Limitamp* AR
Arc Resistant Medium Voltage Motor Control
Application Guide
Limitamp® AR - Arc Resistant

Introduction
Limitamp AR is the Arc Resistant version of the Limitamp, providing a solution for flash conditions, increasing the safety and protection defined in the applicable IEEE standards. The new Limitamp AR Medium Voltage Motor Controllers meet the safety requirements of the market, offering more reliable operation and control of Medium Voltage installations. This new construction includes a complete product offering of 400A/800A starters and other controllers.

The Limitamp AR is designed to provide a reliable solution to the growing demand for Arc Resistant equipment in the market place.

The uniquely designed Limitamp AR products have passed a rigorous testing program as specified by the IEEE/ANSI C37.20.7-2007 Type 2B safety standard. They are designed to provide personnel protection on the front, rear and sides of the enclosure in the event of an arc flash occurrence. This means that when the medium voltage doors are properly secured, the service technician can access the interior of the low voltage compartment, and the Limitamp AR provides the protection from a potential arc flash event.

Limitamp AR keeps the same basic design, features and general applications of the CR194 Limitamp control and the vacuum contactor, meeting UL347 and all other requirements.

Technical Data
• System voltage: up to 7.2kV
• Main bus: 1200A, 2000A, 3000A
• 50kA short circuit at 0.5 seconds
• Enclosure type: Indoor NEMA 1 gasketed
• Arc Resistant Type 2B per IEEE/ANSI C37.20.7-2007 standard

Product Offering
• 1-high and 2-high 400A FVNR (full voltage non-reversing starters)
• 1-high 800A FVNR (full voltage non-reversing starters)
• 1-high 800A FVR (full voltage reversing starters)
• 1-high 400A FVR (full voltage reversing starters)
• RVAT (reduced voltage autotransformer starters)
• RVPR (reduced voltage primary reactor starters)
• 2S1W (two speed, single winding starters)
• 2S2W (two speed, dual winding starters)
• 400A MVSS (medium voltage solid-state starters)
• IC-1074 load break switches
• SYNC excitation starters
• Main, Feeder and Tie sections
• Incoming line cable sections
• Auxiliary sections
Construction

The low voltage door on the front of each unit includes pilot lights, switches and relays. This compartment provides easy access to the secondary devices while the main medium voltage front door is closed. It is isolated from the live parts of the unit, providing increased safety under arc flash conditions.

When the main door is open, an extra glass-reinforced polyester barrier is provided in the back of the low voltage compartment for protection, as shown in photo below.

Each cubicle is provided with reinforced doors that incorporate special hinges, gaskets, handles and latches to ensure proper sealing in front of the section.

The Limitamp AR – Arc Resistant Medium Voltage Motor Controls are manufactured using heavy duty reinforced side panels in a 1/8” thick (11 gauge) welded steel construction which, in conjunction with other mechanical features and special bolted pieces provide additional safety for arc flash conditions.

In the case of an internal arc fault inside the vertical section, all the gases and other materials produced as result of the fault are directed to the upper part of the vertical section.

The robust design of the enclosure, bottom plate and medium voltage doors prevents front, bottom and side exhaust. Particles and gases are directed to the upper part of the vertical section, through the vent flaps and plenum to an external area determined by the customer, away from the gear and personnel.

Every vertical section includes a plenum fabricated of 0.105” thick (12 gauge) sheet steel, and along with others in adjacent sections, form a duct along the top of the Limitamp AR.

The plenum system is not installed at the factory. It is supplied for field installation. Extra segments can be ordered, depending on the particular characteristics of the installation site.

The last segment of the duct is provided with a cap to direct the arc flash particles and gases away from the gear and the operator.
Limitamp AR Medium Voltage Motor Control
CR194 AR 400A, Stationary or Draw-out,
Outline Dimensions 2400-7200 Volts, One-High, Bottom Cable Entry

1 High, 36" Wide

1 High, 40" Wide

Notes:
B — Incoming Power Terminal Connection
B1 — AC Power Bus
C — Control Lead Terminal Board
D — Motor Lead Terminal Connection
E — Ground Bus Terminal Connection
F — Ground Terminal Connection (If Ordered)
G — Space Required to Open Doors 135°

