

2V164 LDC Calculation Tables

Load Current = 20%

CONNECTION	PHASE		TEST SET	BALANCE (V)			BALANCE (V)		
			PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5	R=20, X=0	R=0, X=20	R=20, X=20
Pos X In Phase	-90.00	(LAG)	-90.00 (LAG)	113.30	109.95	113.25	109.93	114.00	113.93
Pos X In Phase	-60.00	(LAG)	-60.00 (LAG)	112.85	111.61	114.50	111.95	113.45	115.45
Pos X In Phase	-30.00	(LAG)	-30.00 (LAG)	111.61	112.85	114.50	113.45	111.95	115.45
Pos X In Phase	0.00	-	0.00 -	109.95	113.30	113.25	114.00	109.93	113.93
Pos X In Phase	30.00	(LEAD)	30.00 (LEAD)	108.31	112.85	111.12	113.45	107.95	111.33
Pos X In Phase	60.00	(LEAD)	60.00 (LEAD)	107.13	111.61	108.70	111.95	106.52	108.40
Pos X In Phase	90.00	(LEAD)	90.00 (LEAD)	106.70	109.95	106.65	109.93	106.00	105.93
Neg X In Phase	-90.00	(LAG)	-90.00 (LAG)	106.70	109.95	106.65	109.93	106.00	105.93
Neg X In Phase	-60.00	(LAG)	-60.00 (LAG)	107.13	111.61	108.70	111.95	106.52	108.40
Neg X In Phase	-30.00	(LAG)	-30.00 (LAG)	108.31	112.85	111.12	113.45	107.95	111.33
Neg X In Phase	0.00	-	0.00 -	109.95	113.30	113.25	114.00	109.93	113.93
Neg X In Phase	30.00	(LEAD)	30.00 (LEAD)	111.61	112.85	114.50	113.45	111.95	115.45
Neg X In Phase	60.00	(LEAD)	60.00 (LEAD)	112.85	111.61	114.50	111.95	113.45	115.45
Neg X In Phase	90.00	(LEAD)	90.00 (LEAD)	113.30	109.95	113.25	109.93	114.00	113.93
Pos X In Quad	-90.00	(LAG)	0.00 -	113.30	109.95	113.25	109.93	114.00	113.93
Pos X In Quad	-60.00	(LAG)	30.00 (LEAD)	112.85	111.61	114.50	111.95	113.45	115.45
Pos X In Quad	-30.00	(LAG)	60.00 (LEAD)	111.61	112.85	114.50	113.45	111.95	115.45
Pos X In Quad	0.00	-	90.00 (LEAD)	109.95	113.30	113.25	114.00	109.93	113.93
Pos X In Quad	30.00	(LEAD)	120.00 (LEAD)	108.31	112.85	111.12	113.45	107.95	111.33
Pos X In Quad	60.00	(LEAD)	150.00 (LEAD)	107.13	111.61	108.70	111.95	106.52	108.40
Pos X In Quad	90.00	(LEAD)	180.00 (LEAD)	106.70	109.95	106.65	109.93	106.00	105.93
Neg X In Quad	-90.00	(LAG)	0.00 -	106.70	109.95	106.65	109.93	106.00	105.93
Neg X In Quad	-60.00	(LAG)	30.00 (LEAD)	107.13	111.61	108.70	111.95	106.52	108.40
Neg X In Quad	-30.00	(LAG)	60.00 (LEAD)	108.31	112.85	111.12	113.45	107.95	111.33
Neg X In Quad	0.00	-	90.00 (LEAD)	109.95	113.30	113.25	114.00	109.93	113.93
Neg X In Quad	30.00	(LEAD)	120.00 (LEAD)	111.61	112.85	114.50	113.45	111.95	115.45
Neg X In Quad	60.00	(LEAD)	150.00 (LEAD)	112.85	111.61	114.50	111.95	113.45	115.45
Neg X In Quad	90.00	(LEAD)	180.00 (LEAD)	113.30	109.95	113.25	109.93	114.00	113.93

