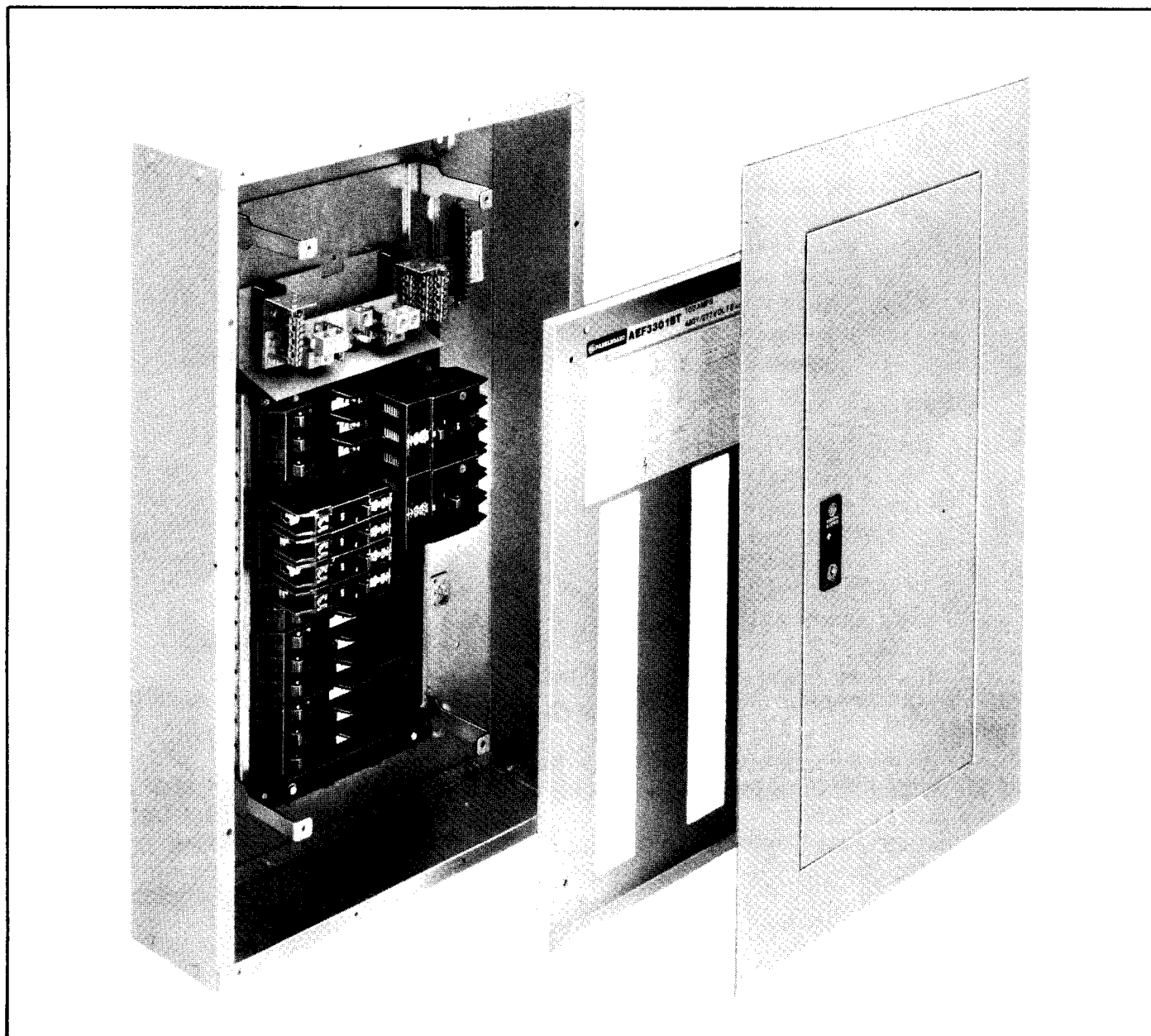




# A SERIES™

## Panelboard Features and Specifications



# **A SERIES**

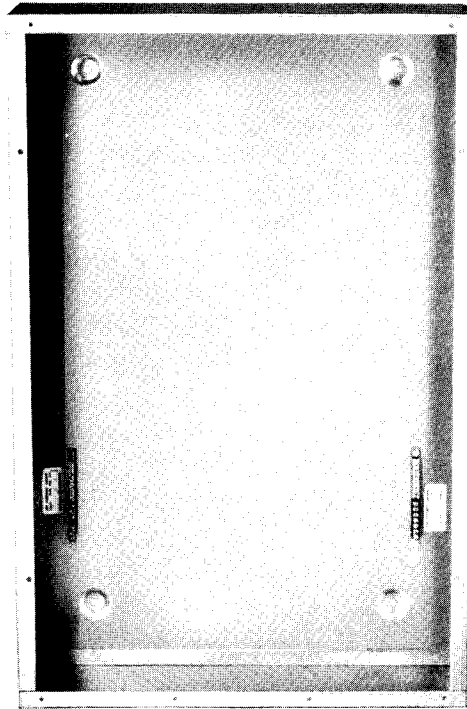
## **GE's NEW LIGHTING PANELBOARD**

***Easy To Specify . . . . Order . . . . Install***

The new General Electric A SERIES panelboard combines the whole family of high quality GE circuit breaker panelboards into one pre-engineered, modular panelboard system.

