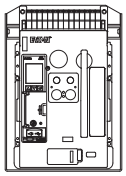
Instruction Leaflet **IL01301006E**

Supersedes June 2016
Effective January 2019

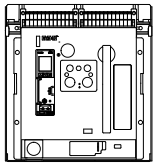
Power Defense – ICCB
Series NRX
IZMX

Drawout rejection interlocks

Instructions apply to:



UL489 : **PD-NF, Series NRX NF**
IEC : **PD-NF, IZMX16**
UL1066/ANSI : **Series NRX NF**



UL489 : **PD-RF**
IEC : **PD-RF, IZMX40**

⚠ WARNING

(1) ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD BE PERMITTED TO WORK ON THE EQUIPMENT.
(2) ALWAYS DE-ENERGIZE PRIMARY AND SECONDARY CIRCUITS IF A CIRCUIT BREAKER CANNOT BE REMOVED TO A SAFE WORK LOCATION.
(3) DRAWOUT CIRCUIT BREAKERS SHOULD BE LEVERED (RACKED) OUT TO THE DISCONNECT POSITION.
(4) ALL CIRCUIT BREAKERS SHOULD BE SWITCHED TO THE OFF POSITION AND MECHANISM SPRINGS DISCHARGED.
FAILURE TO FOLLOW THESE STEPS FOR ALL PROCEDURES DESCRIBED IN THIS INSTRUCTION LEAFLET COULD RESULT IN DEATH, BODILY INJURY, OR PROPERTY DAMAGE.

⚠ WARNING

THE INSTRUCTIONS CONTAINED IN THIS IL AND ON PRODUCT LABELS HAVE TO BE FOLLOWED. OBSERVE THE FIVE SAFETY RULES:
– DISCONNECTING
– ENSURE THAT DEVICES CANNOT BE ACCIDENTALLY RESTARTED
– VERIFY ISOLATION FROM THE SUPPLY
– EARTHING AND SHORT-CIRCUITING
– COVERING OR PROVIDING BARRIERS TO ADJACENT LIVE PARTS
DISCONNECT THE EQUIPMENT FROM THE SUPPLY. USE ONLY AUTHORIZED SPARE PARTS IN THE REPAIR OF THE EQUIPMENT. THE SPECIFIED MAINTENANCE INTERVALS AS WELL AS THE INSTRUCTIONS FOR REPAIR AND EXCHANGE MUST BE STRICTLY ADHERED TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO THE SWITCHBOARD.

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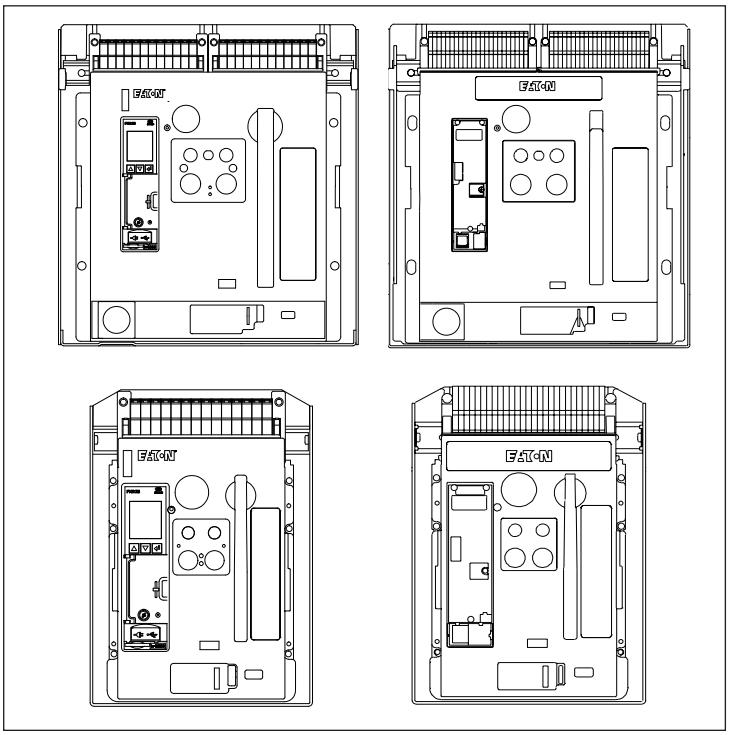
Note: The content of this IL applies to both PXR and Digitrip equipped breakers. Appearance of product may vary.



