



Installation, Operation & Maintenance Sheet

Explosion-Protected
Disconnect Switch
(8146/5-V11, Class I, Zone 1)
(7146/5-V11, Class I, Div. 2)



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2 General Information

2.1 Contact Information

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2.2 Information regarding this Installation, Operation and Maintenance Sheet

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The explosion-protected disconnect switches should be installed, inspected, maintained, and operated by qualified and competent personnel. Read entire instructions before starting installation of this product.

Contact your R. STAHL Customer Service or R. STAHL distributor if you have any questions.

Technical information and illustrations are not binding and subject to change without notice.

The nature of these instructions is only informative and does not cover all of the details, variations or combinations in which this device may be used, its storage, delivery, installations, safe operation and maintenance.

Since conditions of use of the product are outside of the care, custody and control of the manufacturer, the purchaser should determine the suitability of the product for his intended use, and assumes all risk and liability whatsoever in connection therewith.

Save these instructions for future reference.

3 Application

The Series 8146/5 and 7146/5 explosion-protected provide switching means for main disconnect and Load & Motor disconnect applications as detailed in the ratings in section 5.

4 Hazardous Location Ratings and Applicable Standards

The disconnects are in compliance with the following standards:

ANSI/UL 60079-0	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-1	Explosive Atmospheres - Part 1: Equipment Protection by Flameproof Enclosures 'd'
ANSI/UL 60079-7	Explosive Atmospheres - Part 7: Equipment protection by increased safety 'e'
ANSI/UL 508	Industrial Control Equipment
CAN/CSA C22.2 No. 60079-0	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA C22.2 No. 60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
CAN/CSA C22.2 No. 60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 60079-0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'
IEC 60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'
EN IEC 60079-0	Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'
EN 60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'
CAN/CSA C22.2 No.25	Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
CAN/CSA C22.2 No. 213	Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CSA C22.2 No.14	Industrial Control Equipment
FM 3600 Class	Electrical Equipment for Use in Hazardous (Classified) Locations, General Requirement
FM 3611 Class	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III Divisions 1 and 2, Hazardous (Classified) Locations
FM 3616 Class	Approval Standard for Dust-Ignitionproof Electrical Equipment – General Requirements

5 Technical Data

Without fuses

Device Type	Load & Motor Disconnect																		
Explosion Protection Gas & Vapor	Class I, Zone 1, AEx db eb IIC T* Gb (US)																		
	Ex db eb IIC T* Gb (CAN)																		
	Class I, Division 2, Groups A, B, C, & D																		
	Ex db eb IIC T* Gb (IECEx) / II 2G Ex db eb IIC T* Gb (ATEX)																		
Dust Protection	Ex tb IIIC IP65 T**C IIIC T* (IECEx) / (ATEX)																		
	Class II, Division I, Groups E, F, G; Class III																		
Version	8146/5-V11-x01-...			8146/5-V11-x02-...			8146/5-V11-x03-...			8146/5-V11-x04-...			8146/5-V11-x06-...			8146/5-V11-x07-...			
Rated Current	15 A			16 A			25 A			32 A			63 A			80 A			
Rated Voltage	600 VAC 125 / 60 VDC			600 VAC 125 / 60 VDC			600 VAC 240 / 125 / 60 VDC			480 VAC 600 VAC			600 VAC 240 / 125 / 60 VDC			480 VAC 240 / 125 / 60 VDC			
Frequency	50/60Hz			50/60Hz			50/60Hz			50/60Hz			50/60Hz			50/60Hz			
Poles	3-Pole + N		2-Pole/1-Pole		3-Pole + N		2-Pole/1-Pole		3-Pole + N		3- / 2- / 1- Pole		3-Pole + N		3-Pole,opt N		3- / 2- / 1- Pole		
Interrupting Capacity ⁽¹⁾	10kA ⁽²⁾			10kA ⁽²⁾			20kA ⁽²⁾			14kA ⁽²⁾		10kA ⁽²⁾		20kA ⁽²⁾			20kA ⁽²⁾		
Ambient Temperature	-50°C (-58°F) ... +40°C (104°F) (T6)			-50°C (-58°F) ... +40°C (104°F) (T6)			-50°C (-58°F) ... +55°C (131°F) (T5)			-50°C (-58°F) ... +55°C (131°F) (T5)			-50°C (-58°F) ... +55°C (131°F) (T5)			-50°C (-58°F) ... +55°C (131°F) (T5)			
Terminal Capacity	14 AWG - 8 AWG			14 AWG - 8 AWG			12 AWG - 6 AWG			12 AWG - 6 AWG				10 AWG - 1/0 AWG			10 AWG - 1/0 AWG		
Tightening Torque ⁽³⁾	up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm			up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm			up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm			up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm			up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm			up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm			
	Type of Protection																		
	IP						Type 3, 4, 4x IP65/66												
	Mounting Position						Per NEC ®; CE Code or 60079-14												

