



MOLDED CASE CIRCUIT BREAKERS: 1600A – 3200A

R-frame NS3200

BENEFITS

- Moisture and fungus protection
- Clear indication of breaker status
- Reinforced insulation
- Shunt trip
- Auxiliary Contacts
- Load Side extension bars
- 80% Rated (100% rated on 3200A IEC)
- Maintenance-free operation
- Exceptional characteristics under short-circuit conditions
- Adjustable trip threshold on electronic trip units

CONFORMITY WITH INTERNATIONAL STANDARDS

The R-frame & NS-3200 Circuit Breakers have been designed to comply with the international standard IEC 947-2 as well as with these other major standards:

R-FRAME

UL 489
CSA 22.2 No 5.1
Federal Specification W-C-375B/GEN
NEMA AB1
NMX J-266
UTE, VDE, BS, CEI, UNE

NS3200

Federal Specification W-C-375B/GEN
NEMA AB1
UTE, VDE, BS, CEI, UNE

Additionally, the R-frame & NS-3200 Circuit Breakers have been approved for marine application by American Bureau of Shipping, Bureau Veritas, Lloyd's Register of Shipping, Registro Italiano Navale, Germanischer Lloyd, and Det Norske Veritas.

RATINGS

- UL-CSA
- R-frame rating: 1600 – 2500 Amps
- IEC
- NS3200 rating: 3200 Amps

SHUNT TRIP

The shunt trip provides a means of tripping the circuit breaker electronically. Shunt trip ratings are as follows:

Voltage: 24 VDC

Coil Burden (Holding/Inrush): 4.5/200 VA

Power Consumption: 4.5 VA

AUXILIARY CONTACTS

The auxiliary contacts provide a means of remote circuit breaker position indication and consist of one (1) Form C Contact (1 Normally open and 1 Normally closed contact) with the following Current Ratings:

6A @ 240-480 VAC, 50/60 Hz

TRIP UNITS

All circuit breakers come equipped with **True RMS Current Sensing**. The trip units for each of the circuit breaker ratings sample the current waveform to provide true RMS protection through the 15th harmonic. This true RMS sensing gives accurate values for the magnitude of a non-sinusoidal waveform. Therefore, the heating effects of harmonically distorted waveforms are accurately evaluated. The trip system comes equipped with a set of current transformers (CTs) to sense current, a trip unit to evaluate the current, and a tripping solenoid to trip the circuit breaker.

The **R-frame** circuit breaker comes equipped with an ET trip unit (LI). The ET trip unit includes:

- Fixed Long-time tripping function – pickup is 1.0 x sensor rating (I_n);
- Instantaneous tripping function – adjustable (dial settings from 1.5-12 × I_n) with no intentional time delay.

The **NS3200** circuit breaker comes equipped with a MICROLOGIC 2.0 basic trip unit.

- Instantaneous protection.
- Protection thresholds and delays are set using rotary switches on the face of the circuit breaker.
- Adjustable long-time pickup and delays.

Both **R-frame** and **NS3200** circuit breakers include the following features:

- **Overload protection**
 - True RMS long-time protection
 - Thermal imaging: Active thermal imaging before and after tripping
- **Short-circuit protection**
 - Short-time RMS
 - Adjustable short-time pickup with fixed delay set at zero

CIRCUIT BREAKER CHARACTERISTICS

UL-IEC/CSA Breakers		R-frame	
Number of Poles		3	
Rated Current (Amps)		1600-2500	
Voltage Rating (VAC)		600	
Interrupting Rating (60 Hz) – kA RMS		240 V	65
		480 V	35
		600 V	18
IEC 60947-2 Rating (50/60 Hz) – kA RMS	I _{cu}	240 V	50
		380/415 V	35
	I _{cs}	240 V	25
		380/415 V	20

IEC 947-2 Breakers (50/60 Hz)		NS3200	
Number of Poles		3	
Rated Current (A)		3200	
Voltage Rating (VAC)		690	
Interrupting ratings (kA RMS)	I _{cu}	220/240 V	85
		380/415 V	70
		440 V	65
		500/525 V	65
		660/690 V	65
Interrupting ratings	I _{cs}	220/240 V	65 kA
		380/415 V	65 kA
		440 V	65 kA
		500/525 V	65 kA
		660/690 V	65 kA