

# TRANS GUARD®

ELECTRICAL TRANSIENT SUPPRESSION FILTER SYSTEMS



 **Current Technology®**  
THE #1 NAME IN SURGE SUPPRESSION™

# CURRENT TECHNOLOGY® TRANS GUARD®



## Advanced, all-new MasterPLAN®-compatible electrical transient suppression solutions

Dramatically different from other transient disturbance products, Current Technology's hardworking TransGuard® suppression filter systems feature a powerful new Failure-Free ISB® (Integrated Suppression Bus) suppression filter assembly, individually fused MOVs, improved current sharing, multiple options and much more — precisely the protection today's facilities need from costly downtime and equipment damage resulting from routine or catastrophic electrical disturbances.

## Current Technology: the #1 name in surge suppression

Since 1971, engineers and end-users have called on Current Technology to safeguard their facilities from costly electrical transients. High-rise office buildings, schools, wastewater treatment plants, manufacturing operations, utilities, gas stations, public arenas, retail outlets, hospitals... confident customers from all commercial and industrial business segments choose Current Technology suppression filter systems based on quality, performance and dependability.

We continue to lead and change the electrical world with "firsts" such as our MasterPLAN® concept of facility-wide protection, the often-imitated but never equaled Electronic Grade Panelboard®, ControlGuard®, GuardBus® and our exclusive around-the-clock "24x7" Technical Support. Our products are the first and only electrical transient protection offerings capable of passing the full rated surge current capacity of units with an integral disconnect and without fuse operation. That's why independently surveyed engineers and end-users rate Current Technology #1 when it comes to product quality and service.

*"They say lightning never strikes twice, but I'm not so sure about that. We've had numerous storms since the 'big one' that hit the flagpole, but everything protected by Current Technology has stayed up and running. No facility should be without one."*

— Marv Fischer, Building Official  
Grand County, Colorado

## TransGuard and MasterPLAN®: the #1 facilitywide protection network

Cost-effective TransGuard models are easily configured into a MasterPLAN® network of facility-wide protection. Current Technology's heralded MasterPLAN approach combines two or more suppression filter systems to yield dramatically increased performance and long-lasting protection for critical loads. MasterPLAN benefits include improved voltage clamping, expanded distribution system reliability, increased product life expectancy, and reduced surge current stress resulting from upstream higher exposure protection.

### High-Frequency Noise Attenuation

| Single device* |      |      |      | MasterPLAN network of two or more devices separated by at least 100 feet of wire |      |      |      |
|----------------|------|------|------|--|------|------|------|
| 100 K          | 1M   | 10M  | 100M | 100K   | 1M   | 10M  | 100M |
| 44dB           | 33dB | 36dB | 53dB | 83dB   | 68dB | 67dB | 84dB |

\*TG150 noise attenuation ratings. See individual TransGuard data sheets for model-specific noise attenuation ratings.

## Current Technology: #1 in service and support



Current Technology's commitment to superior technical support and customer service extends well beyond the delivery of your TransGuard® suppression filter systems. All Current

Technology products are backed by a well-trained team of applications engineers and customer service professionals. Your technical questions are answered around the clock, 365 days per year, by our in-house support staff. We ensure maximum product performance and reliability through two exclusive test methods: the DTS-2 Diagnostic Test Set and hand-held MasterTEST® Monitor (see page 5).

## Maximum performance and proven reliability: our #1 priority

### Precise manufacturing standards, industry guideline compliance and extensive testing ensure TransGuard integrity.

All Current Technology products are US-built to meet and exceed established world-class manufacturing and quality benchmarks as well as industry regulatory guidelines, and each unit undergoes extensive testing and inspection prior to shipment. Every TransGuard unit is manufactured in compliance with the following standards:

#### NEMA Standard LS 1-1992

National Electrical Manufacturers' Association specification guideline for low voltage surge protective devices. Per NEMA LS 1, Current Technology supports and publishes conservative design-rated single pulse surge current capacity ratings that do not exceed the published ratings of individual component manufacturers. Additional tested maximum single pulse surge current reports obtained through independent laboratory testing are also available.

#### Underwriters Laboratories — UL 1449, Second Edition and UL 1283

Benchmark standards for surge suppression safety and performance. Current Technology engineers have participated in the UL 1449 industry advisory group since its inception.

#### CSA C22.2 M-1996

Canadian Standards Association's guidelines for compliance with general Canadian Electrical Code requirements for bonding and grounding/protective grounding of electrical equipment and surge/transient voltage suppressors.

#### ANSI/IEEE C62.41 — 1991 and C62.45 — 1995

American National Standards Institute/Institute of Electrical and Electronic Engineers standards for establishment of surge withstand capabilities. TransGuard suppression filter systems are extensively tested in all modes utilizing a 1.2x50 µsec 20KV open circuit voltage, 8x20 µsec short circuit current Category C3 bi-wave (see product specifications, pages 8-14).

#### On-Site Testing

Current Technology is the industry's first manufacturer to install and utilize a KeyTek® E-Class™ Series PQF Power Simulator for on-site product testing. The world's most powerful transient testing and monitoring system and the accepted standard for sustained product life evaluation, the KeyTek ECAT permits on-site testing with amperages of up to 10,000 amps and voltages as high as 20,000 volts. TransGuard suppression filter systems are subjected to strenuous testing and inspection by diligent quality assurance professionals before leaving the factory, and every unit is shipped with a Diagnostic Signature Card listing factory-established benchmark performance values.\*

*\*Diagnostic Signature Card intended for use with DTS-2 Diagnostic Test Set. (See page 5.)*

*"Prior to the installation of Current Technology suppression filter systems, Frito Lay was spending thousands of dollars each year to repair or replace electronic parts and discarding thousands of pounds of ingredients. Today, the Pulaski (Tennessee) operation no longer experiences downtime or damage resulting from power disturbances. We made a good investment and definitely received our money's worth with MasterPLAN."*

*— Jerry Knief, Senior Resource,  
Maintenance Group  
Frito Lay, Inc., Pulaski, Tennessee*



## Failure-Free ISB® Integrated Suppression Bus

### The most advanced, most reliable suppression filter assembly.

The unparalleled result of an extensive design effort in Current Technology's research and development facility, Current Technology's dramatically different, improved suppression filter assembly enables TransGuard models to provide unmatched performance and reliability. Unlike printed circuit board-based technologies, Current Technology's patent-pending Failure-Free ISB® is not dependent on PCB traces to carry full magnitude current. Instead, surge current travels on copper bus bars to multiple MOV (metal oxide varistor) paths. PCB trace failures are eliminated while current sharing is enhanced by minimized impedance.