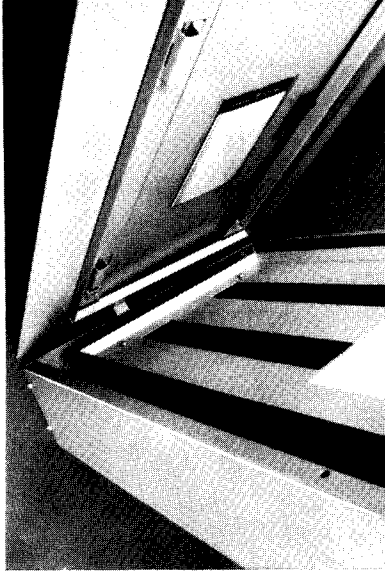
All the A SERIES panelboard components, box, front, interior and circuit breakers have been designed to make it easy for you to specify, order and install.

### ***FLEXIBLE PANELBOARD BOXES***

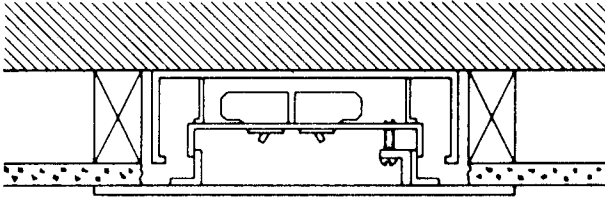


- Increased wire gutter space meets NEC requirements.
- Standard 20" wide  $\times$  5 $\frac{3}{4}$ " deep boxes.
- Symmetrical design—no required top or bottom mountings.
- Removable box end walls (K.O. or blank).
- Optional 30" width for riser panels or increased gutters. Riser barrier included with all 30" wide boxes.
- Optional type 3 R/12 enclosure (raintight/dust tight).

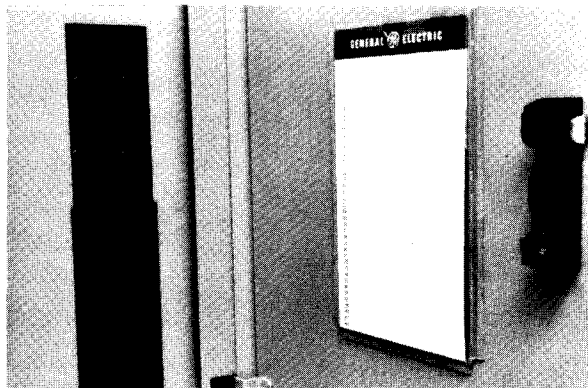
## **PANELBOARD FRONTS THAT MEET AND BEAT INDUSTRY STANDARDS**



- Flush or surface mounting.
- Front support bracket that makes mounting a one man job.
- New flush, self-adjusting front alignment . . . . reduces time and labor.
- Standard concealed trim clamps and hinges.
- Attractive Valox® door lock.
- Optional screw-on cover with piano hinge.



Top view,  
end wall removed

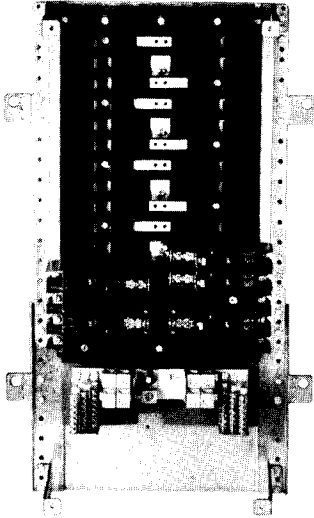


- Permanent Lexan® circuit directory an industry first.

## **PANELBOARD INTERIORS THAT ALLOW STRAIGHT-IN WIRING**

TYPE AQ BOLT ON—TYPE AL PLUG-IN  
208Y/120Vac  
240/120Vac  
Single-Phase, 3-Wire or  
Three-Phase, 4-Wire Center Tap Delta

Type AE Bolt-On  
480Y/277Vac



- Convenient twist out breaker openings
- Split neutral 100-225A
- Seven circuit configurations
- Insulated bus
- Mechanical or compression lugs
- Fully rated, copper bus straps
- Service entrance rated as standard

### **OPTIONS AVAILABLE**

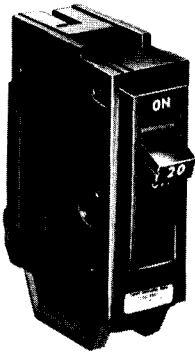
- Lighting contactors
- Sub-feed circuit breakers
- Thru-feed/subfeed main lugs
- Split bus
- Main molded case switch
- Alternate bus density  
(600-750 Al., 800-1000 Cu)
- Main/branch accessories
- Control options
- Door-in-door construction
- Insulated ground bars
- Compression lugs
- Copper lugs

## **NEW Q-LINE AND TEY CIRCUIT BREAKERS**

Q-Line—15-100 Amperes  
208Y/120Vac  
240/120Vac

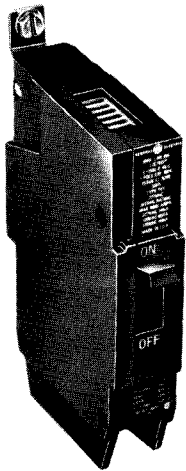
TEY—15-100 Amperes  
480Y/277Vac  
240Vac

### **Q-LINE CIRCUIT BREAKERS**



- U/L Listed
- Switching duty rated
- Heating, air conditioning, refrigeration rated (HACR)
- 60/75° Conductor rating
- Copper/aluminum pressure type lugs
- 1-inch wide
- Posi-Vu™ visible handle operation

### **TEY CIRCUIT BREAKERS**



- Small, compact design
- Increased protection
- U/L Listed
- U/L Series ratings with current limiting breakers:
  - THLC 100-400 ampere main breakers
  - 100,000 A.I.C. @ 480Y/277Vac
- 60/75° Conductor rated
- 1-Inch wide
- Posi-Vu™ visible handle operation
- IC ratings:
  - 14,000 @ 480Y/277Vac
  - 65,000 @ 240Vac
  - 10,000 @ 250Vdc
- Switching duty rated, 15-30 amp single pole, 277Vac and 120Vac
- Single handle construction
- Captive mounting screw



