



MAGNETIC CONTACTOR & MOTOR STARTER



N Series



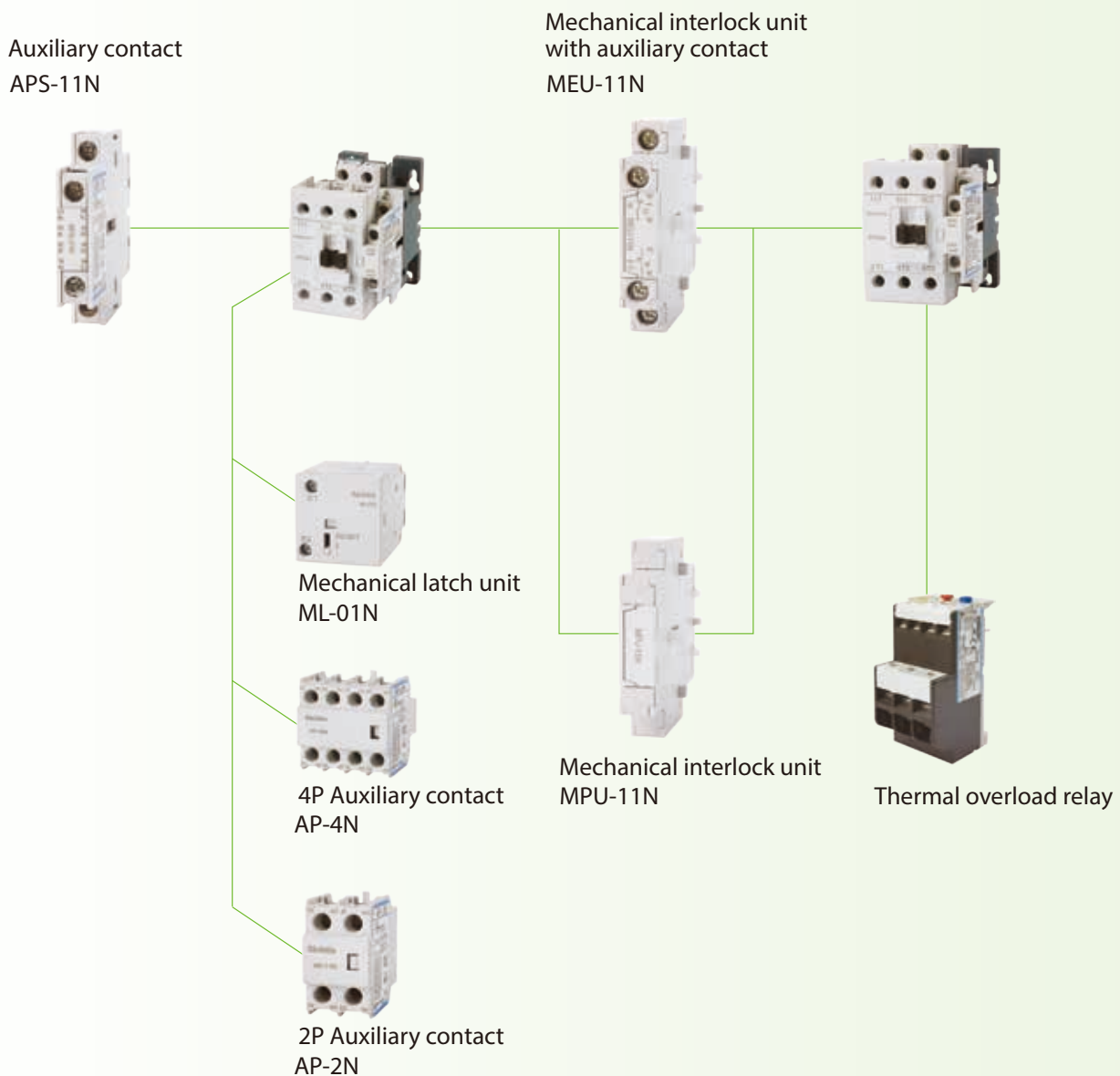
Functionalities and characteristics of Magnetic Contactor

■ Configuration

Composite magnetic switch (initialism MS) comprises of a contactor for switching on and off current and a thermal overload relay for protecting the load.

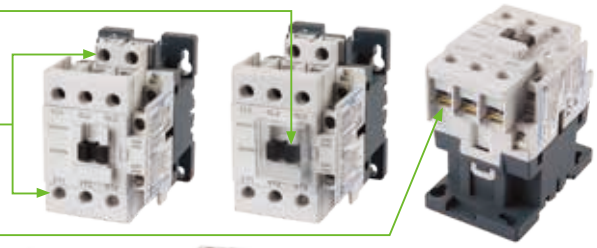
■ Functions

- Switching the control system for electric power transmission and distribution.
- Operation of the start and stop of motors.
- Electric power control for all kinds of industrial machinery, machine tools, injection molding machines.



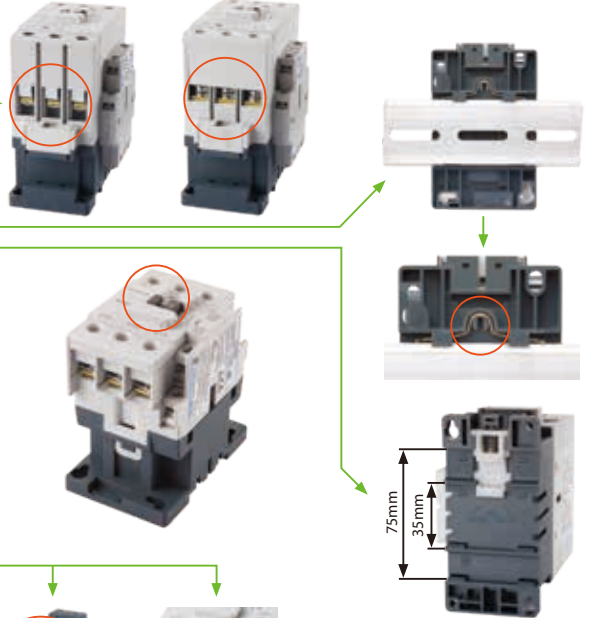
Safety

- Terminal Cover
- Safety Cover
- Ui=690V
- UL-94 class plastic

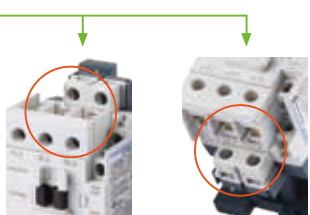


Utility

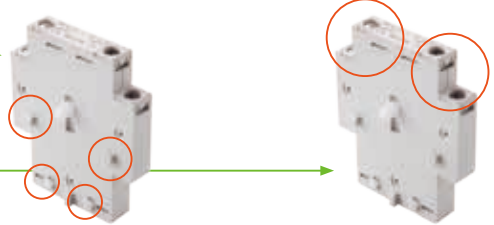
- Screw type main circuit terminal
Box lug for S-P40NL~100NL, TH-P65NL~100NL
- Tool free installation
Din-rail 35mm & 75 mm
- Tool free top / side auxiliary contact unit
(Interlock unit can be attached on)



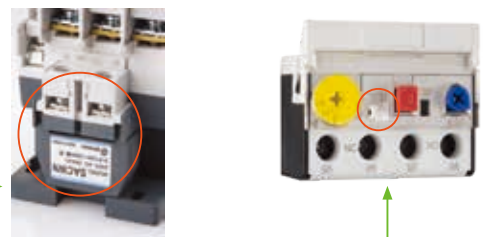
- Coil position can be switched
- Endurance
AC3 1.5 million times
AC4 35 thousand times