Failure-Free Integrated Suppression Bus

### Failure-Free ISB Features

- 
- Monitor output connectors — real-time monitoring of all modes
  - Heavy-duty filter capacitors ensure industry's best high frequency noise and transient filtering
  - Solid copper bus construction — cumulative surge current is carried on copper bus bars, thereby eliminating reliance on PCB trace to conduct full magnitude current
  - Fuse sensing circuitry
  - Internal fusing for uninterrupted protection at higher surge current levels
    - UL Recognized fuse array rated at 200 kAIC (patent-pending) provides industry breakthrough technology
    - All paths and elements protected via fusing
    - Expanded safety and reliability via a fuse block array that prevents "cross-arcing" which may occur in designs without independently isolated fuses
  - Fused MOVs — ensure seamless product performance in event of single MOV failure
  - Power terminals
  - Sand-filled molded polycarbon suppression filter assembly enclosure

# More features, more benefits, more options than competing models





## Standard TransGuard features and benefits

|   |   |
|---|---|
| Seamless technology™ engineering  | Unique suppression and filtering properties of key components — MOVs, polypropylene capacitors and precise component geometry — are combined and maximized to deliver extended performance and reliability  |
| Failure-Free ISB®   | Advanced suppression filter assembly eliminates PCB trace failures, enhances current sharing by minimizing impedance, conducts cumulative current via all-copper bus, then distributes to multiple MOV paths; fused MOVs  |
| MasterPLAN® compatible  | May be combined with other Current Technology products to yield improved suppression voltage clamping and high frequency noise attenuation (see page 2)   |
| Direct bus connection   | Permits connection directly to the serving electrical bus to minimize installation impedance and provides 200 kAIC fault current protection   |
| NEMA 4X fiberglass reinforced polyester or NEMA 4/12 metallic enclosure | Allows installation in virtually any commercial or industrial environment   |
| Phase indicator lights (3)  | Indicates power present   |
| Safety interlocked entry door   | Prevents human exposure to energized unit (available only with disconnect)  |
| All-modes protection  | Ensures 100% protection by safeguarding all electrical modes (L-N, L-G, L-L, N-G)   |
| “24x7” Technical Hotline  | Toll-free technical support 24 hours a day, seven days a week, 365 days a year  |
| 7-Year Product Warranty*  | Warranted to be defect-free and performance-guaranteed for up to 84 months — even against lightning strikes <ul style="list-style-type: none"> <li>• <i>TransGuard models may be warranted for 10 years when installed electrically downstream from a selenium-enhanced™ SElect® SEL300 or SEL250 suppression filter system. See page 7 for details.</i></li> </ul> |



TransGuard products are available in non-metallic polycarbon, metallic NEMA 4 or metallic NEMA 4X enclosures. Shown: metallic NEMA 4 enclosures with various options.

## TransGuard options

|                                   |   |  |
|-----------------------------------|---|--|
| Integral disconnect               |  | Safely removes unit power to facilitate testing, maintenance and inspection. Disconnect option includes metal enclosure. Safety interlocked to prevent accidental exposure to energized components   |
| Primary monitoring                |   | Phase indicator lights, form “C” dry contacts for remote monitoring  |
| Advanced monitoring               |   | Phase indicator lights, LED indicator, form “C” dry contacts, test switch pad, LED status indicator, audible alarm/alarm disable switch, alarm disable indicator, low battery indicator, disturbance counter   |
| MasterMIND® Diagnostic Monitoring |  | Phase indicator lights, LED indicator, form “C” dry contacts, audio alarm/disable switch, reset and test switches, phase and filter LED status indicators, alarm disable indicator, real-time notification of % protection status, % protection warning, N-G voltage, N-G current, capacitor fuse status, RMS voltage, sags, swells, dropouts, outages, disturbance counters, battery back-up of stored data<br><i>The intelligent MasterMIND optional monitoring system permits real-time monitoring of every MOV and displays protection capacity, number of voltage swells, sags, surges, dropouts and outages.</i> |
| Metal NEMA 4/12 enclosure         |   | Required for integral disconnect   |
| DTS-2 Diagnostic Test Set         |  | Ten-mode dual-function analyzer for on-site quantitative performance measurement of all electrical modes. Easily connects to all TransGuard models to provide real-time testing and monitoring. The industry’s only proactive test set.  |
| MasterTEST® Hand-Held Tester      |  | Provides easy monitoring of Failure- Free ISB components: percentage of protection; phase, selenium and filter status; N-G voltages and currents. Battery operated   |

## TransGuard: Simple to select; easy to install

All Current Technology suppression filter systems are manufactured and classified in accordance with the transient surge environments and surge severity guidelines specified in ANSI/IEEE standard C62.41 — 1991.

The chart below defines ANSI/IEEE specified transient exposure levels, describes typical applications and suggests the appropriate TransGuard product for each. The chart also lists Current Technology selenium-enhanced™ SElect® suppression filter systems which, when installed at service entrance with TransGuard units directly downstream, constitute a MasterPLAN selenium-enhanced network and empower downstream

TransGuard units with a 10-Year Extended Warranty. The facility diagram represents the variety of exposure levels found within a typical building.

