

# MB MASTER-BILT<sup>®</sup>

Refrigeration Solutions



DMS\_Low Profile



DMS\_High Profile

## DMS-48\_72\_96 SERIES

### Installation & Operations Manual

Master-Bilt Products  
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PN 282-90000  
Rev:10-18-05





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## INTRODUCTION

Thank you for purchasing a Master-Bilt cabinet. This manual contains important instructions for installing, using and servicing a Master-Bilt **DMS** Series case. A parts list is included in with this manual. Read all these documents carefully before installing or servicing your equipment.

## STORE CONDITIONS

The Master-Bilt **DMS** cases are designed to operate in the controlled environment of an air conditioned store. The store temperature should be at or below 80°F and a relative humidity of 55% or less. At higher temperature or humidity conditions, the performance of these cases may be affected and the capacity diminished. It is not uncommon in a newly constructed store for the temperature and humidity to be above design conditions. These excessive conditions may produce sweating in the case until the store is operational and the ambient environment is more desirable.

The Master-Bilt **DMS** cabinets should not be positioned where it is directly exposed to rays of sun or near a direct source of radiant heat or air flow. This will adversely affect the case and will result in poor performance.

These cases are designed for 0" clearance at each end and open on the front, back and top.



### NOTICE

**Read this manual before installing your cabinet. Keep the manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the cabinet.**



### DANGER

**Improper or faulty hook-up of electrical components of the refrigeration units can result in severe injury or death.**

**All electrical wiring hook-ups must be done in accordance with all applicable local, regional or national standards.**



### NOTICE

**Installation and service of the refrigeration and electrical components of the cabinet must be performed by a refrigeration mechanic and/or a licensed electrician.**

The portions of this manual covering refrigeration and electrical components contain technical instructions intended only for persons qualified to perform refrigeration and electrical work.

This manual cannot cover every installation, use or service situation. If you need additional information, call or write us:

Customer Service Department  
Master-Bilt Products  
Highway 15 North  
New Albany, MS 38652  
Phone (800) 684-8988  
Fax (800) 684-8988

## WARNING LABELS AND SAFETY INSTRUCTIONS



This symbol is the safety-alert symbol. When you see this symbol on your cabinet or in this manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating practices.



### NOTICE TO EMPLOYERS

**You must make sure that everyone who installs, uses or services your cabinet is thoroughly familiar with all safety information and procedures.**

Important safety information is presented in this section and throughout this section and throughout the manual. The following signal words are used in the warnings and safety messages:

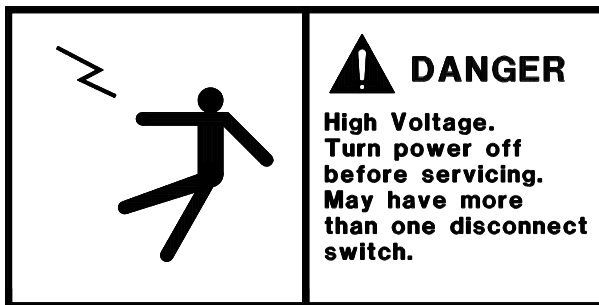
**DANGER:** Severe injury or death will occur if you ignore the message.

**WARNING:** Severe injury or death can occur if you ignore the message.

**CAUTION:** Minor injury or damage to your cabinet can occur if you ignore the message.

**NOTICE:** This is important installation, operation or service information. If you ignore the message, you may damage your cabinet.

**The warning and safety labels shown throughout this manual are placed on your Master-Bilt Products cabinet at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call your customer service department at (800) 684-8988 for replacements.**



*This label is attached to the cabinet power cord label and on the wiring channel.*



*This label is located on top of the electrical control on models with a power cord.*

## PRE-INSTALLATION INSTRUCTIONS

### INSPECTION FOR SHIPPING DAMAGE

You are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage is noted to shipping crates or cartons or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is discovered when the cabinet is uncrated, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Crating material must be retained to show the inspector from the truck line.