- Mechanical interlock
- Mechanical & electrical interlock combination
with 2 NC



- Surge unit
- Thermal overload relay with OFF button



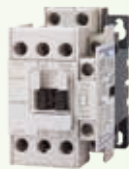
- Knob cover (lock attachable)

- Mechanical latch unit
(energy saving, no noise)

- Separate installation unit
(TH-P38N, 65N)



AC Control



TYPE				9N			12N				
Model	Motor starter	Magnetic contactor		Non-reversing	S-P9N			S-P12N			
				Reversing	S-2 x P9N			S-2 x P12N			
		Without enclosure			Non-reversing	MSO-P9N			MSO-P12N		
					Reversing	MSO-2 x P9N			MSO-2 x P12N		
		With enclosure			Non-reversing	MS-P9N			MS-P12N		
					Reversing	MS-2 x P9N			MS-2 x P12N		
		Enclosure with on / off button			Non-reversing	MS-P9N-PB			MS-P12N-PB		
		Enclosure with emergency button			Non-reversing	MS-P9N-EM			MS-P12N-EM		
		T.O.R			3 heaters (E)	TH-P38NE			TH-P38NE		
					Differential (PP)	TH-P38NPP			TH-P38NPP		
Rated insulation voltage (Ui) IEC (V)				690			690				
Rated operation voltage (Ue) IEC / UL (V)				690 / 600			690 / 600				
Rated impulse withstand voltage (Uimp) IEC (KV)				6			6				
Main contacts				3NO			3NO				
Rated Capacity	Rated power factor and current			kW	HP	A	kW	HP	A		
	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V	2.2	3	9	3.5	4.5	13	
				380 / 400V	4	5.5	9	5.5	7.5	12	
				415V	4	5.5	9	5.5	7.5	12	
				440V	4	5.5	9	5.5	7.5	12	
				550V	4	5.5	7	5.5	7.5	9	
				660V	4	5.5	5	5.5	7.5	7	
				690V	4	5.5	5	5.5	7.5	7	
	AC-1 Resistance load (A)			25			25				
	Continuous current (Ith) (A)			25			25				
	UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V		0.5	9.8		0.5	9.8	
				220 ~ 240V		1	8		2	12	
				220 ~ 240V		2	6.8		3	9.6	
			3 φ	440 ~ 480V		5	7.6		7.5	11	
				550 ~ 600V		7.5	9		10	11	
Continuous current (Ith) (A)				25			25				
NEMA size			00			0					
Auxiliary contact	Auxiliary Contact			1NO1NC			1NO1NC				
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V	6			6				
			240V	3			3				
			380V	1.9			1.9				
			480V	1.5			1.5				
			500V	1.4			1.4				
			600V	1.2			1.2				
Continuous current (Ith) (A)			10			10					
Contact class (UL)				A600, Q300			A600, Q300				
Endurance	Mechanical			15 Mil.			15 Mil.				
	Electrical (AC3)			2 Mil.			2 Mil.				
	Operation (Time / hour)			1200			1200				
Accessory	Auxiliary Contact Unit	Front	2P	2NO, 1NO1NC, 2NC			●				
			4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC			●				
		Side	1NO1NC			●					
	Surge unit (SACWN)				●			●			
	Mechanical interlock	MPU-11N			●			●			
		MEU-11N (With 2NC)			●			●			
	Mechanical latch	ML-01N			●			●			
Dimension (mm)	Appearance W x H x D			45 x 80 x 85			45 x 80 x 85				
	Installation										

Note :

1. The model name "L" means Box lug type terminal (For model 40~100). Ex. S-P40NL
2. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.



18N			25N		
S-P18N			S-P25N		
S-2 x P18N			S-2 x P25N		
MSO-P18N			MSO-P25N		
MSO-2 x P18N			MSO-2 x P25N		
MS-P18N			MS-P25N		
MS-2 x P18N			MS-2 x P25N		
MS-P18N-PB			MS-P25N-PB		
MS-P18N-EM			MS-P25N-EM		
TH-P38NE			TH-P38NE		
TH-P38NPP			TH-P38NPP		
690			690		
690 / 600			690 / 600		
6			6		
3NO			3NO		
kW	HP	A	kW	HP	A
4.5	6	18	7.5	10	28
7.5	10	18	11	15	28
7.5	10	18	11	15	25
7.5	10	18	11	15	25
7.5	10	13	15	20	23
7.5	10	10	15	20	18
7.5	10	9	15	20	17
32			40		
32			40		
	1	16		2	24
	3	17		3	17
	5	15.2		7.5	22
	10	14		15	21
	10	11		15	17
25			40		
0			1		
1NO1NC			1NO1NC		
6			6		
3			3		
1.9			1.9		
1.5			1.5		
1.4			1.4		
1.2			1.2		
10			10		
A600, Q300			A600, Q300		
15 Mil.			15 Mil.		
2 Mil.			2 Mil.		
1200			1200		
●			●		
●			●		
●			●		
●			●		
●			●		
●			●		
●			●		
●			●		
45 x 80 x 85			55 x 86 x 89		

AC Control



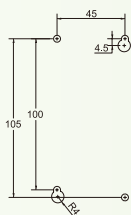
TYPE				32N			38N											
Model	Motor starter	Magnetic contactor		Non-reversing			S-P32N			S-P38N								
				Reversing			S-2 x P32N			S-2 x P38N								
		Without enclosure		Non-reversing			MSO-P32N			MSO-P38N								
				Reversing			MSO-2 x P32N			MSO-2 x P38N								
		With enclosure		Non-reversing			MS-P32N			MS-P38N								
				Reversing			MS-2 x P32N			MS-2 x P38N								
		Enclosure with on / off button		Non-reversing			MS-P32N-PB			MS-P38N-PB								
		Enclosure with emergency button		Non-reversing			MS-P32N-EM			MS-P38N-EM								
		T.O.R		3 heaters (E)			TH-P38NE			TH-P38NE								
				Differential (PP)			TH-P38NPP			TH-P38NPP								
Rated insulation voltage (Ui) IEC (V)				690			690											
Rated operation voltage (Ue) IEC / UL (V)				690 / 600			690 / 600											
Rated impulse withstand voltage (Uimp) IEC (KV)				6			6											
Main contacts				3NO			3NO											
Rated Capacity	Rated power factor and current			kW	HP	A	kW	HP	A									
				IEC60947-4-1 EN60947-4-1 DIN VDE 0660			AC3			3 φ								
				200 / 240V	9	12.5	33	11	15	39								
				380 / 400V	15	20	33	18.5	25	38								
				415V	15	20	32	18.5	25	38								
				440V	15	20	32	18.5	25	38								
				550V	18.5	25	29	22	30	33								
				660V	18.5	25	22	22	30	27								
				690V	18.5	25	21	22	30	26								
				AC-1 Resistance load (A)			50											
				Continuous current (Ith) (A)			50											
	UL 508 CSA-C22.2			FLA			1 φ			110 ~ 120V			3			34		
							220 ~ 240V			5			28					
				3 φ			220 ~ 240V			10			28					
							440 ~ 480V			20			27					
550 ~ 600V				20			22											
			Continuous current (Ith) (A)			50			50									
			NEMA size			1			1									
Auxiliary contact	Auxiliary Contact			1NO1NC			1NO1NC											
	IEC 60947-5-1 EN 60947-5-1			AC 15 (A)			120V			6								
							240V			3								
							380V			1.9								
							480V			1.5								
							500V			1.4								
							600V			1.2								
			Continuous current (Ith) (A)			10												
Contact class (UL)				A600, Q300			A600, Q300											
Endurance	Mechanical (10000 times)			15 Mil.			15 Mil.											
	Electrical (AC3, 10000 times)			2 Mil.			1.6 Mil.											
	Operation (Time / hour)			1200			1200											
Accessory	Auxiliary Contact Unit		Front		2P	2NO, 1NO1NC, 2NC			●									
					4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC			●									
			Side		1NO1NC			●										
	Surge unit (SACWN)				●			●										
	Mechanical interlock		MPU-11N			●			●									
			MEU-11N (With 2NC)			●			●									
Mechanical latch		ML-01N			●			●										
Dimension (mm)	Appearance W x H x D			55 x 86 x 89			55 x 86 x 89											
	Installation																	

Note :

1. The model name "L" means Box lug type terminal (For model 40~100). Ex. S-P40NL
2. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.



