

# 8146/5-6 Series Disconnects

DISCONNECT SWITCHES FOR HAZARDOUS & CORROSIVE ENVIRONMENTS



## DISTRIBUTION

STAHL

### Disconnects 8146/5-6 Series Features:

- 16A, 32A, 63A and 125A models.
- Enclosures made of Fiberglass Reinforced Polyester (FRP) with recessed gasket and captive stainless steel cover screws.
- 3 pole (plus auxiliary) horsepower rated switch.
- Increased safety terminals and integrated ground bar.
- Large grip, lockable handle.
- Multiple entry methods available (see section J).
- No seals required for Division 2 application.



## CLASSIFICATIONS

**NEC-** Class I, Zone 1 AEx de IIC T6†  
 Class I, Division 2, Groups A,B,C,D  
 Class II, Divisions 1 and 2,  
 Groups E,F,G  
 Class III  
 Enclosure 3, 4, 4x, IP66  
 File No. J.I. 2Q0A4.AX  
 J.I. 2X5A0.AE



†Zone 1 Approval Applied for  
**CEC-** Class I, Zone 1 Ex de IIC T6  
 Class I, Division 2, Groups A,B,C,D  
 Class II, Divisions 1 and 2  
 Groups E,F,G  
 Class III  
 File No. L.R. 99468



II 2G Ex de IIC T6  
 Zone 1 & 2  
 Ingress Protection IP66  
 PTB 01 ATEX 1024

**Ambient Temperature Range**  
 +40°C (+104°F) Max.  
 -20°C (-4°F) Min.

**Special Temperature Range\***  
 +55°C (+131°F) Max.  
 -40°C (-40°F) Min.  
 \*Consult Factory

## Applications

The DISCONNECTS 8146/5-6 series are horsepower rated for motor load applications. While the product is load rated, no short circuit protection is designed into the switch.

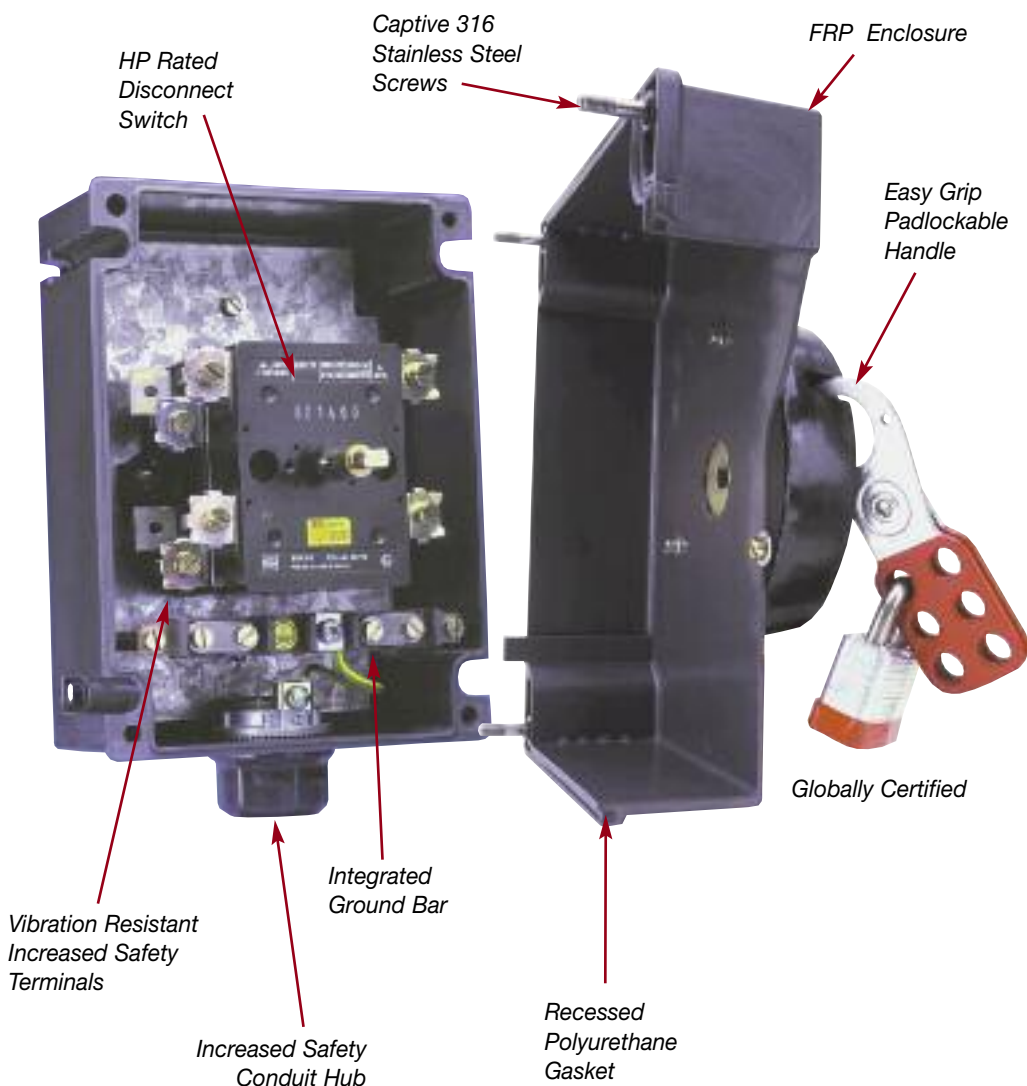
To provide adequate short circuit protection, properly sized Class J fuses must be installed in the circuit upstream from the switch.

Due to the design of the switch, no external sealing fittings are required for Class I, Division 2 applications. Some Class II applications may require installation of seals. Consult the National Electrical Code Article 502-5 or the Canadian Electrical Code Section 18 (154) for specific instructions.

STAHL offers the DISCONNECT Series 8146/5-6 constructed to meet the most demanding environments. The Disconnect 8146/5-6 Series provides safety in hazardous and corrosive locations.