Load & Motor Disconnect					
Class I, Zone 1, AEx db eb IIC T* Gb (US)					
Ex db eb IIC T* Gb (CAN)					
Class I, Division 2, Groups A, B, C, & D					
Ex db eb IIC T* Gb (IECEx) / II 2G Ex db eb IIC T* Gb (ATEX)					
n/a		n/a		n/a	
n/a		n/a		n/a	
8146/5-V11-x32-...		8146/5-V11-x08-...		8146/5-V11-x09-...	
100 A		125 A		150 A	
600 VAC	240 / 125 / 60 VDC	600 VAC	240 / 125 / 60 VDC	480 VAC	240 / 125 / 60 VDC
50/60Hz		50/60Hz		50/60Hz	
3-Pole, optional N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole
25kA ⁽²⁾		25kA ⁽²⁾		25kA ⁽²⁾	
-50°C (-58°F) ... +40°C (104°F) (T5)		-50°C (-58°F) ... +55°C (131°F) (T5)		-50°C (-58°F) ... +40°C (104°F) (T4)	
10 AWG - 300 kcmil		10 AWG - 300 kcmil		10 AWG - 300 kcmil	
up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 22 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm	
Type 3, 4, 4x IP65/66					
Per NEC ®; CE Code or 60079-14					

Device Type	Load & Motor Disconnect									
Explosion Protection										
Gas & Vapor	Class I, Division 2, Groups A, B, C, & D (US) (C)									
Dust Protection	Class II, Division 2, Groups F, G									
Version	7146/5-V11-x01-...		7146/5-V11-x03-...		7146/5-V11-x04-...		7146/5-V11-x06-...		7146/5-V11-x07-...	
Rated Current	15 A		25 A		32 A		60 A		80 A	
Rated Voltage	600 VAC	125 / 60 VDC	600 VAC	240 / 125 / 60 VDC	480 VAC	600 VAC	600 VAC	240 / 125 / 60 VDC	480 VAC	240 / 125 / 60 VDC
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Poles	3-Pole + N	2-Pole/1-Pole	3-Pole + N	3- / 2- / 1- Pole	3-Pole + N		3-Pole,opt N	3- / 2- / 1- Pole	3-Pole,opt N	3- / 2- / 1- Pole
Interrupting Capacity ⁽¹⁾	10kA ⁽²⁾		20kA ⁽²⁾ / 14kA ⁽²⁾ / 10kA ⁽²⁾		20kA ⁽²⁾ / 14kA ⁽²⁾ / 10kA ⁽²⁾		20kA ⁽²⁾		20kA ⁽²⁾	
Ambient Temperature	[-50°C (-58°F)] -40°C (-40°F) ... +40°C (104°F) (T6)		[-50°C (-58°F)] -40°C (-40°F) ... +40°C (104°F) (T6)		[-50°C (-58°F)] -40°C (-40°F) ... +40°C (104°F) (T6)		'[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T5)		[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T5)	
Terminal Capacity	14 AWG - 8 AWG		12 AWG - 6 AWG		12 AWG - 6 AWG		10 AWG - 1/0 AWG		10 AWG - 1/0 AWG	
Tightening Torque ⁽³⁾	up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm	
Type of Protection IP	Type 3, 4, 4x IP66									
Mounting Position	Per NEC ® or CE Code									

Load & Motor Disconnect					
Class I, Division 2, Groups A, B, C, & D (US) (C)					
n/a		n/a		n/a	
7146/5-V11-x32-...		7146/5-V11-x08-...		7146/5-V11-x09-...	
100 A		125 A		150 A	
600 VAC	240 / 125 / 60 VDC	600 VAC	240 / 125 / 60 VDC	480 VAC	240 / 125 / 60 VDC
50/60Hz		50/60Hz		50/60Hz	
3-Pole, optional N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole
25kA ⁽²⁾		25kA ⁽²⁾		25kA ⁽²⁾	
[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T5)		[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T5)		[-50°C (-58°F)] -40°C (-40°F) ... +40°C (104°F) (T4)	
[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T4)		[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T4)		[-50°C (-58°F)] -40°C (-40°F) ... +55°C (131°F) (T4)	
10 AWG - 300 kcmil		10 AWG - 300 kcmil		10 AWG - 300 kcmil	
up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm	
Type 3, 4, 4x IP66					
Per NEC ® or CE Code					

⁽¹⁾The interrupting capacity of the system is based on the fuses used as current limitation. These values are a maximum

⁽²⁾Short circuit protection based on supply limitation. For recommended supply limitation see table below.

