CE

NS2 Motor Starter

1. General

1.1 Electric ratings: AC690V, 25A, 80A;
1.2 Standard: IEC60947-2, IEC60947-4-1.

2. Type Designation

N S 2 – □ □ /□

- Rated current of release
- Code of structural modification
- Frame size rated current (A)
- Design sequence number
- AC motor starter
- Company code

3. Operating Conditions

3.1 Temperature: -5℃~+40℃, average temperature in 24 hours not exceed +35℃.
3.2 Altitude: not exceed 2000m
3.3 Air conditions:
At mounting site, relative humidity not exceed 50% at the max temperature of +40℃, higher relative humidity is allowable under lower temperature, For example, RH could be 90% at +20℃.
3.4 Pollution grade: Grade Ⅲ
3.5 Release grade:
10A(NS2-25)
10 (NS2-80B)
3.6 Rated operational system:
Continuous operational system
3.7 Mounting conditions:
The indination between the mounting plane and the vertical plane shall not exceed 5°.
The product shall be installed and operated at a place without obvious shake, impact and vibration.

4. Technical Data

4.1 Protection Properties
Over-load Protection Properties

Series No.	Multiple of setting current	Initial status	Time		Expected results	Ambient temperature
1	1.05	Cold status	t≥2h		Non-tripping	+20℃±2℃
2	1.20	Heat status (right after test.1)	t<2h		Tripping	+20℃±2℃
3	1.50	Heat status (right after test.1)	Releasing grade	10A t<2min	Tripping	+20℃±2℃
				10 t<4min		
4	7.20	Cold status	Releasing grade	10A 2s<t≤10s	Tripping	+20℃±2℃
				10 4s<t≤10s		

Phase failure protection properties

Series No.	Multiple of setting current		Initial status	Time	Expected results	Ambient temperature
	Any 2 phase	The other phase				
1	1.0	0.9	Cold status	t≥2h	Non-tripping	+20℃±2℃
2	1.15	0	Heat status (right after test.1)	t<2h	Tripping	+20℃±2℃

Temperature compensation properties

Series No.	Multiple of setting current	Initial status	Time	Expected results	Ambient temperature
1	1.0	Cold status	t≥2h	Non-tripping	+40℃±2℃
2	1.2	Heat status (right after test.1)	t<2h	Tripping	+40℃±2℃
3	1.05	Cold status	t≥2h	Non-tripping	-5℃±2℃
4	1.3	Heat status (right after test.3)	t<2h	Tripping	-5℃±2℃

4.2 Technical Parameters

Model			NS2-25					NS2-25				
Picture												
Rated insulation voltage Ui(V)			690					690				
Rated operational voltage Ue(V)			230/240, 400/415, 440, 500, 690					230/240, 400/415, 440, 500, 690				
Rated impulse withstand voltage Uimp(V)			8000					8000				
Regulating rang of setting current (A)			0.1~0.16	0.16~0.25	0.25~0.4	0.4~0.63	0.63~1	1~1.6	1.6~2.5	2.5~4	4~6.3	6~10
Rated current of release			0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
Rated ultimate short-circuit breaking capacity Icu(kA)	230/240V		100	100	100	100	100	100	100	100	100	100
	400/415V		100	100	100	100	100	100	100	100	100	100
	440V		100	100	100	100	100	100	100	100	50	15
	500V		100	100	100	100	100	100	100	100	50	10
	660/690V		100	100	100	100	100	100	3	3	3	3
Rated service short-circuit breaking capacity Ics(kA)	230/240V		100	100	100	100	100	100	100	100	100	100
	400/415V		100	100	100	100	100	100	100	100	100	100
	440V		100	100	100	100	100	100	100	100	50	15
	500V		100	100	100	100	100	100	100	100	50	10
	660/690V		100	100	100	100	100	100	2.25	2.25	2.25	2.25
Arcing distance (mm)			40	40	40	40	40	40	40	40	40	40
Standard rated power of three-phase motor (kW)	230/240V		-	-	-	-	-	-	0.37	0.75	1.1	2.2
	400V		-	-	-	-	-	0.37	0.75	1.5	2.2	4
	415V		-	-	-	-	-	-	0.75	1.5	2.2	4
	440V		-	-	-	-	0.37	0.55	1.1	1.5	3	4
	500V		-	-	-	-	0.37	0.75	1.1	2.2	3.7	5.5
	660/690V		-	-	-	0.37	0.55	1.1	1.5	3	4	7.5
Current setting value of instantaneous electromagnetic release Ir(A)			1.5	2.4	5	8	13	22.5	33.5	51	78	138
Current rating of fuse-link of back-up fuse, which is only needed in case of Icc>Icu (Icc: prospective short-circuit breaking current)	230/240V	aM A	★	★	★	★	★	★	★	★	★	★
		gl/gG A	★	★	★	★	★	★	★	★	★	★
	400/415V	aM A	★	★	★	★	★	★	★	★	★	★
		gl/gG A	★	★	★	★	★	★	★	★	★	★
	440V	aM A	★	★	★	★	★	★	★	★	50	50
		gl/gG A	★	★	★	★	★	★	★	★	63	63
	500V	aM A	★	★	★	★	★	★	★	★	50	50
		gl/gG A	★	★	★	★	★	★	★	★	63	63
★: fuse is not required	690V	aM A	★	★	★	★	★	★	16	25	32	32
		gl/gG A	★	★	★	★	★	★	20	32	40	40
Degree of Protection			IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0