# INSTALLATION INSTRUCTIONS

## GENERAL INSTRUCTIONS

1. Be sure the equipment is properly installed by competent service people.
2. Keep the equipment clean and sanitary so it will meet your local sanitation codes. Wipe up all spills, clean with water and a mild detergent, then rinse with clean water.
3. Rotate your stock so that older stock does not accumulate.  
A "First-In, First-Out" rotation practice will keep the products in good salable condition.
4. Do not place product in the case when it is soft or partially thawed. Also, product should not be put in the case for at least 6 hours after it is started.
5. Stock cases as quickly as possible, exposing only small quantities to store temperatures for short periods of time.
6. When replacing burned out fluorescent tubes, be sure that the electrical power to the lighting circuit is turned off.

## NOTICE TO STORE OWNERS / MANAGERS

**Moisture or liquid around or under the cabinet is a potential slip/fall hazard for persons walking by or working in the general area of the cabinet. Any cabinet malfunction or housekeeping problem that creates a slip/fall hazard around or under the cabinet should be corrected immediately.**

If moisture or liquid is observed around or under a Master-Bilt cabinet, an immediated investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation should determine if the cabinet is malfunctioning or if there is a drain pipe leaking.

## LOCATION

To comply with Sanitation requirements, this cabinet must be mounted on casters, legs (6" high min.) or the base must be sealed to the floor with N.S.F. Listed silicone sealant. The casters or legs when ordered, screw into the holes from which the shipping bolts were removed.

1. Place cabinet in desired location, leaving approximately 6" behind cabinet to allow condenser discharge air to escape.
2. Check the electrical circuit to see that 115 volt single phase service is available with sufficient amperage to carry the load of the cabinet. Electrical codes make it necessary to ship the cabinet with 3 prong plugs. However, if it is necessary to use an adapter for a 2-prong outlet, care should be taken to see that a grounding wire is run individually to the cabinet. (see wiring diagram).
3. Check setting of defrost timer:  
Two defrost/24 hours, for 50 Minutes each.
4. It is unnecessary to remove the grille from your cabinet prior to starting of the cabinet. All cabinets are equipped with internal spring mounted compressors. All refrigeration valves are shipped open from the factory to eliminate the requirement of opening the service valves upon start-up.
5. Each cabinet comes with a thermostatic control pre-set for normal operation. When cooler or warmer temperatures are desired, turn knob in the appropriate direction (clockwise for colder) as indicated on the dial plate. It is suggested that the cabinet be allowed to operate at least 4 hours prior to readjustment of the control. It is suggested that the cabinet be allowed to pull down to the desired temperature and cycle off on the control at least three times before product is placed in the cabinet.

## ELECTRICAL



### WARNING

Before servicing electrical components in the case or the doors or door frames make sure all power to case is off. Always use a qualified technician.



### NOTICE



For models with electronic ballast only:

For replacement ballast, use only ballast that complies with UL Type CC rating if unit is equipped with electronic ballast.

It is recommended that a separate circuit be run for each cabinet to prevent another appliance blowing the fuse or HAC&R C/B, causing loss of product. This circuit should be sized according to the amp rating on the cabinet data label.

## SERVICE INSTRUCTIONS (Trouble Shooting Guide)

1. High head pressure and high back pressure:
  - A. Condenser coil clogged or restricted.
  - B. Condenser fan motor defective.
  - C. Air in the system.
  - D. Refrigeration overcharge.
2. Low back pressure and low head pressure:
  - A. Capillary tube restriction.
  - B. Refrigerant undercharged.
  - C. Leak in system.
3. Pressures normal – cabinet warm:
  - A. Refrigerant undercharged.
  - B. Control set too warm.
4. Compressor starts and runs – but cycles on overload:
  - A. Low voltage.
  - B. Overload protector defective.
  - C. High head pressure (see#1).
5. Compressor will not start – hums, but cycles on overload:
  - A. Low voltage.
  - B. Relay defective.
  - C. Overload defective.
  - D. High head pressure (see #1).
6. Cabinet sweating:
  - A. High ambient humidity.
7. Special service situations:

## FINAL CHECK LIST

- A. Check operating pressures.
- B. Check electrical requirements of unit to supply voltage.
- C. Set temperature control for desired temperature range.
- D. Check sight glass for proper refrigerant charge, if provided.
- E. Check system for proper defrost settings and operation.
  1. Verify setting of two 34 minutes defrost per 12 hours.
- F. Check condensing unit for vibrating or rubbing tubing. Dampen and clamp as required.
- G. All valves should be completely open counter-clockwise.
- H. Check packing nuts on all service valves.
- I. Replace all service valve caps and latch unit covers.

