Timers, whether used for defrost or electrical systems, are essential for the longevity and energy saving functionality of important equipment.

The Paragon® defrost and the Tork® electric timers offer versatility and unbeatable quality to control power and compressor defrost cycles. Defrost products include electromechanical and electronic timers for commercial and residential applications.

Timers

PARAGON®

Scan for all models, literature and cross reference

8045-00

8245-20

DEFROST TIMERS - ELECTROMECHANICAL

8000 Series

The Paragon® 8000 Series Commercial Defrost Controls are designed for commercial freezers and refrigerators to provide automatic defrost capability. They accommodate various types of defrost systems including electric defrost heaters, hot gas, and compressor off cycle.

Features and Benefits

- Time initiated; temperature, pressure or time terminated models available
- High-amp switch contacts: 40 amps, 2 HP
- Positive slider bar switch design assures positive electrical contact and wipes the contact surface of contaminates
- Temperature or pressure terminated models are designed for defrost termination using an external temperature or pressure device
- Safety back-up – mechanical time-driven defrost termination
- Heavy-duty synchronous design drive motor
- Choice of three contact arrangements
- Adjustable frequency of defrost initiation from 1 to 6 cycles per day with a minimum of 4 hours between successive operations
- Adjustable back-up defrost termination from 4 to 110 minutes in 2 minute increments
- Heavy-duty steel enclosure with knockouts (on the bottom, back and sides) and hasp and staple padlock
- All 8240 models have an adjustable cut-in pressure dial calibrated from 36-110 pounds for R12, R22, R502

c UL us LISTED Listed Product

c UL us Recognized Component

Specifications

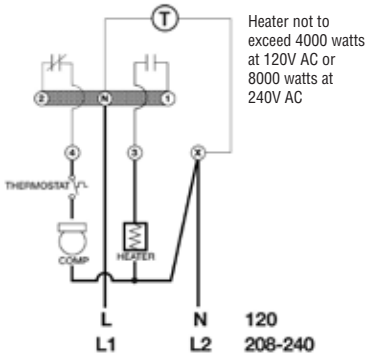
Part Numbers	Description	Switch Arrangement Contacts 2-4	Switch Arrangement Contacts 1-3	Switch Arrangement Contacts 3-N	Termination Type	Voltage
8041-00	Electric Heat	Closed	Open	Closed	Time	120V AC
8045-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Time	120V AC
8045-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Time	208-240V AC
8141-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	Closed	Temp or Pressure	120V AC
8141-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	Closed	Temp or Pressure	208-240V AC
8145-00	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	120V AC
8145-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC
8145-20B	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC
8245-20	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Pressure	208-240V AC
D81-8145-00EX*	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	120V AC
D81-8145-20EX*	Electric Heat, Hot Gas or Compressor Shutdown	Closed	Open	None	Temp or Pressure	208-240V AC

*International export models

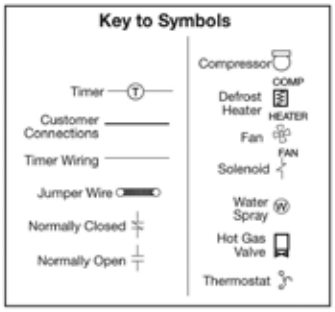
Product Drawings

Electric Heat Defrosting

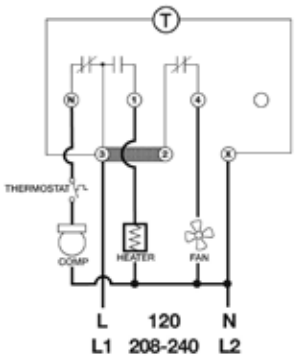
Models 8045-00 and 8045-20 - Wiring Diagram



Heater not to exceed 4000 watts at 120V AC or 8000 watts at 240V AC



Models 8041-00 and 8041-20 - Wiring Diagram



Fan and compressor loads not to exceed 2 hp. Heater not to exceed 4000 watts at 120V AC or 8000 watts at 240V AC

