

Definitions

AC – Alternating current — Current that reverses its direction of flow twice per cycle.

Ambient temperature — Temperature of the air surrounding the unit.

Amp rating — The basic unit of measurement for electric current (columbs / seconds).

Conventional thermal current I_{th} — Value of the current the disconnect switch can withstand with poles in closed position, in free air for an eight hour duty, without the temperature rise of its various parts exceeding the limits specified by the standards.

Cycle duration — Total time of the on-load + off-load period.

DC – Direct current — Current that flows in only one direction.

Electrical endurance — Number of on-load operating cycles.

IEC environmental protection type — see page 17.50.

Full load amp current FLA — The current required by a motor to produce full-load torque at the motor's rated speed.

Inductive load — An electrical load characterized by having significant inrush (5 to 6 times FLA for typical design-B AC induction motors).

kW — Kilowatts (1000 watts)

Lockout/Tagout — Means of removing power from electrical equipment during inspection, service or repair.

Make / Break — ON / OFF

Mechanical endurance — Number of off-load operating cycles.

Poles in series — Means of connection poles using wires or bus bars to increase breaking capacity of load.

Power factor — The relationship between working power and total power consumed. Power factor measures how effectively electrical power is being used.

17 Rated insulation U_i — Voltage value which designates the unit and to which dielectric tests, clearance and creepage distances are referred.

Rated operating current I_o — Current value stated by the

manufacturer and taking into account the rated operating voltage U_o , the rated frequency, the rated duty, the utilization category, the electrical contact life and the type of protective enclosure.

Rated operating voltage U_o — Voltage value to which utilization characteristics of the disconnect switch are referred, i.e. phase-to-phase voltage in 3 phase circuits.

Rated short circuit making capacity I_{cm} — The rated short-circuit making capacity of a disconnect switch, a disconnect or a switch-disconnector is the value assigned to equipment at the rated operational voltage, frequency (if any) and specified power-factor for AC or time constant for DC. It is expressed as the maximum prospective peak current under prescribed conditions.

Rated short time withstand current I_{cw} — The rated short-time withstand current of a disconnect switch, a disconnect or a switch-disconnector is the value that the equipment can carry without damage, under the test conditions specified in the relevant product standard. The value of the rated short-time withstand current shall be not less than twelve times the maximum rated operational current unless otherwise stated by manufacturer and the duration of the current shall be 1 s.

Resistive load — An electrical load characterized by not having any significant inrush current.

Short circuit protection coordination — Co-ordination types "1" and "2" are defined in IEC 947-4-1.

Type 1 coordination — There has to be no discharge of parts beyond the enclosure. Damage to the contactor and the overload is acceptable.

Type 2 coordination — No damage to the overload relay or other parts has occurred, except that welding of contactor or starter contacts is permitted, if they are easily separated.

Time constant — Ratio of inductance to the resistance:
 $L/R = \text{mH}/\text{Ohm} = \text{ms}$.

Torque — The force that produces rotation. It is commonly measured in pound-feet (lb-ft). Torque applies to such things as motor operations, handle rotations, wire tightening.

NEMA environmental protection type — see page 17.49.

Volt — The unit of electrical potential difference and electromotive force.