## **CIRCUIT BREAKER COMPARISON TEY BREAKER VERSUS E FRAME**

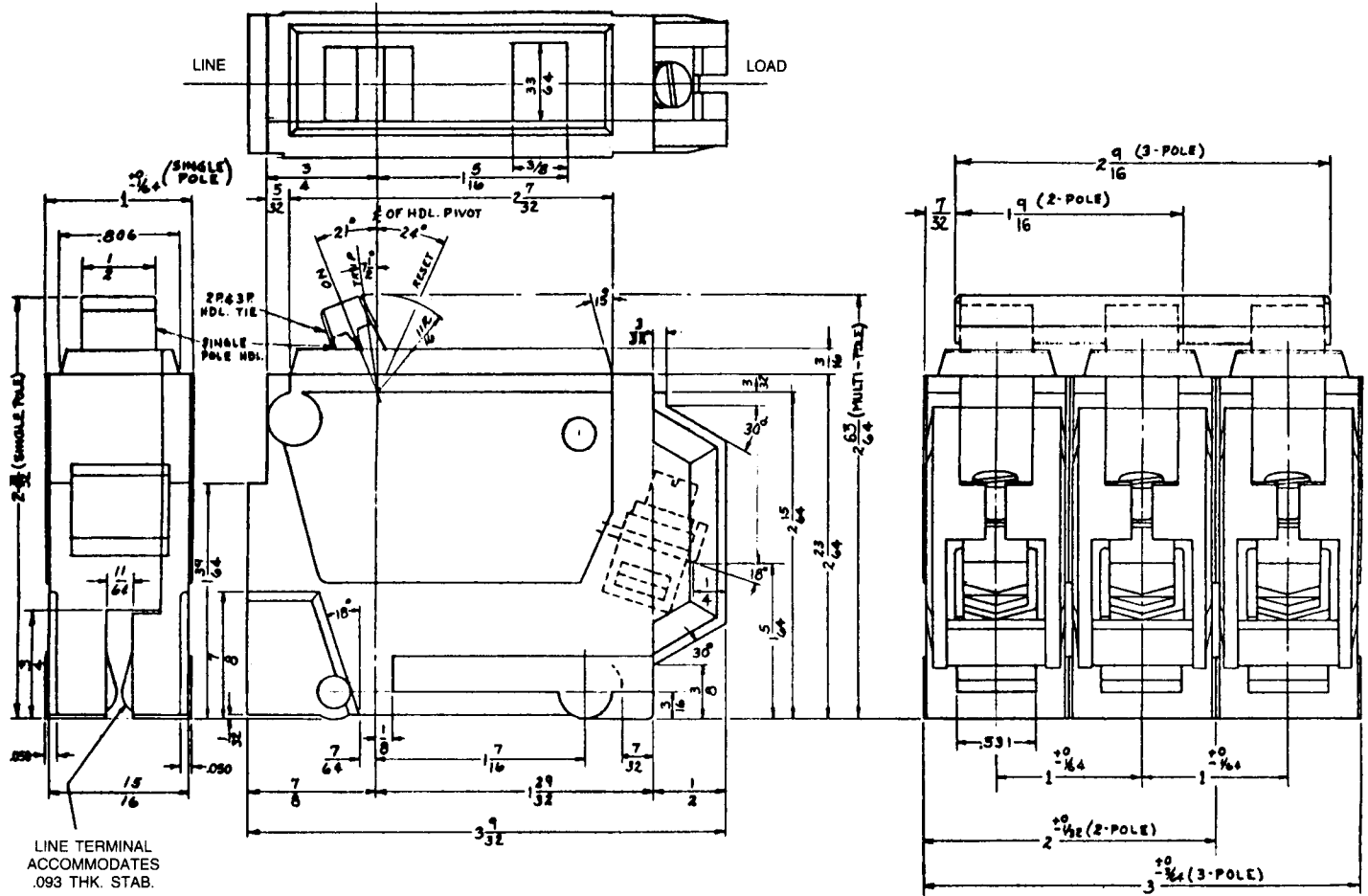
### **ELECTRICAL CHARACTERISTICS**

<u>TEY</u>	<u>E FRAME</u>
14,000 @ 480Y/277Vac	14,000 @ 480Y/277Vac
65,000 @ 240Vac	18,000 @ 240Vac
100A. Max. Rating	150 A. Max. Rating
100A. 1-Pole Max.	100A. 1-Pole Max.
HID Rated	HID Rated
Switching Duty Rated 1 Pole 15, 20A	Switching Duty Rated 1 Pole 15, 20A
U/L and CSA Listings	U/L and CSA Listings
DC Rated	DC Rated

