

# GB80 GUARDBUS™

PROTECTION FOR OVERHEAD- AND RISER BUSWAY-FED LOADS

SUPPRESSION FILTER SYSTEM

Compatible with all Current Technology MasterPLAN® facility-wide suppression filter system products

## TECHNICAL DATA SHEET

### STANDARD MODEL NUMBERS

SELECTION TABLE 1 — MCC MFG/MCC TYPE

Manufacturer/Type	Cat. # PREFIX	Description
GE	GB80-SB4GS-	3 phase 4 wire w/ground bus stab
• Spectra Series	GB80-SB3GS-	3 phase 3 wire w/ground bus stab
Square D	GB80-PQ4GS-	3 phase 4 wire w/ground bus stab
• I-Line II	GB80-PQ3GS-	3 phase 3 wire w/ground bus stab
Siemens/ITE	GB80-RV4GS-	3 phase 4 wire w/ground bus stab
• XL-X	GB80-RV3GS-	3 phase 3 wire w/ground bus stab
Cutler-Hammer/ Westinghouse	GB80-ITAP4GS-	3 phase 4 wire w/ground bus stab
• Model 5	GB80-ITAP3GS-	3 phase 3 wire w/ground bus stab
• Model 6		

SELECTION TABLE 2 — VOLTAGE/CONFIGURATION

Cat. # SUFFIX	Voltage	Configuration	Cat. # SUFFIX	Voltage	Configuration
<b>WYE</b>			<b>DELTA</b>		
120/208-3GY	120/208	Grounded Wye	240-3D	240	Delta
277/480-3GY	277/480	Grounded Wye	480-3D	480	Delta
347/600-3GY	347/600	Grounded Wye	575-3D	575	Delta
120/240-3GHD	120/240	Grounded Neutral High Leg Delta	600-3D	600	Delta

GuardBus models are also available for busway types and manufacturers not listed on this data sheet. Contact factory, local Current Technology representative or authorized distributor for details.

Single phase, ungrounded WYE, ungrounded DELTA and other less common voltage configurations are also available; contact factory, local Current Technology representative or authorized distributor for details.

To determine complete catalog number, select prefix from PREFIX column in Selection Table 1; then add suffix from SUFFIX column in Selection Table 2. Example: GB80-ITAP4GS-277/480-3GY

### SINGLE PULSE SURGE CURRENT CAPACITY

Protection mode	Single pulse surge current capacity per mode
Line-to-Neutral	> 80,000 A
Line-to-Ground	> 80,000 A
Neutral-to-Ground	> 80,000 A
Line-to-Line	> 80,000 A
Per Phase	> 160,000 A

In compliance with NEMA LS 1-1992, paragraphs 2.2.7, 2.2.9 and 3.9, Current Technology suppression filter systems are single pulse surge current tested in all modes at currents up to 150% of the product design rating 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.

### REPETITIVE SURGE CURRENT CAPACITY

Protection mode	Minimum tested impulses per mode
Line-to-Neutral	> 3,500
Line-to-Ground	> 3,500
Neutral-to-Ground	> 3,500
Line-to-Line	> 3,500

Per ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992, all Current Technology suppression filter systems are repetitive surge current capacity tested in every mode utilizing a 1.2 X 50 µsec 20KV open circuit voltage, 8 X 20 µsec 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.

### MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV)

Voltage	MCOV	Voltage	MCOV
120V	150V	347V	420V
240V	275V	480V	640V
277V	320V	600V	840V

All Current Technology suppression filter systems maximum continuous operating voltages are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.2.6 and 3.6.



### TYPICAL CLAMPING VOLTAGE DATA

Voltage	Protection mode	A3 Ringwave	B3 Ringwave	B3/C1 Comb.Wave	C3 Comb.Wave
120 / 208	L-N	200	260	360	470
	L-G	340	365	355	530
	N-G	240	280	350	510
	L-L	360	475	675	800
277 / 480	L-N	460	580	825	950
	L-G	800	740	765	930
	N-G	500	535	775	1000
	L-L	795	1000	1545	1710

All Current Technology suppression filter systems clamping voltages are in compliance with test and evaluation procedures established in NEMA LS 1-1992, paragraphs 2.21.0 and 3.10. Values indicate typical clamping voltage data for models with integral fused disconnect.

### EMI/RFI NOISE REJECTION VALUES

Multiple unit installation	Frequency	Single unit installation
51 dB	100 KHz	34 dB
94 dB	1 MHz	51 dB
114 dB	10 MHz	54 dB
120 dB	100 MHz	48 dB

All Current Technology suppression filter systems EMI-RFI noise or attenuation rejection values are in compliance with test and evaluation procedures outlined in NEMA LS 1-1992, paragraphs 2.2.11 and 3.11.