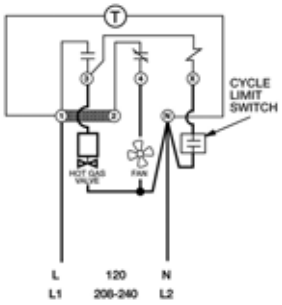
1 Year Limited Warranty

PARAGON

Product Drawings

Hot Gas Defrosting

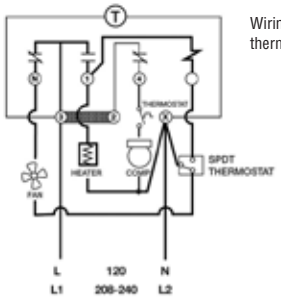
Models 8145-00, 8145-20 and E357-00 - Wiring Diagram



Wiring using 120V or 240V single phase line with compressor thermostat closed during defrost.

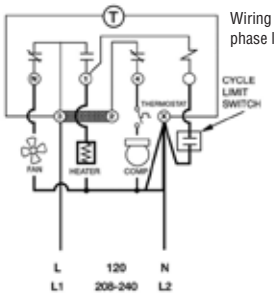
Electric Heat Defrosting

Models 8141-00 and 8141-20 - Wiring Diagram



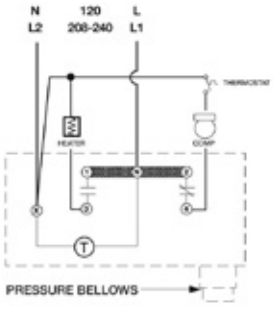
Wiring using differential of SPDT thermostat to delay fan after defrosting

Models 8141-00, 8141-20 - Wiring Diagram

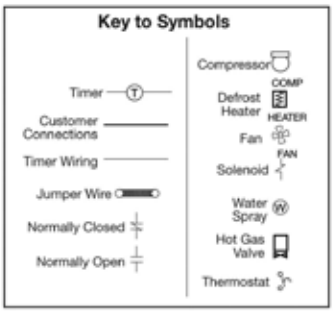


Wiring using 120V or 240V single phase line with auxiliary fan circuit

Models 8245-00 and 8245-20 - Wiring Diagram



Wiring for electric heat system without magnetic starter



DEFROST TIMERS - ELECTRONIC

9000 Series

The Paragon® 9045-00 and 9145-00 Universal Defrost Timers (UDT) are the only multi-voltage defrost timers engineered to industry refrigeration standards.

Designed to withstand the most rigorous refrigeration applications, this control offers a real-time clock and 100 hours of power loss protection for both time and defrost schedules. Mechanism-only models also are available to fit in standard defrost timer enclosures.

Features and Benefits

- Certified to UL873 standard for temperature-indicating and regulating equipment
- Wires directly to 120V AC, 208V AC or 240V AC power sources without jumpers or switches
- Rated to 30,000 cycles for refrigeration controllers with switches
- Easy programming, easy set-up, set time, set defrost start and defrost end
- Initiate 15 minute manual defrost
- 100 hours of power loss protection for both time and defrost schedule
- Real-time clock
- Lighted display shows defrost start time and duration
- System status indicators

9045-00

9045-00M

PARAGON®

Scan for all models, literature and cross reference

c UL us LISTED
Listed Product

c US
Recognized Component

1 Year Limited Warranty

PARAGON®

Scan for all models, literature and cross reference

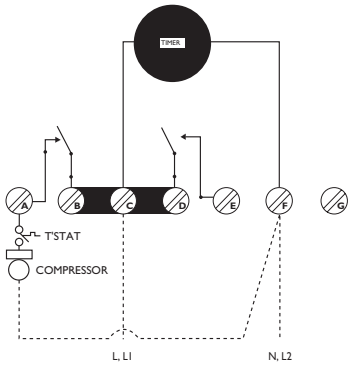
Specifications

Part Numbers	Description	Relay Switch	Initiation Type	Termination Type	Voltage
9045-00	Universal Defrost Timer	SPST	Time	Time	120-208-240V AC
9045-00M	Mechanism Only	SPST	Time	Time	120-208-240V AC
9145-00	Universal Defrost Timer	SPDT	Time	Time, Temp or Pressure	120-208-240V AC
9145-00M	Mechanism Only	SPDT	Time	Time, Temp or Pressure	120-208-240V AC