H — Four-foot Aisle for Contactor Removal
J — Mounting Holes for 1/2" Diameter Anchor Bolts
M — Recommended Position for Incoming Motor Conduit
N — Recommended Position for Incoming Control Conduit
* — Indicates Terminal Location - Approximate for Cable Length
▲ — Approximate Weight
Limitamp AR Medium Voltage Motor Control
CR194 AR 400A, Stationary or Draw-out,
Outline Dimensions 2400-7200 Volts, One-High, Top Cable Entry

Notes:
B — Incoming Power Terminal Connection  
B1 — AC Power Bus  
C — Control Lead Terminal Board  
D — Motor Lead Terminal Connection  
E — Ground Bus Terminal Connection  
F — Ground Terminal Connection (If Ordered)  
G — Space Required to Open Doors 135°  
H — Four-foot Aisle for Contactor Removal  
J — Mounting Holes for 1/2” Diameter Anchor Bolts  
M — Recommended Position for Incoming Motor Conduit  
N — Recommended Position for Incoming Control Conduit  
* — Indicates Terminal Location - Approximate for Cable Length  
▲ — Approximate Weight
Limitamp AR Medium Voltage Motor Control
CR194 AR 400A, Stationary or Draw-out,
Outline Dimensions 2400-7200 Volts, Two-High, Bottom Cable Entry

Notes:
B1 — AC Power Bus
C — Control Lead Terminal Board
D — Motor Lead Terminal Connection
E — Ground Bus Terminal Connection
G — Space Required to Open Doors 135°
H — Four-foot Aisle for Contactor Removal
J — Mounting Holes for 1/2” Diameter Anchor Bolts
M — Recommended Position for Incoming Motor Conduit
N — Recommended Position for Incoming Control Conduit
* — Indicates Terminal Location - Approximate for Cable Length
▲ — Approximate Weight

Enclosure Outline dimensions 2400-7200 Volts
Medium Voltage Motor Control Enclosures
GE Limitamp AR

L.H.SIDE VIEW
BTM CABLE ENTRY

2 High, 36” Wide

TOP VIEW
FLOOR PLAN

FRONT VIEW

2 High, 40” Wide

TOP VIEW
FLOOR PLAN

FRONT VIEW
Limitamp AR Medium Voltage Motor Control
CR194 AR 400A, Stationary or Draw-out,
Outline Dimensions 2400-7200 Volts, Two-High, Top Cable Entry

Notes:
B1 — AC Power Bus
C — Control Lead Terminal Board
D — Motor Lead Terminal Connection
E — Ground Bus Terminal Connection
G — Space Required to Open Doors 135°
H — Four-foot Aisle for Contactor Removal
J — Mounting Holes for 1/2” Diameter Anchor Bolts
M — Recommended Position for Incoming Motor Conduit
N — Recommended Position for Incoming Control Conduit
* — Indicates Terminal Location - Approximate for Cable Length
▲ — Indicates Terminal Location - Approximate for Cable Length
▲ — Indicates Terminal Location - Approximate for Cable Length
▲ — Indicates Terminal Location - Approximate for Cable Length
▲ — Approximate Weight
Limitamp AR Medium Voltage Motor Control
CR194 AR 800A, Stationary or Draw-out,
Outline Dimensions 2400-7200 Volts, One-High, Top/Bottom Cable Entry

Notes:
B — Incoming Power Terminal Connection
B1 — AC Power Bus, 800A
C — Control Lead Terminal Board
D — Motor Lead Terminal Connection
E — Ground Bus Terminal Connection
F — Ground Terminal Connection (If Ordered)
G — Space Required to Open Doors 90°
* — Indicates Terminal Location - Approximate for Cable Length
H — Four-foot Aisle for Contactor Removal
J — Mounting Holes for 1/2" Diameter Anchor Bolts
M — Recommended Position for Incoming Motor Conduit
N — Recommended Position for Incoming Control Conduit
P — Recommended Position for Incoming Power Conduit
— Approximate Weight

Reference Publications
Standard, non-Arc Resistant Limitamp
Vacuum Contactors GEH-5306
Installation Instructions GEH-6263
Application and Selection Guide GET-6840
Load-Break Switches Installation Instructions GEH-4268
Vacuum Contactors, Renewal Parts Bulletin GEF-8016

Limitamp AR
Limitamp AR Product Flyer DEA-527
Limitamp AR Installation Instructions DEH-6790

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