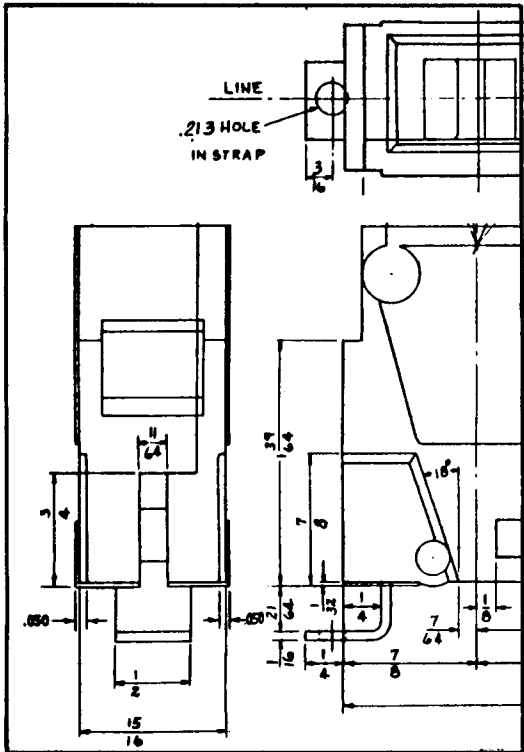
### **PHYSICAL CHARACTERISTICS**

<u>TEY</u>	<u>E FRAME</u>
1" Width	1 3/8" Width
Captive Mounting Hardware	Separate Mounting Hardware
Color Coded Handle Position Indicator	Not Color Coded
Permanent White Epoxy Lettering	Black-On-Black
Twist-To-Trip	Twist-To-Trip
Accessories <ul style="list-style-type: none"><li>● Shunt Trip</li><li>● Aux. Switch</li></ul>	Accessories <ul style="list-style-type: none"><li>● Shunt Trip</li><li>● Bell Alarm</li><li>● Aux. Switch</li><li>● UVT</li></ul>
Single Handle Construction	Single Handle Construction

# Q-LINE BREAKER OUTLINE DRAWINGS



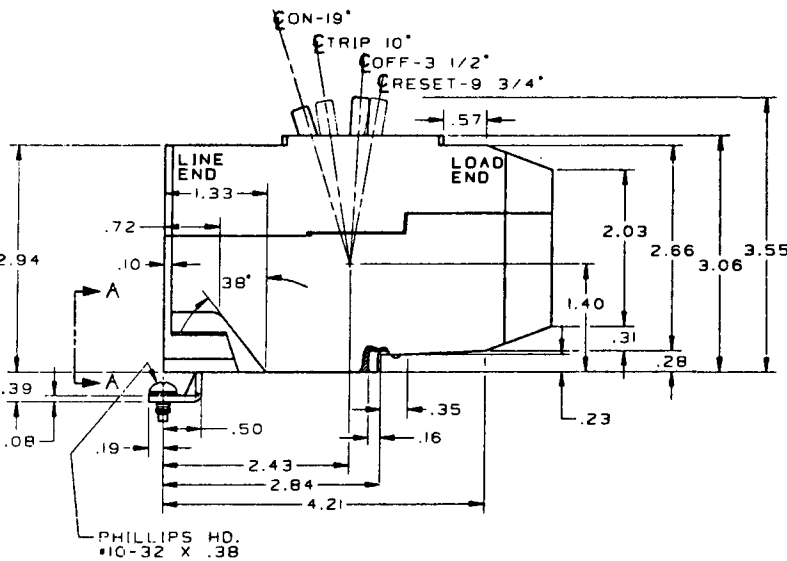
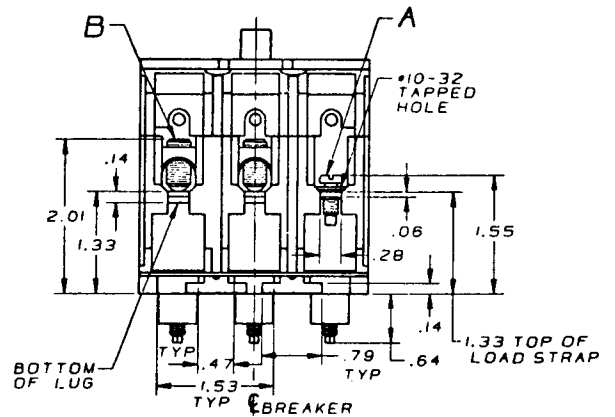
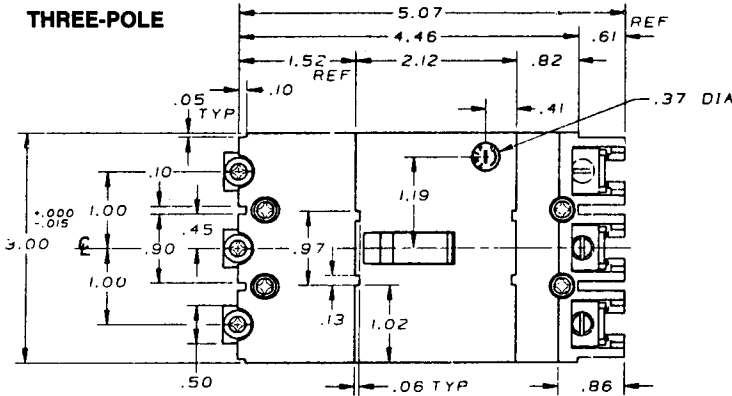
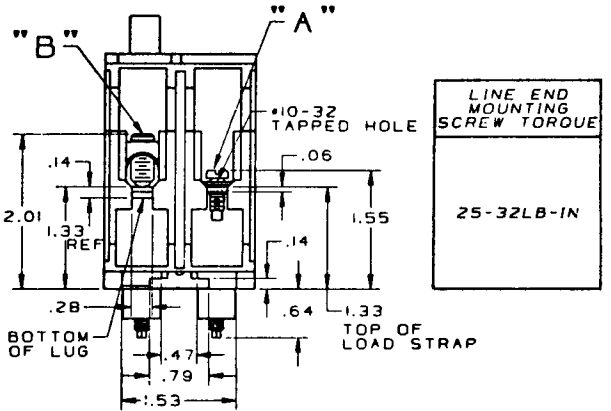
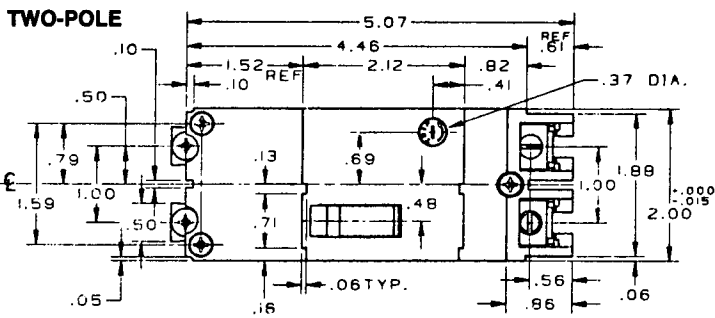
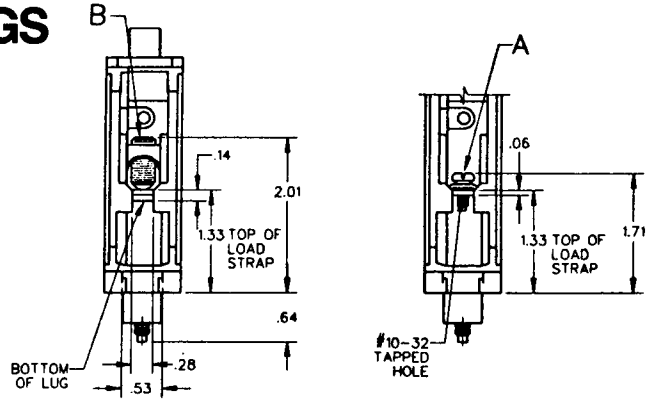
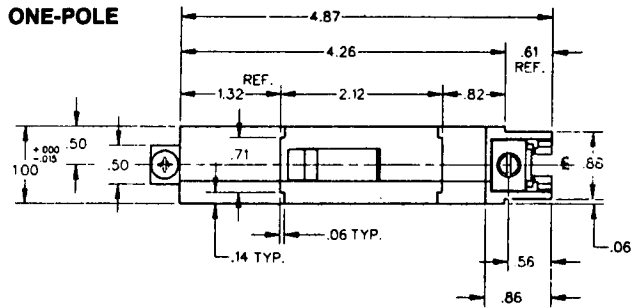
THQB STRAP DETAIL