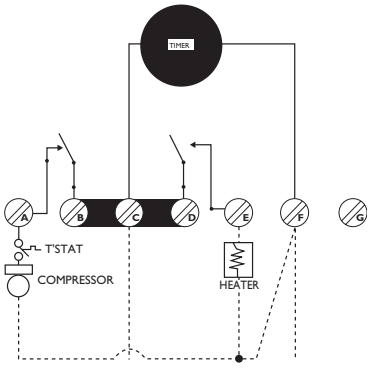
9045 Terminal Data	A	B	C	D	E	F	G
Relay Contact	SPST #1 NC Contact	SPST #1 Common Contact	L1 Power in to Timer	SPST #2 No Contact	SPST #2 Common Contact	L2/N Power in to timer	No Connection
Relay Rating	30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240V AC				30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240V AC		
Device Connections	Compressor (Typical)				Defrost Device (Typical)		Defrost Termination Switch

9145 Terminal Data	A	B	C	D	E	F	G
Relay Contact	SPDT NC Contact	SPDT NO Contact	SPDT Common Contact	SPST NO Contact	SPST Common Contact	L2/N Power in to timer	Defrost Termination Device Input L2/N side
Relay Rating	15 A resistive @ 120 to 240V AC 1/4 HP @ 120V AC, 1/2 HP @ 208 to 240V AC	30 A resistive @ 120 to 240V AC 1 HP @ 120V AC 2 HP @ 208 to 240V AC			30 A resistive @ 120 to 240V AC 1 HP @ 120V AC, 2 HP @ 208 to 240 AC		
Device Connections	Fan (Typical) Compressor (Optional)	Defrost Device (Typical)	L1 Power to Timer and to Defrost Termination Device		Compressor (Typical) Fan (Optional)		Defrost Termination Switch

Product Drawings

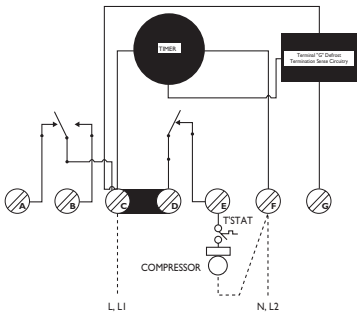


9045 AIR DEFROST - Time Initiated Time Terminated - Wiring Diagram

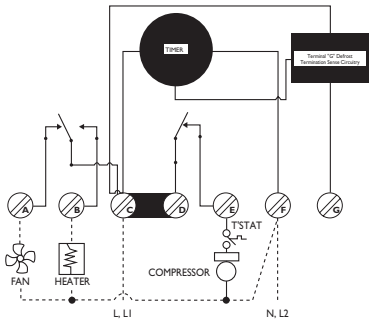


9045 ELECTRIC DEFROST - Time Initiated Time Terminated - Wiring Diagram

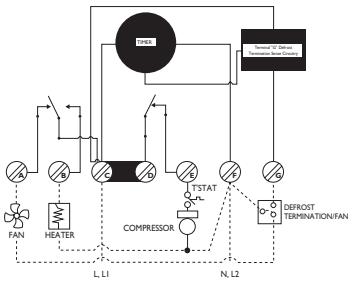
Product Drawings



9145 AIR DEFROST - Time Initiated
Time Terminated - Wiring Diagram



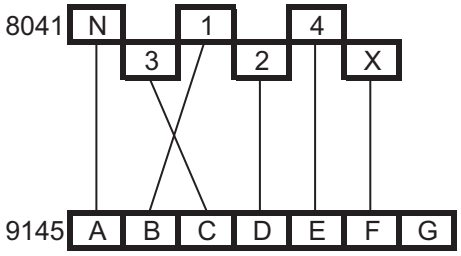
9145 ELECTRIC DEFROST - Time Initiated
Time Terminated - Wiring Diagram