Model			NS2-25				NS2-80B			
Picture										
Rated insulation voltage Ui(V)			690				690			
Rated operational voltage Ue(V)			230/240, 400/415, 440, 500, 690				230/240, 400/415			
Rated impulse withstand voltage Uimp(V)			8000				8000			
Regulating rang of setting current (A)			9~14	13~18	17~23	20~25	16~25	25~40	40~63	56~80
Rated current of release			14	18	23	25	25	40	63	80
Rated ultimate short-circuit breaking capacity Icu(kA)	230/240V		100	100	50	50	100	100	100	100
	400/415V		15	15	15	15	35	35	35	35
	440V		8	8	6	6	-	25	25	25
	500V		6	6	4	4	-	8	8	8
	660/690V		3	3	3	3	-	4	4	4
Rated service short-circuit breaking capacity Ics(kA)	230/240V		100	100	50	50	75	75	75	75
	400/415V		7.5	7.5	6	6	17.5	17.5	17.5	17.5
	440V		4	4	3	3	-	12.5	12.5	12.5
	500V		4.5	4.5	3	3	-	4	4	4
	660/690V		2.25	2.25	2.25	2.25	-	2	2	2
Arcing distance (mm)			40	40	40	40	50	50	50	50
Standard rated power of three-phase motor (kW)	230/240V		3	4	5.5	5.5	5.5	11	15	22
	400V		5.5	7.5	11	11	11	18.5	30	40
	415V		5.5	9	11	11	11	22	33	45
	440V		7.5	9	11	11	-	22	33	45
	500V		7.5	9	11	15	-	25	40	55
	660/690V		9	11	15	18.5	-	33	55	63
Current setting value of instantaneous electromagnetic release Ir(A)			170	223	327	327	327	480	756	960
Current rating of fuse-link of back-up fuse, which is only needed in case of Icc>Icu (Icc: prospective short-circuit breaking current)	230/240V	aM A	★	★	80	80	★	★	★	★
		gl/gG A	★	★	100	100	★	★	★	★
	400/415V	aM A	63	63	80	80	★	250	315	315
		gl/gG A	80	80	100	100	★	315	400	400
	440V	aM A	50	50	63	63	-	250	315	315
		gl/gG A	63	63	80	80	-	315	400	400
	500V	aM A	50	50	50	50	-	160	200	200
		gl/gG A	63	63	63	63	-	200	250	250
★: fuse is not required	690V	aM A	40	40	40	40	-	160	200	200
		gl/gG A	50	50	50	50	-	200	250	250
Degree of Protection			IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0

5. Accessories

5.1 Under-voltage release
Type, model and specification of under-voltage release

Rated insulation voltage Ui(V)	Voltage range of operation	Model	Specification
690	35%~70%Ue	NS2-UV110	110~115V 50Hz
690	35%~70%Ue	NS2-UV110	127V 60Hz
690	35%~70%Ue	NS2-UV220	220~240V 50Hz
690	35%~70%Ue	NS2-UV380	380~400V 50Hz
690	35%~70%Ue	NS2-UV380	440V 60Hz