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

2V164 LDC Calculation Tables

Load Current = 40%

CONNECTION	PHASE	TEST SET		BALANCE (V)			R=20, X=0	R=0, X=20	R=20, X=20
		PHASE	PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5			
Pos X In Phase	-90.00 (LAG)	-90.00 (LAG)	-90.00 (LAG)	116.60	109.80	116.40	109.71	118.00	117.71
Pos X In Phase	-60.00 (LAG)	-60.00 (LAG)	-60.00 (LAG)	115.67	113.15	118.99	113.78	116.86	120.89
Pos X In Phase	-30.00 (LAG)	-30.00 (LAG)	-30.00 (LAG)	113.15	115.67	118.99	116.86	113.78	120.89
Pos X In Phase	0.00 -	0.00 -	0.00 -	109.80	116.60	116.40	118.00	109.71	117.71
Pos X In Phase	30.00 (LEAD)	30.00 (LEAD)	30.00 (LEAD)	106.55	115.67	112.05	116.86	105.78	112.38
Pos X In Phase	60.00 (LEAD)	60.00 (LEAD)	60.00 (LEAD)	104.23	113.15	107.21	113.78	103.00	106.53
Pos X In Phase	90.00 (LEAD)	90.00 (LEAD)	90.00 (LEAD)	103.40	109.80	103.20	109.71	102.00	101.71
Neg X In Phase	-90.00 (LAG)	-90.00 (LAG)	-90.00 (LAG)	103.40	109.80	103.20	109.71	102.00	101.71
Neg X In Phase	-60.00 (LAG)	-60.00 (LAG)	-60.00 (LAG)	104.23	113.15	107.21	113.78	103.00	106.53
Neg X In Phase	-30.00 (LAG)	-30.00 (LAG)	-30.00 (LAG)	106.55	115.67	112.05	116.86	105.78	112.38
Neg X In Phase	0.00 -	0.00 -	0.00 -	109.80	116.60	116.40	118.00	109.71	117.71
Neg X In Phase	30.00 (LEAD)	30.00 (LEAD)	30.00 (LEAD)	113.15	115.67	118.99	116.86	113.78	120.89
Neg X In Phase	60.00 (LEAD)	60.00 (LEAD)	60.00 (LEAD)	115.67	113.15	118.99	113.78	116.86	120.89
Neg X In Phase	90.00 (LEAD)	90.00 (LEAD)	90.00 (LEAD)	116.60	109.80	116.40	109.71	118.00	117.71
Pos X In Quad	-90.00 (LAG)	0.00 -	0.00 -	116.60	109.80	116.40	109.71	118.00	117.71
Pos X In Quad	-60.00 (LAG)	30.00 (LEAD)	30.00 (LEAD)	115.67	113.15	118.99	113.78	116.86	120.89
Pos X In Quad	-30.00 (LAG)	60.00 (LEAD)	60.00 (LEAD)	113.15	115.67	118.99	116.86	113.78	120.89
Pos X In Quad	0.00 -	90.00 (LEAD)	90.00 (LEAD)	109.80	116.60	116.40	118.00	109.71	117.71
Pos X In Quad	30.00 (LEAD)	120.00 (LEAD)	120.00 (LEAD)	106.55	115.67	112.05	116.86	105.78	112.38
Pos X In Quad	60.00 (LEAD)	150.00 (LEAD)	150.00 (LEAD)	104.23	113.15	107.21	113.78	103.00	106.53
Pos X In Quad	90.00 (LEAD)	180.00 (LEAD)	180.00 (LEAD)	103.40	109.80	103.20	109.71	102.00	101.71
Neg X In Quad	-90.00 (LAG)	0.00 -	0.00 -	103.40	109.80	103.20	109.71	102.00	101.71
Neg X In Quad	-60.00 (LAG)	30.00 (LEAD)	30.00 (LEAD)	104.23	113.15	107.21	113.78	103.00	106.53
Neg X In Quad	-30.00 (LAG)	60.00 (LEAD)	60.00 (LEAD)	106.55	115.67	112.05	116.86	105.78	112.38
Neg X In Quad	0.00 -	90.00 (LEAD)	90.00 (LEAD)	109.80	116.60	116.40	118.00	109.71	117.71
Neg X In Quad	30.00 (LEAD)	120.00 (LEAD)	120.00 (LEAD)	113.15	115.67	118.99	116.86	113.78	120.89
Neg X In Quad	60.00 (LEAD)	150.00 (LEAD)	150.00 (LEAD)	115.67	113.15	118.99	113.78	116.86	120.89
Neg X In Quad	90.00 (LEAD)	180.00 (LEAD)	180.00 (LEAD)	116.60	109.80	116.40	109.71	118.00	117.71

