



مؤسسة الخطوط الكهربائية للتجارة
ELECTROLINES

Transformers

Single Phase Transformer

Three Phase Transformer

Auto Transformer

Buck Boost Transformer

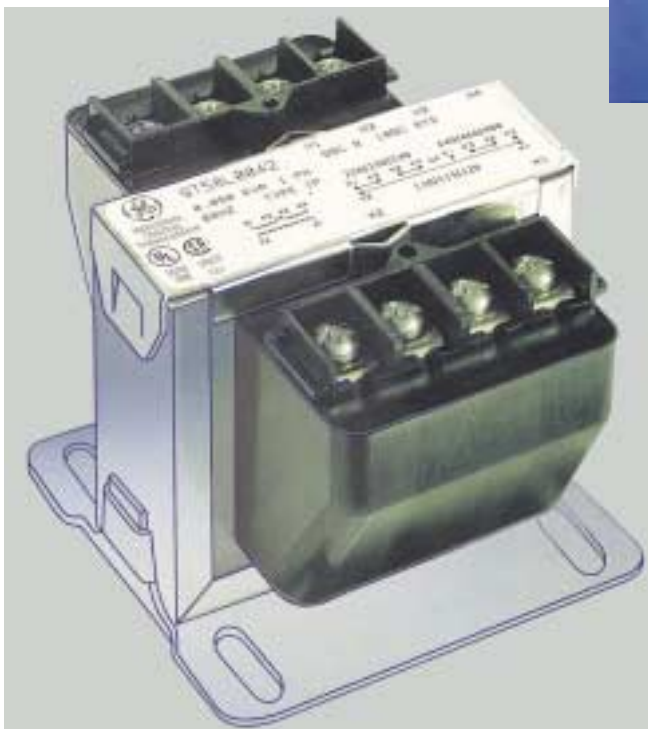
Drive Isolation Transformer

Control Transformers

Regulators

UPS Systems

Explosive Proof Transformers



Elsa Electroline Manufacturing
General Electric
Square D
HPS

Electrolines Est.

Dry Type Transformers

General Information

General-purpose transformers are rated 600 volts and below for supplying appliance, lighting, and power loads from electrical distribution systems. Standard distribution voltages are 600, 480, and 240 volts; standard load voltages are 480, 240, and 120 volts. The transformer is used to match the load voltage to the distribution voltage. Since no vaults are required for installation, these transformers can be located directly at the load to provide the correct voltage for the application. This eliminates the need for long, costly, low-voltage feeders.

How to Select

- Determine phase and frequency.
- Determine the primary voltage — the voltage presently available.
- Determine the secondary voltage — the voltage needed at the load.
- Determine the kva load, allowing room for expansion.
- Using this information, locate the transformer model in the listings on the following pages.

Voltage Tap Arrangement

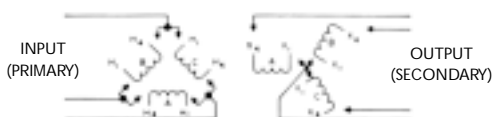
Transformer taps compensate for high or low line voltages. Standard ANSI/NEMA three-phase taps are two 5% taps below normal on transformers smaller than 30 kva. This arrangement provides a 10% range of tap voltage adjustment. Standard QL units rated 15 through 500 kva have available six universal voltage taps—four 2½% below normal, and two 2¼% above normal. This arrangement provides a 15% range of tap voltage adjustment.

Single- And Three-phase Connections

Three single-phase transformers can be connected as a three-phase bank. Each single-phase transformer is rated one-third the bank kva rating. See diagrams below for typical connections.



3-phase delta-delta connection.

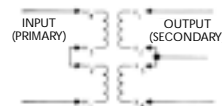


3-phase delta-wye connection.

Remember, on a two-winding transformer, *wye-wye connections should not be used* on secondary distribution systems as they may cause telephone interferences and neutral instability burnouts.

Series/Multiple Connections

Transformer with two identical voltages (e.g., 120/240 or 120 x 240) may be connected either in series or in parallel per the connection diagrams. Connected in series, the transformer will provide the higher voltage (240 volts); connected in parallel, the lower voltage (120 volts) is obtained.



Series connection.

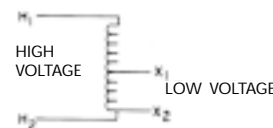


Multiple (parallel) connection.

If the dual voltage is separated by an "x" (120 x 240), the transformer can be connected only for 120 volts or 240 volts. But, if it is separated by a "slash" (120/240), an additional connection is possible since the mid-point becomes available for 240/120 3-wire operation.

Autotransformers

Autotransformers have only one winding and, therefore, are smaller and more economical than conventional two-winding transformers. They can be used in banks on three-phase circuits or single-phase to perform the same functions as transformers, with the exception of isolating two circuits. *Before using autotransformers, check possible restrictions under local codes.*



Wiring diagram for autotransformer.

