

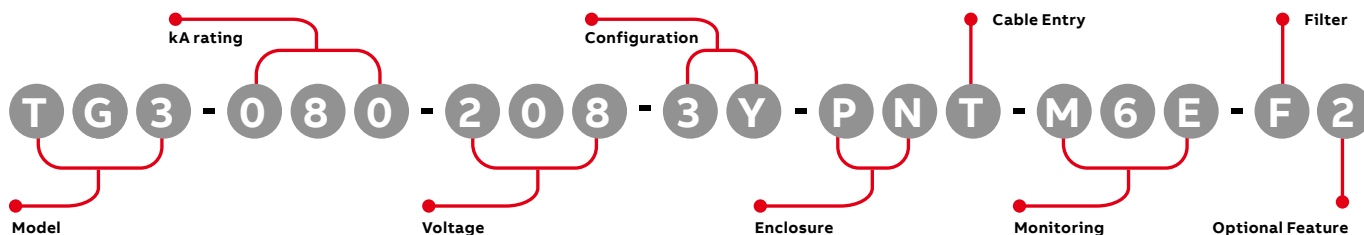
SURGE PROTECTIVE DEVICES

# TG3™ 80 Surge Protection

## TransGuard®



TransGuard® TG3™ suppression filter systems feature a powerful failure-free ISM™ (Integrated Suppression Module). The ISM™ contains individual thermally fused and protected MOVs, surge-rated copper busing, robust filtering and advanced remote communications capabilities. The TG3™ protects today's facilities from costly downtime and equipment damage caused by routine or catastrophic electrical disturbances.



| kA Rating | Voltage*                                  |         | Configuration*                                  |                                   | Enclosure   |
|-----------|---|---------|---|-----------------------------------|---|
|           | (Consult factory for additional Voltages) |         | (Consult factory for additional Configurations) |                                   |   |
| 050       | 208                                       | 120/208 | 1G  | 1 Phase, Grounded                 | MN Metal Without Disconnect                           |
| 080       | 240                                       | 120/240 | 2G  | 2 Phase, Grounded, Split Phase    | MD Metal With Disconnect                              |
| 100       | 380                                       | 220/380 | 3Y  | 3 Phase, Grounded Wye             | SN Stainless Steel Without Disconnect                 |
| 125       | 480                                       | 277/480 | 3H  | 3 Phase, Grounded, High Leg Delta | SD Stainless Steel With Disconnect                    |
| 150       | 600                                       | 347/600 | 3D  | 3 Phase, Grounded Delta           | PN Fiberglass Reinforced Polyester Without Disconnect |
| 200       |   |         |   |                                   |   |
| 250       |   |         |   |                                   |   |
| 300       |   |         |   |                                   |   |

\*See table on back for more Voltage/Configuration Options.

| Cable Entry   | Monitoring   | Filter      | Optional Features | Stand-Alone Options<br>(To Be Ordered As Separate Items) |
|---------------|--|-------------|-------------------|--|
| T Top Feed    | M0 No local monitoring (see remote MxX stand-alone option)                 | F Filter    | 2 Test Port       | DTS DTS-2 Diagnostic Test Set                            |
| B Bottom Feed | M1 Smart switching tri-color/LED/Phase, Audible Alarm & Dry Relay Contacts | N No Filter |                   | MxX Remote Monitor Extension M1X through M6EX            |
|               | M2 M1 + Surge Counter  |             |                   | HPI HPI Cable  |
|               | M3 Advanced Monitoring, Character Display, Modbus RTU                      |             |                   |  |
|               | M4E M3 + Ethernet, Modbus TCP  |             |                   |  |
|               | M5 Advanced Monitoring, Graphics Display, Modbus RTU                       |             |                   |  |
|               | M6E M5 + Ethernet, Modbus TCP  |             |                   |  |