⁽³⁾Information on terminal connection provided below on pg4.

Switch Type	Rated Current	Interrupting Capacity	Back-up Protection
		kA / cosφ	Max. Class-J fuse ⁽⁴⁾
8008 series	15 A	10 kA / 0.25	20 A
8008 series	16 A	10 kA / 0.25	20 A
8006 series	25 A	20 kA / 0.25	40 A
8006 series	30 / 32 A	@480VAC 14 kA / 0.25 @600 VAC 10 kA / 0.25	50 A
8544 series	60 / 63 A	@ 600 VAC 20 kA / 0.25	150 A
8544 series	80 A	@ 480 VAC 20 kA / 0.25	150 A
8549 series	100 A	@ 600 VAC 25 kA / 0.25	200 A
8549 series	125 A	@ 600 VAC 25 kA / 0.25	200 A
8549 series	150 A	@ 480 VAC 25 kA / 0.25	200 A

Back-up fuse is required as short-circuit protection for switch assemblies.

⁽⁴⁾ type J fuse per ANSI/UL 248-8 or CSA C22.2 No. 248.8

With fuses (Type J fuse per ANSI/UL 248-8 or CSA C22.2 No. 248.8)

Device Type	Fuse Protected Load & Motor Disconnect							
Explosion Protection Gas & Vapor	Class I, Division 2, Groups A, B, C, & D (US) (C) T4							
Dust Protection	n/a							
Version	7146/5-V11-x01-...		7146/5-V11-x03-...		7146/5-V11-x04-...		7146/5-V11-x06-...	
Rated Current	15 A		25 A		32 A		60 A	
Rated Voltage	600 VAC	125 / 60 VDC	600 VAC	240 / 125 / 60 VDC	480 VAC	600 VAC	600 VAC	240 / 125 / 60 VDC
Frequency	50/60Hz		50/60Hz		50/60Hz		50/60Hz	
Poles	3-Pole + N	2-Pole/1-Pole	3-Pole + N	3- / 2- / 1- Pole	3-Pole + N		3-Pole,opt N	3- / 2- / 1- Pole
Interrupting Capacity ⁽¹⁾	10kA ⁽²⁾		20kA ⁽²⁾ / 14kA ⁽²⁾ / 10kA ⁽²⁾		20kA ⁽²⁾ / 14kA ⁽²⁾ / 10kA ⁽²⁾		20kA ⁽²⁾	
Ambient Temperature	-40°C (-40°F) ... +55°C (131°F) (T4)		-40°C (-40°F) ... +55°C (131°F) (T4)		-40°C (-40°F) ... +55°C (131°F) (T4)		-40°C (-40°F) ... +55°C (131°F) (T4)	
Adjusted Current								
Adjusted Ambient Temperature								
Terminal Capacity	14 AWG - 8 AWG		12 AWG - 6 AWG		12 AWG - 6 AWG		10 AWG - 1/0 AWG	
Tightening Torque ⁽³⁾	up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6 AWG: 45 lbf-in or 5.1 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm	
Type of Protection IP	Type 3, 4, 4x IP66							
Mounting Position	Per NEC ® or CE Code							