# 8146/5-6 Series DISCONNECTS

DISCONNECT SWITCHES FOR  
 HAZARDOUS & CORROSIVE ENVIRONMENTS



## Technical Data

		16 AMP.	32 AMP.	63 AMP.	125 AMP.
RATED VOLTAGE	AC	600	600	600	600
RATED VOLTAGE	DC	220	-	-	-
HORSE POWER	600VAC	10	30	60	125
	480VAC	10	20	40	100
	240VAC	5	10	20	40
	120VAC	2	5	10	20
TERMINALS	AWG	12	4	2	4/0
	STRANDED (mm²)	2.5	16	25	95
	SOLID (mm²)	-	25	35	120
BACK-UP FUSE (Required)	Class J	20 MAX	40 MAX	100 MAX	200 MAX

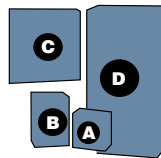
# 8146/5-6 Series DISCONNECTS

DISCONNECT SWITCHES FOR  
HAZARDOUS & CORROSIVE ENVIRONMENTS

DISTRIBUTION



- A - 16 AMP DISCONNECTS SERIES
- B - 32 AMP DISCONNECTS SERIES
- C - 63 AMP DISCONNECTS SERIES
- D - 125 AMP DISCONNECTS SERIES



## 8146/5-6 Disconnect Logic

8146/5-6 -		HUBS
02 - 16 AMP		000 - NO HUBS
04 - 32 AMP		001 - 1/2" NPT
06 - 63 AMP		002 - 3/4" NPT
09 - 125 AMP		003 - 1" NPT
		004 - 1-1/4" NPT
		005 - 1-1/2" NPT
		006 - 2" NPT
		007 - 2-1/2" NPT
		008 - 3" NPT
0 - NO ENTRY		COMPRESSION
3 - TOP FEED ENTRY		CABLE GLANDS
4 - BOTTOM FEED ENTRY		(CABLE O.D.)
5 - FEED THROUGH ENTRY		M16 .20" - .30"
6 - 2 TOP ENTRIES		M20 .25" - .50"
7 - 2 BOTTOM ENTRIES		M25 .50" - .67"
		M32 .40" - .70"
		M40 .65" - 1.00"
		M50 .91" - 1.25"
		M63 1.26" - 1.73"



Installation Example

## Ordering Information

CATALOG NUMBER			AMP.	HUB SIZE	ENCLOSURE
WITHOUT HUBS	FEED THROUGH ENTRY (Top & Bottom)	FEED THROUGH ENTRY (2 Hubs In Bottom)			
8146/5-602-0000	8146/5-602-5002	8146/5-602-7002	16	3/4"	8146/5052-D
8146/5-604-0000	8146/5-604-5003	8146/5-604-7003	32	1"	8146/5062-B
8146/5-606-0000	8146/5-606-5006	8146/5-606-7006	63	2"	8146/5083-D
8146/5-609-0000	8146/5-609-5007	8146/5-609-7007	125	2 1/2"	8146/5095-B

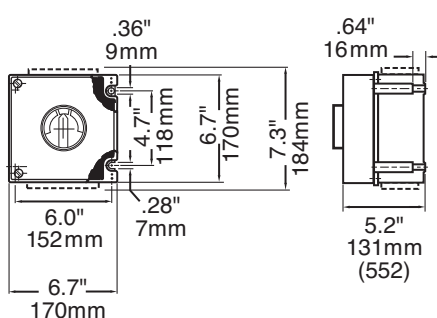
Modifications of the standard designs are possible e.g. auxiliary contacts entry parts, additional terminals.



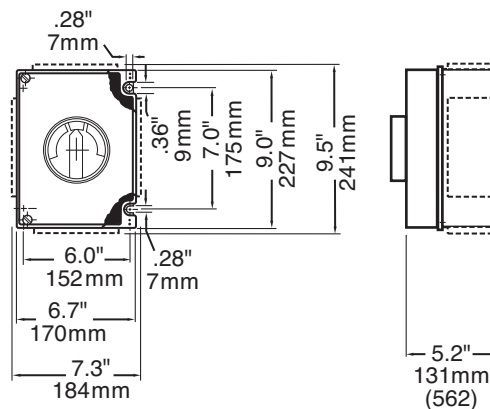
INNOVATIVE EXPLOSION PROTECTION by R. STAHL 1-800-782-4357



