-65D-PB	30	50	50	50	BTH-60	1	1
MSN100-80D-PB	35	60	75	75	BTH-80	1	1
MSN100-100D-PB	40	75	75	80	BTH-80	1	1

# Star-Delta Starters

# CONTROL CIRCUIT : AC



## "S-C" Series

Type	220~240V		380~415V		MCM	MCY	MC $\Delta$
	HP	A	HP	A			
<b>EYD<sub>3</sub>-21</b>	7.5~10	22~30A	10~15	15~22A	S-C21	S-C21	S-C21
<b>EYD<sub>3</sub>-35</b>	15~20	41~54A	20~30	30~41A	S-C35	S-C21	S-C35
<b>EYD<sub>3</sub>-50</b>	25~30	67~80A	40~50	54A~67A	S-C50	S-C35	S-C50
<b>EYD<sub>3</sub>-65</b>	40	105A	60	80A	S-C65	S-C35	S-C65
<b>EYD<sub>3</sub>-80</b>	50	130A	75	105A	S-C80	S-C50	S-C80
<b>EYD<sub>3</sub>-100</b>	60	2CT+TH20-5A	100	2CT+TH20-5A	S-C100	S-C60	S-C100
<b>EYD<sub>3</sub>-125</b>	75	2CT+TH20-5A	125	2CT+TH20-5A	S-C125	S-C65	S-C125
<b>EYD<sub>3</sub>-150</b>	100	2CT+TH20-5A	150	2CT+TH20-5A	S-C150	S-C80	S-C150
<b>EYD<sub>3</sub>-220</b>	125	2CT+TH20-5A	200	2CT+TH20-5A	S-C220	S-C100	S-C220