NINFAC: DC Switch to photovoltaic installations with high-capacity contacts

Applications

In photovoltaic installations, NINFAC works as a DC switch. Receiving the order to act from an Insulation monitor (i.e. FAC3/I), disconnects inverter from PV panels and short circuit voltage panels. It prevents possible electrical discharges to service and maintenance personal, reducing voltage panels from high level to low level nearly 0 volts, can also perform the function of grounding or disconnect panels from inverter.

Equipment description

NINFAC is a DC switch with high-capacity contacts manufactured. Three manufacturing configurations:

- In the basic model (/B), when it receives the order of act, RL1 contact disconnects PV panels positive from inverter, a second timer and short circuit PV panels voltage.
- /T version: the short circuit is connected to ground terminal.
- /S version: Only separates PV panels from inverter, not make the short circuit.

In all versions, function can be added for reclosing (/R), if insulation monitor doesn't have.

Functional features

- Activation and deactivation with closed contact impulse.
- High-capacity contacts.
- Unlimited maneuvers.
- Maneuver time pulse; 100 msec(min.)
- Auxiliary Voltage: 230 Vac.

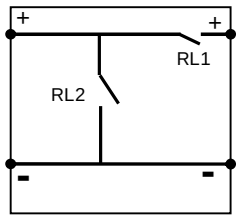
Construction features

- Metallic enclosure with ground connection terminal.
- Power terminals.
- Red LED indicates short circuit.
- Green LED activated, for PV voltage presence.
- Green LED, Auxiliary Voltage presence (230 Vac)
- Disconnection button for short circuit in models /R

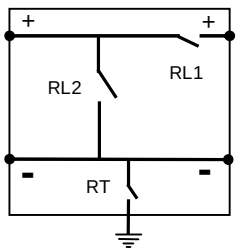
Technical Data

- Short voltage up to 900 Vdc.
- Short current: 20, 50, 80 or 120 A.
- Without power panels consumption.
- Response time: <100ms
- Low voltage Regulation
- EMC Standard, Immunity
- Insulation: Vac (Class II)
- Insulation: Vdc (Class I)

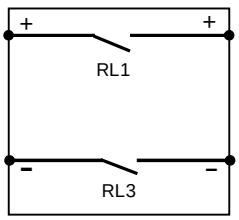
Various function models



Configuration B
Maneuver in case of insulation failure:
Positive(+) and short circuit separation



Configuration T
Maneuver in case of insulation failure:
Positive(+) separation, short circuit and ground connection



Configuration S
Maneuver in case of insulation failure:
Positive(+) and negative(-) separation

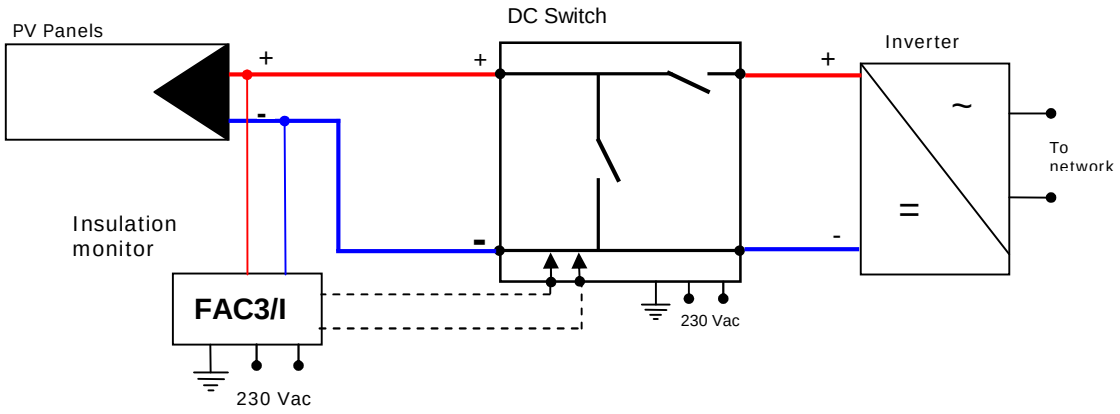
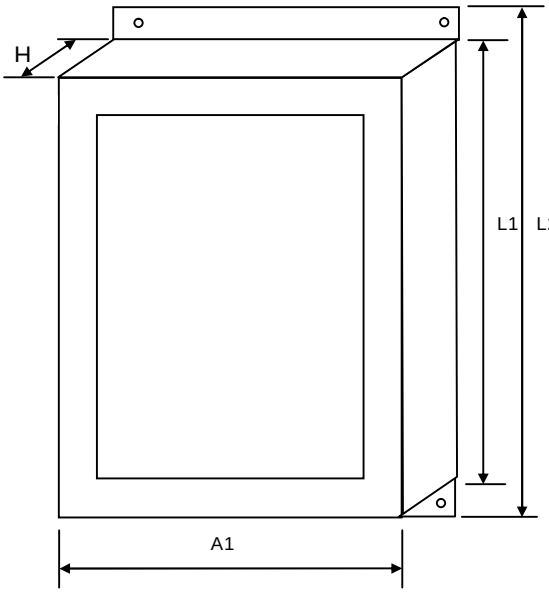


Fig.2: DC Switch NINFAC in a Photovoltaic Installation



Enclosure dimensions (millimeters)

H	A1	L1	L2	Models
120	200	250	290	20, 50, 80A

Models

NINFAC vvv i n (r)

Vdc máx.
200,400,600,800,900 V
(Circuit open voltage)

Current max.
L = 20A
N = 50A
A = 80A
C = 120A

Configuration : B, T or S
B- basic
T- with ground connection
S- Separation, without short circuit

R- reclosing function

Examples:
NINFAC 400LB basic model for an installation with open circuit voltage of 400 volts and short current of 20 A.

NINFAC/800/AS model for 800Vdc, 80A. When receives Insulation Monitor order, separates positive (+) and negative (-) of the inverter.

PROAT

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