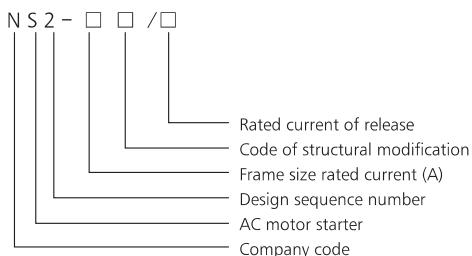


## NS2 Motor Starter

### 1. General

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

### 2. Type Designation



### 3. Operating Conditions

- 3.1 Temperature: -5°C ~ +40°C, average temperature in 24 hours not exceed +35°C.
- 3.2 Altitude: not exceed 2000m
- 3.3 Air conditions:
  - At mounting site, relative humidity not exceed 50% at the max temperature of +40°C, higher relative humidity is allowable under lower temperature, For example, RH could be 90% at +20°C.
- 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	$t \geq 2h$		Non-tripping	+20°C ± 2°C
2	1.20	Heat status (right after test.1)	$t < 2h$		Tripping	+20°C ± 2°C
3	1.50	Heat status (right after test.1)	Tripping class	10A $t < 2\text{min}$	Tripping	+20°C ± 2°C
				10A $t < 4\text{min}$		
4	7.20	Cold status	Tripping class	10A $2s < t \leq 10s$	Tripping	+20°C ± 2°C
				10A $4s < t \leq 10s$		

#### 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	$t \geq 2h$	Non-tripping	+20°C ± 2°C
2	1.15	0	Heat status (right after test.1)	$t < 2h$	Tripping	+20°C ± 2°C

#### Temperature compensation properties

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

#### 4.2 Technical Parameters

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
	230/240V	100	100	50	50	75	75	75	75
Rated service short-circuit breaking capacity Ics(kA)	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 gl/gG A	★ ★	80 100	80 100	★ ★	★ ★	★ ★	★ ★
	400/415V	aM A gl/gG A	63 80	63 80	80 100	80 100	★ ★	250 315	315 400
	440V	aM A gl/gG A	50 63	50 63	63 80	63 80	- -	250 315	315 400
	500V	aM A gl/gG A	50 63	50 63	50 63	50 63	- -	160 200	200 250
	690V	aM A gl/gG A	40 50	40 50	40 50	40 50	- -	160 200	200 250
Degree of Protection		IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0	IP2L0

★: fuse is not required

## 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 $I_{th}$ (A)	Model	Configuration	
250	2.5	NS2-AE20	2N/O	
250	2.5	NS2-AE11	1N/O+1N/C	

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 $I_{th}$ (A)	Model	Configuration	
690	6	NS2-AU20	2N/O	
690	6	NS2-AU11	1N/O+1N/C	

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	Configuration	
	Instantaneous auxiliary contact	Fault signal contact			
690	6	2.5	NS2-FA0110	1N/C +1N/O	
690	6	2.5	NS2-FA0101	1N/C +1N/C	
690	6	2.5	NS2-FA1010	1N/O +1N/O	
690	6	2.5	NS2-FA1001	1N/O +1N/C	