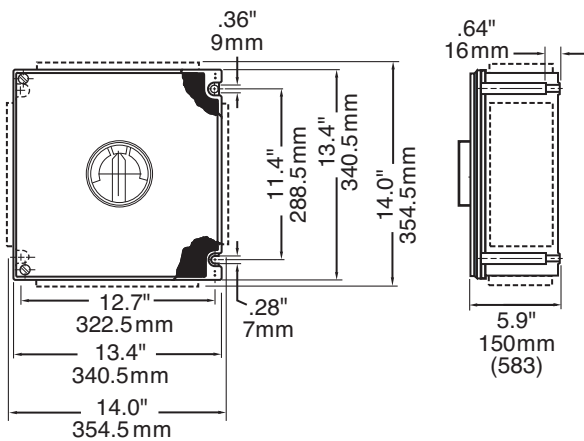
## DIMENSIONS



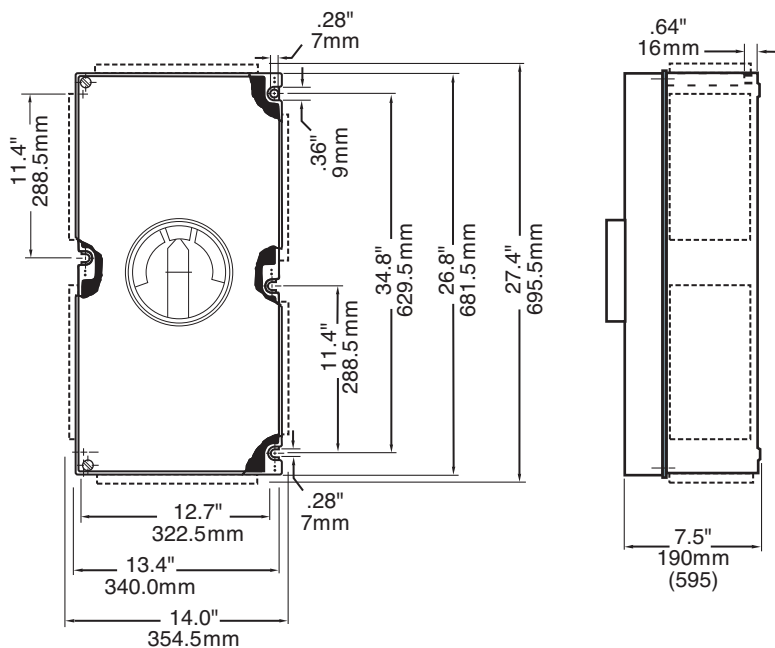
**16A DISCONNECT SWITCH**  
8146/5-602 Series



**32A DISCONNECT SWITCH**  
8146/5-604 Series



**63A DISCONNECT SWITCH**  
8146/5-606 Series



**125A DISCONNECT SWITCH**  
8146/5-609 Series



### Applications:

- For hazardous classified locations due to explosive gas atmospheres
- Petroleum refineries, oilsands, chemical and petrochemical facilities with indoor or outdoor processes
- Applications requiring overcurrent and short circuit protection for power, lighting, and heat tracing.

### Features:

- Extremely easy to maintain. Simply enter the enclosure by turning the door handle and gaining access to the breaker compartment. There is no need to remove dozens of bolts to change a breaker.
- Lightweight and easy to install compared to traditional explosion proof construction. Expensive lift equipment often not needed.
- Window doors allow easy viewing of breaker positions without opening the enclosure.
- R. STAHL 8562 series circuit breakers with 10KA interrupt ratings meet all necessary North American requirements. See page H7.
- 8562 series breakers are padlockable in the off position.
- GFIs and GFCIs are also available for ground fault protection. See pages H11 - H12.
- Seamless foam in place gaskets exclude contaminants and liquids ensuring long life of interior components.
- Available in brushed stainless steel, epoxy powder coated, and fiberglass for maximum corrosion resistance.
- 316L stainless steel hardware provided for all external components to prevent corrosion.
- NEMA 4X padlocking 316L SS handle and internal heavy duty 3 point latching system combine security and a watertight seal with ease of access.
- No cable or conduit seals are required, allowing for fast installation and lowering overall installed cost.
- Standard bottom entry reduces risk of moisture ingress. (Top entry is available)
- Finger safe construction & UL508A approved bus system prevents accidental contact with live parts.
- Enclosures are easily punched in the field. No drilling and tapping required.

\*Breaker information located on pages H9 - H11.



### CLASSIFICATIONS of Breaker

NEC

Class I, Zone 2 Group IIC, T4  
Class I, Div. 2, Groups B, C & D, T4

CEC

Class I, Zone 2 Group IIC, T4  
Class I, Div. 2 Groups B, C & D, T4



Environmental Protection  
Type 3, 4, 4X; IP66

### SAVE INSTALLATION TIME

- Avoid removing dozens of bolts as with traditional explosion proof ferrous systems.
- No expensive seals
- No drill and tapping enclosures
- Light weight design (No need for expensive lift equipment)

### SAVE ON MAINTENANCE

- Window doors allow easy viewing.

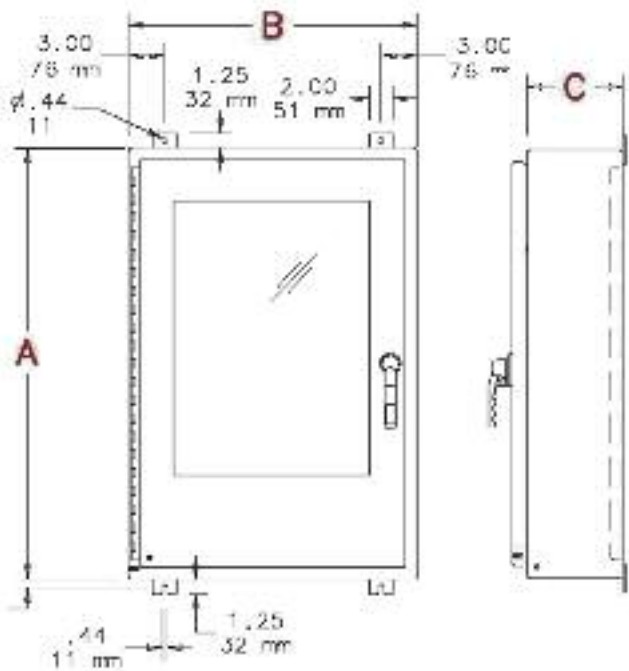
### LAST LONGER

- Stainless Steel, and fiberglass options outlast traditional cast aluminum in corrosive environments

### WORK SAFER

- Finger safe construction prevents accidental contact with live parts.
- Padlockable breakers





BROZTM Zone 2 PANELBOARDS		BRZ	.	.	..	..	.....	.....	...
		BRZ	3	3	SS	3B	361P30	21P16	D-W
		a	b	c	d	e	f	f	g
a	Class I, Division 2/Zone 2 Circuit Breaker Panelboard								
b	1 = 100A 2/0 main lugs (12cct) 2 = 225A 250 mcm main lug (24cct) 3 = 300A 250 mcm main lug (42cct and 60cct)								
c	1 = 208Y/120V AC, 3 phase, 4 wire 2 = 120/240V, 1 phase, 3 wire 3 = 480Y/277V AC, 3 phase, 4 wire								
d	Enclosure material SS = Stainless Steel ST = Powder Coated Steel								
e	Enclosure size (Length <b>A</b> x Width <b>B</b> x Depth <b>C</b> ) 1 = 12 circuit – 24" x 24" x 8" ( 610mm x 610mm x 203mm) 2 = 24 circuit – 30" x 24" x 8" ( 762mm x 610mm x 203mm) 3 = 42 circuit – 48" x 30" x 8" (1219mm x 762mm x 203mm) 4 = 60 circuit – 60" x 30" x 8" (1524mm x 762mm x 203mm) B = Bottom Entries T = Top Entries								
f	Qty # poles/amp rating 1, 2, 3 pole breakers, available up to 40 amp, 277/480V xx – Qty of Breakers 1P – 1pole breaker(s) 2P – 2pole breaker(s) 3P – 3pole breaker(s) xx – Amps of breaker EPD – 30 mA GFI GFCI – 5 mA GFCI Personal Protection Breaker								
g	Options D = NEMA 4X Drain P = Breaker Padlock W = Window								