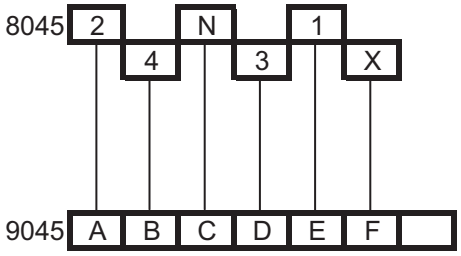
9145 ELECTRIC DEFROST - Time Initiated
Temperature Terminated - Wiring Diagram

Conversion Diagrams for Paragon Mechanical Controls

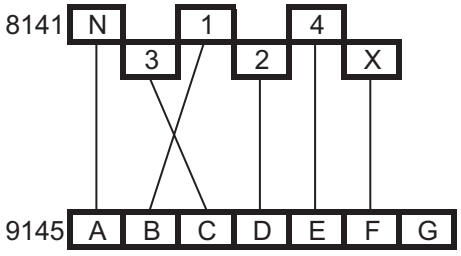
Convert 8041 to 9145



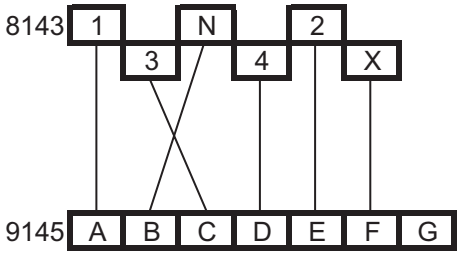
Convert 8045 to 9045



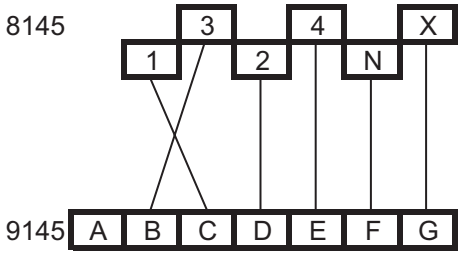
Convert 8141 to 9145



Convert 8143 to 9145



Convert 8145 to 9145



TORK

Scan for all models, literature and cross reference

1102

P47

ELECTRIC TIMERS - ELECTROMECHANICAL

1100 Series - 24 Hour Time Switches

The Tork® 1100 Series Electric Timers offer 24 hour time switches with automatic On-Off control when operation is required at the same time every day, seven days a week.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps and fans.

Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

- Heavy-duty synchronous, self-starting high torque timing motor
- Power consumption: 3 watts maximum
- Automatic operation for 24 hour timers with one pair of On-Off trippers supplied – accommodates up to 12 pairs
- Multilingual dial markings - English, French and Spanish
- Temporary manual override
- General purpose (NEMA 1) metal enclosure of deep-drawn steel, enamel coated and lockable hasp
- Combination 1/2" and 3/4" knockouts on both sides, bottom and back

LISTED
Listed Product

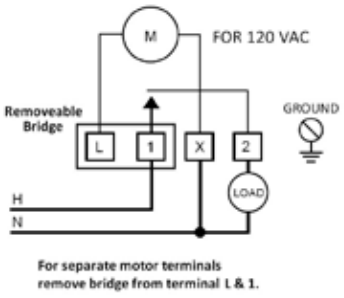
Specifications

Part Numbers	Description	Contact Ratings	Automatic Operation	Operating Temperature	Enclosure	Switch	Voltage
1101	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	SPST	120V AC
1102	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	SPST	208-277V AC
1103	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	DPST	120V AC
1104	24 Hour Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC 5HP 240V AC	Minimum ON 20 minutes; OFF 75 minutes	-40°F to 165°F (-40°C to 74°C)	Metal	DPST	208-277V AC
P47	Accessory trippers for 1100 Series Timers	NA	NA	NA	NA	NA	NA