Fuse Protected Load & Motor Disconnect					
Class I, Division 2, Groups A, B, C, & D (US) (C) T4					
n/a					
7146/5-V11-x07-...		7146/5-V11-x32-...		7146/5-V11-x08-...	
80 A		100 A		125 A	
480 VAC	240 / 125 / 60 VDC	600 VAC	240 / 125 / 60 VDC	600 VAC	240 / 125 / 60 VDC
50/60Hz		50/60Hz		50/60Hz	
3-Pole,opt N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole	3-Pole, optional N	3- / 2- / 1- Pole
20kA ⁽²⁾		25kA ⁽²⁾		25kA ⁽²⁾	
-40°C (-40°F) ... +55°C (131°F) (T4)		-40°C (-40°F) ... +40°C (104°F) (T4)		-40°C (-40°F) ... +40°C (104°F) (T4)	
		100 A		100 A	
		-40°C (-40°F) ... +55°C (131°F) (T4)		-40°C (-40°F) ... +55°C (131°F) (T4)	
10 AWG - 1/0 AWG		10 AWG - 300 kcmil		10 AWG - 300 kcmil	
up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0 AWG: 71 lbf-in or 8 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 22 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm		up to: 10 AWG: 35 lbf-in or 4.0 Nm 8 AWG: 40 lbf-in or 4.5 Nm 6-4 AWG: 45 lbf-in or 5.1 Nm 2 AWG: 50 lbf-in or 5.6 Nm 1/0-2/0 AWG: 220 lbf-in or 25 Nm 3/0 AWG - 300kcmil: 265 lbf-in or 30 Nm	
Type 3, 4, 4x IP66					
Per NEC ® or CE Code					

⁽¹⁾The interrupting capacity of the system is based on the fuses used on line side of the switch. If the fuses are used on the load side of the switch, then the short circuit limitation protection must be provided as specified on pg3.

⁽²⁾Information on terminal connection provided below on pg4.

⁽³⁾The Ambient Temperature is based on the fuse type used. The fuses are calibrated for -40°C (-40°F) or -30°C (-22°F) and care must be taken to use the correctly rated fuse

Terminal Connection Table

Terminal Type Phoenix ⁽³⁾	Wire Range AWG	Torque
UT4	26 - 10	5.3 - 7
UT6	24 - 8	13.3 - 16
UKH50	6 - 2/0	53.1 - 70.8
UKH95	4 - 4/0	132.7 - 177.0

Horsepower Rating

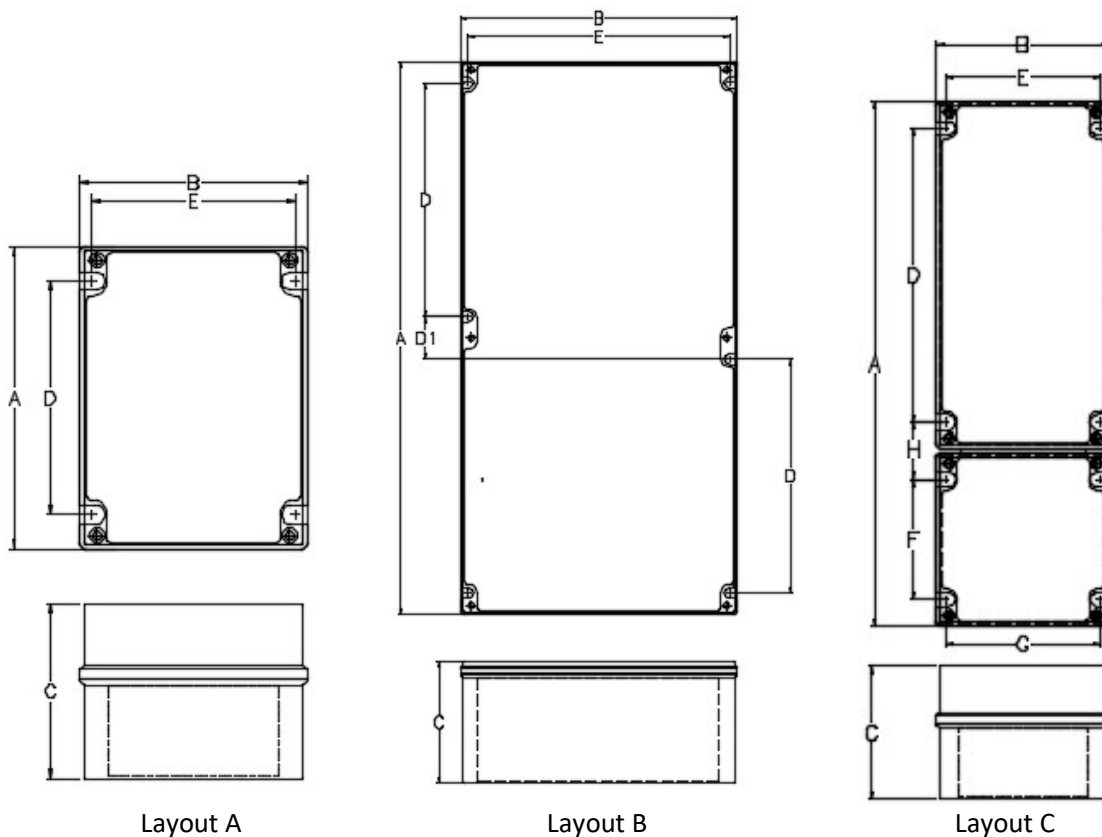
System Rating	16 A	25 A	30 A / 32 A	63 A / 80 A	100 A	125 A
600 VAC	10	15	30	60	100	125
480 VAC	10	15	20	40 / 60	75	100
240 VAC	5	7.5	10	20 / 30	30	40
120 VAC	2	3	3	10	-	-
60 VDC		-		10 (1)	-	-
125 VDC		3 (2)		10 (2)	10 (2)	10 (2)
240 VDC		5 (3)		30 (3)	20 (3)	20 (3)

