



MPA Series
with female contacts

MRA Series
with male contacts

Integrally
molded
stabilizer

Clements National's Cadillac[®] brand of trainline jumpers and receptacles provide head end power (HEP) primarily to locomotive hauled passenger rail cars.

The power source can also be from a power car or wayside ground based source. Head end power is a convenient and flexible means by which electrical power can be generated by a central source and transmitted through each rail car via a trainline connection to operate auxiliary equipment. Typical HEP loads include HVAC, lighting battery charging/low voltage power supply, food service equipment and water heating equipment. The Cadillac brand of HEP trainline products has been time tested and provides the reliability and quality that you expect!

Design Benefits:

- Integrally molded plug (standard color – yellow) and receptacle (standard color – red) connectors. Optional colors available upon request.
- Integral molded design per Amtrak specification D77-24 provides superior environmental and shock protection.
- Compliant to Amtrak D77-24 specifications and APTA:
 - APTA RP-E-015-99
 - APTA RP-E-016-99
 - APTA RP-E-018-99
- ASTM Class M copper wire stranded cables assure maximum flexibility under adverse temperature conditions.
- Multi-tined socket contact design for enhanced contact performance.
- Floating silver-plated copper contacts, self aligning for easy mating, resist excessive voltage drop.
- Maximum water tightness achieved with:
 - Outer peripheral O-ring seal on plug body
 - Individual contact “closed entry” sealing between plug and receptacle interface
- Receptacle skirt features a patented, integrally molded, expandable stabilizer to eliminate insertion problems often encountered in connectors with glued support rings.





by Clements National

Part Number Code Logic

480V HEP Series Head End Power Solutions

MPA-1SR-XXXX-VXX

MRA - RECEPTACLE
MPA - PLUG
MPRA - PLUG/RECEPTACLE

1 - SINGLE ENDED, FIXED
2 - DOUBLE ENDED, PORTABLE

- NO STRAIN RELIEF
SR - STRAIN RELIEF

VARIANCE CODE -
CONSULT FACTORY

CABLE LENGTH (INCHES)
(ie - 0048 = 48 INCHES)

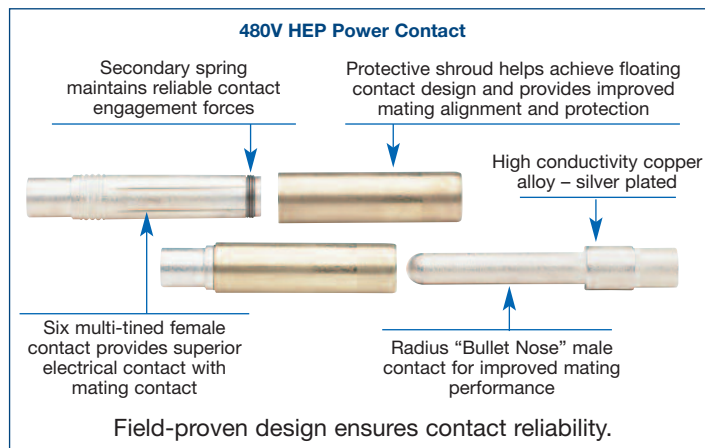
Part Number Examples

MRA-1-0024 (Typical Receptacle Assembly)
480V HEP receptacle cable assembly, single-fixed end configuration, 24 inch long cable, standard color - red.

MPA-1SR-0085 (Typical Fixed Jumper)
480V HEP plug cable assembly, single-fixed with strain relief end configuration, 85 inch long cable, standard color - yellow.

MPRA-2-0600 (Typical Wayside Jumper)
480V HEP receptacle-plug cable assembly, double-portable end configuration, 600 inch long cable, standard color receptacle - red, standard color plug - yellow.

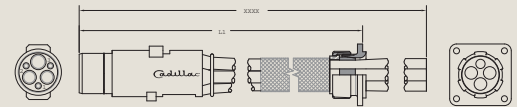
MPA-2-0600 (Typical Portable Jumper)
480V HEP plug cable assembly, double-portable end configuration, 600 inch long cable, standard color - yellow.