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

2V164 LDC Calculation Tables

Load Current = 60%

CONNECTION	PHASE		TEST SET		BALANCE (V)					
			PHASE	PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5	R=20, X=0	R=0, X=20	R=20, X=20
Pos X In Phase	-90.00	(LAG)	-90.00	(LAG)	119.90	109.55	119.45	109.34	122.00	121.34
Pos X In Phase	-60.00	(LAG)	-60.00	(LAG)	118.46	114.62	123.46	115.51	120.23	126.30
Pos X In Phase	-30.00	(LAG)	-30.00	(LAG)	114.62	118.46	123.46	120.23	115.51	126.30
Pos X In Phase	0.00	-	0.00	-	109.55	119.90	119.45	122.00	109.34	121.34
Pos X In Phase	30.00	(LEAD)	30.00	(LEAD)	104.72	118.46	112.79	120.23	103.51	113.16
Pos X In Phase	60.00	(LEAD)	60.00	(LEAD)	101.31	114.62	105.54	115.51	99.44	104.38
Pos X In Phase	90.00	(LEAD)	90.00	(LEAD)	100.10	109.55	99.65	109.34	98.00	97.34
Neg X In Phase	-90.00	(LAG)	-90.00	(LAG)	100.10	109.55	99.65	109.34	98.00	97.34
Neg X In Phase	-60.00	(LAG)	-60.00	(LAG)	101.31	114.62	105.54	115.51	99.44	104.38
Neg X In Phase	-30.00	(LAG)	-30.00	(LAG)	104.72	118.46	112.79	120.23	103.51	113.16
Neg X In Phase	0.00	-	0.00	-	109.55	119.90	119.45	122.00	109.34	121.34
Neg X In Phase	30.00	(LEAD)	30.00	(LEAD)	114.62	118.46	123.46	120.23	115.51	126.30
Neg X In Phase	60.00	(LEAD)	60.00	(LEAD)	118.46	114.62	123.46	115.51	120.23	126.30
Neg X In Phase	90.00	(LEAD)	90.00	(LEAD)	119.90	109.55	119.45	109.34	122.00	121.34
Pos X In Quad	-90.00	(LAG)	0.00	-	119.90	109.55	119.45	109.34	122.00	121.34
Pos X In Quad	-60.00	(LAG)	30.00	(LEAD)	118.46	114.62	123.46	115.51	120.23	126.30
Pos X In Quad	-30.00	(LAG)	60.00	(LEAD)	114.62	118.46	123.46	120.23	115.51	126.30
Pos X In Quad	0.00	-	90.00	(LEAD)	109.55	119.90	119.45	122.00	109.34	121.34
Pos X In Quad	30.00	(LEAD)	120.00	(LEAD)	104.72	118.46	112.79	120.23	103.51	113.16
Pos X In Quad	60.00	(LEAD)	150.00	(LEAD)	101.31	114.62	105.54	115.51	99.44	104.38
Pos X In Quad	90.00	(LEAD)	180.00	(LEAD)	100.10	109.55	99.65	109.34	98.00	97.34
Neg X In Quad	-90.00	(LAG)	0.00	-	100.10	109.55	99.65	109.34	98.00	97.34
Neg X In Quad	-60.00	(LAG)	30.00	(LEAD)	101.31	114.62	105.54	115.51	99.44	104.38
Neg X In Quad	-30.00	(LAG)	60.00	(LEAD)	104.72	118.46	112.79	120.23	103.51	113.16
Neg X In Quad	0.00	-	90.00	(LEAD)	109.55	119.90	119.45	122.00	109.34	121.34
Neg X In Quad	30.00	(LEAD)	120.00	(LEAD)	114.62	118.46	123.46	120.23	115.51	126.30
Neg X In Quad	60.00	(LEAD)	150.00	(LEAD)	118.46	114.62	123.46	115.51	120.23	126.30
Neg X In Quad	90.00	(LEAD)	180.00	(LEAD)	119.90	109.55	119.45	109.34	122.00	121.34