The number in parentheses () for the VDC rating refer to the number of poles in series the line must be wired through to achieve the listed rating.

6 Dimensions and Connections

Type	Layout	Height	Width	Depth	Mtg Height 1	Mtg Width 1	Mtg Height 2	Mtg Width 2	Encl. Gap
	A	B	C	D / D1	E	F	G	H	
x146/5-V11-E01-00-0000-0	A	170	170	131	118	152			
x146/5-V11-E02-00-0000-0	A	170	170	131	118	152			
x146/5-V11-E03-00-0000-0	A	227	170	131	175	152			
x146/5-V11-E04-00-0000-0	A	227	170	131	175	152			
x146/5-V11-D06-00-0000-0	A	340.5	340.5	150	228.5	322.5			
x146/5-V11-D07-00-0000-0	A	340.5	340.5	150	228.5	322.5			
x146/5-V11-D08-00-0000-0	B	681.5	340.5	190	228.5/52.5	322.5			
x146/5-V11-D09-00-0000-0	B	681.5	340.5	190	228.5/52.5	322.5			
x146/5-V11-E02-00-0500-0	A	227	170	131	175	152			
x146/5-V11-E03-00-0500-0	A	340.5	170	131	288.5	152			
x146/5-V11-E04-00-0500-0	A	340.5	170	131	288.5	152			
x146/5-V11-D06-00-0500-0	B	681.5	340.5	150	228.5/52.5	322.5			
x146/5-V11-D07-00-0500-0	B	681.5	340.5	150	228.5/52.5	322.5			
x146/5-V11-D08-00-0500-0	B	681.5	340.5	190	228.5/52.5	322.5			
x146/5-V11-D09-00-0500-0	B	681.5	340.5	190	228.5/52.5	322.5			
7146/5-V11-E01-AA-0000-0	A	340.5	170	131	288.5	152			
7146/5-V11-E03-AA-0000-0	A	340.5	170	131	288.5	152			
7146/5-V11-E04-AA-0000-0	A	340.5	170	131	288.5	152			
7146/5-V11-D06-AA-0000-0	B	681.5	340.5	150	228.5/52.5	322.5			
7146/5-V11-D07-AA-0000-0	B	681.5	340.5	150	228.5/52.5	322.5			
7146/5-V11-D08-AA-0000-0	B	681.5	340.5	190	228.5/52.5	322.5			
7146/5-V11-E01-AA-0500-0	C	514.7	170	131	288.5	152	118	152	56.2
7146/5-V11-E03-AA-0500-0	C	514.7	170	131	288.5	152	118	152	56.2
7146/5-V11-E04-AA-0500-0	C	514.7	170	131	288.5	152	118	152	56.2
7146/5-V11-D06-AA-0500-0	B	681.5	340.5	150	228.5/52.5	322.5			
7146/5-V11-D07-AA-0500-0	B	681.5	340.5	150	228.5/52.5	322.5			
7146/5-V11-D08-AA-0500-0	C	1029.2	340.5	190	228.5/52.5	322.5	228.5	322.5	56.2

Dimensions in mm (enclosure style may vary)



7 Installation

WARNING

To avoid fire or shock hazard, the electrical power must be turned OFF before and during installation.

- Refer to the technical data and installation information on the front and side mounted nameplates of the circuit breakers.
- Enclosure Mounting:
Mounting brackets are provided with each enclosure. These mounting brackets are designed to hold an 7mm through hole. Mounting can also be made to the threaded insert in the back of the enclosure. This threaded insert is M6x1.0.
- After the panel is mounted to its final position select the proper cable or wiring size. Use copper conductors minimum 75°C. Connect to the proper terminal and torque based on the terminal and conductor size. For the systems with switch rating code "8" or "9" use copper conductors minimum 75°C sized based on its 60°C ampacity for the proper ambient.
- There are two types of installation methods:
Conduit installation or cable installation.
If the unit has factory installed entry hardware, proceed to the wiring section.
If the unit does not have entry hardware, select the appropriate hardware and mount as follows.
- Conduit/Cable Installation
Method 1:
Enclosures with flange plates using threaded openings through the flange plate and standard locknuts. Flange Plate must be connected to the internal grounding system using jumper wires.