5.2 Shunt release
Type, model and specification of under-voltage release

Rated insulation voltage Ui(V)	Voltage range of operation	Model	Specification
690	70%~110%Ue	NS2-SH110	110~115V 50Hz
690	70%~110%Ue	NS2-SH110	127V 60Hz
690	70%~110%Ue	NS2-SH220	220~240V 50Hz
690	70%~110%Ue	NS2-SH380	380~400V 50Hz
690	70%~110%Ue	NS2-SH380	440V 60Hz

5.3 Instantaneous auxiliary contact (NS2-AE20, NS2-AE11)
Type, model and specification of instantaneous auxiliary contact

Rated insulation voltage Ui(V)	Conventional heating current Ith (A)	Model	Specification
250	2.5	NS2-AE20	2NO
250	2.5	NS2-AE11	1NO+1NC

Application class, rated operational voltage and rated operational current of instantaneous auxiliary contact

Utilization category	AC-15				DC-13		
Rated operational voltage Ue(V)	24	48	110/127	230/240	24	48	60
Rated operational current Ie(A)	2	1.25	1	0.5	1	0.3	0.15
Normal operational power P(W)	48	60	127	120	24	15	9

Instantaneous auxiliary contact (NS2-AU20, NS2-AU11)
Type, model and specification of instantaneous auxiliary contact

Rated insulation voltage Ui(V)	Conventional heating current Ith (A)	Model	Specification
690	6	NS2-AU20	2NO
690	6	NS2-AU11	1NO+1NC

Application class, rated operational voltage and rated operational current of instantaneous auxiliary contact

Utilization category	AC-15						
Rated operational voltage Ue(V)	48	110/127	230/240	380/415	440	500	690
Rated operational current Ie(A)	6	4.5	3.3	2.2	1.5	1	0.6
Normal operational power P(W)	300	500	720	850	650	500	400

Utilization category	DC-13				
Rated operational voltage Ue(V)	24	48	60	110	220
Rated operational current Ie(A)	6	5	3	1.3	0.5
Normal operational power P(W)	140	240	180	140	120

Fault signal contact and instantaneous auxiliary contact
Type, model and specification of fault signal contact and instantaneous auxiliary contact

Rated insulation voltage Ui(V)	Conventional heating current Ith (A)		Model	Specification
	Instantaneous auxiliary contact	Fault signal contact		
690	6	2.5	NS2-FA0110	1NC +1NO
690	6	2.5	NS2-FA0101	1NC +1NC
690	6	2.5	NS2-FA1010	1NO +1NO
690	6	2.5	NS2-FA1001	1NO +1NC

Application class, rated working voltage and rated operational current of fault signal contact

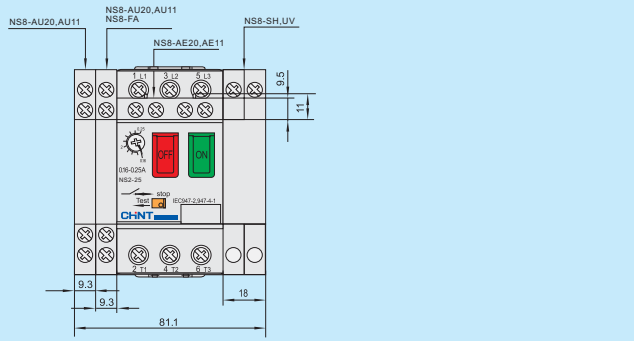
Application class	AC-14				DC-13		
Rated operational voltage Ue(V)	24	48	110/127	230/240	24	48	60
Rated operational current Ie(A)	1.5	1	0.5	0.3	1	0.3	0.15
Normal operational power P(W)	36	48	72	72	24	15	9
Operation features (times)	1000	1000	1000	1000	1000	1000	1000

Capacity of abnormal connection and disconnection of fault signal contact and instantaneous auxiliary contact