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

2V164 LDC Calculation Tables

Load Current = 80%

CONNECTION	PHASE	TEST SET		BALANCE (V)			R=20, X=0	R=0, X=20	R=20, X=20
		PHASE	PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5			
Pos X In Phase	-90.00 (LAG)	-90.00 (LAG)	-90.00 (LAG)	123.20	109.21	122.41	108.83	126.00	124.83
Pos X In Phase	-60.00 (LAG)	-60.00 (LAG)	-60.00 (LAG)	121.23	116.00	127.93	117.12	123.57	131.70
Pos X In Phase	-30.00 (LAG)	-30.00 (LAG)	-30.00 (LAG)	116.00	121.23	127.93	123.57	117.12	131.70
Pos X In Phase	0.00 -	0.00 -	0.00 -	109.21	123.20	122.41	126.00	108.83	124.83
Pos X In Phase	30.00 (LEAD)	30.00 (LEAD)	30.00 (LEAD)	102.80	121.23	113.34	123.57	101.12	113.66
Pos X In Phase	60.00 (LEAD)	60.00 (LEAD)	60.00 (LEAD)	98.37	116.00	103.68	117.12	95.85	101.95
Pos X In Phase	90.00 (LEAD)	90.00 (LEAD)	90.00 (LEAD)	96.80	109.21	96.01	108.83	94.00	92.83
Neg X In Phase	-90.00 (LAG)	-90.00 (LAG)	-90.00 (LAG)	96.80	109.21	96.01	108.83	94.00	92.83
Neg X In Phase	-60.00 (LAG)	-60.00 (LAG)	-60.00 (LAG)	98.37	116.00	103.68	117.12	95.85	101.95
Neg X In Phase	-30.00 (LAG)	-30.00 (LAG)	-30.00 (LAG)	102.80	121.23	113.34	123.57	101.12	113.66
Neg X In Phase	0.00 -	0.00 -	0.00 -	109.21	123.20	122.41	126.00	108.83	124.83
Neg X In Phase	30.00 (LEAD)	30.00 (LEAD)	30.00 (LEAD)	116.00	121.23	127.93	123.57	117.12	131.70
Neg X In Phase	60.00 (LEAD)	60.00 (LEAD)	60.00 (LEAD)	121.23	116.00	127.93	117.12	123.57	131.70
Neg X In Phase	90.00 (LEAD)	90.00 (LEAD)	90.00 (LEAD)	123.20	109.21	122.41	108.83	126.00	124.83
Pos X In Quad	-90.00 (LAG)	0.00 -	0.00 -	123.20	109.21	122.41	108.83	126.00	124.83
Pos X In Quad	-60.00 (LAG)	30.00 (LEAD)	30.00 (LEAD)	121.23	116.00	127.93	117.12	123.57	131.70
Pos X In Quad	-30.00 (LAG)	60.00 (LEAD)	60.00 (LEAD)	116.00	121.23	127.93	123.57	117.12	131.70
Pos X In Quad	0.00 -	90.00 (LEAD)	90.00 (LEAD)	109.21	123.20	122.41	126.00	108.83	124.83
Pos X In Quad	30.00 (LEAD)	120.00 (LEAD)	120.00 (LEAD)	102.80	121.23	113.34	123.57	101.12	113.66
Pos X In Quad	60.00 (LEAD)	150.00 (LEAD)	150.00 (LEAD)	98.37	116.00	103.68	117.12	95.85	101.95
Pos X In Quad	90.00 (LEAD)	180.00 (LEAD)	180.00 (LEAD)	96.80	109.21	96.01	108.83	94.00	92.83
Neg X In Quad	-90.00 (LAG)	0.00 -	0.00 -	96.80	109.21	96.01	108.83	94.00	92.83
Neg X In Quad	-60.00 (LAG)	30.00 (LEAD)	30.00 (LEAD)	98.37	116.00	103.68	117.12	95.85	101.95
Neg X In Quad	-30.00 (LAG)	60.00 (LEAD)	60.00 (LEAD)	102.80	121.23	113.34	123.57	101.12	113.66
Neg X In Quad	0.00 -	90.00 (LEAD)	90.00 (LEAD)	109.21	123.20	122.41	126.00	108.83	124.83
Neg X In Quad	30.00 (LEAD)	120.00 (LEAD)	120.00 (LEAD)	116.00	121.23	127.93	123.57	117.12	131.70
Neg X In Quad	60.00 (LEAD)	150.00 (LEAD)	150.00 (LEAD)	121.23	116.00	127.93	117.12	123.57	131.70
Neg X In Quad	90.00 (LEAD)	180.00 (LEAD)	180.00 (LEAD)	123.20	109.21	122.41	108.83	126.00	124.83