Method 2:

Enclosures without flange plates using a hole "through the enclosure" with grounding locknut. These locknuts must be bonded between each other and the grounding system using jumper wires. After the entry hardware is installed connect the appropriate conduit or cable.

☞ In both methods, the earth connection should be checked prior to supplying load power.

☞ All unused enclosure openings must be closed using approved close-up plugs with standard locknuts. (see section 9 for NPT close-up plugs.)

7.1 Wiring

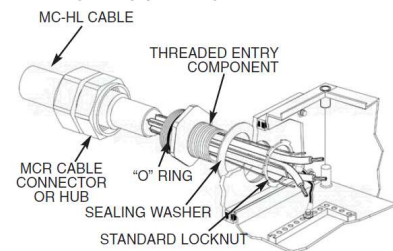
- Attach the conduit/cable to the panel, and pull the conductors into the enclosure, making sure that the conductors are long enough to land them on the appropriate terminal.
- Be sure to land the ground wire on the appropriate internal ground terminal.
- Connect the properly sized 75°C copper field wiring conductors to the proper terminals. For the systems with switch rating code "8" or "9" use copper conductors minimum 75°C sized based on its 60°C ampacity for the proper ambient.
- Test the wiring for correctness with continuity checks and for unwanted grounds with an insulation resistance tester.
- Replace the open enclosure cover ensuring alignment between actuators and internal components. Actuate the switch to ensure proper fit and function. Then tighten the cover screws to 4.5 Nm / 40 lbf-in.
- Once the cover is correctly in place, energize the circuit.

8 Maintenance & Testing

WARNING

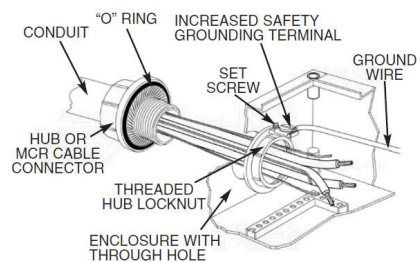
To avoid electrical shock, fire and/or explosions, always disconnect primary power source before inspection, service or Maintenance.

- We recommend an Electrical Prevention Maintenance program as described in the National Electrical Code® (NEC) and the National Fire Protection Association Bulletin NFPA No. 70B, and any local regulations. It is recommended that it should be at least once a year.
- Maintenance should only be performed by qualified and experienced personnel.
- Perform visual, electrical, and mechanical checks on all components on a regular basis.
 - Visually check for undue heating evidence by distortion of wires or other components, damaged or worn parts or leakage evidenced by water or corrosion in the interior.
 - Electrically check to make sure that all connections are clean and tight.
 - Mechanically check that all parts are properly assembled, and operating mechanisms move freely.
- Replacement parts are available through R. STAHL distributors. Replace only with R. STAHL's explosion protected components.
- See Section 9 or consult factory for spare parts.



Refer to IOM sheet of cable connector for proper installation

Entry Method 1



Entry Method 2

9. Parts & Accessories

9.1 Entry Hardware

Size	Ordering Code
1/2"	PD-E-4-0-29-00
3/4"	PD-E-4-0-30-00
1"	PD-E-4-0-31 -00
1 -1/4"	PD-E-4-0-32-00
1 -1/2"	PD-E-4-0-33-00
2"	PD-E-4-0-34-00
2-1/2"	PD-E-4-0-35-00
3	PD-E-4-0-36-00



8008/2-613
16 A Switch
SAP# 128614



8006/4-003
25 A Switch
SAP# 169492
204108
IP 20 Terminal Cover



8544/1-32
80 A / 63 A Switch 3 Pole
SAP# 171154

(order for 3-Pole +N Version)
8544/1-42
80 A / 63 A Switch 4 Pole
SAP# 171156



8549/1-32
125 A / 150 A Switch 3 Pole
SAP# 171181

8549/1-42
125 A / 150 A Switch 4 Pole
SAP# 171183

For additional accessories for STAHL switches please refer to the STAHL catalog or contact your STAHL representative.