Section 1: General information

Drawout circuit breakers come in a variety of continuous current and interrupting ratings. To prevent the insertion of a drawout circuit breaker into a cassette with which it is incompatible, rejection interlock key plates are provided for both the circuit breaker and the cassette. Rejection pins must be installed in both plates to complete the interlock scheme. As the breaker is pushed into the cassette, the interlock pins on the breaker move past the pins in the cassette if they are compatible. The switchboard builder is responsible for installing the rejection pins in an appropriate pattern on both the breaker and cassette. Interlock pattern schemes shown are suggestions only. The switchboard builder can use any other schemes deemed appropriate.

⚠ WARNING

NEVER ATTEMPT TO DISABLE ANY INTERLOCKS. DOING SO COULD RESULT IN AN ELECTRICAL FAULT THAT COULD RESULT IN DEATH, BODILY INJURY, AND/OR EQUIPMENT DAMAGE.

Note: Figures 1 and 4 show a NF frame circuit breaker and cassette respectively for illustrative purposes only. The RF frame utilizes the same rejection interlock method. The only difference between the NF frame and the RF frame is the number of holes provided to accommodate interlock pins. The NF frame breaker and cassette each has six holes. The RF frame breaker and cassette each have 10 holes. The appropriate table for pin locations need only be selected for the circuit breaker being applied.

Section 2: Installation of drawout circuit breaker interlock pins

Proceed with the following four steps. As appropriate, carefully refer to Tables 1 or 2 and Figures 1 and 2 or Figures 1 and 3 as references for all four steps, as the pin location holes are not specifically identified on the bottom of the circuit breaker itself.

Step 1: Review the pin locations per Tables 1 or 2 to determine the proper pin locations for your specific circuit breaker rating. Required pin locations are marked with a capital "O."

Step 2: Carefully lay the circuit breaker on either side or lean it back until it rests on its primary finger clusters.

Step 3: Locate the already tapped holes in the bottom rear of the breaker identified with the letters A, B, C, D, E, and F (Figure 2) for the NF frame, and A, B, C, D, E, F, G, H, I and J (Figure 3) for the RF frame.

Step 4: Place the pins in the appropriate holes as determined from the Tables 1 or 2. Hand tighten the pins with a 3 mm Allen head screwdriver. Do not overtighten.

Table 1. Breaker pin locations (NF frame).

	Pin location					
Breaker rating	**A**	**B**	**C**	**D**	**E**	**F**
630 A/42	0					0
630 A/50		0				0
630 A/65			0			0
800 A/42	0			0	0	
800 A/50		0		0	0	
800 A/65			0	0	0	
1000 A/42	0			0		
1000 A/50		0		0		
1000 A/65			0	0		
1200 A/42	0		0			
1200 A/50		0	0			
1200 A/65			0	0		0
1250 A/42	0	0				
1250 A/50		0	0		0	
1250 A/65		0	0	0		
1600 A/42	0	0				0
1600 A/50	0	0			0	
1600 A/65	0		0	0		
UL 1066 schemes						
800 A/42	0				0	0
800 A/50		0			0	0
800 A/65			0		0	0

Table 2A. Breaker pin locations (IEC - RF frame).