Q-LINE BRANCH BREAKER TRIP RANGE IN AMPERES

Type	Frame	1 pole		2 pole		3 pole	
		120/240 Volts	150	120/240 Volts	240 Volts	240 Volts	240 Volts
Plug in for Panel Type AL	THQL	15-70	15-100	15-30	15-100	15-100	15-100
	THQL-GF	15-30	15-30	15-20			
	THQL-HID	15-20	15-20				
	THHQL	15-70	15-100	15-100	15-100	15-100	15-100
Bolt on for Panel Type AQ	THHQL-GF	15-30	15-30				
	THHQL-HID	15-20	15-20				
	TXQL	15-30	15-30				
	THQB	15-70	15-100	15-100	15-100	15-100	15-100
	THQB-GF	15-30	15-30				
	THQB-HID	15-20	15-20				
	THHQB	15-70	15-100	15-100	15-100	15-100	15-100
	THHQB-GF	15-30	15-30				
	THHQB-HID	15-20	15-20				
	TXQB	15-30	15-30				

## TEY BREAKER OUTLINE DRAWINGS



**VIEW A**

NOMINAL HANDLE OPERATING FORCES (LBS)	
ON TO OFF	6.5
TRIP TO RESET	7.5
OFF TO ON	2.2

WIRE CONNECTOR	USED ON	WIRE RANGE		LOAD END LUG TORQUE TO WIRE
		CU	AL	
A (SADDLE CLAMP)	15A-20A	#12-#14	#10-#12	#10 #12 - 35LB-IN #14
	30A-60A	#10-#6	#8-#4	#10 - 35LB-IN #8 - 40LB-IN #6, #4 - 45LB-IN
B (LUG)	70A-100A	#4-#1	#2-1/0	#4-45LB-IN #3, #1/0-50LB-IN



# PANELBOARD SPECIFICATIONS

## MISCELLANEOUS OPTIONS

DESCRIPTION	CATALOG NUMBER
<b>EQUIPMENT GROUNDS:</b>	
TERMINAL STRIP WITH PROVISION FOR (11) 14-8 CU or 12-8 AL (3) 14-4 CU or 6-4 AL	TGL2
MAIN LUG 6-2/0 CUAL	TGL20
ISOLATED/INSULATED	EGS-12
<b>PADLOCKING DEVICES:</b>	
THQL, THHQL THQB, THHQB	THP100
TED	TEFPLD1
TQD	TQDPLD1
TFJ	TFKPLD1
TJD, TJJ	TJKPLD1
<b>HANDLE LOCKING DEVICES:</b>	
THQL, THHQL THQB, THHQB	THL103
TED	TLD3
TFJ	TFKLD1

## TERMINAL INFORMATION MAIN AND SUBFEED BREAKERS

FRAME AMPS	BREAKER DESCRIPTION	WIRE RANGE AL/CU	CATALOG NUMBER
100-150	THQB, THHQB 60-100 AMPS	14-1/0 CU OR 12-1/0 AL	FIXED TO BREAKER TERMINAL
	TEY 60 70-100	10-6 CU or 8-4 AL 4-1 CU or 2-1/0 AL	FIXED TO BREAKER TERMINAL
	TED4 125-150 (SUBFEED ONLY)	2-3/0 CU OR 1-3/0 AL	TCAL15
	TLB1, THLC1 60 AMPS	14-3 CU OR 12-1 AL	TCAL12
225	70-100 AMPS	6-2/0 CU OR 4-2/0 AL	TCAL12A
	TQD, THQD	1-300 MCM	TCAL25
	TFJ	4-300 MCM	TCAL24 (LINE) TCAL26 (LOAD)
400	TLB2, THLC2	4-300 MCM	TCAL27
	TJD, TJJ	6-600 MCM OR (2) 1/0-250 MCM	TCAL 43
	TLB4, THLC4	3/0-500 MCM OR (2) 3/0-250 MCM	TCLK43