## MASTER-BILT PART NUMBERS

The table below gives Master-Bilt part numbers. Use this chart when ordering replacement parts for your **DMS** Series cases.

Description	DMS-48	DMS-48L	DMS-72	DMS-72L	DMS-96	DMS-96L
Capillary Tube	11-01452	11-01452	11-01452	11-01452	11-01452	11-01452
Compressor	03-14772	03-14772	03-14772	03-14772	N/A	N/A
Condenser coil	07-50749	07-50749	07-50749	07-50749	N/A	N/A
Condenser Fan Blade	15-50183	15-50183	15-50183	15-50183	N/A	N/A
Condenser Fan Motor	13-13101	13-13101	13-13101	13-13101	N/A	N/A
Front Glass	31-11111	31-11114	31-11112	31-11115	31-11113	31-11116
Drier	09-09309	09-09309	09-09309	09-09309	09-09171	09-09171
Power Cord	21-00312	21-00312	21-00312	21-00312	25-00104	25-00104
Sliding Door Assy	49-01444	49-01441	49-01445	49-01442	49-01444	49-01441
Refrigerant R134	59-00463	59-00463	59-00463	59-00463	59-00463	59-00463
Wire Shelf (17-1/2")	33-01609	N/A	33-01610	N/A	33-01609	N/A
Wire Shelf (19")	33-01611	33-01611	33-01612	33-01612	33-01611	33-01611
Temperature Control	19-13768	19-13768	19-13768	19-13768	19-13768	19-13768
Bulb F25T8/SPX35 (36")	23-01590	23-01590	23-01590	23-01590	23-01590	23-01590
Bulb F17T8CW (24")	N/A	N/A	23-01576	23-01576	N/A	N/A
Bulb F32T8SPX35 (48")	N/A	N/A	N/A	N/A	23-01591	23-01591
Ballast	23-01683	23-01683	23-01683	23-01683	23-01683	23-01683
Lampholder BJB26.290	23-50562	23-50562	23-50562	23-50562	23-50562	23-50562
Rockerswitch BJB43.403	23-50793	23-50793	23-50793	23-50793	23-50793	23-50793
Pilaster	33-01488	33-01488	33-01488	33-01488	33-01488	33-01488
Pilaster clip	33-01011	33-01011	33-01011	33-01011	33-01011	33-01011
Bumper	49-01348	49-01348	49-01348	49-01348	49-01348	49-01348
Bumper end	49-01350	49-01350	49-01350	49-01350	49-01350	49-01350
Mounting base	49-01326	49-01326	49-01326	49-01326	49-01326	49-01326
Timer (Paragon #8145-OB)	19-00818	19-00818	19-00818	19-00818	19-00818	19-00818
Condenser Unit	283-170Y	283-170Y	283-170Y	283-170Y	01-01478	01-01478
Evaporator Coil	07-14004	07-14004	07-14005	07-14005	07-14006	07-14006
Condensate Pan	283-11127	283-11127	283-11127	283-11127	283-11127	283-11127
Condensate Pan Divider	283-11128	283-11128	283-11128	283-11128	283-11128	283-11128
Wicking	45-01403	45-01403	45-01403	45-01403	45-01403	45-01403
Thermometer	44-00963	44-00963	44-00963	44-00963	44-00963	44-00963

## **SALE AND DISPOSAL**

### **OWNER RESPONSIBILITY**

If you sell or give away your Master-Bilt cabinet you must make sure that all safety labels and the Installation - Service Manual are included with it. If you need replacement labels or manuals, Master-Bilt will provide them free. Contact the customer service department at Master-Bilt at (800) 684-8988.

