

# **DATA SHEETS - HPI Series**

## **362kV-50kA-2000A**

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<b>1. Voltage Rating</b>	
1.1 Normal System Voltage	345kV
1.2 Rated Maximum Voltage	362kV
1.3 Voltage Range Factor	1.0
<b>2. Interrupting Current Rating</b>	
2.1 Symmetrical Short Circuit Capability	50kA
2.2 Three second short-time current carrying capability	50kA
2.3 Close and Latching Capability	80kA
2.4 Capacitance Switching	
2.4.1 Line Charging Current	315A
2.4.2 Isolated Shunt Capacitor Bank Current	500A
2.4.3 Back to Back Shunt Capacitor Bank Current	500A
2.5 Out of Phase Switching	12.5kA
2.6 Percent interrupting capability after 0-0 sec-CO-15 sec-CO duty cycle	100%
<b>3. Continuous Current Rating</b>	2000A
<b>4. Operating Time (60 Hz basis)</b>	
4.1 Permissible Tripping Delay	1 sec.
4.2 Interrupting Time	2 cycles
4.3 Opening Time	1.02 cycles
4.4 Closing time	7 cycles
4.5 Minimum allowable reclosing time	20 cycles
4.6 Reclosing range	20-120 cycles
<b>5. Temperature Range</b>	
5.1 Maximum Ambient	40°C
5.2 Minimum Ambient	
5.2.1 Without Tank Heaters	-30°C
5.2.2 With Tank Heaters	-40°C
5.3 Contact temperature rise (max.)	65°C

<b>6.</b>	<b>Insulation Level</b>	
6.1	One minute dry withstand (60 HZ)	555kV
6.2	Ten second wet withstand	N/A
6.3	Full wave lightning impulse (BIL)	1300kV
6.4	2 μsec chopped wave withstand	1680kV
6.5	3 μsec chopped wave withstand	1500kV
<b>7.</b>	<b>Dielectric Strength at Atmospheric Pressure</b>	1.2 times
<b>8.</b>	<b>Pre-insertion Resistor</b>	520 ohms
<b>9.</b>	<b>Voltage Grading Capacitors</b>	None
<b>10.</b>	<b>TRV Control Capacitors</b>	None
<b>11.</b>	<b>Breaks per Phase</b>	1
<b>12.</b>	<b>Operating Mechanism</b>	
12.1	Type	Pneumatic
12.2	Individual or common mechanism	IPO
<b>13.</b>	<b>Air System</b>	
13.1	Operating range of air pressure	220 - 235 psig
13.2	Low air pressure alarm	198 psig
13.3	Low air pressure lockout	185 psig
13.4	Overpressure relief valve open at	303 psig
13.5	Compressor	
	13.5.1 Manufacturer	EMGLO
	13.5.2 Horsepower	3.0
13.6	Number of close-open operations stored in air receiver	5
13.7	Pump up from atmospheric to operating pressure	3 hrs.
13.8	Pump up from lockout to operating pressure	30 min.
13.9	Compressor motor	
	13.9.1 Manufacturer	GE
	13.9.2 Voltage	230/480V AC single phase
	13.9.3 Speed	1735 rpm
	13.9.4 Class of insulation	B

**14. SF6 System**

14.1	Normal operating pressure at 20°C	75 psig
14.2	Minimum operating pressure with full rating	64 psig
14.3	Temperature compensated gas density alarm	69 psig
14.4	Temperature compensated gas density lockout	64 psig
14.5	Overpressure relief valve	105 psig
14.6	Weight of SF6 gas	690 lbs.

**15. Trip Coil**

15.1	Voltage	125V DC
15.2	Allowable Voltage Range	70-140V DC
15.3	Current	14.4A
15.4	Number of trip coils	2 per pole

**16. Close Coil**

16.1	Voltage	125V DC
16.2	Voltage Range	90-140V DC
16.3	Current	9.9A
16.4	Number of close coils	1 per pole

**17. Bushings**

17.1	Manufacturer	Locke
17.2	Insulation Medium	SF <sub>6</sub>
17.3	Creepage distance	221 inches
17.4	Additional Height required to remove bushing	5 feet
17.5	Insulation Class (BIL)	1300kV
17.6	Permissible safe cantilever strength of installed bushing	300 lbs.
17.7	Strike distance	100.6"

**18. Control Cabinet Heaters**

18.1	KW of heaters	.64kW each
18.2	Location	1-mechanism (X 3) 2-compressor motor 1-cabinet (X 4)
18.3	Voltage	120/240V AC

**19. Breaker Dimensions**

<b>19.1</b>	Height of breaker to top of terminal	19' 3"
<b>19.2</b>	Total length	37' 2"
<b>19.3</b>	Width	14' 2"
<b>19.4</b>	Weight	43,000 lbs.
<b>19.5</b>	Impact loading for foundation design	0.2 g in any direction
<b>19.6</b>	Phase spacing	15'

**20. CT Ratings - Item 1**

<b>20.1</b>	Max. number available per bushing	3
<b>20.2</b>	Number proposed per bushing	per spec
<b>20.3</b>	Relaying or metering accuracy	per spec
<b>20.4</b>	Accuracy (relaying)	C800
<b>20.6</b>	Thermal Rating Factor	1.5

**21. Maintenance Requirements**

<b>22.1</b>	Arcing contact material	Copper-Tungsten
<b>22.2</b>	Number of short circuits before internal maintenance check	10
<b>22.3</b>	Number of rated continuous current interruptions before internal maintenance check recommended	2000

**22. Applicable Standards**

<b>23.1</b>	ANSI	C37
<b>23.2</b>	NEMA	SG4
<b>23.3</b>	IEC	56