	Pin location									
Breaker rating	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
800 A/105 kA										
800 A/85 kA	0									
800 A/66 kA	0	0								
800 A/55 kA	0	0	0							
1000 A/105 kA										0
1000 A/85 kA	0									0
1000 A/66 kA	0	0								0
1000 A/55 kA	0	0	0							0
1250 A/105 kA									0	0
1250 A/85 kA	0								0	0
1250 A/66 kA	0	0							0	0
1250 A/55 kA	0	0	0						0	0
1600 A/105 kA								0	0	0
1600 A/85 kA	0							0	0	0
1600 A/66 kA	0	0						0	0	0
1600 A/55 kA	0	0	0					0	0	0
2000 A/105 kA							0	0	0	0
2000 A/85 kA	0						0	0	0	0
2000 A/66 kA	0	0					0	0	0	0
2000 A/55 kA	0	0	0				0	0	0	0
2500 A/105 kA						0	0	0	0	0
2500 A/85 kA	0					0	0	0	0	0
2500 A/66 kA	0	0				0	0	0	0	0
2500 A/55 kA	0	0	0			0	0	0	0	0
3200 A/105 kA					0	0	0	0	0	0
3200 A/85 kA	0				0	0	0	0	0	0
3200 A/66 kA	0	0			0	0	0	0	0	0
3200 A/55 kA	0	0	0		0	0	0	0	0	0
4000 A/105 kA				0	0	0	0	0	0	0
4000 A/85 kA	0			0	0	0	0	0	0	0
4000 A/66 kA	0	0		0	0	0	0	0	0	0
4000 A/55 kA	0	0	0	0	0	0	0	0	0	0

Note: The RF frame/IZMX40 scheme was redesigned in September 2013 to give increased flexibility to the customer by permitting breakers with lower continuous current ratings into higher rated cassettes and permitting breakers with higher interruption ratings into lower rated cassettes. Take note of this new rejection scheme when installing breakers and/or cassettes.

Table 2B. Breaker pin locations (UL489 - RF frame).

	Pin location									
Breaker rating	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
800 A/100 kA										
800 A/85 kA	0									
800 A/65 kA	0	0								
1200 A/100 kA									0	0
1200 A/85 kA	0								0	0
1200 A/65 kA	0	0							0	0
1600 A/100 kA								0	0	0
1600 A/85 kA	0							0	0	0
1600 A/65 kA	0	0						0	0	0
2000 A/100 kA							0	0	0	0
2000 A/85 kA	0						0	0	0	0
2000 A/65 kA	0	0					0	0	0	0
2500 A/100 kA						0	0	0	0	0
2500 A/85 kA	0					0	0	0	0	0
2500 A/65 kA	0	0				0	0	0	0	0
3000 A/100 kA					0	0	0	0	0	0
3000 A/85 kA	0				0	0	0	0	0	0
3000 A/65 kA	0	0			0	0	0	0	0	0

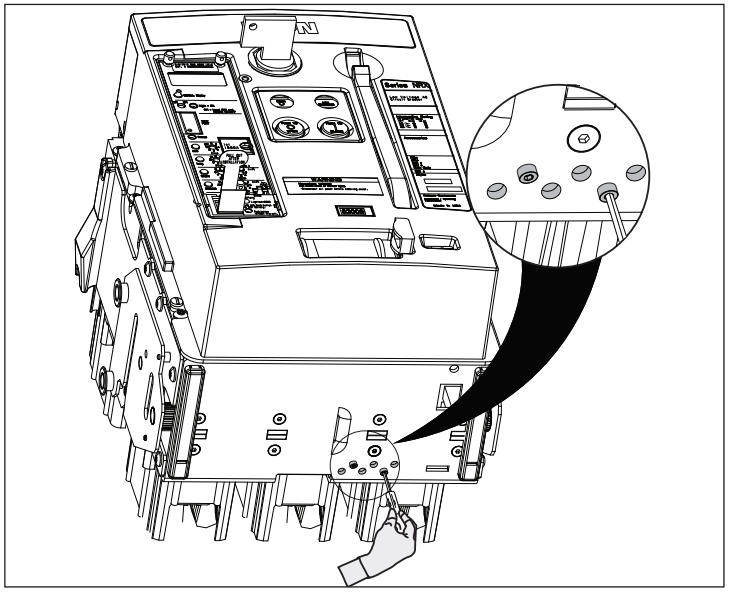


Figure 1. Typical breaker interlock pin location reference.