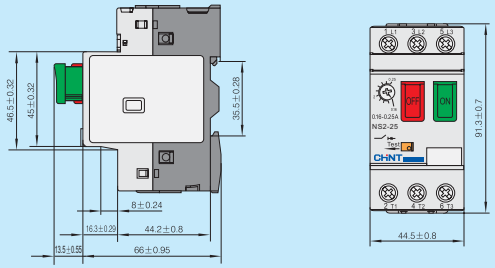
Utilization category	Connection			Disconnection			Number of on/off operation cycles and operation frequency		
	I/Ie	U/Ue	Cos ϕ or t0.95	I/Ie	U/Ue	Cos ϕ or t0.95	Number of operation cycles	Number of operation cycles per min.	On power time
AC-14	6	1.1	0.7	6	1.1	0.7	10	2	0.05
AC-15	10	1.1	0.3	10	1.1	0.3	10	2	0.05
DC-13	1.1	1.1	6Pe	1.1	1.1	6Pe	10	2	0.05

Note: Pe≥50W, upper limit of T0.95~6 Pe≤300ms.

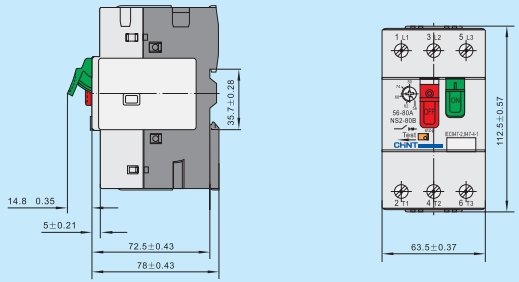
6. Overall and Mounting Dimension



NS2-25



NS2-80B



NS2 motor starter

★ NS2-25

Applicable range	Order code	CTN
0.1~0.16	511601	50
0.16~0.25	511602	50
0.25~0.4	511603	50
0.4~0.63	511604	50
0.63~1	511605	50
1~1.6	511606	50
1.6~2.5	511607	50
2.5~4	511608	50
4~6.3	511609	50
6~10	511610	50
9~14	511611	50
13~18	511612	50
17~23	511613	50
20~25	511614	50
24-32	511615	50

★ NS2 shunt release

Control voltage (V)	Applicable range	Order code	CTN
NS2-SH110	110~115V 50Hz	511625	1
NS2-SH220	220~240V 50Hz	511627	2
NS2-SH380	380~400V 50Hz	511628	3

★ NS2 lateral instantaneous auxiliary contact

Control voltage (V)	Applicable range	Order code	CTN
NS2-AE20	2NO	511633	–
NS2-AE11	1NO+1NC	511634	–

★ NS2-80B

Applicable range	Order code	CTN
16~25	511616	20
25~40	511617	20
40~63	511618	20
56~80	511619	20

★ NS2 under-volatge release

Control voltage (V)	Applicable range	Order code	CTN
NS2-UV110	110~115V 50Hz	511620	1
NS2-UV220	220~240V 50Hz	511622	2
NS2-UV380	380~400V 50Hz	511623	3

★ NS2 front instantaneous auxiliary contact

Control voltage (V)	Applicable range	Order code	CTN
NS2-AE20	2NO	511631	–
NS2-AE11	1NO+1NC	511632	–

★ NS2 faut signal contact and instantaneous auxiliary contact

Control voltage (V)	Applicable range	Order code	CTN
NS2-FA0110	1NC+1NO	511635	–
NS2-FA0101	1NC+1NC	511636	–
NS2-FA1010	1NO+1NO	511637	–
NS2-FA1001	1NO+1NC	511638	–

★ NS2 water-proof enclosure

Control voltage (V)	Applicable range	Order code	CTN
NS2-MC	IP55	511639	–

★ NS2 Emergent stop parts (water-proof enclosure)

Control voltage (V)	Applicable range	Order code	CTN
NS2-MCPB	IP55	511641	–

★ NS2 water-proof enclosure with emergent stop sutton

Control voltage (V)	Applicable range	Order code	CTN
NS2-MC01	IP55	511640	–

★ NS2 auxiliary contact for NS8-80B

Control voltage (V)	Applicable range	Order code	CTN
NS2-MCUA	IP55	511642	–