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

2V164 LDC Calculation Tables

Load Current = 100%

CONNECTION	PHASE		TEST SET	BALANCE (V)			BALANCE (V)		
			PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5	R=20, X=0	R=0, X=20	R=20, X=20
Pos X In Phase	-90.00	(LAG)	-90.00 (LAG)	126.50	108.76	125.26	108.17	130.00	128.17
Pos X In Phase	-60.00	(LAG)	-60.00 (LAG)	123.98	117.32	132.37	118.63	126.87	137.08
Pos X In Phase	-30.00	(LAG)	-30.00 (LAG)	117.32	123.98	132.37	126.87	118.63	137.08
Pos X In Phase	0.00	-	0.00 -	108.76	126.50	125.26	130.00	108.17	128.17
Pos X In Phase	30.00	(LEAD)	30.00 (LEAD)	100.82	123.98	113.71	126.87	98.63	113.87
Pos X In Phase	60.00	(LEAD)	60.00 (LEAD)	95.40	117.32	101.63	118.63	92.22	99.23
Pos X In Phase	90.00	(LEAD)	90.00 (LEAD)	93.50	108.76	92.26	108.17	90.00	88.17
Neg X In Phase	-90.00	(LAG)	-90.00 (LAG)	93.50	108.76	92.26	108.17	90.00	88.17
Neg X In Phase	-60.00	(LAG)	-60.00 (LAG)	95.40	117.32	101.63	118.63	92.22	99.23
Neg X In Phase	-30.00	(LAG)	-30.00 (LAG)	100.82	123.98	113.71	126.87	98.63	113.87
Neg X In Phase	0.00	-	0.00 -	108.76	126.50	125.26	130.00	108.17	128.17
Neg X In Phase	30.00	(LEAD)	30.00 (LEAD)	117.32	123.98	132.37	126.87	118.63	137.08
Neg X In Phase	60.00	(LEAD)	60.00 (LEAD)	123.98	117.32	132.37	118.63	126.87	137.08
Neg X In Phase	90.00	(LEAD)	90.00 (LEAD)	126.50	108.76	125.26	108.17	130.00	128.17
Pos X In Quad	-90.00	(LAG)	0.00 -	126.50	108.76	125.26	108.17	130.00	128.17
Pos X In Quad	-60.00	(LAG)	30.00 (LEAD)	123.98	117.32	132.37	118.63	126.87	137.08
Pos X In Quad	-30.00	(LAG)	60.00 (LEAD)	117.32	123.98	132.37	126.87	118.63	137.08
Pos X In Quad	0.00	-	90.00 (LEAD)	108.76	126.50	125.26	130.00	108.17	128.17
Pos X In Quad	30.00	(LEAD)	120.00 (LEAD)	100.82	123.98	113.71	126.87	98.63	113.87
Pos X In Quad	60.00	(LEAD)	150.00 (LEAD)	95.40	117.32	101.63	118.63	92.22	99.23
Pos X In Quad	90.00	(LEAD)	180.00 (LEAD)	93.50	108.76	92.26	108.17	90.00	88.17
Neg X In Quad	-90.00	(LAG)	0.00 -	93.50	108.76	92.26	108.17	90.00	88.17
Neg X In Quad	-60.00	(LAG)	30.00 (LEAD)	95.40	117.32	101.63	118.63	92.22	99.23
Neg X In Quad	-30.00	(LAG)	60.00 (LEAD)	100.82	123.98	113.71	126.87	98.63	113.87
Neg X In Quad	0.00	-	90.00 (LEAD)	108.76	126.50	125.26	130.00	108.17	128.17
Neg X In Quad	30.00	(LEAD)	120.00 (LEAD)	117.32	123.98	132.37	126.87	118.63	137.08
Neg X In Quad	60.00	(LEAD)	150.00 (LEAD)	123.98	117.32	132.37	118.63	126.87	137.08
Neg X In Quad	90.00	(LEAD)	180.00 (LEAD)	126.50	108.76	125.26	108.17	130.00	128.17