With a basic understanding of your facility's applications, electrical distribution system set-up and ANSI/IEEE exposure levels, suppression filter systems requirements are easily determined. Your Current Technology factory-trained representative will assist you with the evaluation of your needs and gladly conduct a no-cost site inspection to assess the most comprehensive and cost-effective protection for your particular facility.

| IEEE Category | Exposure Level | Recommended models | Typical Applications   |
|---------------|----------------|--------------------|--|
| "C"           | Highest        | TG300<br>SEL300    | <ul style="list-style-type: none"> <li>• Zero-tolerance environments</li> <li>• Largest ampacity service entrances</li> <li>• Service entrances in high lightning areas</li> </ul>   |
|               | High           | TG250<br>SEL250    | <ul style="list-style-type: none"> <li>• Moderate and lower ampacity service entrances</li> <li>• Service entrances near utility substations</li> <li>• Service entrances on grid with other large industrial users</li> <li>• Service entrances remotely located from utility power factor correction and grid switching</li> </ul>   |
|               | High-to-Medium | TG200              | <ul style="list-style-type: none"> <li>• Distribution panels feeding rooftop loads in high lightning areas</li> <li>• Extremely large distribution panels</li> </ul>   |
| "B"           | Medium         | TG150              | <ul style="list-style-type: none"> <li>• Large distribution panels</li> <li>• Heavy equipment (UPS, elevators, etc.) located near unprotected service entrance</li> <li>• Panels feeding variable speed drives</li> <li>• Non-service entrance motor control centers utilizing drives, PLCs, soft-start starters, electronic starters, electronic control systems and electronic monitoring</li> </ul> |
|               |                | TG125              |  |
|               | Medium-to-Low  | TG100              | <ul style="list-style-type: none"> <li>• Branch panels heavily loaded with sensitive electronic equipment</li> <li>• Branch panels with combination of dirty and sensitive loads</li> <li>• Branch panels with no upstream protection</li> <li>• Busway feeding sensitive loads</li> <li>• Bus riser feeding multiple floors with critical or sensitive loads</li> </ul>                               |
|               | Low            | TG80               | <ul style="list-style-type: none"> <li>• Branch panels with upstream protection</li> <li>• Branch panels with primarily sensitive electronic loading</li> <li>• Branch panels deep within a facility</li> </ul>  |
| "A"           | Lowest         | TG60               | <ul style="list-style-type: none"> <li>• Branch panels with upstream protection</li> <li>• Branch panels with primarily sensitive electronic loading</li> </ul>  |

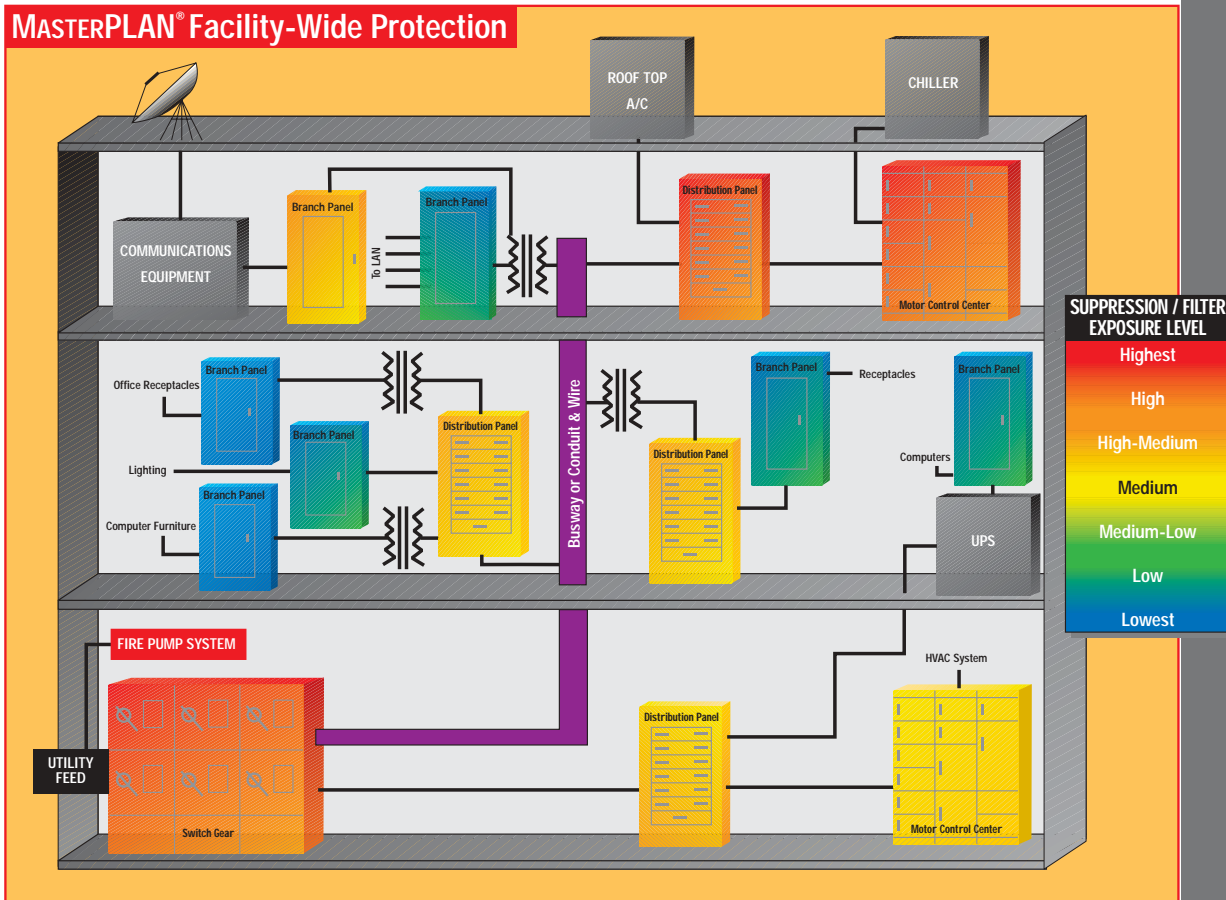
*"A massive storm pounded the Dallas/Ft. Worth area. The only piece of station equipment that was damaged was a coaxial relay switch, which at the time was not protected by Current Technology suppression filter systems. Engineers purchase the best equipment money can buy. I believe in Current Technology's products or I wouldn't have bought a second one."*