\*60 circuits available for Canada  
Class I, Division 2, Class I, Zone 2





# 8146/5 Series Breaker Panelboards

BREAKER PANELBOARDS FOR HAZARDOUS & CORROSIVE ENVIRONMENTS

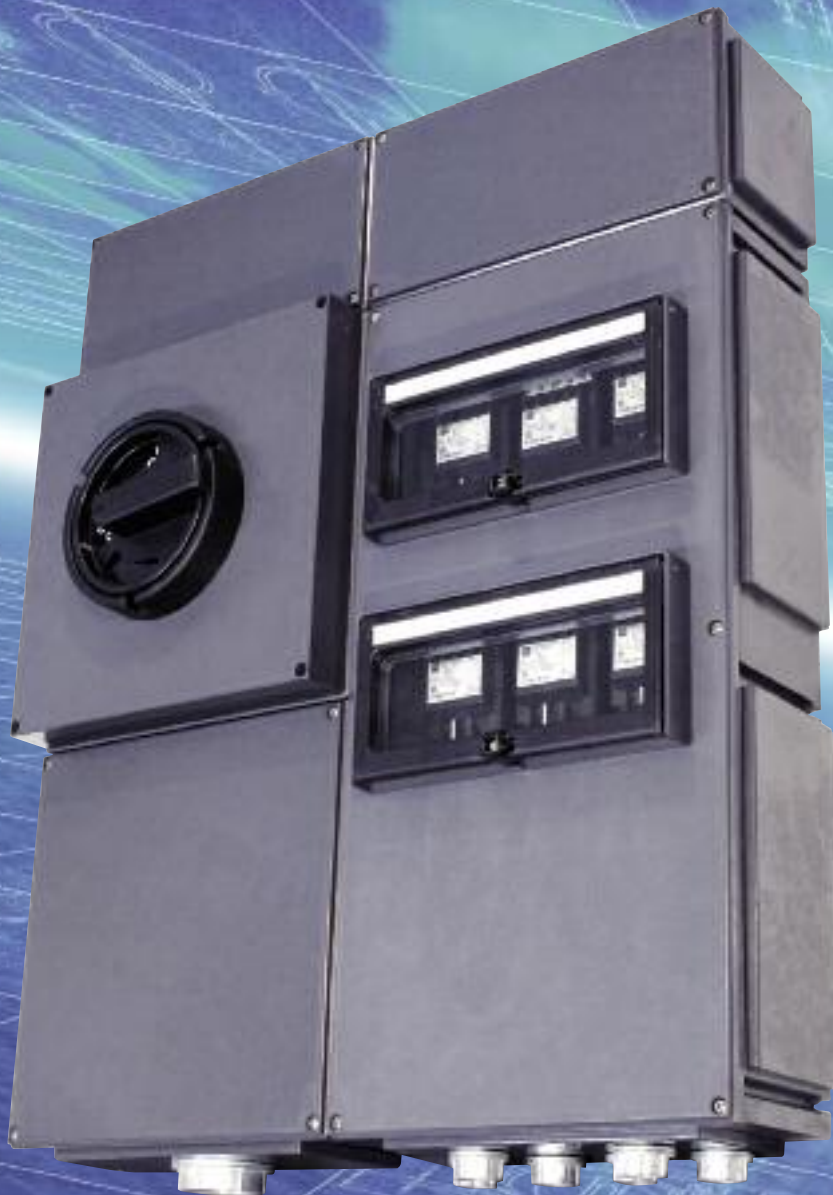
DISTRIBUTION



## Breaker Panels

### Features:

- *Wide variety of Flameproof branch circuit breakers for Zone 1 & Division 2 to UL 489 & CSA C22.2 No. 5*
  - *Thermal-magnetic branch circuit breaker protection, 40A max.*
  - *Mounted under hinged window flaps for easy actuation.*
  - *Shunt trips (optional).*
  - *Lockout on breaker and window flap.*
  - *Line and load side factory wired to "increased safety" terminals, ready for field connections*
- *Flameproof Ground Fault Interrupters*
- *Flameproof main disconnect switches 125A max. with lockout provision (optional).*
- *FRP "increased safety" enclosures*
  - *Suitable for wet and corrosive locations*
  - *Impact resistant*
  - *Light weight*
  - *Wall mounting frames available*
  - *Flange Plates can be fitted with "Increased Safety" certified conduit hubs or cable glands (see section J).*
  - *No seals required for Division 2 application.*





## CLASSIFICATIONS

NEC- Class I, Zone 1 AEx de IIC T5 or T6  
Class I, Division 2, Groups A,B,C&D



CEC- Class I, Zone 1 Ex de IIC T5 or T6  
Class I, Division 2, Groups A,B,C&D

Environmental Protection  
Type 3, 4, 4X; IP66

Ambient Temperature Range  
+40°C (+104°F) Max.  
-20°C (-4°F) Min.