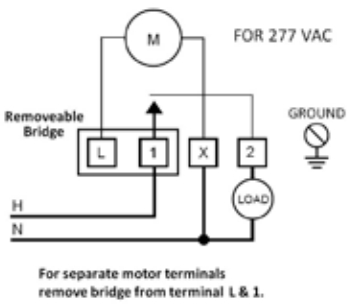
Product Drawings

Single Pole - Wiring Diagrams

1101

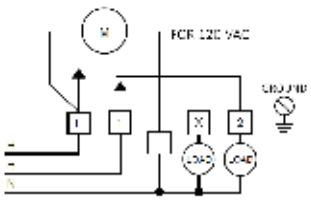


1102

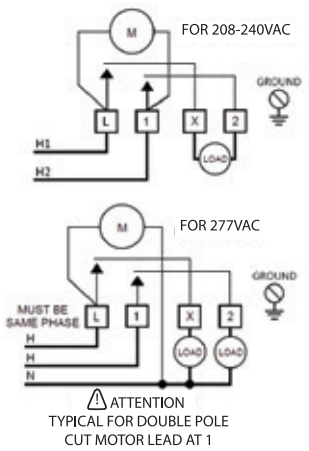


Double Pole - Wiring Diagrams

1103



1104



1 Year Limited Warranty

TORK

Scan for all models, literature and cross reference

W220

ELECTRIC TIMERS - ELECTROMECHANICAL

W Series - 7 Day Time Switches

The Tork® W Series - 7 day time switches offer the easiest and most accurate setting of any 7 day time switch through its unique combination of On-Off trippers, distinctive time indicator, and trigger action switch tripping mechanism.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps and fans. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

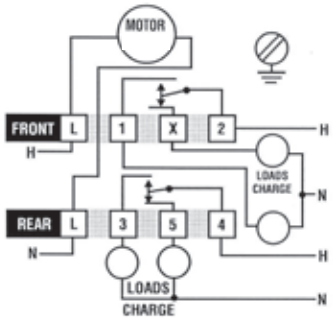
- Heavy-duty synchronous, self-starting high torque timing motor
- Power consumption: 3 watts maximum
- Keeps dial on time up to 24 hours during power outage
- Automatic operation with 7 day calendar dial accommodates up to 2 pairs of On-Off removable Trippers per day – 7 pairs are supplied
- Multilingual dial markings - English, French and Spanish
- General purpose (NEMA 1) metal enclosure of deep-drawn steel, enamel coated and lockable hasp

Specifications

Part Numbers	Description	Contact Ratings	Automatic Operation	Operating Temperature	Enclosure	Switch	Voltage
W220	7 Day Electromechanical Timer	40 A Resistive 20 A Inductive 1000 VA Pilot Duty 2HP (24 FLA) 120V AC	Minimum ON 1 hour OFF 2 hours	-40°F to 165°F (-40°C to 74°C)	Metal	DPDT	120V AC

Product Drawings

W220 (DPDT) - Wiring Diagram



UL LISTED Listed Product

CSA

1 Year Limited Warranty

ELECTRIC TIMERS - ELECTROMECHANICAL

TU40 Series - Universal 24 Hour Time Switches

The Tork® TU40 Series - Universal 24 hour time switches with multi-voltage options offer automatic On-Off control when operation is required at the same time every day, seven days a week.

Applications include On-Off control of heating, air conditioning, display lighting, ventilating, pumps, fans and security systems. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

TU40

Features and Benefits

- Automatic input voltage detection without DIP switches
- LED indicators for load and power
- Includes On/Off/Auto switch
- Power consumption: 6 VA maximum
- Temporary manual override is standard
- Combination 1/2" and 3/4" knockouts on both sides, bottom and back
- Enclosure includes indoor/outdoor NEMA 3R plastic