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

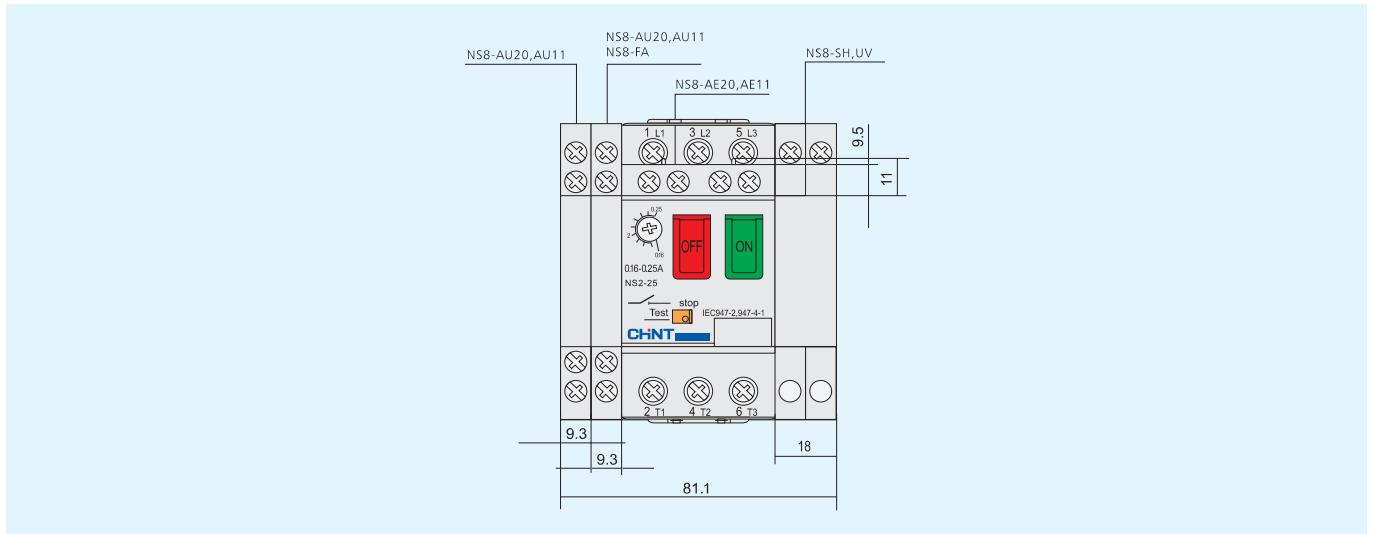
Application class		AC-14				DC-13		
Rated operational voltage Ue(V)	24	48	110/127	230/240	24	48	60	
Rated operational current Ie(A)	1.5	1	0.5	0.3	1	0.3	0.15	
Normal operational power P(W)	36	48	72	72	24	15	9	
Operation features (times)	1000	1000	1000	1000	1000	1000	1000	

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

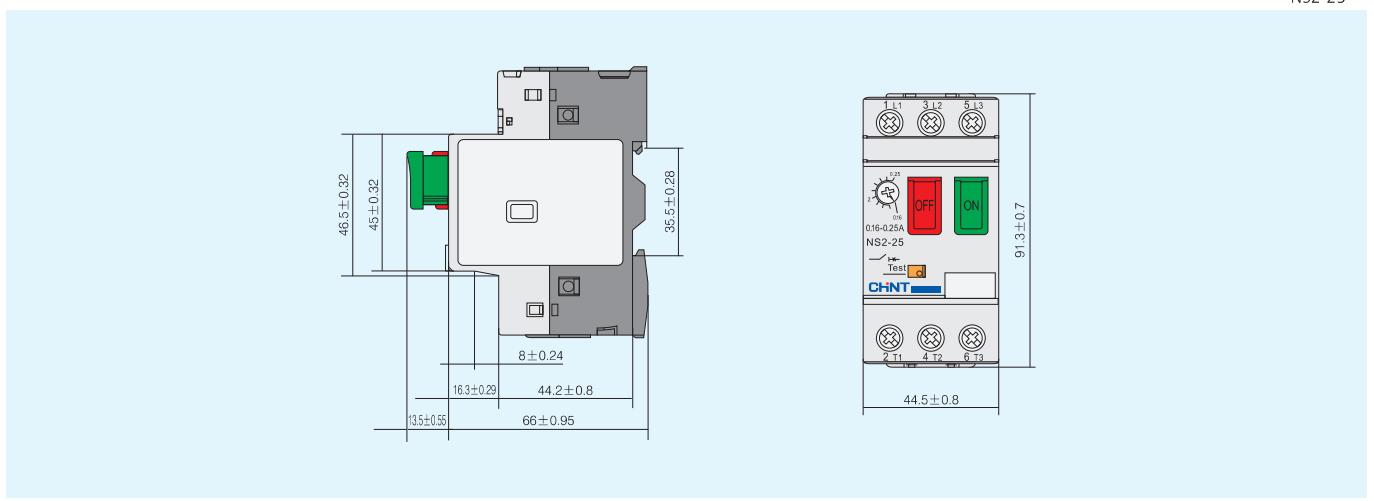
Utilization category	Connection			Disconnection			Number of on/off operation cycles and operation frequency		
	I/Ie	U/Ue	Cos φ or t0.95	I/Ie	U/Ue	Cos φ or t0.95	Number of operation cycles	Number of operation cycles per min.	On power time
AC-14	6	1.1	0.7	6	1.1	0.7	10	2	0.05
AC-15	10	1.1	0.3	10	1.1	0.3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