40N			40NL			50N			50NL			65N			65NL		
S-P40N			S-P40NL			S-P50N			S-P50NL			S-P65N			S-P65NL		
S-2 x P40N			S-2 x P40NL			S-2 x P50N			S-2 x P50NL			S-2 x P65N			S-2 x P65NL		
MSO-P40N			MSO-P40NL			MSO-P50N			MSO-P50NL			MSO-P65N			MSO-P65NL		
MSO-2 x P40N			MSO-2 x P40NL			MSO-2 x P50N			MSO-2 x P50NL			MSO-2 x P65N			MSO-2 x P65NL		
MS-P40N			MS-P40NL			MS-P50N			MS-P50NL			MS-P65N			MS-P65NL		
MS-2 x P40N			MS-2 x P40NL			MS-2 x P50N			MS-2 x P50NL			MS-2 x P65N			MS-2 x P65NL		
MS-P40N-PB			MS-P40NL-PB			MS-P50N-PB			MS-P50NL-PB			MS-P65N-PB			MS-P65NL-PB		
MS-P40N-EM			MS-P40NL-EM			MS-P50N-EM			MS-P50NL-EM			MS-P65N-EM			MS-P65NL-EM		
TH-P65NE			TH-P65NLE			TH-P65NE			TH-P65NLE			TH-P65NE			TH-P65NLE		
TH-P65NPP			TH-P65NLPP			TH-P65NPP			TH-P65NLPP			TH-P65NPP			TH-P65NLPP		
690			690			690			690			690			690		
690 / 600			690 / 600			690 / 600			690 / 600			690 / 600			690 / 600		
6			8			8			8			8			8		
3NO			3NO			3NO			3NO			3NO			3NO		
kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A
12.5	17	44	12.5	17	44	15	20	58	15	20	58	18.5	25	65	18.5	25	65
22	30	40	22	30	40	25	34	52	25	34	52	30	40	65	30	40	65
22	30	40	22	30	40	30	40	50	30	40	50	37	50	65	37	50	65
22	30	40	22	30	40	30	40	50	30	40	50	37	50	65	37	50	65
22	30	33	22	30	33	30	40	41	30	40	41	37	50	52	37	50	52
22	30	27	22	30	27	30	40	34	30	40	34	37	50	43	37	50	43
22	30	26	22	30	26	30	40	32	30	40	32	37	50	39	37	50	39
65			60			80			80			100			98		
60			60			80			80			98			98		
3	34		3	34		5	56		5	56		5	56		5	56	
7.5	40		7.5	40		10	50		10	50		15	68		15	68	
15	42		15	42		20	54		20	54		25	68		25	68	
30	40		30	40		40	52		40	52		50	65		50	65	
30	32		30	32		40	41		40	41		50	52		50	52	
60			60			80			80			98			98		
2			2			2			2			2			2		
Note 2			Note 2			Note 2			Note 2			Note 2			Note 2		
6			6			6			6			6			6		
3			3			3			3			3			3		
1.9			1.9			1.9			1.9			1.9			1.9		
1.5			1.5			1.5			1.5			1.5			1.5		
1.4			1.4			1.4			1.4			1.4			1.4		
1.2			1.2			1.2			1.2			1.2			1.2		
10			10			10			10			10			10		
A600, Q600			A600, Q600			A600, Q600			A600, Q600			A600, Q600			A600, Q600		
10 Mil.			10 Mil.			10 Mil.			10 Mil.			10 Mil.			10 Mil.		
1.6 Mil.			1.6 Mil.			1.5 Mil.			1.5 Mil.			1.5 Mil.			1.5 Mil.		
1200			1200			1200			1200			1200			1200		
●			●			●			●			●			●		
●			●			●			●			●			●		
●			●			●			●			●			●		
●			●			●			●			●			●		
●			●			●			●			●			●		
●			●			●			●			●			●		
●			●			●			●			●			●		
55 x 115 x 120			55 x 115 x 120			55 x 115 x 120			55 x 115 x 120			55 x 115 x 120			55 x 115 x 120		



AC Control



TYPE				80N			80NL			100N			100NL														
Model	Magnetic contactor	Without enclosure	Non-reversing	S-P80N			S-P80NL			S-P100N			S-P100NL														
			Reversing	S-2 x P80N			S-2 x P80NL			S-2 x P100N			S-2 x P100NL														
		With enclosure	Non-reversing	MSO-P80N			MSO-P80NL			MSO-P100N			MSO-P100NL														
			Reversing	MSO-2 x P80N			MSO-2 x P80NL			MSO-2 x P100N			MSO-2 x P100NL														
		Enclosure with on / off button	Non-reversing	MS-P80N			MS-P80NL			MS-P100N			MS-P100NL														
			Reversing	MS-2 x P80N			MS-2 x P80NL			MS-2 x P100N			MS-2 x P100NL														
		Enclosure with emergency button	Non-reversing	MS-P80N-PB			MS-P80NL-PB			MS-P100N-PB			MS-P100NL-PB														
			Non-reversing	MS-P80N-EM			MS-P80NL-EM			MS-P100N-EM			MS-P100NL-EM														
		T.O.R	3 heaters (E)	TH-P100NE			TH-P100NLE			TH-P100NE			TH-P100NLE														
			Differential (PP)	TH-P100NPP			TH-P100NLPP			TH-P100NPP			TH-P100NLPP														
Rated insulation voltage (Ui) IEC (V)				690			690			690			690														
Rated operation voltage (Ue) IEC / UL (V)				690 / 600			690 / 600			690 / 600			690 / 600														
Rated impulse withstand voltage (Uimp) IEC (KV)				8			8			8			8														
Main contacts				3NO			3NO			3NO			3NO														
Rated Capacity	Rated power factor and current			kW			HP			A			kW			HP			A								
				200 / 240V			22	30	85	22	30	85	30	40	105	30	40	105									
				380 / 400V			40	54	85	40	54	85	55	73	105	55	73	105									
				415V			40	54	80	40	54	80	60	80	100	60	80	100									
				440V			40	54	80	40	54	80	60	80	100	60	80	100									
				550V			45	60	60	45	60	60	60	80	85	60	80	85									
				660V			45	60	50	45	60	50	60	80	70	60	80	70									
				690V			45	60	50	45	60	50	60	80	65	60	80	65									
				AC-1 Resistance load (A)			125			125			140			140											
				Continuous current (Ith) (A)			125			125			140			140											
	UL 508 CSA-C22.2			1 φ			110 ~ 120V			7.5			80			7.5			80								
				220 ~ 240V			20			88			20			88			25			110					
				3 φ			220 ~ 240V			30			80			30			80			40			104		
				440 ~ 480V			60			77			60			77			75			96					
				550 ~ 600V			60			62			60			62			75			77					
Continuous current (Ith) (A)			125			125			140			140															
NEMA size			2			2			3			3															
Auxiliary contact	Auxiliary Contact			Note 2			Note 2			Note 2			Note 2														
	IEC 60947-5-1 EN 60947-5-1			AC 15 (A)			120V			6			6														
				240V			3			3																	
				380V			1.9			1.9																	
				480V			1.5			1.5																	
				500V			1.4			1.4																	
	600V			1.2			1.2																				
Continuous current (Ith) (A)			10			10			10			10															
Contact class (UL)				A600, Q600			A600, Q600			A600, Q600			A600, Q600														
Endurance	Mechanical (10000 times)			10 Mil.			10 Mil.			10 Mil.			10 Mil.														
	Electrical (AC3, 10000 times)			1.5 Mil.			1.5 Mil.			1.2 Mil.			1.2 Mil.														
	Operation (Time / hour)			1200			1200			1200			1200														
Accessory	Auxiliary Contact Unit		Front	2P	2NO, 1NO1NC, 2NC			●			●			●													
				4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC			●			●			●													
			Side	1NO1NC			●			●			●														
	Surge unit (SACWN)				●			●			●			●													
	Mechanical interlock		MPU-11N			●			●			●															
			MEU-11N (With 2NC)			●			●			●															
	Mechanical latch		ML-01N			●			●			●															
Dimension (mm)	Appearance W x H x D			70 x 140 x 136			70 x 140 x 136			70 x 140 x 136			70 x 140 x 136														
	Installation																										