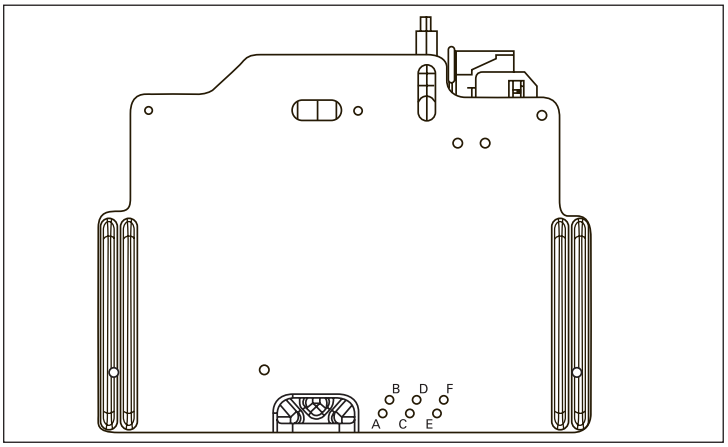


Figure 2. NF breaker pin locations.

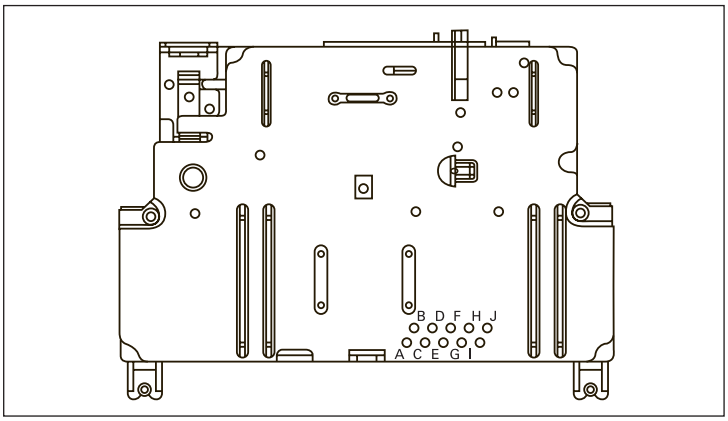


Figure 3. RF breaker pin locations.

Section 3: Installation of drawout cassette interlock pins

Proceed with the following three steps. As appropriate, carefully refer to Tables 3 or 4 and Figures 4 and 5 or Figures 4 and 6 as references for all three steps, as the pin location holes are not specifically identified on the floor of the drawout cassette itself.

Step 1: Review the pin locations per Tables 3 or 4 to determine the proper pin locations for your specific cassette. Required pin locations are marked with a capital "X."

Step 2: Locate the already tapped holes in the already mounted interlock plate located on the floor of the cassette identified with the numbers 1, 2, 3, 4, 5, and 6 (Figure 5) for the NF frame cassette, and 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 (Figure 6) for the RF frame cassette.

Step 3: Place the pins in the appropriate holes as determined from Tables 3 or 4. Hand tighten the pins with a 3 mm Allen head screwdriver. Do not overtighten.

Table 3. Cassette pin locations (NF frame).

	Pin location					
Breaker rating	**1**	**2**	**3**	**4**	**5**	**6**
630 A/42		X	X	X	X	
630 A/50	X		X	X	X	
630 A/65	X	X		X	X	
800 A/42		X	X			X
800 A/50	X		X			X
800 A/65	X	X				X
1000 A/42		X	X		X	X
1000 A/50	X		X		X	X
1000 A/65	X	X			X	X
1200 A/42		X		X	X	X
1200 A/50	X			X	X	X
1200 A/65	X	X			X	
1250 A/42			X	X	X	X
1250 A/50	X			X		X
1250 A/65	X				X	X
1600 A/42			X	X	X	
1600 A/50			X	X		X
1600 A/65		X			X	X
UL 1066 schemes						
800 A/42		X	X	X		
800 A/50	X		X	X		
800 A/65	X	X		X		

Table 4A. Cassette pin locations (IEC-RF frame).