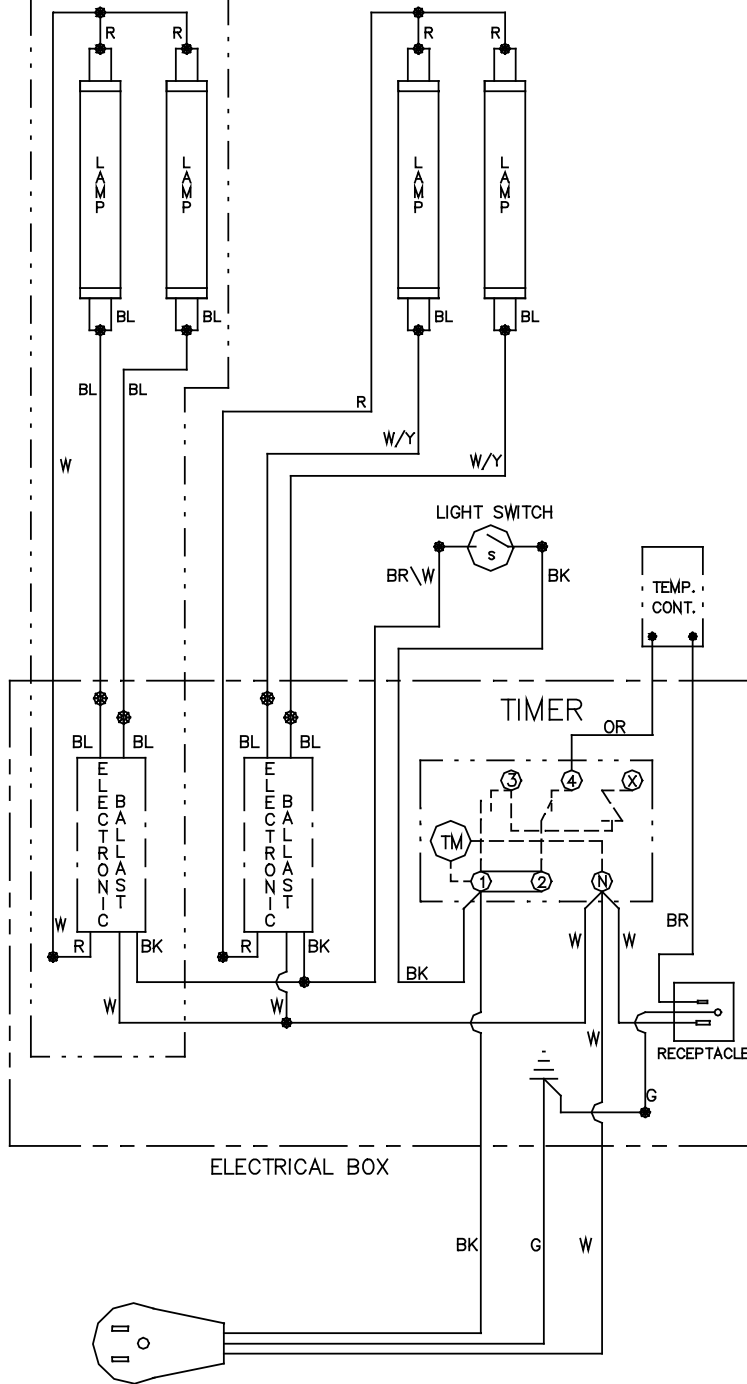
The customer service department at Master-Bilt should be contacted at the time of sale or disposal of your cabinet so records may be kept of its new location.

If you sell or give away your Master-Bilt cabinet and you evacuate the refrigerant charge before shipment, Master-Bilt recommends that the refrigerant charge be properly recovered in compliance with section 608 of the Clean Air Act effective November 1995 and in accordance with all applicable local, regional, or national standards.