Note :

1. The model name "L" means Box lug type terminal (For model 40~100). Ex. S-P40NL
2. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.

AC Control 4P



TYPE				9N4			12N4			18N4			
Model	Magnetic contactor	Without enclosure	Non-reversing	S-P9N4			S-P12N4			S-P18N4			
			Reversing	S-2 x P9N4			S-2 x P12N4			S-2 x P18N4			
		With enclosure	Non-reversing	MSO-P9N4			MSO-P12N4			MSO-P18N4			
			Reversing	MSO-2 x P9N4			MSO-2 x P12N4			MSO-2 x P18N4			
		Enclosure with on / off button	Non-reversing	MS-P9N4			MS-P12N4			MS-P18N4			
			Reversing	MS-2 x P9N4			MS-2 x P12N4			MS-2 x P18N4			
	Enclosure with emergency button	Non-reversing	MS-P9N4-PB			MS-P12N4-PB			MS-P18N4-PB				
		Non-reversing	MS-P9N4-EM			MS-P12N4-EM			MS-P18N4-EM				
	T.O.R	3 heaters (E)		TH-P38NE			TH-P38NE			TH-P38NE			
		Differential (PP)		TH-P38NPP			TH-P38NPP			TH-P38NPP			
Rated insulation voltage (Ui) IEC (V)				690			690			690			
Rated operation voltage (Ue) IEC / UL (V)				690 / 600			690 / 600			690 / 600			
Rated impulse withstand voltage (Uimp) IEC (kV)				6			6			6			
Main contacts				4NO / 2NO2NC / 3NO			4NO / 2NO2NC / 3NO			4NO / 2NO2NC / 3NO			
Rated Capacity	Rated power factor and current			kW	HP	A	kW	HP	A	kW	HP	A	
	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V	2.2	3	9	3.5	4.5	13	4.5	6	18
				380 / 400V	4	5.5	9	5.5	7.5	12	7.5	10	18
				415V	4	5.5	9	5.5	7.5	12	7.5	10	18
				440V	4	5.5	9	5.5	7.5	12	7.5	10	18
				550V	4	5.5	7	5.5	7.5	9	7.5	10	13
				660V	4	5.5	5	5.5	7.5	7	7.5	10	10
	690V	4	5.5	5	5.5	7.5	7	7.5	10	9			
	AC-1 Resistance load (A)				25			25			32		
	Continuous current (Ith) (A)				25			25			32		
UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V		0.5	9.8		0.5	9.8		1	16	
			220 ~ 240V		1	8		2	12		3	17	
			220 ~ 240V		2	6.8		3	9.6		5	15.2	
			440 ~ 480V		5	7.6		7.5	11		10	14	
			550 ~ 600V		7.5	9		10	11		10	11	
			Continuous current (Ith) (A)				25			25			25
NEMA size				00			0			0			
Auxiliary contact	Auxiliary Contact			Note 1			Note 1			Note 1			
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V	6			6			6			
			240V	3			3			3			
			380V	1.9			1.9			1.9			
			480V	1.5			1.5			1.5			
			500V	1.4			1.4			1.4			
600V	1.2			1.2			1.2						
Continuous current (Ith) (A)				10			10			10			
Contact class (UL)				A600, Q300			A600, Q300			A600, Q300			
Endurance	Mechanical (10000 times)			15 Mil.			15 Mil.			15 Mil.			
	Electrical (AC3, 10000 times)			2 Mil.			2 Mil.			2 Mil.			
	Operation (Time / hour)			1200			1200			1200			
Accessory	Auxiliary Contact Unit	Front	2P 2NO, 1NO1NC, 2NC	●			●			●			
			4P 4NO, 3NO1NC, 2NO2NC, 1NO3NC	●			●			●			
		Side	1NO1NC	●			●			●			
	Surge unit (SACWN)				●			●			●		
	Mechanical interlock	MPU-11N			●			●			●		
		MEU-11N (With 2NC)			●			●			●		
Mechanical latch	ML-01N			●			●			●			
Dimension (mm)	Appearance W x H x D			45 x 80 x 85			45 x 80 x 85			45 x 80 x 85			
	Installation												

Note :

1. Main contact of 3NO model come with 1NO or 1NC auxiliary contact, please specify when order.
2. Please specify the main contact configuration when place the order.

AC Control 4P



TYPE			25N4	32N4	38N4	40N4										
Model	Magnetic contactor	Non-reversing	S-P25N4	S-P32N4	S-P38N4	S-P40N4										
		Reversing	S-2 x P25N4	S-2 x P32N4	S-2 x P38N4	S-2 x P40N4										
	Without enclosure	Non-reversing	MSO-P25N4	MSO-P32N4	MSO-P38N4	MSO-P40N4										
		Reversing	MSO-2 x P25N4	MSO-2 x P32N4	MSO-2 x P38N4	MSO-2 x P40N4										
	With enclosure	Non-reversing	MS-P25N4	MS-P932N4	MS-P38N4	MS-P40N4										
		Reversing	MS-2 x P25N4	MS-2 x P32N4	MS-2 x P38N4	MS-2 x P40N4										
	Enclosure with on / off button	Non-reversing	MS-P25N4-PB	MS-P32N4-PB	MS-P38N4-PB	MS-P40N4-PB										
	Enclosure with emergency button	Non-reversing	MS-P25N4-EM	MS-P32N4-EM	MS-P38N4-EM	MS-P40N4-EM										
	T.O.R	3 heaters (E)	TH-P38NE	TH-P38NE	TH-P38NE	TH-P38NE										
		Differential (PP)	TH-P38NPP	TH-P38NPP	TH-P38NPP	TH-P38NPP										
Rated insulation voltage (Ui) IEC (V)			690	690	690	690										
Rated operation voltage (Ue) IEC / UL (V)			690 / 600	690 / 600	690 / 600	690 / 600										
Rated impulse withstand voltage (Uimp) IEC (KV)			6	6	8	8										
Main contacts			4NO / 2NO2NC	4NO / 2NO2NC	4NO / 2NO2NC	4NO / 2NO2NC										
Rated Capacity	Rated power factor and current		kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A		
	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V	7.5	10	28	9	12.5	33	11	15	39	11	15	40
				380 / 400V	11	15	28	15	20	33	18.5	25	38	18.5	25	40
				415V	11	15	25	15	20	32	18.5	25	38	18.5	25	40
				440V	11	15	25	15	20	32	18.5	25	38	22	30	40
				550V	15	20	23	18.5	25	29	22	30	33	22	30	34
				660V	15	20	18	18.5	25	22	22	30	27	30	40	34
				690V	15	20	17	18.5	25	21	22	30	26			
	AC-1 Resistance load (A)		40			50			50			50				
	Continuous current (Ith) (A)		40			50			50			50				
	UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V		2	24		3	34		3	34			
				220 ~ 240V		3	17		5	28		5	28			
			3 φ	220 ~ 240V		7.5	22		10	28		10	28			
				440 ~ 480V		15	21		20	27		25	34			
550 ~ 600V				15	17		20	22		25	27					
Continuous current (Ith) (A)		40			50			50								
NEMA size		1			1			1								
Auxiliary contact	Auxiliary Contact															
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V													
			240V													
			380V													
			480V													
			500V													
			600V													
	Continuous current (Ith) (A)															
Contact class (UL)																
Endurance	Mechanical (10000 times)		15 Mil.			15 Mil.			15 Mil.			15 Mil.				
	Electrical (AC3, 10000 times)		2 Mil.			2 Mil.			1.6 Mil.			1.6 Mil.				
	Operation (Time / hour)		1200			1200			1200			1200				
Accessory	Auxiliary Contact Unit	Front	2P	2NO, 1NO1NC, 2NC		●		●		●		●				
			4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC		●		●		●		●				
		Side	1NO1NC		●		●		●		●					
	Surge unit (SACWN)		●		●		●		●		●					
	Mechanical interlock	MPU-11N		●		●		●		●		●				
		MEU-11N (With 2NC)		●		●		●		●		●				
Mechanical latch	ML-01N		●		●		●		●		●					
Dimension (mm)	Appearance W x H x D		55 x 86 x 89			55 x 86 x 89			55 x 86 x 89			55 x 86 x 89				
	Installation															