MPA Series Jumper Assembly - Plug assembly with female contacts



MPA-1 Single ended jumper assembly (fixed)



MPA-1SR Single ended jumper assembly (fixed with strain relief)



MPA-2 Double ended jumper assembly (portable)

MRA Series - Receptacle assembly with male contacts



MRA-1 Single ended (fixed)



MRA-2 Double ended (portable)

MPRA Series Jumper Assembly - Plug/Receptacle assembly with female/male contacts



MPRA-2 Double ended jumper assembly (portable)

MPA/MRA-MPRA Performance Specifications:

Amtrak D77-24 & APTA RP-E-016-99

Operating temperatures: -40°F to 140°F (-40°C to 60°C)

Electrical rating: - Power contacts: 600 VAC, 400 amperes

- Control contacts: 600 VAC, 40 amperes

Dielectric strength: 2000 V rms

Connector body material: DuPont Synthetic Rubber

Mating/unmating forces: 70 lbs. Maximum - 30 lbs. Minimum

Contact shock: Mated connector pairs shall withstand 6' drop onto concrete surface

Watertightness & Weather Proofness: The mating of cable assemblies should provide a connection which is weatherproof when exposed to the conditions described in APTA RP-E-016-99 Section 4.5.

Note: XXXX denotes customer specified length in inches.

Ex: MPA-2-0060 = 60" in length.

Housings

MRA-H-V55
Improved receptacle housing with integral "O" ring latch

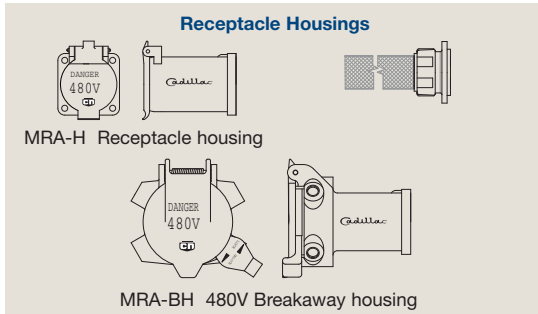


MRA-H
Standard receptacle housing



MRA-BHAW
Improved breakaway designed receptacle housing

MRA-1-XXXXA
480V receptacle kit which includes housing and receptacle assembly



Cover Kits



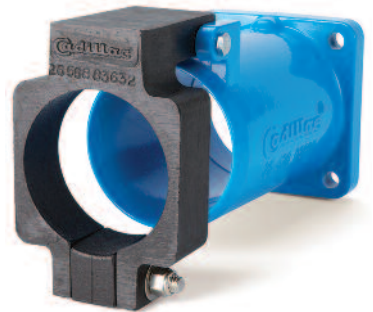
MRA-H-3L-K
Replacement cover kit – improved cover with latch



MRRA-AMTK
Control circuit adapter – integral molded body



MRA-H-V37
Replacement cover kit – standard housing



HS-MRA-7
Locking Clamp

Misc. Accessories & Hardware



MPA-4-OR
Cable O-Ring



MPA-2-XXX-Y-V79
Portable Control Loop Jumper

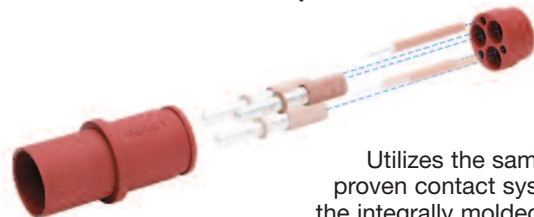


MPA-SR
Cable strain relief for fixed jumper



Clements National also offers replacement parts that are recommended for testing and non-passenger use only. RRA/RPA Series 480V Connector Kits, ideal for quick in-field installation or repair situations.

RRA receptacle kit with male contacts (RPA plug kit available but not shown)



Utilizes the same field-proven contact system as the integrally molded series

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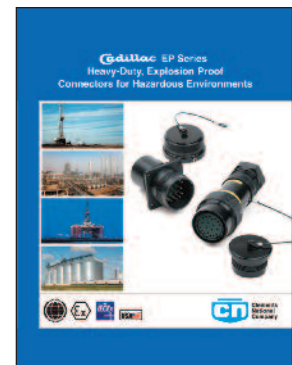
Clements National is a Chicago-based electrical connector design manufacturer that has made a significant contribution in the connector industry by serving the following markets:

- Rail Mass Transit
- Marine, Oil & Gas
- Industrial

Additional Clements National Industry Specific Catalogs



CN Series Power & Control Connectors for applications including Process & Control, Marine, Oil & Gas, Machine Tool, Industrial, Power Distribution & Transportation.



EP Series Heavy-Duty, Explosion Proof Connectors for Hazardous Environments, including Marine, Oil & Gas, and Grain Silos.

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