

Square D™ Brand EX Low Voltage Distribution Transformers

Electrical Data

The transformer source impedance limits the overcurrent on the secondary terminals. Table 8 provides the maximum amount of overcurrent available:

Table 8: Technical data: IZ, IX, X/R, and Let Through Current— -H and -HCU Suffix

Catalog	Secondary Winding	Secondary NP Current	Secondary NEC 125%	IZ%	%IX	X/R	Infinite Primary Bus Let Through kA
EX15T3H	208Y/120	41.6	60	4.7%	3.23%	0.93	0.9
EX30T3H		83.3	110	3.8%	1.56%	0.45	2.2
EX45T3H		124.9	175	3.9%	2.74%	0.99	3.2
EX75T3H		208.2	300	5.2%	4.29%	1.45	4.0
EX112T3H		312.3	400	4.3%	3.45%	1.32	7.2
EX150T3H		416.4	600	4.2%	3.60%	1.69	10.0
EX225T3H		624.5	800	4.6%	4.18%	2.24	13.7
EX300T3H		832.7	1,200	4.4%	4.14%	2.82	19.0
EX500T68H		1,387.9	2,000	4.9%	4.74%	3.58	28.2
EX750T68H		2,081.8	3,000	5.0%	4.85%	4.33	41.8
EX15T3HCU	208Y/120	41.6	60	4.40%	2.03%	0.52	1.0
EX30T3HCU		83.3	110	3.70%	2.13%	0.7	2.3
EX45T3HCU		124.9	175	4.40%	3.34%	1.15	2.8
EX75T3HCU		208.2	300	3.60%	2.62%	1.04	5.7
EX112T3HCU		312.3	400	4.20%	3.53%	1.57	7.5
EX150T3HCU		416.4	600	3.80%	3.42%	2.15	11.0
EX225T3HCU		624.5	800	6.90%	6.62%	3.5	9.1
EX300T3HCU		832.7	1,200	5%	4.75%	2.99	16.6
EX500T68HCU		1,387.9	2,000	4.80%	4.65%	4.37	29.1
EX750T68HCU		2,081.8	3,000	5.30%	5.19%	4.32	39.1

Calculation of “let through” current on a transformer is complex, requiring the available short circuit current on the primary (the amount of motor current backfeeding into the system).

A simple formula for the amount available on the secondary terminals is calculated via the following formula: NP Current / IZ = available fault current

Calculation of “regulation voltage drop” on a transformer is also complex, requiring information about load power factor as well as amperage. Since complete information is often lacking, a worse case calculation, as shown below, is often used to provide conservative results:

$$\text{Voltage drop (\%)} = \frac{\text{Maximum load current}}{\text{Transformer secondary full load rating}} \times \text{Impedance (\%)}$$

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Electrical Data

Table 9: Technical data: IZ, IX, X/R, and Let Through Current— -HF and -HFCU Suffix

Catalog	Secondary Winding	Secondary NP Current	Secondary NEC 125%	IZ%	%IX	X/R	Infinite Primary Bus Let Through kA
EX15T3HF	208Y/120	41.6	60	4.50%	3.23%	1.03	0.9
EX30T3HF		83.3	110	3.50%	1.56%	0.49	2.4
EX45T3HF		124.9	175	5.10%	4.29%	1.6	4.1
EX75T3HF		208.2	300	4.30%	3.45%	1.32	7.2
EX112T3HF		312.3	400	4.40%	3.60%	1.43	9.5
EX150T3HF		416.4	600	3.80%	3.42%	2.15	11.0
EX225T3HF		624.5	800	4.50%	4.18%	2.47	13.9
EX300T3HF		832.7	1,200	4.30%	4.14%	3.11	19.2
EX500T68HF		1,387.9	2,000	4.9%	4.74%	3.95	28.4
EX750T68HF		2,081.8	3,000	5.0%	4.85%	4.78	42.0
EX15T3HFCU	208Y/120	41.6	60	4.10%	2.03%	0.58	1.0
EX30T3HFCU		83.3	110	3.50%	2.13%	0.78	2.4
EX45T3HFCU		124.9	175	4.30%	3.34%	1.26	2.9
EX75T3HFCU		208.2	300	3.60%	2.62%	1.04	5.7
EX112T3HFCU		312.3	400	4.10%	3.53%	1.73	7.6
EX150T3HFCU		416.4	600	3.90%	3.54%	2.14	10.7
EX225T3HFCU		624.5	800	6.80%	6.62%	3.85	9.1
EX300T3HFCU		832.7	1,200	5%	4.75%	3.29	16.8
EX500T68HFCU		1,387.9	2,000	4.80%	4.65%	4.81	29.2
EX750T68HFCU		2,081.8	3,000	5.30%	5.19%	4.75	39.2

Table 10: Technical data: IZ, IX, X/R, and Let Through Current— -HB and -HBCU Suffix

Catalog	Secondary Winding	Secondary NP Current	Secondary NEC 125%	IZ%	%IX	X/R	Infinite Primary Bus Let Through kA
EX15T3HB	208Y/120	41.6	60	4.7%	3.23%	0.93	0.9
EX30T3HB		83.3	110	3.8%	1.56%	0.45	2.2
EX45T3HB		124.9	175	3.9%	2.74%	0.99	3.2
EX75T3HB		208.2	300	5.2%	4.29%	1.45	4.0
EX112T3HB		312.3	400	4.3%	3.45%	1.32	7.2
EX150T3HB		416.4	600	4.2%	3.60%	1.69	10.0
EX225T3HB		624.5	800	4.6%	4.18%	2.24	13.7
EX300T68HB		832.7	1,200	4.4%	4.14%	2.82	19.0
EX500T68HB		1,387.9	2,000	4.9%	4.74%	3.58	28.2
EX750T68HB		2,081.8	3,000	5.0%	4.85%	4.33	41.8
EX15T3HBCU	208Y/120	41.6	60	4.40%	2.03%	0.52	1.0
EX30T3HBCU		83.3	110	3.70%	2.13%	0.7	2.3
EX45T3HBCU		124.9	175	4.40%	3.34%	1.15	2.8
EX75T3HBCU		208.2	300	3.60%	2.62%	1.04	5.7
EX112T3HBCU		312.3	400	4.20%	3.53%	1.57	7.5
EX150T3HBCU		416.4	600	3.80%	3.42%	2.15	11.0
EX225T3HBCU		624.5	800	6.90%	6.62%	3.5	9.1
EX300T68HBCU		832.7	1,200	5%	4.75%	2.99	16.6
EX500T68HBCU		1,387.9	2,000	4.80%	4.65%	4.37	29.1
EX750T68HBCU		2,081.8	3,000	5.30%	5.19%	4.32	39.1