Breakermatic AIRE 110

Plug-in electronic protector for 120V air conditioners

Overview

The **BREAKERMATIC AIRE 11**0 is designed to prevent damage caused by electrical variations to your 120V equipment, especially mini-split air conditioners and refrigeration equipment that connect with NEMA 5-15 or NEMA 5-20 plugs.

Operation

1. **Protection against steady-state voltage variations.** The BREAKERMATIC AIRE 110 disconnects the output if the steady-state voltage is above the high cut-off voltage or below the low cut-off voltage indicated in the specifications. For adjustable equipment, the cut-off voltages can be set within the ranges indicated in the specifications. The response time to a fault is typically 1 s. The voltage must remain outside the range longer than the response time for the disconnection to be activated. While the fault persists, the corresponding high or low voltage indicator will remain illuminated.
2. **Reconnection delay or wait 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 is indicated in the specifications. The wait cycle protects sensitive equipment from short operating cycles, allowing, in the case of A/C and refrigeration equipment, system pressures to equalize before reconnecting.
3. **Autostart.** This feature reduces the standby cycle to 5 seconds when the protector has been off for a considerable amount of time.
4. **Blackout, sag, etc. detection**. The protector will disconnect the load if it detects a sudden voltage drop below 50% of the rated voltage and will initiate a standby cycle.

Models

Model	Nominal Voltage	Nominal amperage	Frequency	Cut off voltages	Reconnect ion delay	Response delay	Connections	on-off switch	Language
PIN110-000EST	120VAC	15A	50/60 Hz	93V-138V	4:00 min	1 s.	NEMA 5-15	No	Spanish
PIN110-M00EST	120VAC	15A	50/60 Hz	Adjustable	4:00 min	1 s.	NEMA 5-15	Yes	Spanish
PIN110-D00EST	120VAC	20A	50/60 Hz	93-138 V	4:00 min	1 s.	NEMA 5-20	No	Spanish
PIN110-DM0EST	120 VAC	20A	50/60 Hz	Adjustable	4:00 min	1 s.	NEMA 5-20	Yes	Spanish
PIN110-000ING	120VAC	15A	50/60 Hz	93V-138V	4:00 min	1 s.	NEMA 5-15	No	English
PIN110-M00ING	120VAC	15A	50/60 Hz	Adjustable	4:00 min	1 s.	NEMA 5-15	Yes	English
PIN110-D00ING	120VAC	20A	50/60 Hz	93-138 V	4:00 min	1 s.	NEMA 5-20	No	English
PIN110-DM0ING	120 VAC	20A	50/60 Hz	Adjustable	4:00 min	1 s.	NEMA 5-20	Yes	English

PIN110-000EST

PIN110-M00EST

PIN110-D00EST

PIN110-DM0ING

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						
	PIN110-000	PIN110-M	PIN110-D	PIN110-DM		
Low cut-off voltage min max	93 +/- 3%	 80 +/- 3% 115 +/- 3%	93 +/- 3%	 80 +/- 3% 115 +/- 3%		VAC
High cut-off voltage min max	138 +/- 3%	115 +/- 3% 150 +/- 3%	138 +/- 3%	115 +/- 3% 150 +/- 3%		VAC
Reconnection Hysteresis	3 - 6					VAC
Response delay	1 +/- 20%					s.
Reconnection delay cycle	4:00 +/- 20%					Min:seg
Blackout detection						
Minimum blackout duration (0% nominal voltage)	32 -64					ms
Minimum brownout duration (50% nominal voltage)	>100					ms
Maximum load						
	PIN110-000	PIN110-M	PIN110-D	PIN110-DM		
Maximum Resistive Load (cos φ = 1) Current (Amperage) Power	 15 1.8	 15 1.8	 20 2.4	 20 2.4		 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	 1.7/1.9 14/16	 2.3/2.6 19 / 22	 2.3/2.6 19 / 22		 KW A
Maximum Load for Conventional Air Conditioner or Refrigeration Equipment Input power consumed Maximum Nominal current Maximum	 1.6 15	 1.6 15	 1.9 18	 1.9 18		 KW A
Apparent Power (no load)	8.5	12	8.5	8.5		VA
Mechanicals						
Dimensions						
Length	135					mm
Width	87					mm
Height	45					mm
Weight	237					gr.
Connections						
	PIN110-000	PIN110-M	PIN110-D	PIN110-DM		
Input plug	NEMA 5-15P	NEMA 5-15P	NEMA 5-20P	PIN110-D		
Output Receptacle	NEMA 5-15R	NEMA 5-15R	NEMA 5-20R	NEMA 5-20P		
Isolation materials						
Enclosure	ABS					
Plug and Receptacle	PC					
Printed circuit board	FR4					
Flame retardant classification (UL94)						
Enclosure	V0, 5VA					
Plug and Receptacle	V0, 5VA					
Printed circuit board	V0					
Glow wire test (NTC 5283:2015, NMX-J-565/2-11:2005)	Enclosure 650°C pass Receptacle 850°C pass					
Ball pressure test NTC 1650 num. 25.2 y 25.3	<2					mm.
Isolation resistance (NTC1650:2004 Num 17.1)	>550					Mohms
Dielectric strength (NTC1650:2004 num 17.2)	>1.25					KV
Impact (NTC /IEC 62262:2013)	pass					
Contacts						
Material	Tinned Brass 260 (70% Cu, 30% Zn) Electroplated Sn					
Oxidation Resistance Test (NTC 1650 num 29)	It shows no traces of corrosion or oxidation.					
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					

Product certificates

NOM NOM-003-SCFI Certificate No.: ANC2401C00016056 hasta 25/12/2025

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

Application Notes

1. As a general rule, select the voltage protector to fit your A/C plug.
2. Check the rated input current of your equipment, which should not exceed that indicated in the voltage protector's specifications table.
3. 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 that indicated in the voltage protector's specification. Care should be taken to use consistent units: if the cooling capacity is expressed in BTU/h, the EER in BTU/Wh. Alternatively, the cooling capacity can be expressed in W or kW, and the EER in W/W.
4. Example: a) Inverter type equipment 18,000 BTU/h b) EER 10.9 BTU/Wh.
   We obtain: Input power Pin = 18000BTU/h / 10.9 BTU/Wh = 1651W = 1.65 KW < 1.7 KW (PIN110-000) ok

Shipping packaging

Type	Capacity	Dimensions (Length x Width x Height) (cm)	Models	Weight (Kg)
Carton corrigado CC54	54 pcs (9 x 6 pack)	51 x 35 x 50	0, D M, DM	15.5 16
CC 6 pack	6 pcs en blister	33.5 x 16 x 16	0, D M, DM	1.7 1.8

Fabricado por:

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

CO13/5465