3A/4C Cross-Reference Chart for the ABB PCD2000 Control

Traditional Name	PCD2000 / IEEE Name	Selections Available	Range / Increment
Phase Slow Curve, TCC#2	51P Curve Select	Curve B(117), C(133), D(116), E(132), W(138)	
Minimum trip		51P Phase pick up amps	50 - 800 / 5 amps or 100 -1600 / 10 amps
Multiplier value		51P Time Dial	1
Minimum resp. time		51P Minimum Response Time	0
Constant time adder		51P Curve Time Adder	0
Phase Fast Curve, TCC#1	50P-1 Curve Select	Curve A(101), N(104), R(105), disable	
Minimum trip		50P-1 Pick Up X (Times 51P pick up amps)	.5-20.0 / 0.1
Multiplier value		50P-1 Time Dial	1.0-10.0 / .1
Minimum resp. time		50P-1 Minimum Response Time	1
Constant time adder		50P-1 Curve Time Adder	0
High Current Trip - Phase	50P-2 Curve Select	Disabled / Enabled	
High Current Lockout - Phase	50P-3	Disabled / Enabled	
Ground Slow Curve, TCC#2 – Ground	51N Curve Select	Curve 2(135), 3(140), 8(113), 11(141), disable	
Minimum trip		51N Phase Pick up amps	25 - 400 / 5 amps or 50 - 800 / 10 amps
Multiplier value		51N Time Dial	1
Constant time adder		50N Curve Time Adder	0
Ground Fast Curve, TCC#1 – Ground	50N-1 Curve Select	Curve 3(140), 8(113), 8*(111) 8+(111), disable	.5-20.0 / 0.1 sec
Minimum trip		50N-1 Pick Up X (Times 51N pick up amps)	
Multiplier value		50N-1 Time Dial	1.0-10.0 / .1
Minimum resp. time		50N-1 Minimum Response	1
Constant time adder		50N-1 Curve Time Adder	0
High Current Trip - Ground	50N-2	Disabled / Enabled	
Minimum trip		50N-2 Pick Up X	.5-20 / 0.1 sec
Minimum resp. time		50N-2 Minimum Response Time	0.0-2.0 / 0.01 sec
High Current Lockout– Ground	50N-3	Used for High Current Lockout - Ground	
Minimum trip		50N-3 Pick Up X	.5-20 / 0.1 sec
Minimum resp. time		50N-3 Minimum Response Time	0.0-2.0 / 0.01 sec

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Recloser Step Functions	79 Reset time	Time to reset reclose cycle	3-200 / 1 sec
First Shot	79-1 Select	Select which curves are enabled (except 51P which is always enabled) for each step in the reclose cycle	Set each protective function to Enable, Disable, or Lockout
First Shot Reclose Time	79-1 Open Interval Time	Open time after the first shot	.1-200 sec or Lockout
Second Shot	79-2 Select	Select which curves are enabled (except 51P, which is always enabled) for each step in the reclose cycle	Set each protective function to Enable, Disable, or Lockout
Second Shot Reclose Time	79-2 Open Interval Time	Open time after the second shot	.1-200 sec or Lockout
Third Shot	79-3 Select	Select which curves are enabled (except 51P which is always enabled) for each step in the reclose cycle	Set each protective function to Enable, Disable, or Lockout
Third Shot Reclose Time	79-3 Open Interval Time	Open time after the first shot	.1-200 sec or Lockout (set to lockout to allow only 4 shots to lockout)
Cold Load time	Cold Load Time	Disables 50P-1 and 50N-1 curves for programmed time	1 – 254 seconds (minute scale is available through configuration menu)

Notes:

1. With the PCD2000, you can set a minimum trip for all curves. Use actual pickup currents for the 51P and 51N, and the pickup currents for the other phase and ground curves are based on a multiple of these values. Setting the time dial to 1, minimum response time, and curve timer adder to "0" duplicates the traditional curves.

2. Alternate minimum trip settings achieved by using Alternate 1 or Alternate 2 programmed settings groups.

3. High Current Lockout – this 50P-3 function does not have to make the recloser go to lockout, but to match the 4C control, specify "lockout" under the 79-1, 79-2 & 79-3 selections.

4. The Pickup ranges are field re-configurable by changing jumpers on the PCD2000 control card.

5. The PCD2000 has other features not available in the Form 4C, and hence not mentioned above, including the following:

Undervoltage protection/alarm (27)
Overvoltage protection/alarm (59)
Negative sequence protection (46)
Directional overcurrent protection (67)
Directional protection/alarm (32)
Underfrequency protection/alarm (81)

• **For further details on all the functions available in the PCD2000, please reference Instruction Book IB38-737-1.**