— Tom Daniels, Director of Engineering and Operations  
KTVT Channel 11 (CBS affiliate)

*"Our boring mills were being wiped out and costing us several thousand dollars with every occurrence — and that was just the damages alone. As soon as the (Current Technology unit) was installed, our power quality problems stopped and the (unit's) disturbance counters started going crazy. It didn't take long for over a million events to be recorded."*

— Chauncey Barber, Fossil Division  
Project Engineer  
Siemens

## MASTERPLAN® Facility-Wide Protection



### Surge current capacities: How much is enough?

How much protection does your facility require? ANSI/IEEE C62.41 states that a “typical” service entrance transient delivers a current magnitude of 10,000 amps. So why are products with hundreds of thousands of amps recommended for top-level protection?

Reliable data sources illustrate that some “non-typical” current magnitudes may be in excess of 200,000 amps. Additionally, lightning strikes often consist of four to six “hits” and may be as high as 40 “hits.” Therefore, suppression filter systems must provide adequate protection to ensure that such events do not cause failure in the act of duty. Current Technology products are designed to function as “permanent protection” when properly selected, applied and installed. In addition to withstanding transients of large magnitudes, Current Technology suppression filter systems are built to endure repetitive transient conditions. Recognizing that MOVs are finite elements when exposed to high currents, it’s easy to understand the importance of ensuring that each MOV is never stressed beyond life-threatening limits.

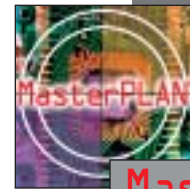
The only method of increasing MOV life expectancy is to reduce current exposure. Current Technology research and development engineers design products

with precise current sharing capabilities that will survive the routine transients while maintaining enough “horsepower” to handle episodes of large, catastrophic magnitude. (For more information, request Current Technology’s “Higher Transient Protection Levels” technical manuscript.)

### Selenium-enhanced™ MasterPLAN® facilitywide protection

**More power, more protection,  
twice the warranty.**

All TransGuard models are backed by Current Technology’s Seven Year Product Warranty which guarantees performance when properly installed, even in the event of direct lightning strikes. By simultaneously purchasing and installing selenium-enhanced™ SElect® SEL300 or SEL250 suppression filter systems at the service entrance and placing one or more TransGuard units downstream, the warranty for TransGuard units is automatically extended to 10 years. Current Technology’s 10- Year Extended Warranty is also extended to Electronic Grade Panelboards®, ControlGuard® and GuardBus® suppression filter systems installed simultaneously with SEL300 or SEL250 models. (See MasterPLAN Selenium-Enhanced 10-Year Warranty for complete details.)



**MasterPLAN®**  
SELENIUM-ENHANCED™  
10 YEAR WARRANTY

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR HIGHEST EXPOSURE APPLICATIONS

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Large ampacity electrical service entrances
- Service entrances in high lightning areas



Fiberglass reinforced polyester enclosure



Metal enclosure

### Standard TG300 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG300-120/208-3GY | TG300-120/240-2G   |
| TG300-220/380-3GY | TG300-120/240-3GHD |
| TG300-277/480-3GY | TG300-240-3DG      |
| TG300-347/600-3GY | TG300-480-3DG      |

### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 325 / 375   | 425/450          | 650 / 775     | 400/400                |
|                | L-G  | 400 / 450   | 425/450          | 650 / 825     | 500/500                |
|                | N-G  | 350 / 350   | 475 / 475        | 750 / 750     | 500/500                |
| 120/208        | L-L  | 400 / 500   | 775 / 850        | 950 / 1250    | 700/700                |
|                | L-N  | 550 / 600   | 875 / 900        | 1125 / 1225   | 800/800                |
|                | L-G  | 850 / 875   | 850 / 900        | 1075 / 1225   | 1000/1000              |
| 277/480        | N-G  | 700 / 700   | 900 / 900        | 1225 / 1225   | 800/900                |
|                | L-L  | 650 / 750   | 1650 / 1725      | 1950 / 2200   | 1500/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

### Filtering Attenuation Frequencies

| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
|-------|--------|--------|------|------|-------|-------|--------|
| 53dB  | 41dB   | 32dB   | 31dB | 32dB | 35dB  | 47dB  | 53dB   |

### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 300,000 amps                             | 7,500 impulses                         |
| Line-to-Ground    | 300,000 amps                             | 7,500 impulses                         |
| Neutral-to-Ground | 300,000 amps                             | 7,500 impulses                         |
| Line-to-Line      | 300,000 amps                             | 7,500 impulses                         |
| Per Phase         | 600,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Due to present industry test equipment limitations, single pulse surge current capacities over 200,000 amps are established via testing of individual components or sub-assemblies within a mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

### Mechanical Specifications

#### Dimensions:

Fiberglass reinforced polyester:  
19.5"H x 17.5"W x 9.5"D  
Metal: 28"H x 16"W x 9.5"D

#### Weight:

Fiberglass reinforced polyester: 57 lbs.  
Metal: 91 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non- condensing humidity

### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283

UL Recognized fusing

Contact factory for open-frame product specifications.



## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR HIGH EXPOSURE APPLICATIONS



Fiberglass reinforced polyester enclosure



Metal enclosure

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Service entrances near utility substations
- Service entrances on grid with other large industrial users
- Lower ampacity service entrances
- Service entrance remotely located from utility power factor correction capacitors and grid switching
- Large distribution panels

### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 250,000 amps                             | 7,000 impulses                         |
| Line-to-Ground    | 250,000 amps                             | 7,000 impulses                         |
| Neutral-to-Ground | 250,000 amps                             | 7,000 impulses                         |
| Line-to-Line      | 250,000 amps                             | 7,000 impulses                         |
| Per Phase         | 500,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Due to present industry test equipment limitations, single pulse surge current capacities over 200,000 amps are established via testing of individual components or sub-assemblies within a mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

### Standard TG250 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG250-120/208-3GY | TG250-120/240-2G   |
| TG250-220/380-3GY | TG250-120/240-3GHD |
| TG250-277/480-3GY | TG250-240-3DG      |
| TG250-347/600-3GY | TG250-480-3DG      |

### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
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| 120V    | 150V | 347V    | 420V |
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### Typical Clamping Voltage Data

| System Voltage     | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
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|                    | L-G  | 400 / 450   | 425/450          | 650 / 825     | 500/500                |
|                    | N-G  | 350 / 350   | 475 / 475        | 750 / 750     | 500/500                |
| 277/480            | L-L  | 400 / 500   | 775 / 850        | 950 / 1250    | 700/700                |
|                    | L-N  | 550 / 600   | 875 / 900        | 1125 / 1225   | 800/800                |
|                    | L-G  | 850 / 875   | 850 / 900        | 1075 / 1225   | 1000/1000              |
|                    | N-G  | 700 / 700   | 900 / 900        | 1225 / 1225   | 800/900                |
|                    | L-L  | 650 / 750   | 1650 / 1725      | 1950 / 2200   | 1500/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

### Filtering Attenuation Frequencies

|       |        |        |      |      |       |       |        |
|-------|--------|--------|------|------|-------|-------|--------|
| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
| 53dB  | 41dB   | 32dB   | 31dB | 32dB | 35dB  | 47dB  | 53dB   |

### Mechanical Specifications

#### Dimensions:

Fiberglass reinforced polyester:  
19.5”H x 17.5”W x 9.5”D  
Metal: 28”H x 16”W x 9.5”D

#### Weight:

Fiberglass reinforced polyester: 57 lbs.  
Metal: 91 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non- condensing humidity

### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283

UL Recognized fusing

Contact factory for open-frame product specifications.

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR HIGH-TO-MEDIUM EXPOSURE APPLICATIONS



Fiberglass reinforced polyester enclosure



Metal enclosure

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Distribution panels feeding rooftop loads in high lightning areas
- Extremely large distribution panels

### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 200,000 amps                             | 6,500 impulses                         |
| Line-to-Ground    | 200,000 amps                             | 6,500 impulses                         |
| Neutral-to-Ground | 200,000 amps                             | 6,500 impulses                         |
| Line-to-Line      | 200,000 amps                             | 6,500 impulses                         |
| Per Phase         | 400,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

### Standard TG200 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG200-120/208-3GY | TG200-120/240-2G   |
| TG200-220/380-3GY | TG200-120/240-3GHD |
| TG200-277/480-3GY | TG200-240-3DG      |
| TG200-347/600-3GY | TG200-480-3DG      |

### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 325 / 375   | 425/450          | 650 / 775     | 400/400                |
|                | L-G  | 400 / 450   | 425/450          | 650 / 825     | 500/500                |
|                | N-G  | 350 / 350   | 475 / 475        | 750 / 750     | 500/500                |
| 120/208        | L-L  | 400 / 500   | 775 / 850        | 950 / 1250    | 700/700                |
|                | L-N  | 550 / 600   | 875 / 900        | 1125 / 1225   | 800/800                |
|                | L-G  | 850 / 875   | 850 / 900        | 1075 / 1225   | 1000/1000              |
| 277/480        | N-G  | 700 / 700   | 900 / 900        | 1225 / 1225   | 800/900                |
|                | L-L  | 650 / 750   | 1650 / 1725      | 1950 / 2200   | 1500/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

### Filtering Attenuation Frequencies

| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
|-------|--------|--------|------|------|-------|-------|--------|
| 53dB  | 41dB   | 32dB   | 31dB | 32dB | 35dB  | 47dB  | 53dB   |

### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

### Mechanical Specifications

#### Dimensions:

Fiberglass reinforced polyester:  
19.5"H x 17.5"W x 9.5"D  
Metal: 28"H x 16"W x 9.5"D

#### Weight:

Fiberglass reinforced polyester: 57 lbs.  
Metal: 91 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non- condensing humidity

### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283

UL Recognized fusing

**Contact factory for open-frame product specifications.**

### ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR MEDIUM EXPOSURE APPLICATIONS

#### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

#### Applications

- Large distribution panels
- Service entrance distribution panelboards
- Heavy equipment (UPS, elevators, etc.) located near unprotected service entrance
- Panels feeding variable speed drives
- Non-service entrance motor control centers utilizing drives, PLCs, soft-start starters, electronic starters, electronic control systems and electronic monitoring

#### Standard TG150 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG150-120/208-3GY | TG150-120/240-2G   |
| TG150-220/380-3GY | TG150-120/240-3GHD |
| TG150-277/480-3GY | TG150-240-3DG      |
| TG150-347/600-3GY | TG150-480-3DG      |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

#### Typical Clamping Voltage Data

| System Voltage     | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|--------------------|------|-------------|------------------|---------------|------------------------|
| 120/240<br>120/208 | L-N  | 325 / 350   | 425 / 450        | 625 / 725     | 400/400                |
|                    | L-G  | 400 / 450   | 425 / 475        | 625 / 750     | 500/500                |
|                    | N-G  | 375 / 375   | 475 / 475        | 750 / 750     | 400/500                |
| 277/480            | L-L  | 375 / 475   | 775 / 850        | 975 / 1200    | 700/700                |
|                    | L-N  | 525 / 550   | 875 / 925        | 1150 / 1200   | 900/900                |
|                    | L-G  | 850 / 875   | 850 / 875        | 1075 / 1175   | 1000/1000              |
|                    | N-G  | 700 / 725   | 900 / 900        | 1200 / 1200   | 800/800                |
|                    | L-L  | 675 / 725   | 1675 / 1725      | 1950 / 2175   | 1800/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

