Trabajo Pesado Supresor de Picos

Electronic voltage protector with transient voltage suppressor

Overview

The BREAKERMATIC TRABAJO PESADO SUPRESOR DE PICOS is designed to prevent damage to your equipment with 120V panels or electronic control systems caused by voltage fluctuations. It features four adjustment knobs for high/low cut-off voltages, standby cycle duration, response time, and an on/off switch.

Mounting can be done using a DIN rail for electrical panels, or directly to a wall using the built-in mounting brackets.

Operation

1. **Steady-state voltage protection**. The BREAKERMATIC TRABAJO PESADO SUPRESOR DE PICOS disconnects the output if the steady-state voltage is above the voltage set on the "over voltage" knob or below the voltage set on the "under voltage" knob. The response time is adjustable on the "disconnection time" knob between 1 and 8 seconds. The voltage must remain outside the range longer than the response time before the protector disconnect the output. While the fault persists, the corresponding high or low voltage indicator will remain illuminated.
2. **Reconnection delay or standby cycle.** When the protector is energized, or at the end of a voltage fault, the protector will initiate a time delay before connecting the output. The duration of the time delay can be adjusted using the "delay time" knob between 30 s and 4 min 30 s. The standby cycle protects sensitive equipment from short operating cycles.
3. **Blackout detection, sag detection, etc.** The protector will disconnect the load if it detects a sudden voltage drop below 50% of the nominal voltage and initiate a standby cycle. The blackout detector's response time is instantaneous; the minimum blackout duration is specified in the specifications, but it is guaranteed to be longer than the maximum transfer time on distribution lines.
4. **Transient surges suppression**. Transient surges are very short-duration, high-energy voltage spikes produced by the connection or disconnection of loads or induced by atmospheric discharges near the electrical network, which propagate through it until they reach the equipment. The BREAKERMATIC TRABAJO PESADO SUPRESOR DE PICOS cuts transient surges, between phase and phase (differential mode), and between each phase and ground (common mode) without disconnecting the output. Transient surge protection may degrade with use. A "surge protection" indicator will be lit whenever the surge suppressor is operational; if it goes off, it indicates that a transient may have degraded the suppression element. The brightness of this indicator may be dimmer than the other indicators; this is normal.

Models

Model	Nominal Voltage	Nominal amperage	Frequency	No Phases	Cut off voltages	Reconnection delay	Response delay	On/off switch	Language
PMP110-D00E++	120VAC	30A	50/60 Hz	1	Adjustable	adjustable	adjustable	Yes	Spa. – Eng.

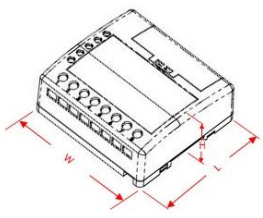
BREAKERMATIC®

Fabricado por:

MAVIGAL SAS GALLIUM

NIT 900.340.440-0
Teléfono 876 4576 Fax 876 7227
Autopista Medellín Km. 2.5. Entrada Parcelas 900 Mts
CIEM OIKOS OCCIDENTE - Bodega B27
Cota – Cundinamarca - Colombia