### Product Specifications

#### General Specifications

|  |  |
|--|--|
| <b>Maximum Surge Current Rating</b>    | 80kA Per Mode, 160kA Per Phase   |
| <b>Nominal Discharge Surge Current</b> | I-n = 20kA   |
| <b>Safety Listings</b>                 | UL Listed 1449 5th Edition for Type 1 and Type 2 SPD applications, cUL, and UL 1283 / Meets Requirements for UL 96A / Compliant to IEEE C62.41.1-2002, C62.41.2-2002 and C62.45-2002 / NFPA 70 [NEC], Article 285 / RoHS Compliant |
| <b>Protection Method</b>               | Thermally protected MOVs, Capacitive Filter  |
| <b>Product Design</b>                  | Individual thermally fused and protected MOVs, and All Copper, Tin-plated Bus  |
| <b>Dimensions</b>                      | Metal/Stainless Steel: 16"H x 16"W x 9.2"D<br>Fiberglass Reinforced Polyester: 14"H x 12.75"W x 6.6"D  |
| <b>Weight</b>                          | Metal/Stainless Steel: 40 lbs.<br>Fiberglass Reinforced Polyester: 17 lbs  |
| <b>Enclosure Type</b>                  | NEMA 4/12 Standard (NEMA 4X Option)  |
| <b>Installation Location</b>           | Outdoor or Indoor  |
| <b>Operating Environment</b>           | -25°C to +60°C<br>5% – 95% Non-Condensing Humidity   |
| <b>Fault Current (SCCR)</b>            | 200kAIC  |
| <b>Connection Method</b>               | Parallel   |
| <b>Protection Modes</b>                | All Modes (L-N, L-G, N-G, L-L)   |
| <b>Response Time</b>                   | < 0.5 Nanoseconds  |
| <b>Operating Frequency</b>             | 47 – 63 Hz   |
| <b>Warranty</b>                        | 15 Years   |

#### Filtering Attenuation Frequencies (Per Mil-Std-220B January 2000)\*\*

| 10 KHz  | 100 KHz | 1 MHz   | 10 MHz  | Max at 142 KHz |
|---------|---------|---------|---------|----------------|
| 18.1 dB | 44 dB   | 22.8 dB | 15.3 dB | 54.6 dB        |

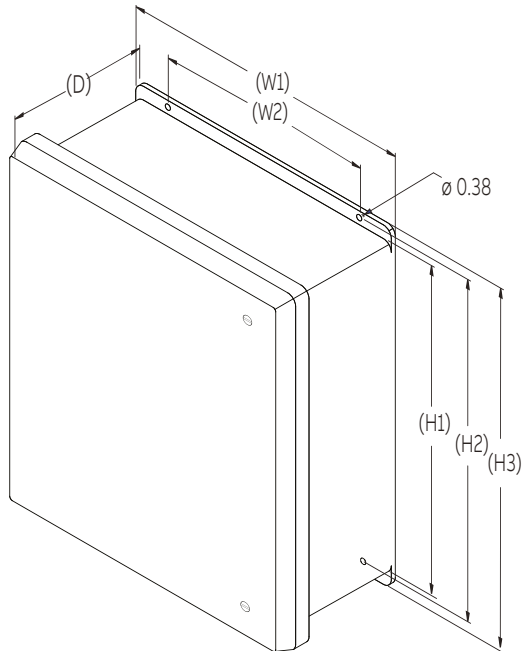
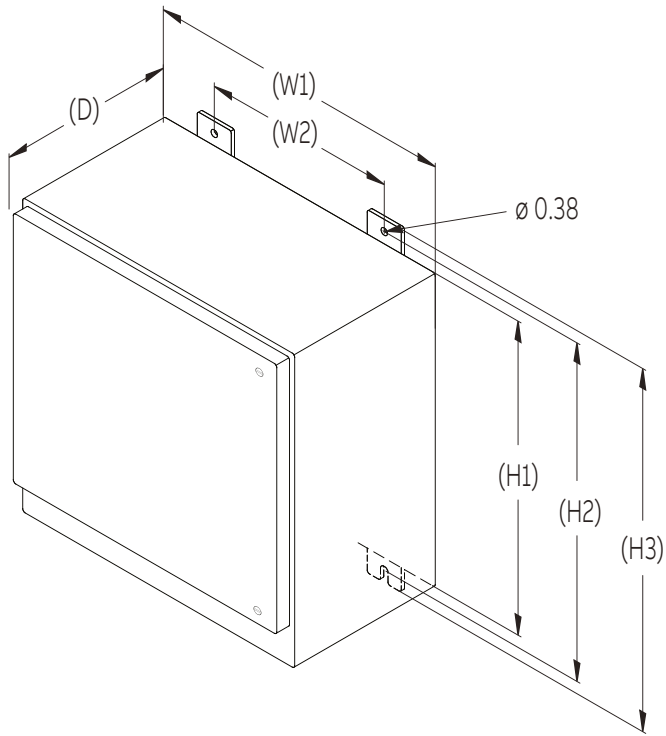
#### Single/Repetitive Surge Current Capacities (Tested)\*\*

| Protection Mode   | Single Pulse Surge Current Capacity/Mode | Repetitive Surge Current Capacity/Mode |
|-------------------|--|--|
| Line-to-Neutral   | 80,000A                                  | 6,000 Impulses                         |
| Line-to-Ground    | 80,000A                                  | 6,000 Impulses                         |
| Neutral-to-Ground | 80,000A                                  | 6,000 Impulses                         |
| Line-to-Line      | 160,000A                                 | 12,000 Impulses                        |
| Per Phase         | 160,000A                                 | 12,000 Impulses                        |