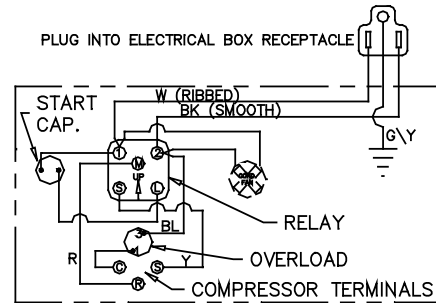
DMS-72, -96 SERIES ONLY

DEFROST SETTINGS  
2 DEFROSTS/DAY  
50 MINUTE FAIL SAFE

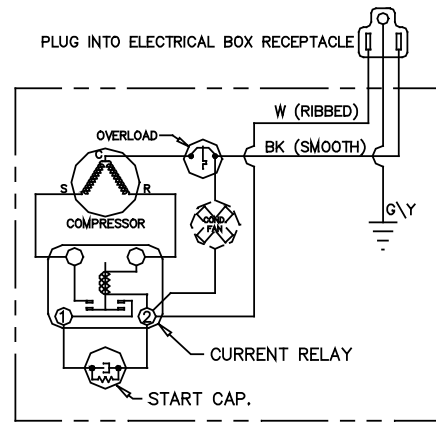
TEMPERATURE CONTROL SETTINGS



115/60/1  
NEMA 5-15P



DMS-96 SERIES



DMS-48, -72 SERIES

03/09/01

# WIRING DIAGRAM DMS SERIES

282-90001

DMS-468