Note:
1. Please specify the main contact configuration when place the order.

DC Control (SD)

TYPE			9N	12N	18N								
Model	Magnetic contactor	Non-reversing	SD-P9N	SD-P12N	SD-P18N								
		Reversing	SD-2 x P9N	SD-2 x P12N	SD-2 x P18N								
T.O.R		3 heaters (E)	TH-P38NE	TH-P38NE	TH-P38NE								
		Differential (PP)	TH-P38NPP	TH-P38NPP	TH-P38NPP								
Rated insulation voltage (Ui) IEC		(V)	690	690	690								
Rated operation voltage (Ue) IEC / UL		(V)	690 / 600	690 / 600	690 / 600								
Rated impulse withstand voltage (Uimp) IEC		(KV)	6	6	6								
Main contacts			3NO	3NO	3NO								
Rated Capacity	Rated power factor and current		kW	HP	A	kW	HP	A	kW	HP	A		
	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V	2.2	3	9	3.5	4.5	13	4.5	6	18
				380 / 400V	4	5.5	9	5.5	7.5	12	7.5	10	18
				415V	4	5.5	9	5.5	7.5	12	7.5	10	18
				440V	4	5.5	9	5.5	7.5	12	7.5	10	18
				550V	4	5.5	7	5.5	7.5	9	7.5	10	13
				660V	4	5.5	5	5.5	7.5	7	7.5	10	10
				690V	4	5.5	5	5.5	7.5	7	7.5	10	9
	AC-1 Resistance load (A)			25			25			32			
	Continuous current (Ith) (A)			25			25			32			
	UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V		0.5	9.8		0.5	9.8		1	16
				220 ~ 240V		1	8		2	12		3	17
				220 ~ 240V		2	6.8		3	9.6		5	15.2
			3 φ	440 ~ 480V		5	7.6		7.5	11		10	14
				550 ~ 600V		7.5	9		10	11		10	11
Continuous current (Ith) (A)					25			25			25		
NEMA size			00			00			00				
Auxiliary Contact	Auxiliary Contact		1NO1NC			1NO1NC			1NO1NC				
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V	6			6			6			
			240V	3			3			3			
			380V	1.9			1.9			1.9			
			480V	1.5			1.5			1.5			
			500V	1.4			1.4			1.4			
	600V	1.2			1.2			1.2					
Continuous current (Ith) (A)			10			10			10				
Contact class (UL)			A600, Q300			A600, Q300			A600, Q300				
Endurance	Mechanical		(10000 times)		1500		1500		1500				
	Electrical		(AC3, 10000 times)		200		200		200				
	Operation		(Time / hour)		1200		1200		1200				
Accessory	Auxiliary Contact Unit	Front	2P	2NO, 1NO1NC, 2NC		●		●		●			
			4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC		●		●		●			
		Side	1NO1NC		●		●		●				
	Mechanical interlock	MPU-11N		●		●		●					
		MEU-11N (With 2NC)		●		●		●					
Mechanical latch	ML-01N		●		●		●						
Dimension (mm)	Appearance W x H x D		45 x 80 x 99		45 x 80 x 99		45 x 80 x 99						
	Installation												

Note :

1. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.

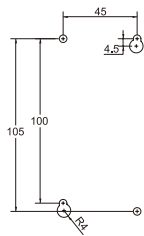
DC Control (SD)

TYPE				25N			32N			38N			40N			40NL								
Model	Magnetic contactor		Non-reversing	SD-P25N			SD-P32N			SD-P38N			SD-P40N			SD-P40NL								
			Reversing	SD-2 x P25N			SD-2 x P32N			SD-2 x P38N			SD-2 x P40N			SD-2 x P40NL								
T.O.R		3 heaters (E)	TH-P38NE			TH-P38NE			TH-P38NE			TH-P65NE			TH-P65NLE									
		Differential (PP)	TH-P38NPP			TH-P38NPP			TH-P38NPP			TH-P65NPP			TH-P65NLPP									
Rated insulation voltage (Ui) IEC (V)			690			690			690			690			690									
Rated operation voltage (Ue) IEC / UL (V)			690 / 600			690 / 600			690 / 600			690 / 600			690 / 600									
Rated impulse withstand voltage (Uimp) IEC (KV)			6			6			6			8			8									
Main contacts				3NO			3NO			3NO			3NO			3NO								
Rated power factor and current				kW			HP			A			kW			HP			A					
Rated Capacity	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V			7.5	10	28	9	12.5	33	11	15	39	12.5	17	44	12.5	17	44			
				380 / 400V			11	15	28	15	20	33	18.5	25	38	22	30	40	22	30	40	22	30	40
				415V			11	15	25	15	20	32	18.5	25	38	22	30	40	22	30	40	22	30	40
				440V			11	15	25	15	20	32	18.5	25	38	22	30	40	22	30	40	22	30	40
				550V			15	20	25	18.5	25	29	22	30	33	22	30	33	22	30	33	22	30	33
				660V			15	20	18	18.5	25	22	22	30	27	22	30	27	22	30	27	22	30	27
	690V			15	20	17	18.5	25	21	22	30	26	22	30	26	22	30	26	22	30	26			
	AC-1 Resistance load (A)				40			50			50			60			60							
	Continuous current (Ith) (A)				40			50			50			60			60							
	UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V				2	24		3	34		3	34		3	34		3	34			
220 ~ 240V					3	17		5	28		5	28		7.5	40		7.5	40						
220 ~ 240V					7.5	22		10	28		10	28		15	42		15	42						
440 ~ 480V					15	21		20	27		25	27		30	40		30	40						
550 ~ 600V					15	17		20	22		25	22		30	32		30	32						
Continuous current (Ith) (A)				40			50			50			60			60								
NEMA size				1			1			1			1			2								
Auxiliary Contact				1NO1NC			1NO1NC			1NO1NC			Note 1			Note 1								
IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V		6			6			6			6			6								
		240V		3			3			3			3			3								
		380V		1.9			1.9			1.9			1.9			1.9								
		480V		1.5			1.5			1.5			1.5			1.5								
		500V		1.4			1.4			1.4			1.4			1.4								
		600V		1.2			1.2			1.2			1.2			1.2								
Continuous current (Ith) (A)				10			10			10			10			10								
Contact class (UL)				A600, Q300			A600, Q300			A600, Q300			A600, Q600			A600, Q600								
Endurance	Mechanical		(10000 times)			1000			1000			1000			1000									
	Electrical		(AC3, 10000 times)			160			160			160			160									
	Operation		(Time / hour)			1200			1200			1200			1200									
Accessory	Auxiliary Contact Unit	Front	2P	2NO, 1NO1NC, 2NC			●	●			●			●										
			4P	4NO, 3NO1NC, 2NO2NC, 1NO3NC			●	●			●			●										
		Side	1NO1NC			●	●			●			●											
	Mechanical interlock	MPU-11N			●	●			●			●												
		MEU-11N (With 2NC)			●	●			●			●												
Mechanical latch	ML-01N			●	●			●			●													
Appearance W x H x D				55 x 86 x 108			55 x 86 x 108			55 x 86 x 108			55 x 115 x 123.5			55 x 115 x 123.5								
Dimension (mm)	Installation																							

Note :

1. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.

