

# nVent ERICO Protection Device, F-Series



nVent ERICO is a world leader in grounding, bonding, surge and lightning protection in the railway industry, offering an extensive line of wayside surge protection. The EPD F-Series provides transient protection from surges induced or conducted onto low-voltage signal circuits for trackside signaling equipment. This series of surge-protection devices is ideal for microprocessor-based train-control and indication circuits, train inspection systems, communications systems, highway crossing controls and other operationally sensitive systems.

Wayside rail-industry electronic-equipment environments are prone to dangerous and damaging voltage surges and transients. The EPD F-Series proven hybrid technology diverts surge currents to minimize the likelihood of system damage, reducing system down time and repair costs. nVent ERICO's design safeguards the devices against shorts, provides status indication at a glance and ensures uninterrupted signal operation when the device reaches end of life. Visual inspection is a key design feature. The device cover is color-coded and marked with the operating voltage and part number, which allows easy identification for proper application.

nVent ERICO is committed to providing engineered high quality and technologically advanced solutions to the unique applications of the railway industry and has served the worldwide market for over 100 years. Railway systems around the world depend on nVent ERICO solutions to keep their systems running safely and efficiently.

## FEATURES

Protects sensitive electronic equipment

Reduced operating and maintenance costs

Visual indicator

Open-circuit end-of-life mode

Proven hybrid technology comprised of gap-type and varistor-type components

Epoxy coating ensures stability under adverse environmental conditions

Two operating voltages

50kA 8/20µs maximum surge rating

AREMA® binding post terminals

Exceeds AREMA® recommendations for arrestor applications

## SPECIFICATIONS

Table 1/2

| Catalog Number                        | EPD2050F                                               | EPD2170F                                               |
|---------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Nominal System Voltage (Un)           | 50 VDC<br>35 VAC                                       | 170 VDC<br>120 VAC                                     |
| Max Continuous Operating Voltage (Uc) | 90 VDC<br>65 VAC                                       | 220 VDC<br>150 VAC                                     |
| Voltage Protection Level (Up)         | 250 V @ 3 kA                                           | 500 V @ 3 kA                                           |
| Nominal Discharge Current (In)        | 30kA 8/20 $\mu$ s                                      | 20kA 8/20 $\mu$ s                                      |
| Max Discharge Current (Imax)          | 50kA 8/20 $\mu$ s                                      | 50kA 8/20 $\mu$ s                                      |
| Leakage Current @ Un                  | 1 nA Max                                               | 1 nA Max                                               |
| Frequency                             | 5 MHz Max                                              | 5 MHz Max                                              |
| Protection Modes                      | Single, L-L or L-PE                                    | Single, L-L or L-PE                                    |
| Technology                            | Metal Oxide Varistor (MOV)<br>Gas Discharge Tube (GDT) | Metal Oxide Varistor (MOV)<br>Gas Discharge Tube (GDT) |
| Connection Type                       | AREMA® Stud-Type Terminals – 2 Post<br>Terminal Block  | AREMA® Stud-Type Terminals – 2 Post<br>Terminal Block  |
| Status Indication                     | Mechanical flag                                        | Mechanical flag                                        |
| Enclosure Material                    | UL® 94V-0 Thermoplastic                                | UL® 94V-0 Thermoplastic                                |
| Enclosure Rating                      | IP 20<br>NEMA®-1                                       | IP 20<br>NEMA®-1                                       |
| Humidity                              | 0 - 95                                                 | 0 - 95                                                 |
| Temperature                           | -40 to 80 °C                                           | -40 to 80 °C                                           |
| Length 1 (L1)                         | 60 mm                                                  | 60 mm                                                  |
| Length 2 (L2)                         | 76 mm                                                  | 76 mm                                                  |

Table 2/2

| Catalog Number | EPD2050F                                                                | EPD2170F                                                                |
|----------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Length 3 (L3)  | 33mm                                                                    | 33mm                                                                    |
| Width 1 (W1)   | 24 mm                                                                   | 24 mm                                                                   |
| Width 2 (W2)   | 16 mm                                                                   | 16 mm                                                                   |
| Height 1 (H1)  | 50mm                                                                    | 50mm                                                                    |
| Height 2 (H2)  | 55mm                                                                    | 55mm                                                                    |
| Unit Weight    | 0.07 kg                                                                 | 0.07 kg                                                                 |
| Complies With  | ANSI®/IEEE® C62.41.2-2002 Cat A, Cat<br>B, Cat C<br>AREMA® requirements | ANSI®/IEEE® C62.41.2-2002 Cat A, Cat<br>B, Cat C<br>AREMA® requirements |

| Catalog Number | EPD2050F         | EPD2170F           |
|----------------|------------------|--------------------|
| Color          | Transparent Blue | Transparent Yellow |

### ADDITIONAL PRODUCT DETAILS

Frequency @ 3 dB / 120 Ω.

### DIAGRAMS



### WARNING

nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at [www.nvent.com](http://www.nvent.com) and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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