1.01/C-1818



Fiberglass reinforced polyester enclosure



Metal enclosure

#### Filtering Attenuation Frequencies

| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
|-------|--------|--------|------|------|-------|-------|--------|
| 50dB  | 44dB   | 34dB   | 33dB | 34dB | 36dB  | 47dB  | 53dB   |

#### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 150,000 amps                             | 5,500 impulses                         |
| Line-to-Ground    | 150,000 amps                             | 5,500 impulses                         |
| Neutral-to-Ground | 150,000 amps                             | 5,500 impulses                         |
| Line-to-Line      | 150,000 amps                             | 5,500 impulses                         |
| Per Phase         | 300,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

#### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

#### Mechanical Specifications

##### Dimensions:

Fiberglass reinforced polyester:  
17.5"H x 15.5"W x 7"D  
Metal: 20"H x 16"W x 9.5"D

##### Weight:

Fiberglass reinforced polyester: 40 lbs.  
Metal: 59 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non-condensing humidity

#### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283  
UL Recognized fusing

Contact factory for open-frame product specifications.

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR MEDIUM EXPOSURE APPLICATIONS



Fiberglass reinforced polyester enclosure



Metal enclosure

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Large distribution panels
- Service entrance distribution panelboards
- Heavy equipment (UPS, elevators, etc.) located near unprotected service entrance
- Panels feeding variable speed drives
- Non-service entrance motor control centers utilizing drives, PLCs, soft-start starters, electronic starters, electronic control systems and electronic monitoring

#### Standard TG125 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG125-120/208-3GY | TG125-120/240-2G   |
| TG125-220/380-3GY | TG125-120/240-3GHD |
| TG125-277/480-3GY | TG125-240-3DG      |
| TG125-347/600-3GY | TG125-480-3DG      |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

#### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 325 / 350   | 425 / 450        | 625 / 725     | 400/400                |
|                | L-G  | 400 / 450   | 425 / 475        | 625 / 750     | 500/500                |
|                | N-G  | 375 / 375   | 475 / 475        | 750 / 750     | 400/500                |
|                | L-L  | 375 / 475   | 775 / 850        | 975 / 1200    | 700/700                |
| 277/480        | L-N  | 525 / 550   | 875 / 925        | 1150 / 1200   | 900/900                |
|                | L-G  | 850 / 875   | 850 / 875        | 1075 / 1175   | 1000/1000              |
|                | N-G  | 700 / 725   | 900 / 900        | 1200 / 1200   | 800/800                |
|                | L-L  | 675 / 725   | 1675 / 1725      | 1950 / 2175   | 1800/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

#### Filtering Attenuation Frequencies

|       |        |        |      |      |       |       |        |
|-------|--------|--------|------|------|-------|-------|--------|
| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
| 50dB  | 44dB   | 34dB   | 33dB | 34dB | 36dB  | 47dB  | 53dB   |

#### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 125,000 amps                             | 5,000 impulses                         |
| Line-to-Ground    | 125,000 amps                             | 5,000 impulses                         |
| Neutral-to-Ground | 125,000 amps                             | 5,000 impulses                         |
| Line-to-Line      | 125,000 amps                             | 5,000 impulses                         |
| Per Phase         | 250,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

#### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

#### Mechanical Specifications

##### Dimensions:

Fiberglass reinforced polyester:  
17.5"H x 15.5"W x 7"D  
Metal: 20"H x 16"W x 9.5"D

##### Weight:

Fiberglass reinforced polyester: 40 lbs.  
Metal: 59 lbs.

Enclosure type/mount: NEMA 4/12 surface

Operating environment: -40°C to +60°C

5% - 95% non-condensing humidity

#### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L

UL Listings: 1449-Second Edition  
1283

UL Recognized fusing

**Contact factory for open-frame product specifications.**

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR MEDIUM-TO-LOW EXPOSURE APPLICATIONS

### Features and benefits

- Failure-Free ISB™ eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)



Fiberglass reinforced polyester enclosure



Metal enclosure

### Applications

- Branch panels heavily loaded with sensitive electronic equipment
- Branch panels with combination of dirty and sensitive loads
- Branch panels with no upstream protection
- Busway feeding sensitive loads
- Bus riser feeding multiple floors with critical or sensitive loads

#### Standard TG100 Model Numbers

|                   |                    |
|-------------------|--------------------|
| TG100-120/208-3GY | TG100-120/240-2G   |
| TG100-220/380-3GY | TG100-120/240-3GHD |
| TG100-277/480-3GY | TG100-240-3DG      |
| TG100-347/600-3GY | TG100-480-3DG      |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

#### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 325 / 350   | 425 / 450        | 625 / 725     | 400/400                |
|                | L-G  | 400 / 450   | 425 / 475        | 625 / 750     | 500/500                |
|                | N-G  | 375 / 375   | 475 / 475        | 750 / 750     | 400/500                |
| 120/208        | L-L  | 375 / 475   | 775 / 850        | 975 / 1200    | 700/700                |
|                | L-N  | 525 / 550   | 875 / 925        | 1150 / 1200   | 900/900                |
|                | L-G  | 850 / 875   | 850 / 875        | 1075 / 1175   | 1000/1000              |
| 277/480        | N-G  | 700 / 725   | 900 / 900        | 1200 / 1200   | 800/800                |
|                | L-L  | 675 / 725   | 1675 / 1725      | 1950 / 2175   | 1800/1500              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

#### Filtering Attenuation Frequencies

|       |        |        |      |      |       |       |        |
|-------|--------|--------|------|------|-------|-------|--------|
| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
| 50dB  | 44dB   | 34dB   | 33dB | 34dB | 36dB  | 47dB  | 53dB   |

#### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 100,000 amps                             | 4,500 impulses                         |
| Line-to-Ground    | 100,000 amps                             | 4,500 impulses                         |
| Neutral-to-Ground | 100,000 amps                             | 4,500 impulses                         |
| Line-to-Line      | 100,000 amps                             | 4,500 impulses                         |
| Per Phase         | 200,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

#### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

#### Mechanical Specifications

##### Dimensions:

Fiberglass reinforced polyester:  
17.5"H x 15.5"W x 7"D  
Metal: 20"H x 16"W x 9.5"D