DC Control (SD)

TYPE			50N	50NL	65N	65NL										
Model	Magnetic contactor		Non-reversing	SD-P50N	SD-P50NL	SD-P65N	SD-P65NL									
			Reversing	SD-2 x P50N	SD-2 x P50NL	SD-2 x P65N	SD-2 x P65NL									
T.O.R		3 heaters (E)	TH-P65NE	TH-P65NLE	TH-P65NE	TH-P65NLE										
		Differential (PP)	TH-P65NPP	TH-P65NLPP	TH-P65NPP	TH-P65NLPP										
Rated insulation voltage (Ui) IEC (V)			690	690	690	690										
Rated operation voltage (Ue) IEC / UL (V)			690 / 600	690 / 600	690 / 600	690 / 600										
Rated impulse withstand voltage (Uimp) IEC (KV)			8	8	8	8										
Main contacts			3NO	3NO	3NO	3NO										
Rated Capacity	Rated power factor and current		kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A		
	IEC60947-4-1 EN60947-4-1 DIN VDE 0660	AC3	3 φ	200 / 240V	15	20	58	15	20	58	18.5	25	65	18.5	25	65
				380 / 400V	25	34	52	25	34	52	30	40	65	30	40	65
				415V	30	40	50	30	40	50	37	50	65	37	50	65
				440V	30	40	50	30	40	50	37	50	65	37	50	65
				550V	30	40	41	30	40	41	37	50	52	37	50	52
				660V	30	40	34	30	40	34	37	50	43	37	50	43
				690V	30	40	32	30	40	32	37	50	39	37	50	39
	AC-1 Resistance load (A)			80			80			98			98			
	Continuous current (Ith) (A)			80			80			98			98			
	UL 508 CSA-C22.2	FLA	1 φ	110 ~ 120V		5	56		50	56		5	56		5	56
				220 ~ 240V		10	50		10	50		15	68		15	68
			3 φ	220 ~ 240V		20	54		20	54		25	68		25	68
				440 ~ 480V		40	52		40	52		50	65		50	65
				550 ~ 600V		40	41		40	41		50	52		50	52
Continuous current (Ith) (A)			80			80			98			98				
NEMA size			2			2			2			2				
Auxiliary Contact	Auxiliary Contact		Note 1	Note 1	Note 1	Note 1										
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V	6	6	6										
			240V	3	3	3										
			380V	1.9	1.9	1.9										
			480V	1.5	1.5	1.5										
			500V	1.4	1.4	1.4										
			600V	1.2	1.2	1.2										
Continuous current (Ith) (A)		10		10												
Contact class (UL)			A600, Q600		A600, Q600											
Endurance	Mechanical (10000 times)		1000		1000											
	Electrical (AC3, 10000 times)		150		150											
	Operation (Time / hour)		1200		1200											
Accessory	Auxiliary Contact Unit	Front	2P 2NO, 1NO1NC, 2NC	●	●	●										
			4P 4NO, 3NO1NC, 2NO2NC, 1NO3NC	●	●	●										
	Side		1NO1NC	●	●	●										
	Mechanical interlock	MPU-11N		●	●	●										
		MEU-11N (With 2NC)		●	●	●										
Mechanical latch	ML-01N		●	●	●											
Dimension (mm)	Appearance W x H x D		55 x 115 x 123.5		55 x 115 x 123.5											
	Installation															

Note :

1. Standard model of 40 ~ 100 have no auxiliary contact. For additional AX please specify when order.

Capacitor Contactor (SC)

Model				SC-P12N	SC-P16N	SC-P20N	SC-P25N	SC-P30N	SC-P40N	SC-P50N	SC-P60N	SC-P70N					
Rated insulation voltage (Ui) (V)				690													
Rated Capacity	IEC60947-4-1 EN60947-4-1	AC-6b (kVAR / A)	3 ϕ	220 / 240V	6.7 / 18	8.5 / 22	10 / 26	15 / 39	20 / 52	25 / 66	30 / 79	35 / 92	45 / 118				
				400 / 415V	12.5 / 18	16.7 / 24	20 / 29	25 / 36	33 / 48	40 / 58	50 / 72	60 / 87	70 / 101				
				440V	12.5 / 16	16.7 / 22	20 / 26	25 / 33	33 / 43.7	40 / 52	50 / 66	60 / 79	70 / 92				
				500 / 550V	15 / 17	20 / 23	26 / 30	36 / 42	48 / 55	58 / 67	66 / 76	80 / 92	90 / 104				
				600 / 690V	18 / 17	24 / 23	26 / 25	36 / 35	48 / 46	58 / 56	66 / 64	80 / 77	90 / 87				
	Continuous current (Ith) (A)				25	32	40	50	60	80	98	125	140				
Auxiliary contact	Auxiliary Contact			2NO1NC					1NO								
	IEC 60947-5-1 EN 60947-5-1	AC 15 (A)	120V	6													
			240V	3													
			380V	1.9													
			480V	1.5													
			500V	1.4													
			600V	1.2													
Continuous current (Ith) (A)			10														
Endurance	Mechanical			AC-6b					1 Mil.								
	Electrical			AC-6b \leq 440V					0.3 Mil.								
	Operation			(Time / hour)					240					100			

Contact Relay (SR)

Model			SR-P40N
Contact			4NO 3NO 1NC 2NO 2NC
Rated Capacity (A)	AC-15 (IEC)	120V	6
		240V	3
		380V	1.9
		480V	1.5
		500V	1.4
		600V	1.2
	DC-13 (IEC)	125V	0.55
		250V	0.27
		400V	0.15
		500V	0.13
600V		0.1	
Contact class		(UL)	A600, Q600
Rated insulation voltage (Ui)		(V)	690
Continuous current (Ith)		(A)	10
Electrical life		10000 times	50
Mechanical life		10000 times	1000

Coil Characteristics (AC)

Model	Impulse (VA)	Operation (VA)	Power Consumption (W)
S-P9N	65	9.0	3.0
S-P9N4	65	9.0	3.0
S-P12N	65	9.0	3.0
S-P12N4	65	9.0	3.0
S-P18N	65	9.0	3.0
S-P18N4	65	9.0	3.0
S-P25N	75	11.0	3.0
S-P25N4	75	11.0	3.0
S-P32N	75	11.0	3.0
S-P32N4	75	11.0	3.0
S-P38N	75	11.0	3.0
S-P38N4	75	11.0	3.0
S-P40N(D)	185	15.5	5.6
S-P40NL(D)	185	15.5	5.6
S-P50N(D)	185	15.5	5.6
S-P50NL(D)	185	15.5	5.6
S-P65N(D)	185	15.5	5.6
S-P65NL(D)	185	15.5	5.6
S-P80N(D)	340	24.5	6.7
S-P80NL(D)	340	24.5	6.7
S-P100N(D)	340	24.5	6.7

Coil Characteristics (DC)

Model	Impulse (VA)	Operation (VA)	Power Consumption (W)
SD-P9N	-	-	6.0
SD-P12N	-	-	6.0
SD-P18N	-	-	6.0
SD-P25N	-	-	6.0
SD-P32N	-	-	6.0
SD-P38N	-	-	6.0
SD-P40N(D)	27	8.3	8.0
SD-P40NL(D)	27	8.3	8.0
SD-P50N(D)	27	8.3	8.0
SD-P50NL(D)	27	8.3	8.0
SD-P65N(D)	27	8.3	8.0
SD-P65NL(D)	27	8.3	8.0
S-P80N(D) (AC/DC Shared)	300	10	2.4
S-P80NL(D) (AC/DC Shared)	300	10	2.4
S-P100N(D) (AC/DC Shared)	300	10	2.4
S-P100NL(D) (AC/DC Shared)	300	10	2.4

Note :

AC/DC shared is not standard type, please specify when ordering.