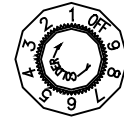
DMS -72, -96 SERIES ONLY

DEFROST SETTINGS  
3 DEFROSTS/DAY  
50 MINUTE FAIL SAFE

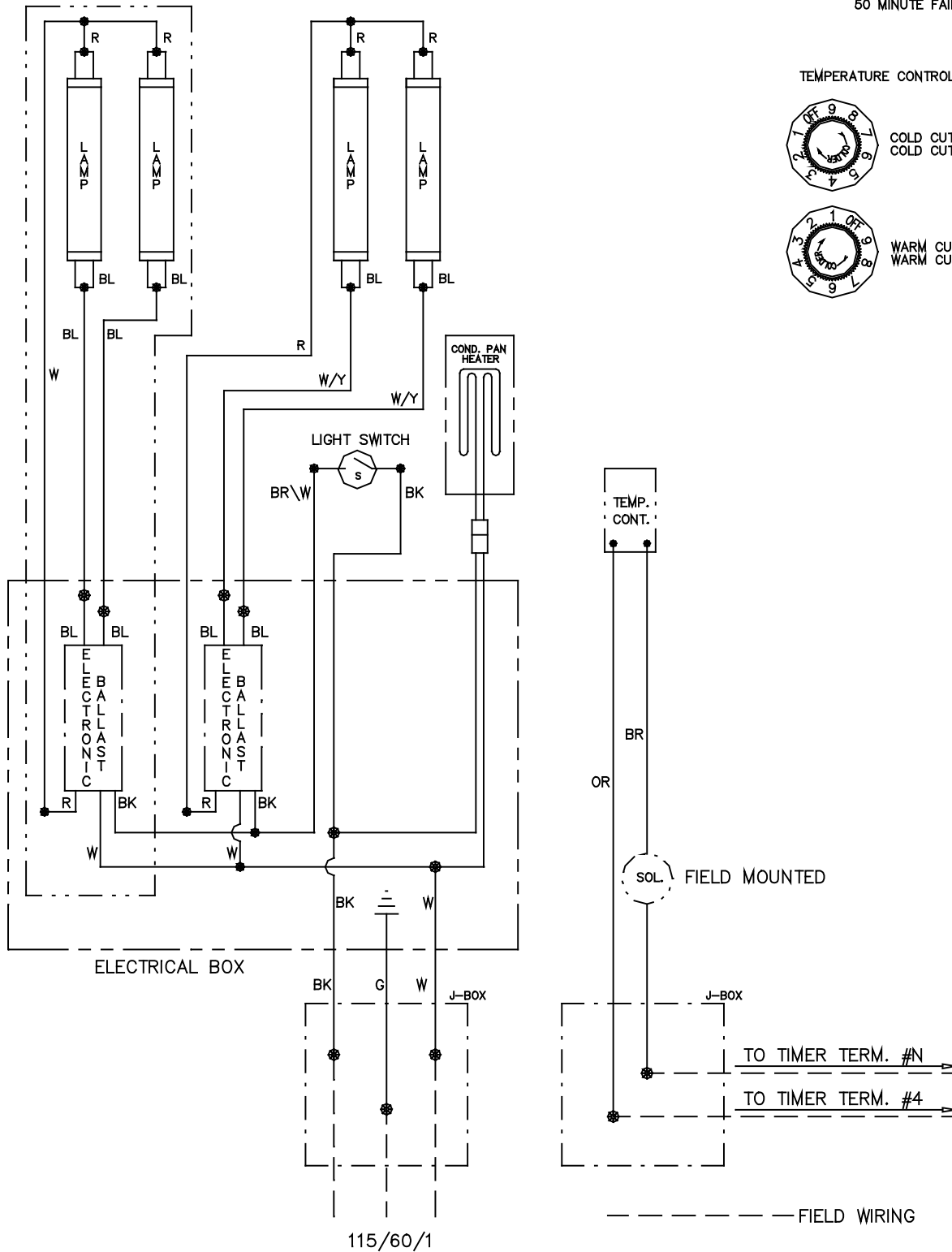
TEMPERATURE CONTROL SETTINGS



COLD CUT OUT - 5°F  
COLD CUT IN - 21°F



WARM CUT OUT - 42°F  
WARM CUT IN - 52°F



9/20/01  
03/09/01

WIRING DIAGRAM

DMS REMOTE SERIES

282-90002