\*\* Data based on actual tests. Contact factory for test reports

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | L-N MCOV | Voltage | L-L MCOV |
|---------|----------|---------|----------|
| 120V    | 150V     | 240V    | 300V     |
| 277V    | 320V     | 480V    | 552V     |
| 347V    | 420V     | 600V    | 690V     |



#### Dimensional specifications

##### Metal/Stainless Steel

| TG3™/80 | Inches | (mm)    |
|---------|--------|---------|
| H1      | 16.00  | (406.4) |
| H2      | 17.25  | (438.2) |
| H3      | 18.50  | (469.9) |
| W1      | 16.00  | (406.4) |
| W2      | 10.00  | (254.0) |
| D       | 9.20   | (233.7) |

##### Fiberglass Reinforced Polyester

| TG3™/80 | Inches | (mm)    |
|---------|--------|---------|
| H1      | 14.00  | (355.6) |
| H2      | 14.75  | (374.7) |
| H3      | 15.50  | (393.7) |
| W1      | 12.75  | (323.9) |
| W2      | 10.00  | (254.0) |
| D       | 6.60   | (167.6) |

#### Voltage/configuration options

Not all voltage configurations are displayed, contact your local sales representative for additional configurations.

|  | 1-Phase, Grounded | 2-Phase, Grounded, Split-Phase | 3-Phase, Grounded, Wye | 3-Phase, Grounded, High-Leg Delta | 3-Phase, Grounded, Delta |
|--|-------------------|--------------------------------|------------------------|-----------------------------------|--------------------------|
|  | 1G                | 2G                             | 3Y                     | 3H                                | 3D                       |

##### Voltage Configuration

|     |   |   |   |   |   |
|-----|---|---|---|---|---|
| 120 | X |   |   |   |   |
| 208 | X |   | X |   | X |
| 220 | X | X |   |   | X |
| 230 | X |   |   |   | X |
| 240 | X | X |   | X | X |
| 380 |   | X | X |   | X |
| 415 |   | X | X |   | X |
| 480 |   | X | X |   | X |
| 600 |   | X | X |   | X |

TG3™/80 performance data

| System Voltage                          | 120/240V or 120/208V |     |      |      | 277/480V |      |      |      | 347/600V |      |      |      | 480V Delta |      |  |  |
|---|----------------------|-----|------|------|----------|------|------|------|----------|------|------|------|------------|------|--|--|
| Protection Mode                         | L-N                  | L-G | N-G  | L-L  | L-N      | L-G  | N-G  | L-L  | L-N      | L-G  | N-G  | L-L  | L-G        | L-L  |  |  |
| <b>MCOV</b>                             | 150                  | 150 | 150  | 300  | 320      | 320  | 320  | 552  | 420      | 420  | 420  | 690  | 552        | 552  |  |  |
| <b>B3 Ring Wave 6kV, 500A</b>           | 490                  | 570 | 640  | 500  | 450      | 540  | 570  | 530  | 490      | 520  | 600  | 550  | 1450       | 530  |  |  |
| <b>B3/C1 Combo Wave 6kV, 3kA</b>        | 614                  | 629 | 634  | 1011 | 1013     | 1031 | 950  | 1857 | 1197     | 1219 | 1175 | 2369 | 1542       | 1857 |  |  |
| <b>C3 Combo Wave 20kV, 10kA</b>         | 980                  | 980 | 1170 | 1600 | 1420     | 1540 | 1600 | 2600 | 1670     | 1670 | 1730 | 2980 | 2270       | 2600 |  |  |
| <b>UL 1449 5th Edition VPR 6kV, 3kA</b> | 700                  | 700 | 700  | 1200 | 1200     | 1200 | 1000 | 2000 | 1200     | 1500 | 1200 | 2500 | 1800       | 2000 |  |  |

All TG3™ systems voltage protection ratings (VPR) are peak values (±10%) measured from the 90° reference point and are in compliance with test and evaluation procedures outlined in ANSI/IEEE C62.41