### MECHANICAL SPECIFICATIONS

Connection method	Parallel
Enclosure type/mount	NEMA 1/bus mount
Temperature operating range	-40°C to 60°C
Humidity operating range	5% - 95% non-condensing
Dimensions	Varies depending on busway manufacturer
Weight	50 lbs.

### STANDARD FEATURES

Suppression filter technology	seamless technology™
Internal construction	All suppression filter components are bolted to corrosion-resistant tin-plated copper bus bar
Fused Disconnect	Integral UL listed safety interlocked fused disconnect switch to enhance safety, reduce installation cost, improve performance, optimize reliability and permit system testing without interruption of facility power. Coordinated UL listed 200KAIC field replaceable Class J fuses for added convenience and safety
Status indicators	Pilot light status indicators indicate suppression and overcurrent status
Test point	Diagnostic ten mode test point allows easy DTS-2 Diagnostic Test Set connection
Standards	UL 1449-Second Edition, UL 1283, CSA, NEMA LS 1
Warranty	Five Years

Options Include Double form "C" dry contacts (-FCC) and DTS-2 Diagnostic Test Set (-DTS)

# GUARDBUS™ INSTALLATION INSTRUCTIONS

## 1. Voltage/System Verification

Prior to product installation, verify that the voltage rating of the intended electrical service matches the voltage rating of the unit to be installed. Verify **GuardBus™** type and configuration are the same as the busway intended for **GuardBus** installation. **Warning: serious injury or damage may result from installing a product with an improper voltage rating, incorrect type or configuration.** Contact Current Technology if voltage rating, type and configuration are not identical. For WYE connected systems, verify neutral-ground bond on secondary side of upstream distribution or service entrance transformer. **Warranty void if GuardBus is connected to incorrect system configuration or if neutral-ground bond is not present in WYE configured systems.**

## 2. Installation Location

Install **GuardBus** into plug-in-busway per busway manufacturer's instructions.

## 3. Mounting

Mount **GuardBus** into a standard bus plug slot and follow manufacturer's instructions for installation of bus plug. **GuardBus** will not feed any loads.

## 4. Electrical Connections

Before installing **GuardBus**, measure voltage Line-to-Line, Line-to-Neutral, Line-to-Ground and Neutral-to-Ground to ensure that it does not exceed  $\pm 10\%$  of the nominal rated voltage for the unit. Contact factory if these tolerances are exceeded. For a grounded busway application, a ground stab or ground contact must be specified for complete protection. **Caution: B phase must be the high leg for high leg DELTA configured products installed on high leg DELTA systems.** Contact factory for other voltage configurations not listed on **GuardBus** technical data sheet.

## 5. Remote Monitor Contacts Option

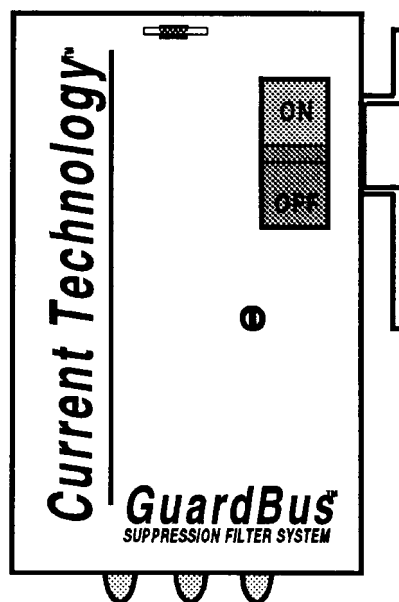
**GuardBus™** models are available with two sets of form "C" remote monitor dry contacts that may be connected to building management systems or remote annunciation alarm panels. To wire contacts, locate the output terminals mounted on the dry contact circuit board. Each set of contacts may be wired independently. Each set of form "C" contacts includes common (C), normally open (NO) and normally closed (NC) contacts. For normally open operation under energized conditions, connect the normally open terminal and common terminal to the monitoring input. For normally closed operation during energized conditions, connect the normally closed terminal and common terminal to the monitoring input. Upon loss of power to any or all phases, contacts will change to alarm state.

## 6. Final Instructions

Apply power to the unit by engaging fused disconnect switch on side of **GuardBus**. Illumination of status lights indicates proper function.

## 7. Diagnostic Testing

In the unlikely event of unit's overcurrent protection opening, unit should be tested with a DTS-2 Diagnostic Test Set to verify operational integrity. To test, locate test point and disconnect from wiring harness. Follow DTS-2 Diagnostic Test Set instructions. If the test results are within factory specified tolerances, replace or reset overcurrent protection. **IF TEST RESULTS ARE NOT WITHIN FACTORY SPECIFIED TOLERANCES, DO NOT REPLACE OR RESET OVERCURRENT PROTECTION PRIOR TO CONTACTING CURRENT TECHNOLOGY'S "24X7" TECHNICAL SERVICE HOTLINE AT 1-888-200-6400.** Reconnect test point to wiring harness upon completion of testing and prior to re-energizing.



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