DMS-468R

DMS-72, -96 SERIES ONLY

DEFROST SETTINGS  
2 DEFROSTS/DAY  
50 MINUTE FAIL SAFE

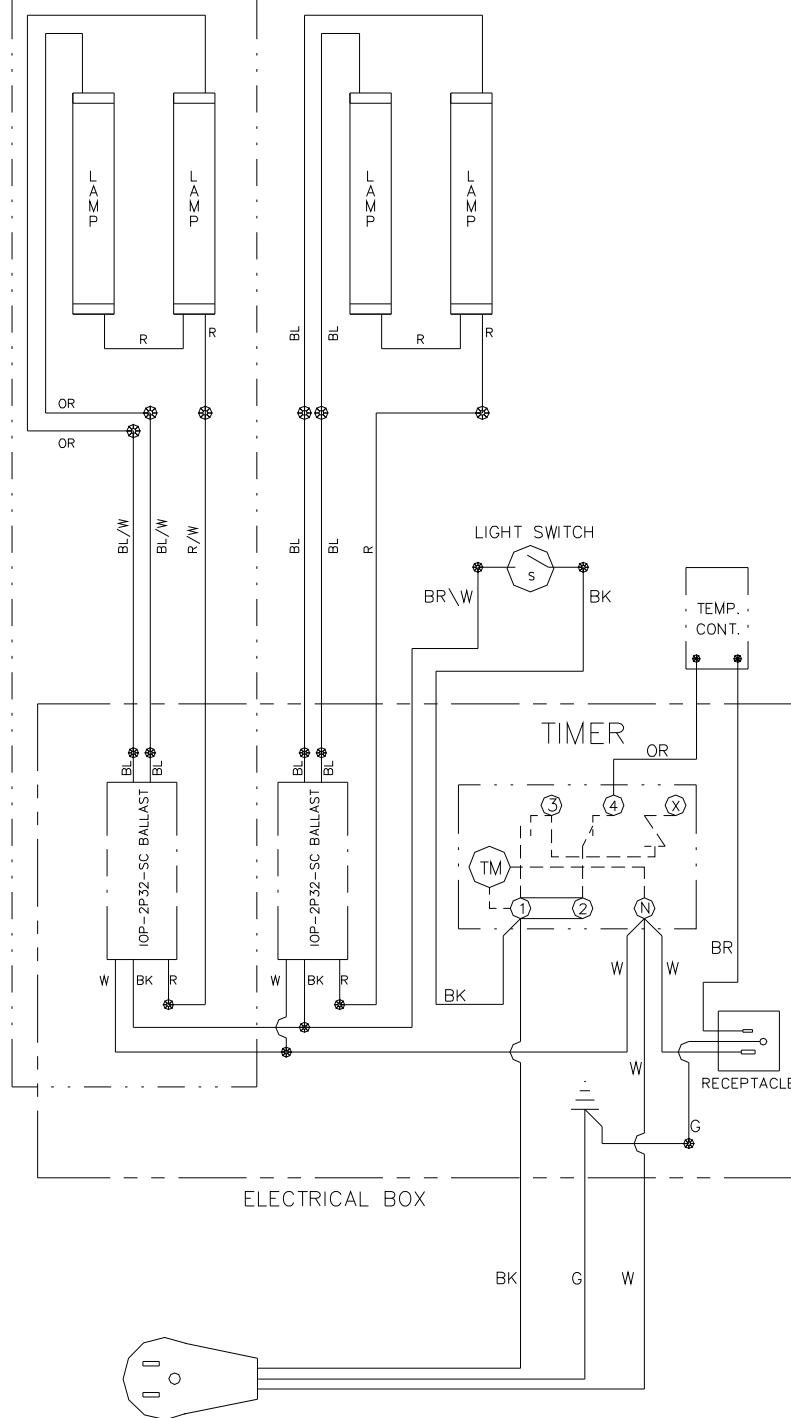
TEMPERATURE CONTROL SETTINGS



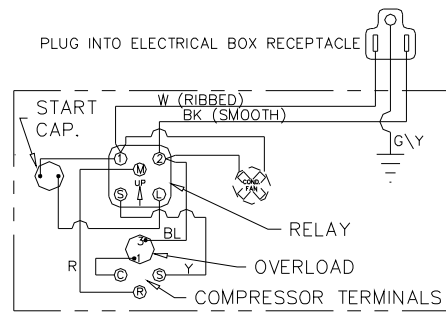
COLD CUT OUT - 5°F  
COLD CUT IN - 21°F



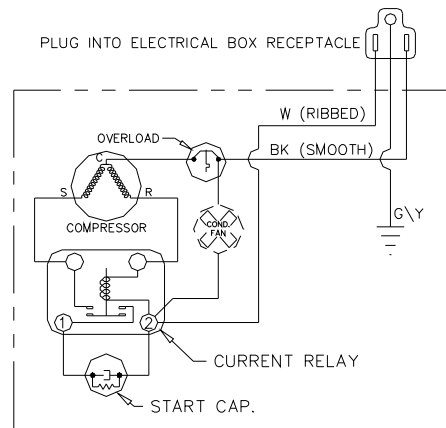
WARM CUT OUT - 42°F  
WARM CUT IN - 52°F