## Applications

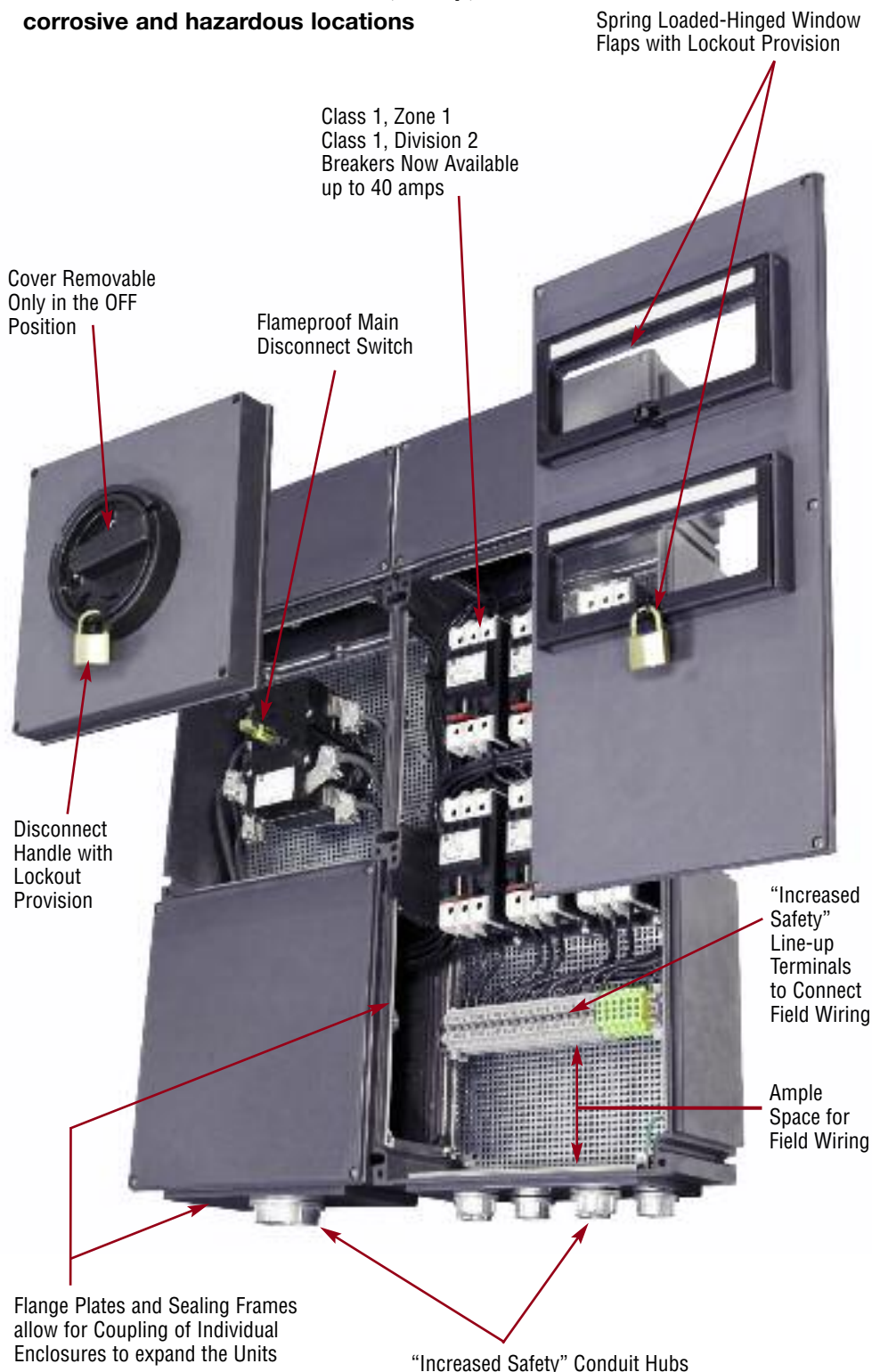
The series 8146/5 Breaker Panelboards provide a switching system with short circuit protection, overload protection and ground fault protection for feeder and branch circuits to control either resistive or inductive loads. Applications would be heating, lighting, heat tracing and motor circuits in refineries, chemical and petrochemical plants and other process industries. They are available with or without Main Disconnect. To provide adequate short circuit protection, properly sized Class J fuses must be installed in the circuit upstream for protection of the Main Disconnect Switch.

# 8146/5 Series Breaker Panelboards

BREAKER PANELBOARDS FOR HAZARDOUS & CORROSIVE ENVIRONMENTS

## Quick and Easy Access to Breaker

Modular “increased safety” enclosures made of FRP for indoors and outdoors, damp, wet corrosive and hazardous locations





### BREAKER PANELBOARDS FOR HAZARDOUS & CORROSIVE ENVIRONMENTS



Conduit hubs or cable glands can be installed with back-up bonding plates, as shown above or with "increased safety" grounding locknuts which are interconnected with green jumper wire and also connected to the ground system.

For details see page C3, and for spacing see page C4.



Springloaded - hinged window flaps allow easy viewing and quick access to breakers without opening the enclosure.

Individual breakers and the window flaps can be padlocked.