TORK

Scan for all models, literature and cross reference

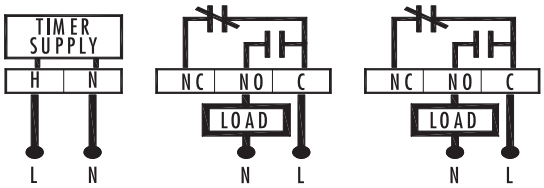
Specifications

Part Numbers	Description	Contact Ratings (Normally Open)	Automatic Operation	Temperature Range	Enclosure	Switch	Voltage
TU40	24 Hour Electromechanical Timer	40 A Resistive 30 A Inductive 720 VA Pilot Duty 1HP 120V AC 2HP 240V AC	Minimum setting: 15 minutes	-31°F to 116°F (-35°C to 47°C)	Plastic	4 IN 1 DPDT, SPST, SPDT, DPST	Universal Multi-Voltage 120/208-240/277V AC

Product Drawings

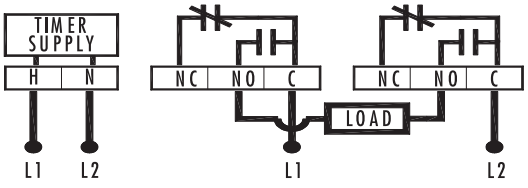
TU40 - 120/277V AC Application - Wiring Diagram

120/277VAC Application



TU40 - 208/240V AC Application - Wiring Diagram

208/240VAC Application



c UL us LISTED Listed Product

1 Year Limited Warranty

TORK®

Scan for all models, literature and cross reference

E101B

ELECTRIC TIMERS - ELECTRONIC

E100B Series

The Tork® E100B series multipurpose 1 channel control comes with 120 - 277 Volts AC input voltages for 24 hour programming. Standard enclosure for indoor and outdoor settings uses patented 40 Amp contacts. Applications include display lighting, security systems, HVAC, signs, sump pumps and ventilating fans. Tork Electric Timers are sold exclusively through Invensys to HVACR wholesalers.

Features and Benefits

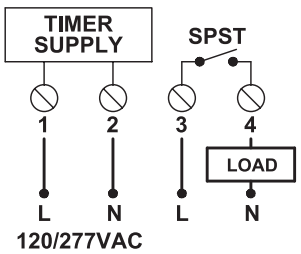
- Automatic input voltage detection without DIP switches
- LCD Display
- Simple programming with brief easy-to-follow instructions
- Power consumption: 6 watts minimum
- Daylight savings time is automatic (can be omitted)
- Manual override until the next regularly scheduled On or Off. Automatic operation then resumes or permanently if desired
- AM/PM clock format
- Power outage back-up with permanent schedule retention. Super-capacitor maintains real-time clock for 100 hours
- Includes load status and power failure indicators

Specifications

Part Numbers	Description	Contact Ratings	Scheduling	Setpoints	Operating Temperature	Enclosure	Switch	Voltage
E101B	24 Hour Electronic Timer	40 A General purpose 40 A Inductive 720 VA Pilot Duty 1HP (120V AC)	Same Everyday	20 with 1 minute minimums	-40°F to 149°F (-40°C to 65°C)	NEMA 3R Plastic	SPST	120-277V AC

Product Drawings

E101B Series - Wiring Diagram



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1 Year Limited Warranty

RESIDENTIAL DEFROST TIMERS

Domestic Defrost Timers

The Paragon® 1401 Series Defrost Timers are a synchronous motor control that activates an internal SPDT switch to actuate a defrost heater in a refrigerator. These heavy-duty 15 Amp Paragon timers are used by OEM manufacturers to replace both the older classic design timers and the new OEM versions.

Features and Benefits

- Bulk quantities must be ordered in multiples of 12
- Quiet - synchronous design provides extremely quiet operation
- Position freedom - timer can be mounted in various locations
- Interchangeability - standard mounting allows use in all applications
- Double insulated - requires no earth grounding
- RoHS compliant

A1401-00

Specifications

Part Numbers	Description	Bulk Quantity	OEM	Timing
A1401-00*	Defrost Timer in Refrigerator	12	Admiral	6 hours 21 minutes
B1401-00*	Defrost Timer in Refrigerator	12	Frigidare	8 hours 20 minutes
G1401-00*	Defrost Timer in Refrigerator	12	G.E.	6 hours 25 minutes

*International export models

PARAGON®

Scan for all models, literature and cross reference

UL LISTED Listed Product

1 Year Limited Warranty