	Pin location									
Breaker rating	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
800 A/105 kA	X	X	X	X	X	X	X	X	X	X
800 A/85 kA		X	X	X	X	X	X	X	X	X
800 A/66 kA			X	X	X	X	X	X	X	X
800 A/55 kA				X	X	X	X	X	X	X
1000 A/105 kA	X	X	X	X	X	X	X	X	X	
1000 A/85 kA		X	X	X	X	X	X	X	X	
1000 A/66 kA			X	X	X	X	X	X	X	
1000 A/55 kA				X	X	X	X	X	X	
1250 A/105 kA	X	X	X	X	X	X	X	X		
1250 A/85 kA		X	X	X	X	X	X	X		
1250 A/66 kA			X	X	X	X	X	X		
1250 A/55 kA				X	X	X	X	X		
1600 A/105 kA	X	X	X	X	X	X	X			
1600 A/85 kA		X	X	X	X	X	X			
1600 A/66 kA			X	X	X	X	X			
1600 A/55 kA				X	X	X	X			
2000 A/105 kA	X	X	X	X	X	X				
2000 A/85 kA		X	X	X	X	X				
2000 A/66 kA			X	X	X	X				
2000 A/55 kA				X	X	X				
2500 A/105 kA	X	X	X	X	X					
2500 A/85 kA		X	X	X	X					
2500 A/66 kA			X	X	X					
2500 A/55 kA				X	X					
3200 A/105 kA	X	X	X	X						
3200 A/85 kA		X	X	X						
3200 A/66 kA			X	X						
3200 A/55 kA				X						
4000 A/105 kA	X	X	X							
4000 A/85 kA		X	X							
4000 A/66 kA			X							
4000 A/55 kA										

Note: The RF frame / IZMX40 scheme was redesigned in September 2013 to give increased flexibility to the customer by permitting breakers with lower continuous current ratings into higher rated cassettes and permitting breakers with higher interruption ratings into lower rated cassettes. Take note of this new rejection scheme when installing breakers and/or cassettes.

Table 4B. Casette pin locations (UL489 - RF frame).

	Pin location									
Breaker rating	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
800 A/100 kA	X	X	X	X	X	X	X	X	X	X
800 A/85 kA		X	X	X	X	X	X	X	X	X
800 A/65 kA			X	X	X	X	X	X	X	X
1200 A/100 kA	X	X	X	X	X	X	X	X		
1200 A/85 kA		X	X	X	X	X	X	X		
1200 A/65 kA			X	X	X	X	X	X		
1600 A/100 kA	X	X	X	X	X	X	X			
1600 A/85 kA		X	X	X	X	X	X			
1600 A/65 kA			X	X	X	X	X			
2000 A/100 kA	X	X	X	X	X	X				
2000 A/85 kA		X	X	X	X	X				
2000 A/65 kA			X	X	X	X				
2500 A/100 kA	X	X	X	X	X					
2500 A/85 kA		X	X	X	X					
2500 A/65 kA			X	X	X					
3000 A/100 kA	X	X	X	X						
3000 A/85 kA		X	X	X						
3000 A/65 kA			X	X						