Coil Specification Table

S-P9N(4)~P38N(4), S-P40N(L)~P100N(L)				
Description	AC 12V	AC 24V	AC 48V	AC 110V
Coil rated specifications marking	12V 50/60Hz	24V 50/60Hz	48V 50/60Hz	110V 50/60Hz
Description	AC 120V	AC 127V	AC 200V	AC 220V
Coil rated specifications marking	120V 50/60Hz	127V 50/60Hz	200V 50/60Hz	220V 50/60Hz
Description	AC 230V	AC 240V	AC 260V	AC 380V
Coil rated specifications marking	230V 50/60Hz	240V 50/60Hz	260V 50/60Hz	380V 50/60Hz
Description	AC 440V	AC 480V	AC 550V	
Coil rated specifications marking	440V 50/60Hz	480V 50/60Hz	550V 50/60Hz	

SD-P9N~P38N, SD-P40N(L)~P65N(L)				
Description	DC 12V	DC 24V	DC 48V	DC 72V
Coil rated specifications marking	12V DC	24V DC	48V DC	72V DC
Description	DC 110V	DC 125V	DC 200V	DC 220V
Coil rated specifications marking	110V DC	125V DC	200V DC	220V DC

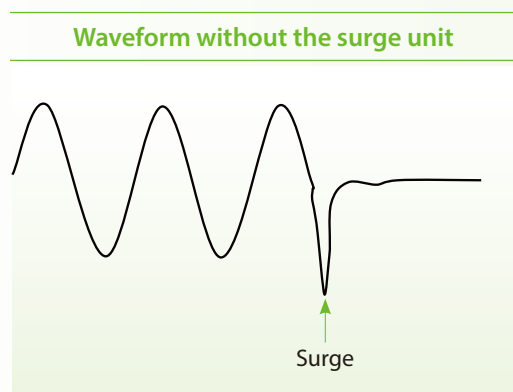
S-P80N(L)~P100N(L)				
Description	AC/DC 24V	AC/DC 48V	AC/DC 110V	AC/DC 220V
Coil rated specifications marking	AC 24-25V 50/60Hz DC 24V	AC 46-50V 50/60Hz DC 48V	AC 110-127V 50/60Hz DC 100-120V	AC 200-250V 50/60Hz DC 200-220V

Surge unit

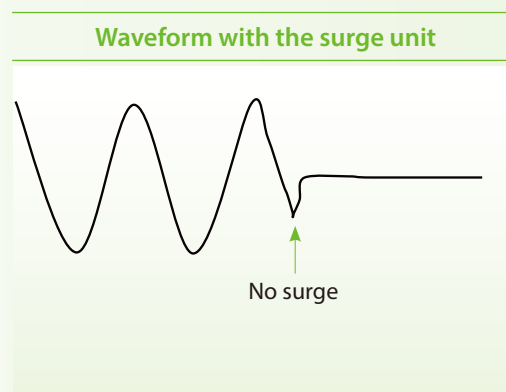
Model	Voltage	Application
SACWN240	Max. 240V	S-P9N(4) ~ P38N(4) S-P40N(L) ~ P100N(L)

Function and Feature

- Prevents surge voltage caused by coil operation, which interferes with other surrounding electronic equipment (CNC processing machine, wire cutting machine)
- Built-in style and easy to install
- IP 20 level with cover case
- Used in AC coil
- Comparison of coil characteristics with and without surge unit (waveform when the coil is turned OFF)



When the coil is OFF, it will generate a surge that will interfere surrounding equipment



Absorb the surge and protect surrounding equipment

Auxiliary Contact Unit (AP)



TYPE		2P Front			4P Front			Side	
Model		AP-20N	AP-11N	AP-02N	AP-40N	AP-31N	AP-22N	AP-13N	APS-11N
Contact		2NO	1NO1NC	2NC	4NO	3NO1NC	2NO2NC	1NO3NC	1NO1NC
Appliance		N series AC control & SR model contactor							
Rated Capacity (A)	AC-15 (IEC)	120V	6						
		240V	3						
		380V	1.9						
		480V	1.5						
		500V	1.4						
	DC-13 (IEC)	600V	1.2						
		125V	0.55						
		250V	0.27						
		400V	0.15						
		500V	0.13						
600V	0.1								
Contact class		(UL)		A600, Q600					
Rated insulation voltage (Ui)		(V)		690					
Continuous current (Ith)		(A)		10					
Electrical life		10000 times		50					
Mechanical life		10000 times		1000					

Note :

1. The maximum number of auxiliary contact is 6.

Wye Delta Starter (EYD)

TYPE		25		38		50		65		80		100	
Model	Open type (w / o CT)	EYD-O-P25N		EYD-O-P38N		EYD-O-P50N		EYD-O-P65N		EYD-O-P80N		EYD-O-P100N	
	Enclosure (w / o Ammeter)	EYD-E-P25N		EYD-E-P38N		EYD-E-P50N		EYD-E-P65N		EYD-E-P80N		EYD-E-P100N	
	Enclosure (Ammeter)	EYD-A-P25N		EYD-A-P38N		EYD-A-P50N		EYD-A-P65N		EYD-A-P80N		EYD-A-P100N	
Rated Capacity	Voltage	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP
	200 ~ 220V	11	15	19	25	22	30	30	40	37	50	45	60
	380 ~ 440V	19	25	30	40	45	60	55	75	75	100	90	125
Contactor	MCM	S-P25N		S-P38N		S-P50N		S-P65N		S-P80N		S-P100N	
	MCD	S-P25N		S-P38N		S-P50N		S-P65N		S-P80N		S-P100N	
	MCS	S-P12N		S-P18N		S-P25N		S-P25N		S-P32N		S-P32N	
T.O.R.		TH-P65NER		TH-P65NER		TH-P65NER		TH-P100NE		TH-P100NE		TH-P100NE	
Wire (mm ²)	Line	2 ~ 14		2 ~ 22		2 ~ 38		8 ~ 50		8 ~ 80		8 ~ 100	
	Load	2 ~ 8		2 ~ 14		2 ~ 22		3.5 ~ 38		3.5 ~ 50		3.5 ~ 60	
	Control	1.25 ~ 2		1.25 ~ 2		1.25 ~ 2		1.25 ~ 2		1.25 ~ 2		1.25 ~ 2	

Note :

1. EYD-E-P25N ~ P100N contents push button, indicator lamp and door handle.
2. EYD-A-P25N ~ P100N contents push button, indicator lamp, door handle and Ammeter.