# PANELBOARD SPECIFICATIONS

## TERMINAL INFORMATION MAIN LUGS

PANEL AMPS	DESCRIPTION	PRESSURE LUGS		COMPRESSION LUGS		COPPER ONLY LUGS	
		WIRE RANGE AL/CU	CATALOG NUMBER ①	WIRE RANGE AL/CU	CATALOG NUMBER ①	WIRE RANGE CU ONLY	CATALOG NUMBER ①
125	STANDARD	6-2/0	ASA-10	1-2/0	AST-10	14-1/0	ASC-10
	OVERSIZE	6-350 MCM	ASA-21	4-300 MCM	AST-21	4-350 MCM	ASC-21
	SUBFEED	(2) 6-2/0	ADA-10	② (2) 8-1/0	ADT-10	(2) 14-1/0	ADC-10
225	STANDARD	6-350 MCM	ASA-21	4-300 MCM	AST-21	4-350 MCM	ASC-21
	OVERSIZE	4-600 MCM OR (2) 1/0-250 MCM	ASA-42	2/0-500 MCM	AST-20	1/0-600 MCM	ASC-42
	SUBFEED	(2)6-350 MCM	ADA-20	(2) 4-300 MCM	ADT-20	(2) 6-250 MCM	ADC-20
400	STANDARD	4-600 MCM OR (2) 1/0-250 MCM	ASA-42	500-700 MCM	AST-40	1/0-600 MCM	ASC-42
	OVERSIZE or SUBFEED	(2) 4-600 MCM OR (4) 1/0-250 MCM	ASA-64	(2) 500-750 MCM	ADT-46	(2) 1/0-600 MCM	ADC-64
600	STANDARD	(2) 4-600 MCM OR (4) 1/0-250 MCM	ASA-64	(2) 2/0-500 MCM	AST-60	(2) 1/0-600 MCM	ADC-64
	OVERSIZE	300-800 MCM	ASA-60	(2) 500-750 MCM	ADT-46		

① FOR USE WHEN ORDERING LUG KITS FOR FIELD INSTALLATION

② 120 AMPS MAX ALUMINUM

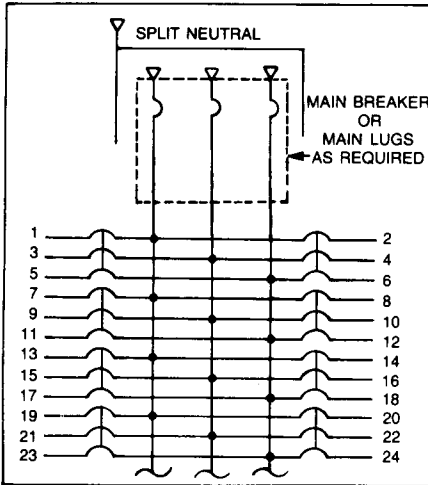
# PANELBOARD SPECIFICATIONS

## INTEGRATED EQUIPMENT RATINGS

PANEL TYPE	SYSTEM VOLTS (MAX)	TYPICAL CAT. NO.	MAIN BREAKER TYPES	MAX AMPS	UL SERIES CONNECTED IC RATING—RMS SYM AMPS. (THOUSANDS)	BRANCH BREAKERS			FULLY RATED EQUIPMENT RATING
						TYPE	POLES	AMPS	
AL	240VAC	ALFXXXXCB	THHQB	100	22	THQL	1,2	15-100	10KA @ 120/240
			THQD	225		THQL-GF	1,2	15-30	
			TJD	400		THQL-HID	1,2	15-20	
		ALFXXXXEB	TEY	100	65	THQL	2,3	15-100	10KA @ 240 VAC
ALFXXXXFB	TLB	400	85	TXQL	1,2	15-30	65KA @ 120/240		
ALFXXXXHB	THLC	400	200	THHQL	1,2	15-100	22KA @ 120/240		
THHQL-GF	1	15-30							
THHQL-HID	1,2	15-20							
THHQL	2,3	15-100	22KA @ 240 VAC						
AQ	240VAC	AQFXXXXCB	THHQB	100	22	THQB	1,2	15-100	10KA @ 120/240
			THQD	225		THQB-GF	1,2	15-30	
			TJD	400		THQB-HID	1,2	15-20	
		AQFXXXXEB	TEY	100	65	THQB	2,3	15-100	10KA @ 240 VAC
AQFXXXXFB	TLB	400	85	TXQB	1,2	15-30	65KA @ 120/240		
AQFXXXXHB	THLC	400	200	THHQB	1,2	15-100	22KA @ 120/240		
THHQB-GF	1	15-30							
THHQB-HID	1,2	15-20							
THHQB	2,3	15-100	22KA @ 240 VAC						
AE	480Y/277 Vac	AEFXXXXDB	TLB	400	50	TEY	1,2,3	15-100	14KA @ 480Y/277
		AEFXXXGB	THLC	400	100				