Max. Number of Ex MCBs Under One Window Flap	Ex MCBs
6	1 pole
4	2 pole
3	3 pole



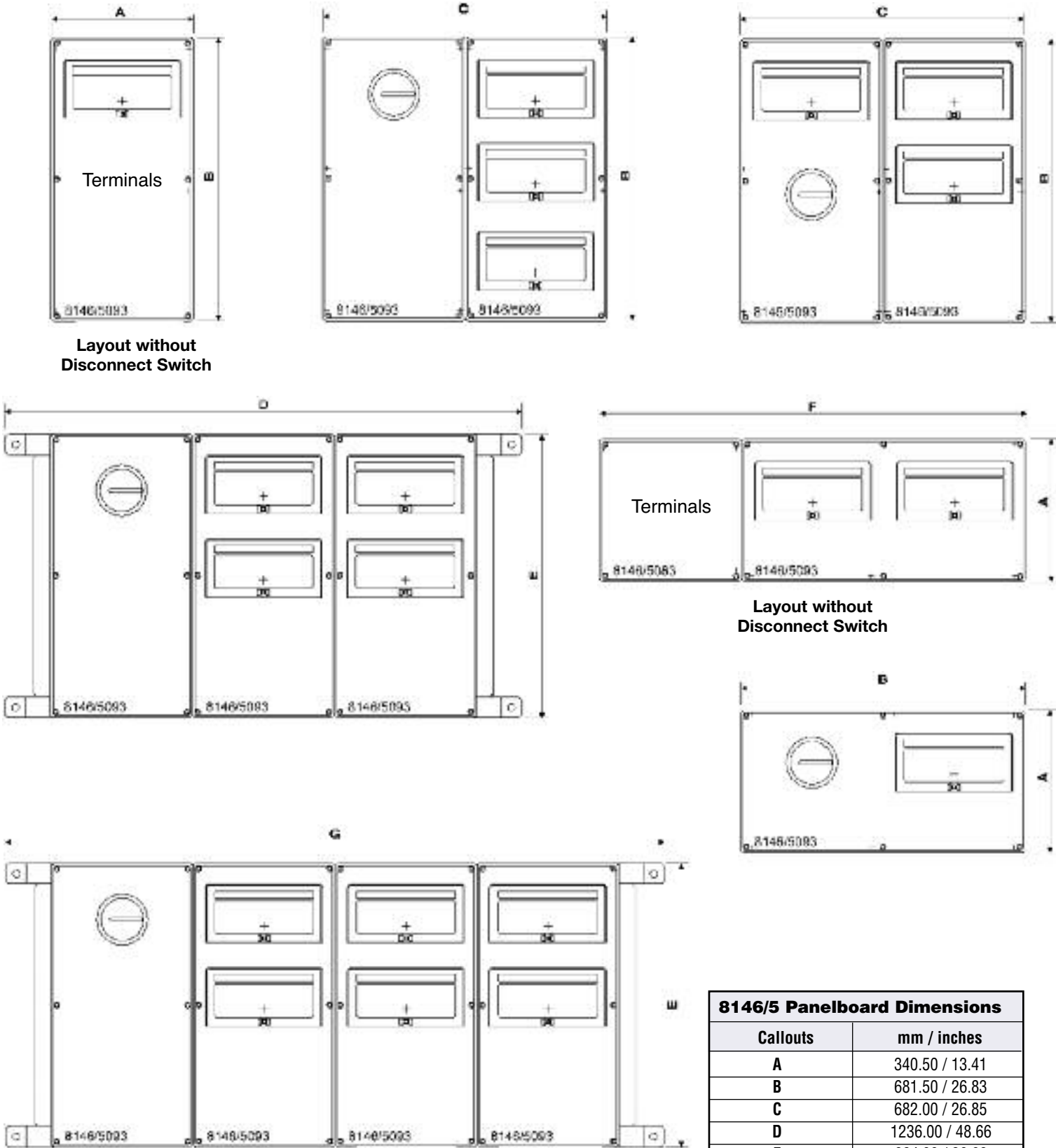
#### Technical Data of Main Disconnect Switches

Type	Voltage ac	Amperage	Back-Up Fuse J
8543/1	600	40	60 A max.
8543/2	600	63	100 A max.
8548/1	600	125	200 A max.

The Disconnect Switches are made of FRP to safely contain the pressure generated by an internal explosion.

Optional auxiliary contacts are available.

DIMENSIONS



8146/5 Panelboard Dimensions	
Callouts	mm / inches
A	340.50 / 13.41
B	681.50 / 26.83
C	682.00 / 26.85
D	1236.00 / 48.66
E	684.00 / 26.93
F	1023.00 / 40.28
G	1578.00 / 62.13

# 8146/5 Series Breaker Panelboards

THERMAL-MAGNETIC Ex MCBs TO UL 489 & CSA C22.2 No.5



## 1 Pole Ex MCB, 8562/51 Series

Amp Rating at Ta = 25°C	Catalog Number 277 Vac, 10 kAIC
0.2	8562/51-1430-002
0.3	8562/51-1430-003
0.5	8562/51-1430-005
0.75	8562/51-1430-008
1.0	8562/51-1430-010
1.6	8562/51-1430-016
2	8562/51-1430-020
3	8562/51-1430-030
4	8562/51-1430-040
5	8562/51-1430-050
6	8562/51-1430-060
8	8562/51-1430-080
10	8562/51-1430-100
13	N/A
15	8562/51-1430-150
16	8562/51-1430-160
20	8562/51-1430-200
25	8562/51-1430-250
30	8562/51-1610-300
32	8562/51-1610-320
40	8562/51-1610-400



## CLASSIFICATIONS of Breaker

NEC

Class I, Zone 1, AEx de IIC T5 or T6  
Class I, Div. 2, Groups A, B, C & D

CEC

Ex de IIC T5 or T6  
Class I, Div. 2, per: CEC J18-150 (C)



Certified File No. 1850696



File No. 3033692

## FEATURES

- Method of Protection: Flameproof  
1, 2 and 3 Pole with Thermal -  
Magnetic Branch Circuit Protection
- Design to UL 489 and  
CSA-C22.2 No. 5-02
- Options: Shunt Trip
- Breakers are not temperature  
compensated

## 2 Pole Ex MCB, 8562/52 Series

Amp Rating at Ta = 25°C	Catalog Number 480Y/ 277 Vac, 10 kAIC
0.2	8562/52-2430-002
0.3	8562/52-2430-003
0.5	8562/52-2430-005
0.75	8562/52-2430-008
1.0	8562/52-2430-010
1.6	8562/52-2430-016
2	8562/52-2430-020
3	8562/52-2430-030
4	8562/52-2430-040
5	8562/52-2430-050
6	8562/52-2430-060
8	8562/52-2430-080
10	8562/52-2430-100
15	8562/52-2430-150
16	8562/52-2430-160
20	8562/52-2430-200
25	8562/52-2430-250
30	8562/52-2610-300
32	8562/52-2610-320
40	8562/52-2610-400