115/60/1  
NEMA 5-15P



DMS-96 SERIES



DMS-48, -72 SERIES

6/18/07

WIRING DIAGRAM

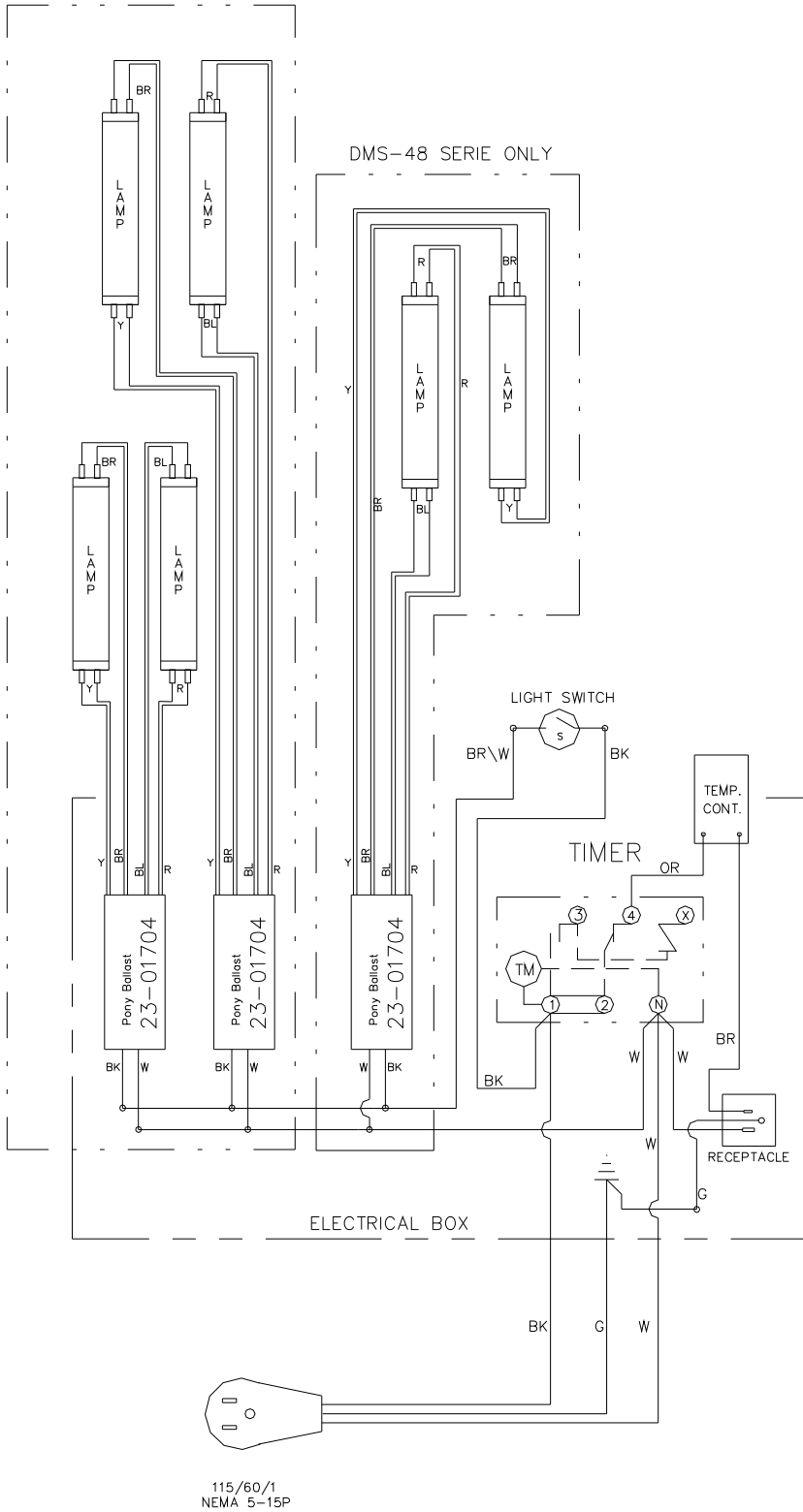
DMS SERIES

282-90001

DMS-468\_IOP-2P32-SC\_BALLAST

DMS-72, -96 SERIES ONLY

DMS-48 SERIES ONLY

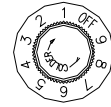


DEFROST SETTINGS  
2 DEFROSTS/DAY  
50 MINUTE FAIL SAFE

TEMPERATURE CONTROL SETTINGS

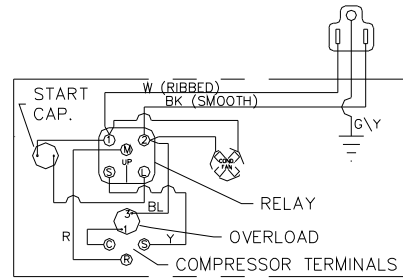


COLD CUT OUT - 5°F  
COLD CUT IN - 21°F



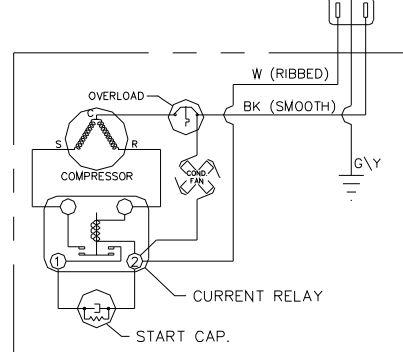
WARM CUT OUT - 42°F  
WARM CUT IN - 52°F

PLUG INTO ELECTRICAL BOX RECEPTACLE



DMS-96 SERIES

PLUG INTO ELECTRICAL BOX RECEPTACLE



DMS-48, -72 SERIES

10/05/07

WIRING DIAGRAM DMS SERIES