## PANELBOARD DIMENSIONS

### TYPE AE



30 4W 480Y/277 VAC  
 30 4W 240/120 VAC Mid Tap Delta  
 30 3W 240 VAC Ungrounded Delta  
 (Do not connect neutral)

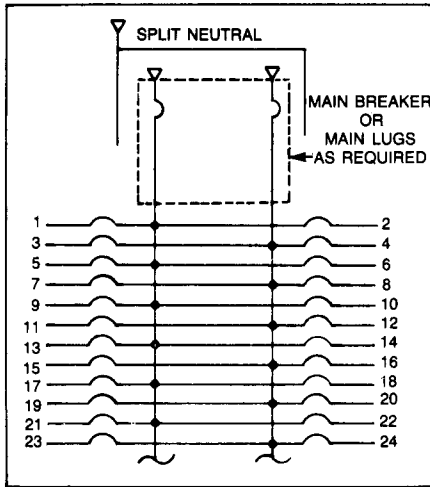
### PANELBOARD SHORT-CIRCUIT RATING:

The short-circuit rating of a panelboard is limited to the interrupting rating of the lowest rated device or to the applicable UL listed series rating when proper main and branch device combinations are used. The short-circuit current available at the incoming line terminals should not exceed this value.

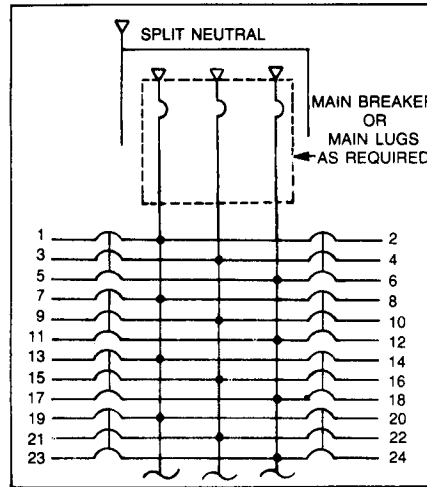
When a panelboard is applied within its short-circuit rating, bus bar bracing is adequate to withstand the forces exerted by the let-through current.

Neutral may be plate type and/or located opposite line entrance depending on main breaker type, rating and specified panel options

### TYPES AL, AQ



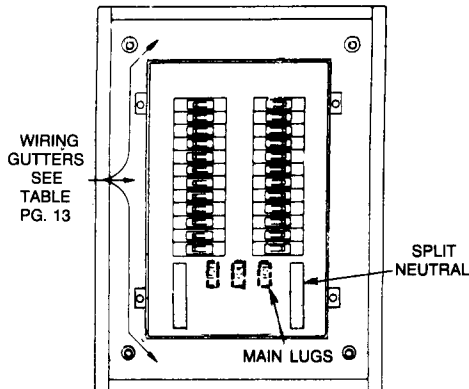
10 3W 240/120 VAC



30 4W 208Y/120 VAC  
 30 4W 240/120 VAC Mid Tap Delta  
 30 3W 240 VAC Ungrounded Delta  
 (Do not connect neutral)  
 ① 1 pole devices cannot be connected to B0  
 ② 2 pole devices connected to B0 must be 240V rated

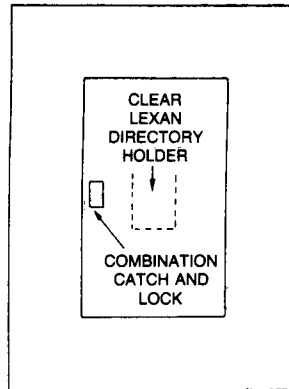
Neutral may be plate type and/or located opposite line entrance depending on main breaker type, rating and specified panel options

### TYPICAL PANELBOARD



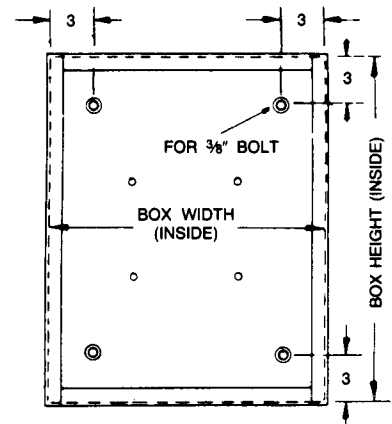
Front View with trim removed

### TYPICAL FRONT W/CONCEALED HINGES AND TRIM ADJUSTING SCREWS



Surface mounting — add 1/4" to inside box dimensions  
 Flush mounting — add 1 1/2" to inside box dimensions

### TYPICAL BOX



# PANELBOARD DIMENSIONS

## MINIMUM WIRING SPACE—FROM END OF LUG TO WALL OF BOX IN INCHES—TYPE AE

Main Rating/ In Amps	Main Lugs Only		Main Circuit Breaker				
	To End Wall		Frame Type	Mounting	Phase Lug		Neutral Lug
	Phase Lug	Neutral Lug			To Side Wall (20" Wide Box)	To End Wall	
125A Main Lug 100A Main Bkr	6	6	TEY	Horizontal	5		6
			TEL THLC1	Vertical		6	
225	12	12	TFJ, TLB2, THLC2	Vertical		12	12
400	15	11⊕	TJJ, TLB4, THLC4	Vertical		15	11⊕
600	15	11⊕					

⊕To Side Wall

## WIRING SPACE—BRANCH CIRCUIT BREAKERS TYPE AE

Branch Circuit Devices	Frame	No. of Poles	Minimum Wiring Space	
			To Side Wall (20" Wide Box)	To End Wall
Double Branched Bolt On Devices	TEY	1, 2, 3	5"	
Horizontal Subfeeds Single Branch Mounted (6 poles max)	TED4	2, 3	5½"	
Vertically Mounted Subfeeds (1 Breaker Max)	TFJ	2, 3		12"