## 3 Pole Ex MCB, 8562/53 Series

Amp Rating at Ta = 25°C	Catalog Number 480Y/ 277 Vac, 10 kAIC
0.2	8562/53-3430-002
0.3	8562/53-3430-003
0.5	8562/53-3430-005
0.75	8562/53-3430-008
1.0	8562/53-3430-010
1.6	8562/53-3430-016
2	8562/53-3430-020
3	8562/53-3430-030
4	8562/53-3430-040
5	8562/53-3430-050
6	8562/53-3430-060
8	8562/53-3430-080
10	8562/53-3430-100
15	8562/53-3430-150
16	8562/53-3430-160
20	8562/53-3430-200
25	8562/53-3430-250
30	8562/53-3610-300
32	8562/53-3610-320
40	8562/53-3610-400



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H10



**CLASSIFICATIONS of Ex GFIs****NEC & CEC**

Class I, Zone 1, AEx de IIC T5 or T6  
 Class I, Division 2, Ex Groups A, B, C & D (US)  
 Class I, Division 2, per CEC J18-150 (C)

**ATEX & IEC**

II G Ex de IIC Gb

Designed to  
**ANSI/UL 1053**  
**CSA C 22.2 No. 144 & IEC61008**

**Electrical Data**

**480Y/277 Vac/Main Contact(s)**  
**120Vac Auxiliary/Alarm Contact, 2 Amps**

**Ambient Temperature:**

**+40 C (+104F) Max**  
**-20 C (-4F) Min**

**Short Circuit**

**Switch Capacity-10kA symRms**  
**When in circuit with properly sized**  
**current limitation device.**

**FEATURES**

The Ex GFI Series 8562/5 is an explosion protected ground fault interrupter which assures ground fault protection for equipment and to a lesser extent personnel protection. The 8562/53 and 8562/54 can come with one Auxiliary contact, actuated by the breaker handle or one Alarm Contact actuated in case of ground fault.

**1 Pole +N or 2 Pole**

Switch Capacity	Catalog Number	Configuration	Aux or Alarm	Leakage Current
<b>16A</b>	8562/52-2500-160	2-pole/ 1-p+N	none	10mA
<b>25A</b>	8562/52-2510-250	2-pole/ 1-p+N	none	30mA
<b>40A</b>	8562/52-2510-400	2-pole/ 1-p+N	none	30mA

**1 Pole +N or 2 Pole with Auxiliary/Alarm Contact**

Switch Capacity	Catalog Number	Configuration	Aux or Alarm	Leakage Current
<b>16A</b>	8562/53-2501-160	2-pole/ 1-p+N	1xNOAux	10mA
	8562/53-2502-160		1xNOAla	
	8562/53-2503-160		1xNCAux	
	8562/53-2504-160		1xCOAux	
	8562/53-2505-160		1xCOAla	
	8562/53-2507-160		1xNCAla	
<b>25A</b>	8562/53-2511-250	2-pole/ 1-p+N	1xNOAux	30mA
	8562/53-2512-250		1xNOAla	
	8562/53-2513-250		1xNCAux	
	8562/53-2514-250		1xCOAux	
	8562/53-2515-250		1xCOAla	
	8562/53-2517-250		1xNCAla	
<b>40A</b>	8562/53-2511-400	2-pole/ 1-p+N	1xNOAux	30mA
	8562/53-2512-400		1xNOAla	
	8562/53-2513-400		1xNCAux	
	8562/53-2514-400		1xCOAux	
	8562/53-2515-400		1xCOAla	
	8562/53-2517-400		1xNCAla	

**3 Pole +N with Auxiliary/Alarm Contact**

Switch Capacity	Catalog Number	Configuration	Aux or Alarm	Leakage Current
<b>25A</b>	8562/54-4510-250	3-p+N	none	30mA
	8562/54-4511-250		1xNOAux	
	8562/54-4512-250		1xNOAla	
	8562/54-4513-250		1xNCAux	
	8562/54-4514-250		1xCOAux	
	8562/54-4515-250		1xCOAla	
	8562/54-4517-250		1xNCAla	
<b>40A</b>	8562/54-4510-400	3-p+N	none	30mA
	8562/54-4511-400		1xNOAux	
	8562/54-4512-400		1xNOAla	
	8562/54-4513-400		1xNCAux	
	8562/54-4514-400		1xCOAux	
	8562/54-4515-400		1xCOAla	
	8562/54-4517-400		1xNCAla	

# 8565/1 Ground Fault Circuit Interrupter

EX GFCI SERIES 8565/11-1050 AND EX GFEP SERIES 8565/11-1300

DISTRIBUTION



## CLASSIFICATIONS of Ex GFCIs AND Ex GFEPs

### NEC & CEC

Class I, Zone 1, AEx/Ex de IIC T6 Gb  
Class I, Division 2, Groups A, B, C & D (US)  
Class I, Division 2, per CEC J18-150 (C)



File No. 3044318

Designed to:

Ex GFCI: ANSI/UL 943 & 489  
CSA C 22.2 No. 144-1 & No. 5

Ex GFEP: ANSI/UL 1053 & 489  
CSA C 22.2 No. 144 & No. 5

Voltage: 120 Vac

Ambient Temperature:

+40°C (+104°F) Max  
-40°C (-40°F) Min

### Short Circuit

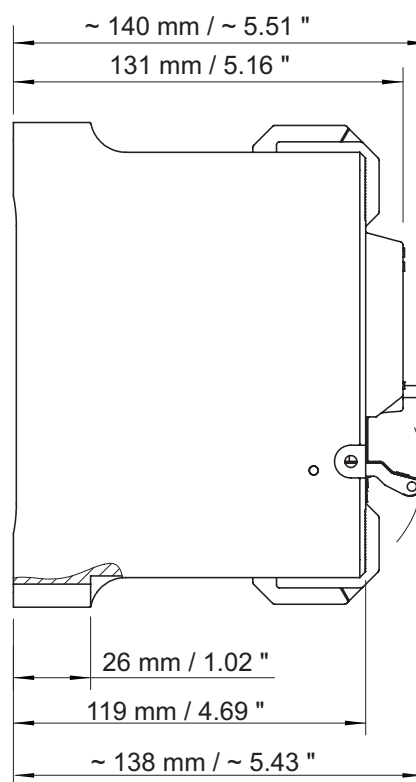
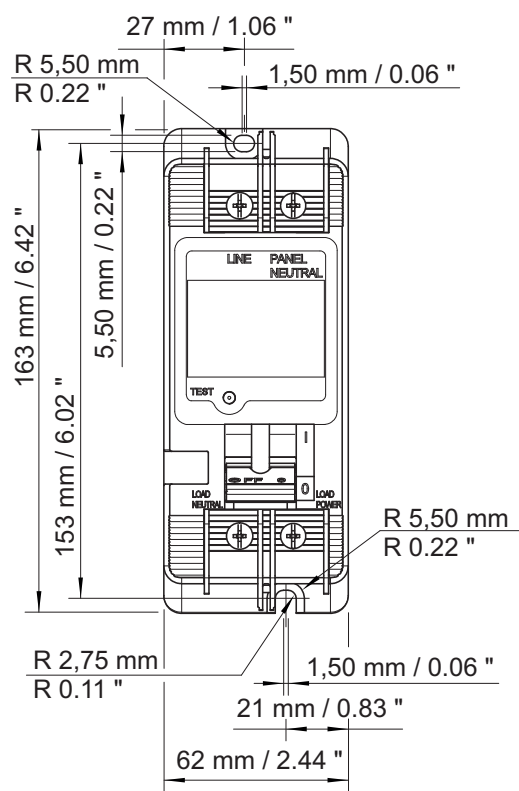
Switch Capacity -10kA symRMS  
When in circuit with properly sized current limitation device.

### FEATURES

The Ex GFCI Series, 8565/11-1050 is an explosion protected device providing personnel protection from ground faults as well as over current protection.

The Ex GFEP Series, 8565/11-1300 is an explosion protected device providing equipment protection from ground fault as well as over current protection.

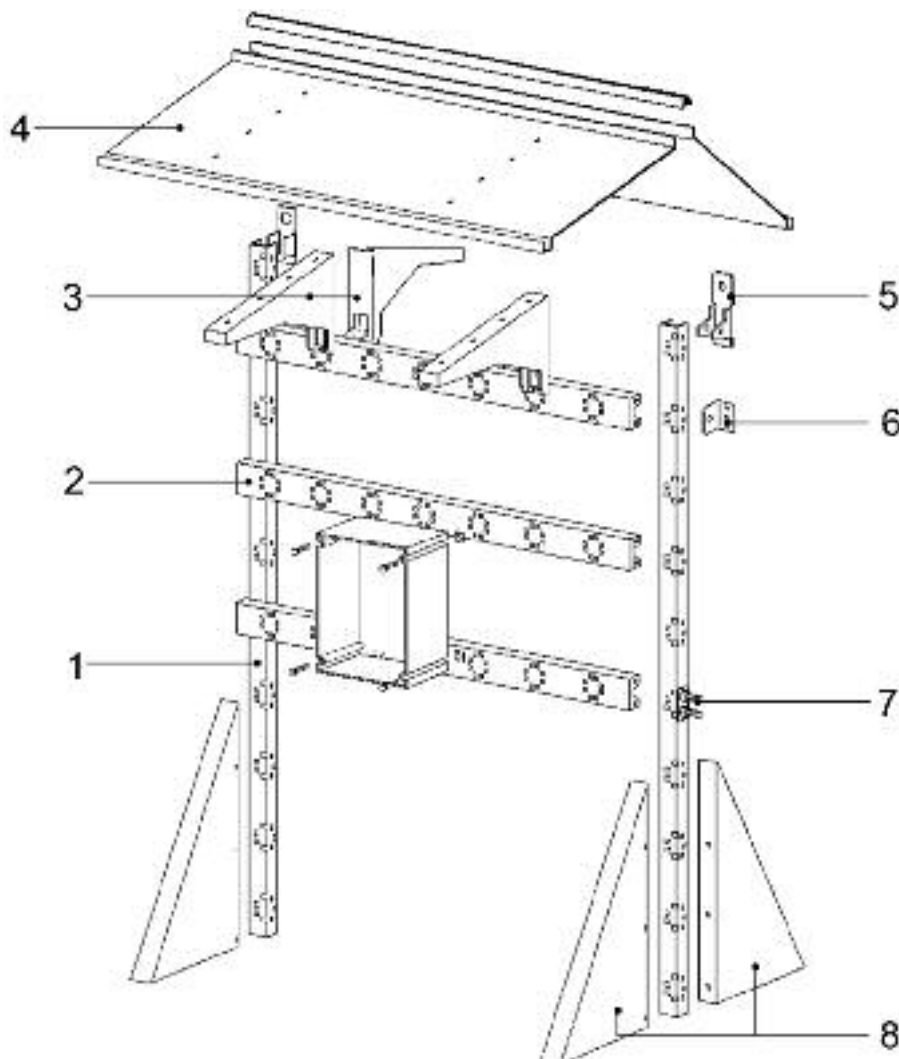
1-Pole + N			
Device	Amp Rating at T <sub>a</sub> =25°C	Catalog Number	Ground Fault Leakage Rate
ExGFCI	15	8565/11-1050-015	5mA
	20	8565/11-1050-020	
	25	8565/11-1050-025	
	30	8565/11-1050-030	
ExGFEP	15	8565/11-1300-015	30mA
	20	8565/11-1300-020	
	30	8565/11-1300-030	



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H12

1. Vertical Supports
2. Horizontal Supports
3. Bracket for Roof Attachment
  - To secure roof
  - Can be used to mount a luminaire.
 See Catalog Section B.
4. Roof
  - For additional protection of the breaker panel from the elements.
5. Brackets
  - End piece for transportation and wall mounting. Possible on top and bottom.
6. Fixing Angle Brackets
  - For wall mounting (on left and right side)
7. Bonding terminal
8. Triangle Support
  - Free standing
  - Can be fixed to the floor
9. Material Galvanized Steel



Wall Mounting Frame for Breaker Panel shown on page H5.

R. STAHL INC. would welcome the opportunity to quote custom designed breaker panels. Contact our engineering department with your specific requirements