##### Weight:

Fiberglass reinforced polyester: 40 lbs.  
Metal: 59 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non-condensing humidity

#### Electrical Specifications

Connection method: Parallel  
Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283  
UL Recognized fusing

**Contact factory for open-frame product specifications.**

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR LOW EXPOSURE APPLICATIONS



Fiberglass reinforced polyester enclosure



Metal enclosure

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Branch panels with upstream protection
- Branch panels with primarily sensitive electronic loading
- Branch panels deep within a facility

#### Standard TG80 Model Numbers

|                  |                   |
|------------------|-------------------|
| TG80-120/208-3GY | TG80-120/240-2G   |
| TG80-220/380-3GY | TG80-120/240-3GHD |
| TG80-277/480-3GY | TG80-240-3DG      |
| TG80-347/600-3GY | TG80-480-3DG      |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

#### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 300 / 325   | 400 / 425        | 550 / 700     | 400/400                |
|                | L-G  | 400 / 425   | 400 / 450        | 600 / 750     | 500/500                |
|                | N-G  | 325 / 350   | 475 / 475        | 800 / 800     | 500/500                |
|                | L-L  | 425 / 475   | 725 / 800        | 900 / 1125    | 700/700                |
| 277/480        | L-N  | 500 / 525   | 875 / 900        | 1050 / 1175   | 900/900                |
|                | L-G  | 825 / 875   | 825 / 875        | 1025 / 1150   | 1000/1000              |
|                | N-G  | 650 / 650   | 875 / 900        | 1200 / 1225   | 800/900                |
|                | L-L  | 700 / 775   | 1625 / 1675      | 1825 / 2025   | 1800/1800              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

#### Filtering Attenuation Frequencies

| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
|-------|--------|--------|------|------|-------|-------|--------|
| 47dB  | 50dB   | 37dB   | 37dB | 37dB | 38dB  | 47dB  | 53dB   |

#### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 80,000 amps                              | 4,000 impulses                         |
| Line-to-Ground    | 80,000 amps                              | 4,000 impulses                         |
| Neutral-to-Ground | 80,000 amps                              | 4,000 impulses                         |
| Line-to-Line      | 80,000 amps                              | 4,000 impulses                         |
| Per Phase         | 160,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

#### Options (see page 5 for details)

|                                       |   |
|---------------------------------------|---|
| Primary Monitoring — L1               | Integral Disconnect — DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                     |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                    |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure — SS                      |

#### Mechanical Specifications

##### Dimensions:

Fiberglass reinforced polyester:  
15.5"H x 13.5"W x 7"D  
Metal: 16"H x 16"W x 9.5"D

##### Weight:

Fiberglass reinforced polyester: 28 lbs.  
Metal: 45 lbs.

Enclosure type/mount: NEMA 4/12 surface

Operating environment: -40°C to +60°C

5% - 95% non-condensing humidity

#### Electrical Specifications

Connection method: Parallel

Protection Modes: L-N, L-G, N-G, L-L

UL Listings: 1449-Second Edition

1283

UL Recognized fusing

**Contact factory for open-frame product specifications.**

## ADVANCED ELECTRICAL TRANSIENT PROTECTION FOR LOWEST EXPOSURE APPLICATIONS



Fiberglass reinforced polyester enclosure



Metal enclosure

### Features and benefits

- Failure-Free ISB eliminates PCB trace failures, provides precise current sharing
- All-copper, tin-plated bus provides minimum impedance, eliminates wire bends
- All MOVs are fused to ensure ongoing performance
- Safety interlocked entry door for added safety (only with disconnect)
- “All modes protection” safeguards all electrical modes (L-N, L-G, L-L, N-G)
- Direct bus connection minimizes installation impedances; provides 200 kAIC fault current protection
- Seven-Year Product Warranty (MasterPLAN selenium-enhanced 10-Year Warranty available when simultaneously installed with Current Technology® SElect® SEL300 or SEL250 units)

### Applications

- Branch panels with upstream protection
- Branch panels with primarily sensitive electronic loading

#### Standard TG60 Model Numbers

|                  |                   |
|------------------|-------------------|
| TG60-120/208-3GY | TG60-120/240-2G   |
| TG60-220/380-3GY | TG60-120/240-3GHD |
| TG60-277/480-3GY | TG60-240-3DG      |
| TG60-347/600-3GY | TG60-480-3DG      |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | MCOV | Voltage | MCOV |
|---------|------|---------|------|
| 120V    | 150V | 347V    | 420V |
| 220V    | 275V | 480V    | 640V |
| 277V    | 320V | 600V    | 840V |

#### Typical Clamping Voltage Data

| System Voltage | Mode | B3 Ringwave | B3/C1 Comb. Wave | C3 Comb. Wave | UL 1449 Second Edition |
|----------------|------|-------------|------------------|---------------|------------------------|
| 120/240        | L-N  | 300 / 325   | 400 / 425        | 550 / 700     | 400/400                |
|                | L-G  | 400 / 425   | 400 / 450        | 600 / 750     | 500/500                |
|                | N-G  | 325 / 350   | 475 / 475        | 800 / 800     | 500/500                |
| 277/480        | L-L  | 425 / 475   | 725 / 800        | 900 / 1125    | 700/700                |
|                | L-N  | 500 / 525   | 875 / 900        | 1050 / 1175   | 900/900                |
|                | L-G  | 825 / 875   | 825 / 875        | 1025 / 1150   | 1000/1000              |
|                | N-G  | 650 / 650   | 875 / 900        | 1200 / 1225   | 800/900                |
|                | L-L  | 700 / 775   | 1625 / 1675      | 1825 / 2025   | 1800/1800              |

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.210 and 3.10. Values following slash (/) indicate typical clamping voltage data for models with integral disconnect option.