Specifications

Electrical		
Nominal Voltage	120	VAC
Nominal Frequency	50 - 60	Hz
Steady state voltage protection		
Low cut-off voltage, minimum position	80 +/- 3%	VAC
Low cut-off voltage, maximum position	115 +/- 3%	VAC
High cut-off voltage, minimum position	115 +/- 3%	VAC
High cut-off voltage, maximum position	150 +/- 3%	VAC
Reconnection Hysteresis	3 - 6	VAC
Response delay, minimum position	1 +/- 20%	s.
Response delay, maximum position	8 +/- 20%	s.
Standby Cycle		
Reconnection delay time, minimum position	30 +/- 20%	s.
Reconnection delay time, Maximum position	4:30 +/- 20%	Min:seg
Blackout detection		
Minimum blackout duration (0% nominal voltage)	32 -64	ms
Minimum brownout duration (50% nominal voltage)	>100	ms
Transient voltage suppressor		
IEEE C62.41 Location	Cat. A3 / B3	
Allowed Maximum continuous voltage (r.m.s.) Phase-neutral Phase-ground	 175 175	 VAC VAC
Voltage protection level (clamping voltage). Phase-neutral Phase-ground	 0.6 0.6	 KV KV
Maximum peak current (1 time, 8/ 20 us) Phase-neutral Phase-ground	 6.5 6.5	 KA KA
Maximum peak current (2 times) Phase-neutral Phase-ground	 4 4	 KA KA
Maximum load		
Maximum Resistive Load (cos φ = 1) Current (Amperage) Power	 30 3.6	 A KW
Electric motors, maximum load capacity Motor nominal power Nominal amperage Maximum Maximum Input nominal power	 1 / 0.75 9 1	 H.P. / KW A KW
Maximum Load for inverter type air conditioner or Refrigeration Equipment Input power consumed. Nominal / Maximum Current (Amperage) Nominal / Maximum	 1.7 / 1.9 14/16	 KW A
Maximum Load for Conventional Air Conditioner or Refrigeration Equipment Input power consumed Maximum Nominal amperage Maximum	 1.4 12	 KW A
Apparent Power (No load)	8	VA
Mechanicals		
Dimensions 		
Length L	102	mm
Width W	109	mm
Height H	43	mm
Weight	280	gr.

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Connection terminals		
Screw thread	6-32	
Screwdriver Phillips Flat	 PH2 1.0 x 5.5	 mm
Tightening torque min. / max.	0.8 / 1	Nm
Wire section / gauge (solid or multifilament) (see notes 2, 3, 4 and 5) Minimum Maximum,	 0.34/ 22 4 / 8	 mm^2 / AWG mm^2 / AWG
Recommended wire stripping length	7-8	Mm
Isolation materials		
Enclosure	ABS	
Terminal block	PBT	
Printed circuit board	FR4	
Flame retardant classification (UL94)		
Enclosure	V0, 5VA	
Terminal Block	V0	
Printed circuit board	V0	
Isolation resistance (NTC1650:2004 Num 17.1)	>550	Mohms
Dielectric strength (NTC1650:2004 num 17.2)	>2	KV
Environmental		
Maximum operating ambient temperature	45	°C
Place of use: Indoor use, in a dry and ventilated place Outdoor use and/or in wet places	Yes No	
Enclosure Ingress Protection degree IP (IEC 60529)	IP40	

Note 1: N/A
Note 2: For currents above 20A with direct cable connection to the terminal block, use solid wire.
Note 3: The terminals supplied are for 12-10 AWG (2.05 – 2.5 mm2) wire and can be used up to 30A.
Note 4: For two identical conductors on a terminal, maximum 2.5 mm2 or 10 AWG.
Note 5: Use the appropriate wire according to the national electrical standard or the specifications of the manufacturer of the equipment to be protected.

Product certificates

NOM NOM-003-SCFI-2014 (NMX-J-515-ANCE)

Application notes

The maximum cooling capacity will depend on the efficiency of the A/C or refrigeration equipment. To determine the input power consumed by your equipment, divide the rated cooling capacity by the EER (not to be confused with the SEER). It should not exceed the rating indicated in the protector's specification.

Care should be taken to use consistent units. If the cooling capacity is expressed in BTU/h, the EER is expressed in BTU/Wh. Alternatively, the cooling capacity can be expressed in W or kW, and the EER in W/W.

Example: a) Nominal capacity 18,000 BTU/h b) EER 10.9 BTU/Wh
We obtain: Pin = 18,000/10.9 = 1651 W = 1.65 KW < 1.7 KW OK

Example 2: Nominal capacity 5.18 kW, ERR 3.05 Wt/We
Pin = 5.18/3.05 = 1.7 kW OK

Shipping packaging

Type	Capacity	Dimensions (Length x Width x Height) (cm)	Weight (Kg)
Carton CC48	48 pcs (6 x 8 pack)	58 x 33 x 52	15.3
CC 8 pack	8 pcs en blister	28 x 18.58 x 22	2.55

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