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

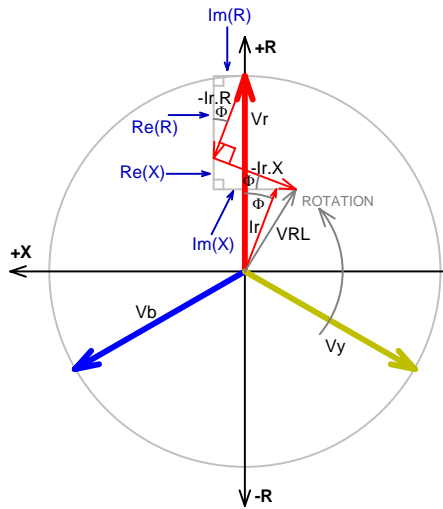
2V164 LDC Calculation Tables

Load Current = 120%

CONNECTION	PHASE		TEST SET	BALANCE (V)			BALANCE (V)		
			PHASE	R=0, X=16.5	R=16.5, X=0	R=16.5, X=16.5	R=20, X=0	R=0, X=20	R=20, X=20
Pos X In Phase	-90.00	(LAG)	-90.00 (LAG)	129.80	108.20	128.00	107.35	134.00	131.35
Pos X In Phase	-60.00	(LAG)	-60.00 (LAG)	126.70	118.56	136.81	120.02	130.13	142.43
Pos X In Phase	-30.00	(LAG)	-30.00 (LAG)	118.56	126.70	136.81	130.13	120.02	142.43
Pos X In Phase	0.00	-	0.00 -	108.20	129.80	128.00	134.00	107.35	131.35
Pos X In Phase	30.00	(LEAD)	30.00 (LEAD)	98.76	126.70	113.87	130.13	96.02	113.79
Pos X In Phase	60.00	(LEAD)	60.00 (LEAD)	92.41	118.56	99.38	120.02	88.56	96.22
Pos X In Phase	90.00	(LEAD)	90.00 (LEAD)	90.20	108.20	88.40	107.35	86.00	83.35
Neg X In Phase	-90.00	(LAG)	-90.00 (LAG)	90.20	108.20	88.40	107.35	86.00	83.35
Neg X In Phase	-60.00	(LAG)	-60.00 (LAG)	92.41	118.56	99.38	120.02	88.56	96.22
Neg X In Phase	-30.00	(LAG)	-30.00 (LAG)	98.76	126.70	113.87	130.13	96.02	113.79
Neg X In Phase	0.00	-	0.00 -	108.20	129.80	128.00	134.00	107.35	131.35
Neg X In Phase	30.00	(LEAD)	30.00 (LEAD)	118.56	126.70	136.81	130.13	120.02	142.43
Neg X In Phase	60.00	(LEAD)	60.00 (LEAD)	126.70	118.56	136.81	120.02	130.13	142.43
Neg X In Phase	90.00	(LEAD)	90.00 (LEAD)	129.80	108.20	128.00	107.35	134.00	131.35
Pos X In Quad	-90.00	(LAG)	0.00 -	129.80	108.20	128.00	107.35	134.00	131.35
Pos X In Quad	-60.00	(LAG)	30.00 (LEAD)	126.70	118.56	136.81	120.02	130.13	142.43
Pos X In Quad	-30.00	(LAG)	60.00 (LEAD)	118.56	126.70	136.81	130.13	120.02	142.43