## MINIMUM WIRING SPACE—FROM END OF LUG TO WALL OF BOX IN INCHES—TYPES AL, AQ

Main Rating/ In Amps	Main Lugs Only		Main Circuit Breaker				
	To End Wall		Frame Type	Mounting	Phase Lug		Neutral Lug
	Phase Lug	Neutral Lug			To Side Wall (20" Wide Box)	To End Wall	
125A Main Lug 100A Main Bkr	6	6	THQB, THHQB	Horizontal	6½"		6
			TEY	Horizontal	5		
			TEL THLC1	Vertical		6	
225	12	12	TQD, THQD	Horizontal	5½"		12
			TLB2, THLC2	Vertical		12	
400	15	11⊕	TJD, TLB4, THLC4	Vertical		15	11⊕
600	15	11⊕					

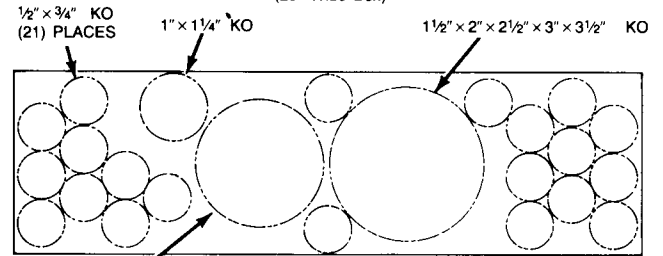
⊕To Side Wall

## WIRING SPACE—BRANCH CIRCUIT BREAKERS TYPES AL, AQ

Branch Circuit Devices	Frame	No. of Poles	Wiring Space to Side Wall
			20" W Box
Q-Line Breakers (Double-branch Mounting)	THQL, THHQL, TXQL, TXQB, THQB, THHQB,	⊕	6½"
Sub-feed Breakers Single Branch Mounting (6 poles max)	TQD, THQD	2, 3	5½"

⊕See "Q" Line Breaker Trip Range in ampere table on page 7

## KNOCKOUT DIAGRAM (20" Wide Box)

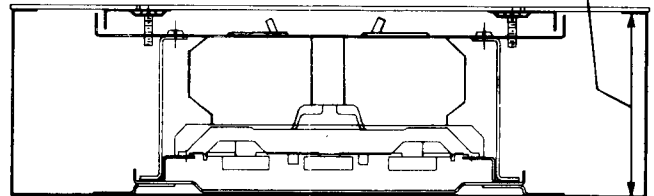


1½" x 2" x 2½" x 3" KO

Note: Blank end wall also available

## END VIEW

BOX DEPTH 5.81 STD (INSIDE) 7.81 DEEP



## A SERIES ENCLOSURE STEEL GAGES

Endwalls: 17		
Boxes: 16		
Fronts	Flush	Surface
25.5–37.5 in	13	15
43.5–55.5 in	13	13
64.5–76.5 in	11	11



## PANELBOARD SPECIFICATIONS

### CODES AND STANDARDS

- **NATIONAL ELECTRICAL CODE**

The NEC provides very specific design and application guidelines for lighting panelboards.

- Article 384-14 Lighting and Appliance Branch Circuit Panelboard. For the purpose of this article, a lighting and appliance branch circuit panelboard is one having more than 10 percent of its overcurrent devices rated 30 amperes or less for which neutral connections are provided.
- Article 384-15 Number of Overcurrent Devices in One Panelboard. Not more than forty-two overcurrent devices (other than those provided for in the mains) of a lighting and appliance branch circuit panelboard shall be installed in any one cabinet or circuit box.

- **STANDARDS**

The A SERIES Panelboard system meets the latest revisions of the following:

- UL50, Cabinets and Boxes
- UL67, Panelboards
- UL489, Circuit Breakers
- NEMA AB-1, Circuit Breakers
- NEMA PB-1, Panelboards
- US Federal Spec W-P-115b Panelboards
- US Federal Spec W-C-375b/GEN Circuit Breakers

# PANELBOARD SPECIFICATIONS

## • GUIDE FORM SPECIFICATIONS

Panelboards as shown on plans and described herein shall be General Electric A SERIES only; Type AL, Type AQ or Type AE. Panelboards shall be listed by Underwriters Laboratories Inc.

Boxes shall be corrosion resistant, zinc finish galvanized, 20 inches wide with wire bending space per 1984 NEC.

Fronts shall be reinforced steel powder finish painted light gray, (ANSI-61) and shall be equipped with concealed hinges and concealed trim adjusting screws, trim clamps are not an acceptable alternative. Directory card holders shall be clear Lexan® permanently mounted to the front door and all door locks shall be corrosion proof Valox® with retractable latch, keyed *alike*.

Bus bars shall be sequenced phased, fully insulated and supported by high impact Noryl® interior base assemblies, mechanically supported by reinforced zinc finished galvanized steel frames to prevent vibration and resulting damage when subjected to vibration or short circuits. All terminations shall be suitable for either copper or aluminum UL listed wire and shall be tested and listed in conjunction with appropriate UL Standards.

Circuit breakers shall not be restricted to any mounting location due to their physical size and all branch circuit breakers rated 15 thru 100 amperes shall be capable of mounting in any and all interior positions to allow twin or double mounting without space penalty. All branch circuit breaker panelboard connections shall be copper to copper connections, with all panelboard terminations being fully rated at 100 amperes.

All branch circuit breakers shall be quick-make and quick-break and have Posi-Vu™ handle indication.

All panelboard series connected ratings shall be prominently displayed on the dead front shield and totally visible with the door open.