#### Filtering Attenuation Frequencies

| 50KHz | 100KHz | 500KHz | 1MHz | 5MHz | 10MHz | 50MHz | 100MHz |
|-------|--------|--------|------|------|-------|-------|--------|
| 47dB  | 50dB   | 37dB   | 37dB | 37dB | 38dB  | 47dB  | 53dB   |

#### Single/Repetitive Surge Current Capacities

| Protection mode   | Single pulse surge current capacity/mode | Repetitive surge current capacity/mode |
|-------------------|--|--|
| Line-to-Neutral   | 60,000 amps                              | 3,500 impulses                         |
| Line-to-Ground    | 60,000 amps                              | 3,000 impulses                         |
| Neutral-to-Ground | 60,000 amps                              | 3,000 impulses                         |
| Line-to-Line      | 60,000 amps                              | 3,000 impulses                         |
| Per Phase         | 120,000 amps                             | N/A                                    |

In compliance with NEMA LS 1-1992, TransGuard suppression filter systems are single pulse surge current tested in all modes at rated currents of the product by an industry-recognized independent test laboratory. Single pulse surge current capacities of 200,000 amps or less are established by single-unit testing of all components within each mode. Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, TransGuard suppression filter systems are repetitive surge current capacity tested per mode utilizing a 1.2 x 50µsec 20KV open circuit voltage, 8 x 20µsec 10 kA short circuit current Category C3 bi-wave at one minute intervals without suffering either performance degradation or more than 10% deviation of clamping voltage at a specified surge current.

#### Options (see page 5 for details)

|                                       |  |
|---------------------------------------|--|
| Primary Monitoring — L1               | Integral Disconnect —DM (requires metal enclosure) |
| Advanced Monitoring — L2              | DTS-2 Diagnostic Test Set — DTS                    |
| MasterMIND Diagnostic Monitoring — L3 | MasterTEST Hand-Held Tester — MT                   |
| NEMA 4/12 Metal Enclosure — M         | Stainless Steel Enclosure —SS                      |

#### Mechanical Specifications

##### Dimensions:

Fiberglass reinforced polyester:  
15.5"H x 13.5"W x 7"D  
Metal: 16"H x 16"W x 9.5"D

##### Weight:

Fiberglass reinforced polyester: 28 lbs.  
Metal: 45 lbs.

Enclosure type/mount: NEMA 4/12 surface  
Operating environment: -40°C to +60°C  
5% - 95% non-condensing humidity

#### Electrical Specifications

Connection method: Parallel  
Protection Modes: L-N, L-G, N-G, L-L  
UL Listings: 1449-Second Edition  
1283  
UL Recognized fusing

#### Contact factory for open-frame product specifications.

All Current Technology products are proudly engineered and manufactured in the U.S. at our world headquarters.

For more information, call 1-800-238-5000 or visit our extensive website at [www.currenttechnology.com](http://www.currenttechnology.com).

Although our numerous engineering patents, dedication to power reliability education and acknowledged industry leadership are proof of Current Technology's commitment to quality, innovation and reliability, the true measure of our integrity and success is our growing list of satisfied customers. We look forward to adding your company to this partial customer list.

#### **Manufacturing/Automation**

BMW of America  
General Motors  
Shaw Industries  
McDonnell-Douglas  
Mercedes-Benz  
Frito Lay  
Nissan  
Georgia Pacific  
Pepsico  
Intel  
Henredon  
International Paper  
Boeing  
Peterbilt  
Sony  
Nabisco  
Weyerhaeuser

#### **Biomedical/Laboratory**

Eli Lilly  
Biomira  
Schlering-Plough  
M.D. Anderson Cancer Center  
Lambert/Parke Davis  
Abbott Labs  
Merck  
Underwriters Laboratories  
UC Davis Medical Center

#### **Retail/POS/Entertainment**

Carmax  
BLOCKBUSTER Video  
Wal-Mart  
Planet Hollywood

T.G.I. Friday's  
Neiman-Marcus  
Mall of America  
Home Depot  
Harrah's Casinos  
JCPenney  
La Quinta Inns  
Fingerhut  
Virgin Records

#### **Financial/Insurance**

Merrill Lynch  
Paine Weber  
Price Waterhouse  
Chemical Bank  
American Express  
Lincoln National Life  
Blue Cross Blue Shield  
Liberty Mutual  
Federal Reserve Bank

Ernst & Young  
Goldman Sachs  
NationsBank  
New York Life  
USAA

#### **Education**

University of Michigan  
Amherst College  
Ohio State University  
UCLA  
Purdue University  
Texas A&M University  
Colorado School of Mines  
U.S. Air Force Academy  
Mississippi State University

#### **Utilities**

Piedmont Natural Gas  
Racine Wastewater Treatment  
Plant  
Virginia Power  
East Kentucky Power Cooperative  
Illinois Power  
San Diego Gas  
Houston Light and Power  
LA Gas

#### **Public Use/Institutional**

Coors Field  
Palm Beach Judicial Center  
Thousand Oaks Civic Arts Plaza  
The Alamodome  
Mt. Olive Correctional Facility  
London Correctional Institution  
Pueblo Correctional Center

#### **Broadcast/Telecommunications**

ABC/Capital Cities  
NBC  
Cable News Network (CNN)  
HBO  
Pacific Bell  
Bell Atlantic  
US West  
TCI Cable  
Cinar Studios  
Universal Studios  
Technicolor  
Puerto Rico Telephone  
Ameritech  
GTE

Airtouch  
Western Wireless

#### **Information/Data Management**

IBM  
EDS  
Apple Computer  
Dell Computer  
Compaq Computer  
AT&T

#### **Federal/Military**

Social Security Administration  
Federal Aviation Administration  
McGuire AFB  
Texas Employment Commission  
U.S. Census Bureau  
AAFES  
Internal Revenue Service  
U.S. Department of Agriculture  
Environmental Protection Agency  
Bureau of Land Management  
U.S. Postal Service

#### **Aviation/Transportation**

Delta Airlines  
American Airlines  
Union Pacific Railroad  
Southwest Airlines  
Swissair  
United Airlines  
NAV Canada

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