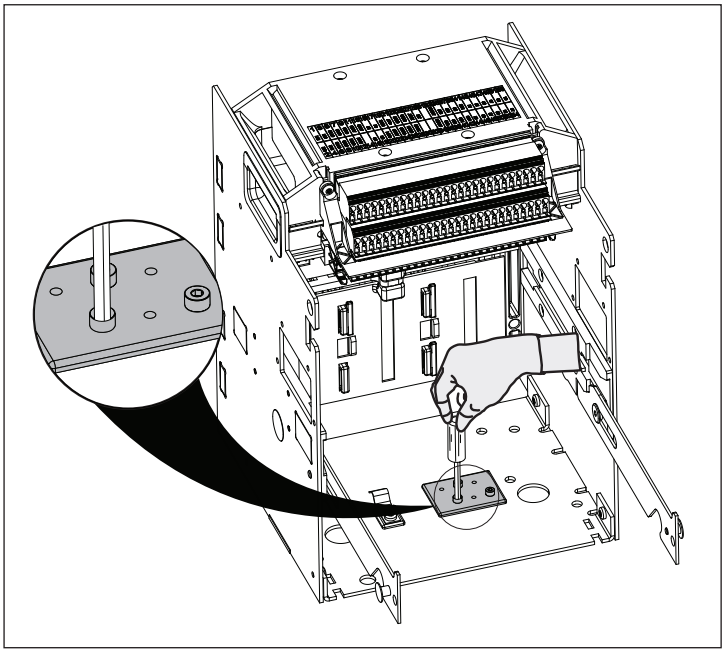


Figure 4. Typical cassette interlock pin location reference.

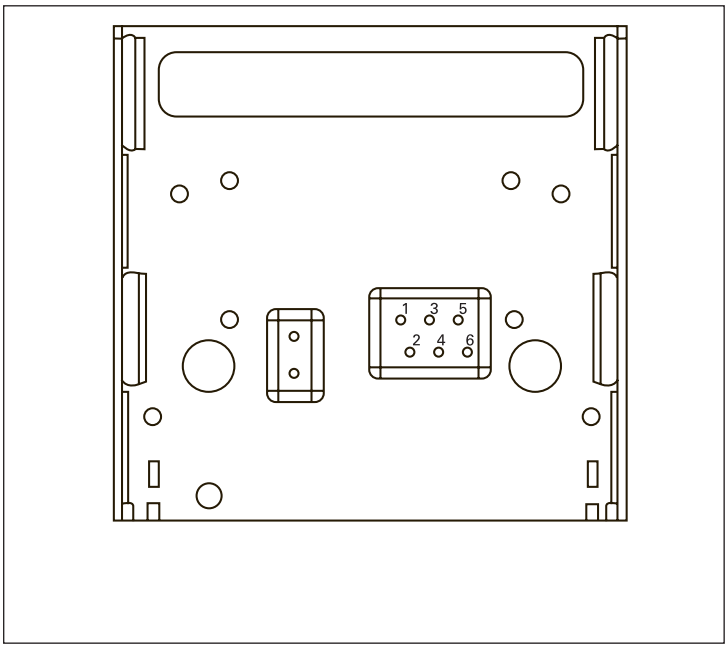


Figure 5. NF cassette pin locations.

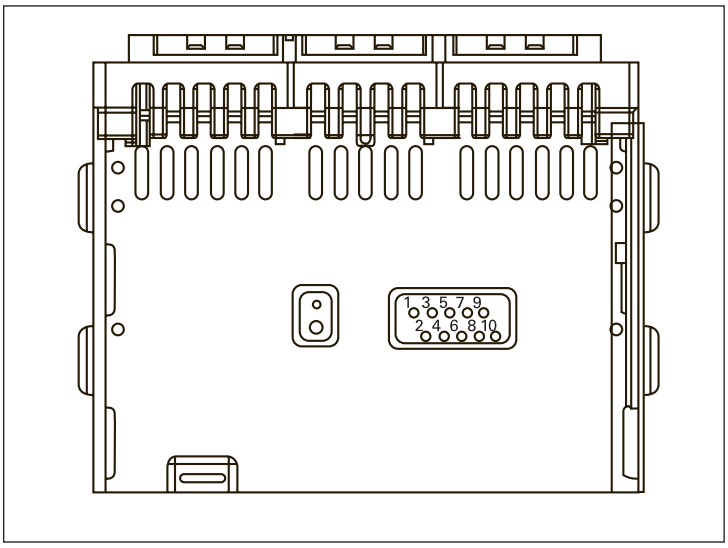


Figure 6. RF cassette pin locations.

Notes:

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