Mechanical latching device ML-01N

Operation principle

1. Conduct: When the contactor is activated (ON), the mechanism of the latching device will be pulled down, pressing onto the contactor and maintaining conduction. (The control power can be disconnected)
2. Release: ML will receive a signal and release the latching (the contactor has to be released first), causing the contactor to disconnect

Feature

1. The contactor conducts and locks under the action of the mechanical latching device
2. When the control power is disconnected, the contactor remains in the conduction status (energy saving and quiet)
3. Top-mounted to remain the same installation space
4. Disconnect by receiving a signal (pulse)



Performance

1. Rated insulation voltage (Ui) 690V
2. Maximum operation frequency 360 times/Hr

Application

All N type model (except capacitor contactor)

Precautions

1. The time between power on and off of the control circuit must be greater than 100ms
2. The coil of the contactor and latching device cannot be powered on at the same time
3. When the main circuit is conducting, the reset linkage cannot be touched by hands, to avoid electric shock
4. If there is a power outage, use the reset linkage to reset the device before resumption of electricity, to avoid damage of equipment or any other danger

Mechanical latching device coil specification

Description	AC 24V	AC 110V	AC220-277V	AC 380~480V
Coil rated specifications marking	24-32V	110-127V	220-277V	380-480V
Description	DC 24V	DC 48V		
Coil rated specifications marking	24-36V	42-48V		

Thermal Overload Relay (TH)



Model		TH-P18N	TH-P38N	TH-P65N	TH-P65NL				
3 heaters	Contactor combination type	TH-P18NE	TH-38NE	TH-65NE	TH-65NLE				
	Separate installation type	TH-P18NER	TH-38NER	TH-65NER	TH-65NLER				
Differential	Contactor combination type	TH-P18NPP	TH-38NPP	TH-65NPP	TH-65NLPP				
	Separate installation type	TH-P18NPPR	TH-38NPPR	TH-65NPPR	TH-65NLPPR				
Rated insulation voltage		1000V		690V					
Applicable contactor		6Kv	S-P9N S-P12N S-P18N S-P25N S-P32N S-P38N	S-P40N S-P50N S-P65N	S-P40NL S-P50NL S-P65NL				
Tripping class		class 10							
T.O.R. adjusting range		Rating	Range	Rating	Range	Rating	Range	Rating	Range
		0.25	0.19-0.31	0.25	0.19-0.31	11	9-13	11	9-13
		0.4	0.3-0.5	0.4	0.3-0.5	15	12-18	15	12-18
		0.6	0.45-0.75	0.6	0.45-0.75	21	17-24	21	17-24
		0.9	0.7-1.1	0.9	0.7-1.1	28	23-33	28	23-33
		1.2	0.9-1.5	1.2	0.9-1.5	35	30-40	35	30-40
		1.7	1.3-2.1	1.7	1.3-2.1	43	38-48	43	38-48
		2.1	1.6-2.6	2.1	1.6-2.6	54	43-65	54	43-65
		3.3	2.5-4.1	3.3	2.5-4.1	72	62-82	72	62-82
		4.4	3.4-5.4	4.4	3.4-5.4				
		6.5	5-8	6.5	5-8				
		9	7-11	9	7-11				
		11	9-13	11	9-13				
		15	12-18	15	12-18				
		Dimension (mm)		45 x 64.5 x 82	45 x 84 x 66	55 x 87 x 72	55 x 87 x 72		
Weight (g)	3 heaters (E)	130	145	170	185				
	Differential (PP)	130	155	180	195				
Auxiliary contact	Auxiliary Contact		1NO 1NC	1NO 1NC	1NO 1NC	1NO 1NC			
	IEC 60947-5-1 EN 60947-5-1 AC 15 (A)	120V	3	3	3	3			
		240V	1.5	1.5	1.5	1.5			
		480V	0.75	0.75	0.75	0.75			
		600V	0.6	0.6	0.6	0.6			
	Continuous current (Ith) (A)		5	5	5	5			
Contact class (UL)		B600, R300							
Separate installation unit (Optional)		UATP18N	UATP38N	UATP65N	UATP65NL				

Note :

1. Model name "R" means with separate installation unit.

Thermal Overload Relay (TH)



Model		TH-P100N	TH-P100NL	TH-P100NT			
3 heaters	Contact combination type	TH-100NE	TH-100NLE	TH-P100NTE			
	Separate installation type	-	-	TH-P100NTER			
Differential	Contact combination type	TH-100NPP	TH-100NLPP	TH-P100NTPP			
	Separate installation type	-	-	TH-P100NTPPR			
Rated insulation voltage		690V		1000V			
Applicable contactor		S-P80N S-P100N	S-P80NL S-P100NL	S-P80N S-P100N			
Tripping class		class 10					
T.O.R. adjusting range		Rating	Range	Rating	Range	Rating	Range
		35	30-40	35	30-40	35	30 - 40
		43	38-48	43	38-48	43	38 - 48
		54	43-65	54	43-65	54	43 - 65
		72	62-82	72	62-82	72	62 - 82
		95	80-110	95	80-110	95	80 - 110
Dimension (mm)		123 x 118 x 102	123 x 118 x 102	70 x 95 x 83.5			
Weight (g)	3 heaters (E)	845	861	310			
	Differential (PP)	855	871	315			
Auxiliary contact	Auxiliary Contact		1NO1NC	1NO1NC	1NO1NC		
	IEC 60947-5-1 EN 60947-5-1 AC 15 (A)	120V	3	3	3		
		240V	1.5	1.5	1.5		
		480V	0.75	0.75	0.75		
		600V	0.6	0.6	0.6		
		Continuous current (Ith) (A)	5	5	5		
Contact class (UL)			B600, R300				
Separate installation unit (Optional)		-	-	UATP100N			

Note :

1. Model name "R" means with separate installation unit.

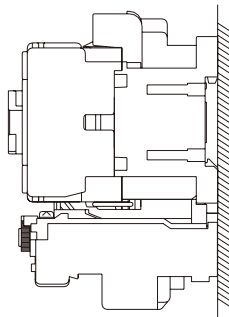
Installation Notes

■ Operating Environment

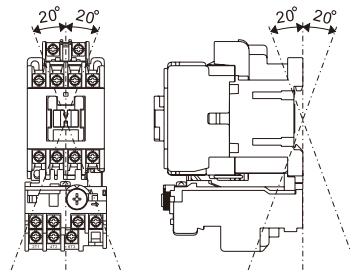
- Altitude below 3000m
- Ambient temperature: $-30^{\circ}\text{C}\sim+70^{\circ}\text{C}$
- Storage temperature: $-50^{\circ}\text{C}\sim+80^{\circ}\text{C}$
- Relative humidity: 50~90%RH
- Withstand vibration 10Hz~55Hz 2G
- Withstand impact 5G
- Please do not install in a place that contains dust, moisture, salt, oil stains, or corrosive or flammable gases.
- After switch installed, please add temporary protection to avoid harmful substances like dust or moisture etc coming into contact with it, if the switch is not to be used for a long period of time.
- Coil operating voltage should be applied within 85~110% of rated voltage. If higher than 110%, the coil life will be reduced, or the coil could burn out if lower than 85%.

■ Installation Direction

The regular installation direction of the contactor is vertical, but is allowed 20° tilt along all directions. Refer to the figure below.



Regular installation 



Tilt installation 

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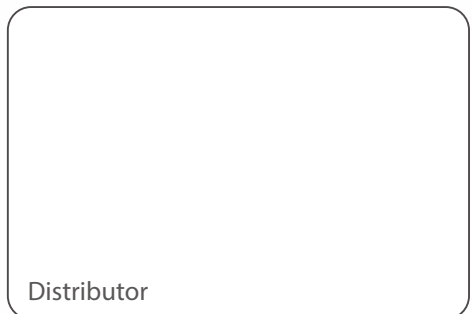


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