Pos X In Quad	0.00	-	90.00 (LEAD)	108.20	129.80	128.00	134.00	107.35	131.35
Pos X In Quad	30.00	(LEAD)	120.00 (LEAD)	98.76	126.70	113.87	130.13	96.02	113.79
Pos X In Quad	60.00	(LEAD)	150.00 (LEAD)	92.41	118.56	99.38	120.02	88.56	96.22
Pos X In Quad	90.00	(LEAD)	180.00 (LEAD)	90.20	108.20	88.40	107.35	86.00	83.35
Neg X In Quad	-90.00	(LAG)	0.00 -	90.20	108.20	88.40	107.35	86.00	83.35
Neg X In Quad	-60.00	(LAG)	30.00 (LEAD)	92.41	118.56	99.38	120.02	88.56	96.22
Neg X In Quad	-30.00	(LAG)	60.00 (LEAD)	98.76	126.70	113.87	130.13	96.02	113.79
Neg X In Quad	0.00	-	90.00 (LEAD)	108.20	129.80	128.00	134.00	107.35	131.35
Neg X In Quad	30.00	(LEAD)	120.00 (LEAD)	118.56	126.70	136.81	130.13	120.02	142.43
Neg X In Quad	60.00	(LEAD)	150.00 (LEAD)	126.70	118.56	136.81	120.02	130.13	142.43
Neg X In Quad	90.00	(LEAD)	180.00 (LEAD)	129.80	108.20	128.00	107.35	134.00	131.35

NOTES:

- 1) Load Setpoint is 110V
- 2) Load Current is percent of 1A into 1A tap
- 3) Set up phase angle on Test set Current channel to "TEST SET PHASE" to simulate "PHASE"
- 4) R and X values are in Volts
- 5) -ve Phase represents Lagging Ired with respect to Vred
+ve Phase represents Leading Ired with respect to Vred
- 6) Allow 1/2 Fine bandwidth voltage in determination of balance point

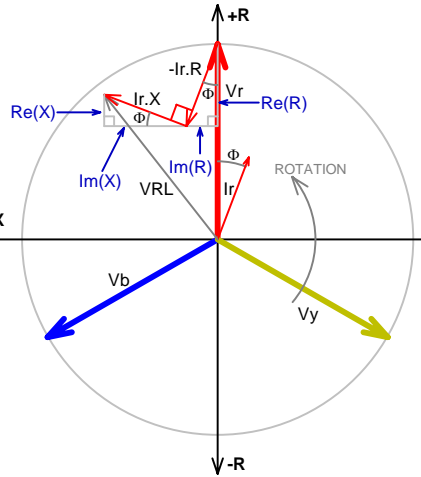


IN PHASE POS X

$$\begin{aligned} \text{Re}(R) &= -I_r.R.\cos(\phi) & \text{Re}(X) &= -I_r.X.\sin(\phi) \\ \text{Im}(R) &= I_r.R.\sin(\phi) & \text{Im}(X) &= -I_r.X.\cos(\phi) \end{aligned}$$

$$\begin{aligned} \text{Re}(VRL) &= VRs + \text{Re}(R) + \text{Re}(X) \\ \text{Im}(VRL) &= \text{Im}(R) + \text{Im}(X) \end{aligned}$$

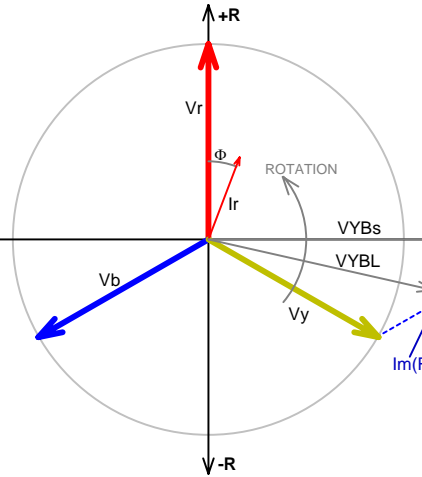
**VT-0V TO NEUTRAL
VT-63.5V TO RED PHASE
CT IN RED PHASE**



IN PHASE NEG X

$$\begin{aligned} \text{Re}(R) &= -I_r.R.\cos(\phi) & \text{Re}(X) &= I_r.X.\sin(\phi) \\ \text{Im}(R) &= I_r.R.\sin(\phi) & \text{Im}(X) &= I_r.X.\cos(\phi) \end{aligned}$$

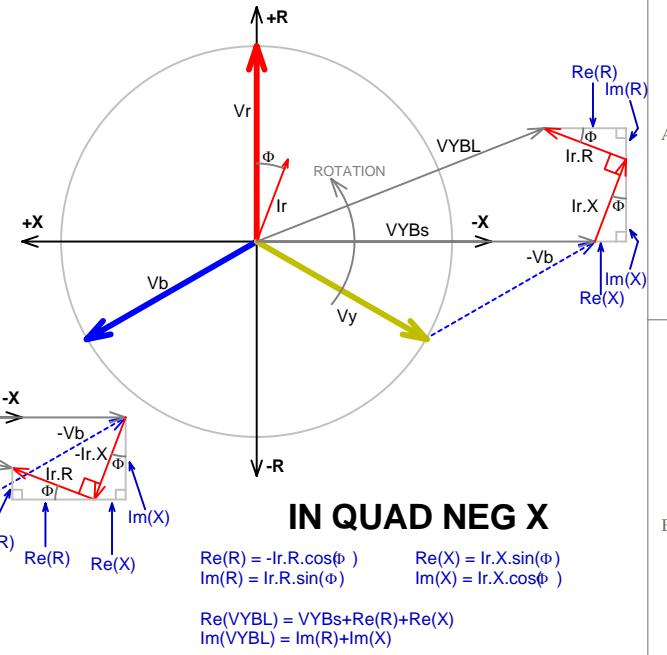
$$\begin{aligned} \text{Re}(VRL) &= VRs + \text{Re}(R) + \text{Re}(X) \\ \text{Im}(VRL) &= \text{Im}(R) + \text{Im}(X) \end{aligned}$$



IN QUAD POS X

$$\begin{aligned} \text{Re}(R) &= -I_r.R.\cos(\phi) & \text{Re}(X) &= -I_r.X.\sin(\phi) \\ \text{Im}(R) &= I_r.R.\sin(\phi) & \text{Im}(X) &= -I_r.X.\cos(\phi) \end{aligned}$$

$$\begin{aligned} \text{Re}(VYBL) &= VYBs + \text{Re}(R) + \text{Re}(X) \\ \text{Im}(VYBL) &= \text{Im}(R) + \text{Im}(X) \end{aligned}$$



IN QUAD NEG X

$$\begin{aligned} \text{Re}(R) &= -I_r.R.\cos(\phi) & \text{Re}(X) &= I_r.X.\sin(\phi) \\ \text{Im}(R) &= I_r.R.\sin(\phi) & \text{Im}(X) &= I_r.X.\cos(\phi) \end{aligned}$$

$$\begin{aligned} \text{Re}(VYBL) &= VYBs + \text{Re}(R) + \text{Re}(X) \\ \text{Im}(VYBL) &= \text{Im}(R) + \text{Im}(X) \end{aligned}$$

**VT-0V TO BLUE PHASE
VT-110V TO YELLOW PHASE
CT IN RED PHASE**

MATERIAL: See *	for Materials List	FINISH: N.A.

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