Buck-boost Transformers

Buck-boost transformers are insulated units of 120 x 240 or 240 x 480 volts high voltage and 12/24, 16/32, or 24/48 volts low voltage. When connected as an autotransformer in single- or three-phase circuits, they provide an economical means for bucking or boosting line voltages 5, 10, or 20%. See page 22 for connections.

Temperature Class

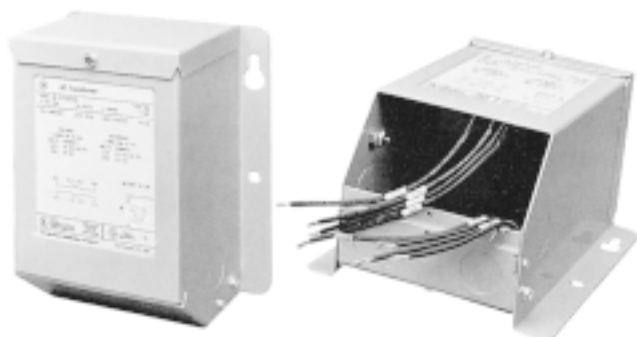
Industry standards classify insulation systems in accordance with the rating system in the table below:

Insulations System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

All standard, general-purpose GE transformers meet applicable NEMA, ANSI, UL, and IEEE standards.

GENERAL ELECTRIC



Type QB, Single-phase, .050-3.0 KVA

Product Specification

1.0 General

1.1 This dry type transformer is designed for low voltage power distribution. It is of rugged construction suitable for general commercial and industrial power applications.

2.0 Construction

2.1 The core is constructed of high grade grain oriented silicon steel.

2.2 The coil utilizes high grade magnet wire. Windings are compensated to achieve rated voltage at full load, therefore prohibiting transformer reverse connection. Lead terminations are at least six inches in length, clearly marked, and have tinned ends.

2.3 Transformers through 150 VA utilize a UL recognized 105°C insulation system capable of continuous operation at 40°C ambient without exceeding a 55°C winding temperature rise. Transformers rated 200 VA and above utilize a UL recognized 185°C insulation system capable of continuous operation at 40°C ambient without exceeding a 115°C winding temperature rise. An encapsulating material is placed in the enclosure which completely surrounds the core and coil assembly.

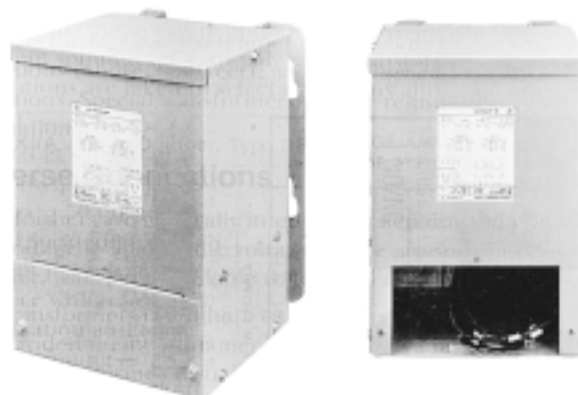
2.4 The wall mount enclosure is constructed of heavy gauge steel for indoor or outdoor NEMA 3R use. The finish consists of degreasing, phosphate cleaning, and an electrodeposit ANSI 61 gray enamel rust inhibiting paint. The wiring compartment is large enough to allow convenient wire connections. Knockouts are provided on the bottom, both sides and back of the wiring compartment. The wiring compartment includes a grounding stud. Mounting holes are located on the side for easy access. A schematic connection diagram is located on the enclosure nameplate for quick referral.

3.0 Standards

3.1 UL Listed under UL 506, File E2739.

3.2 CSA Certified under CSA Standard C22.2, No. 66, File 3272.

3.3 Meets ANSI/NEMA ST-20-1988 requirements.



Type QMS, Single-phase, 5-25 KVA

Three-phase, 3-15 KVA

Product Specification

1.0 General

1.1 This dry type transformer is designed for low voltage power distribution. It is of rugged construction suitable for general commercial and industrial power applications.

2.0 Construction

2.1 The core is constructed of high grade grain oriented silicon steel.

2.2 The coil utilizes high grade magnet wire. Lead terminations are at least six inches in length, clearly marked, and have tinned ends.

2.3 A UL recognized 185°C insulation system capable of continuous operation at 40°C ambient without exceeding a 115°C winding temperature rise is used. An encapsulating material is placed in the enclosure which completely surrounds the core and coil assembly.

2.4 The wall mount enclosure is constructed to heavy gauge steel for indoor or outdoor NEMA 3R use. The finish consists of degreasing, phosphate cleaning, and an electrodeposit ANSI 61 gray enamel rust inhibiting paint. The wiring compartment is large enough to allow convenient wire connections. Knockouts are provided on the bottom, both sides and back of the wiring compartment. The wiring compartment includes a grounding stud. Mounting holes are located on the side for easy access. A schematic connection diagram is located on the enclosure nameplate for quick referral.

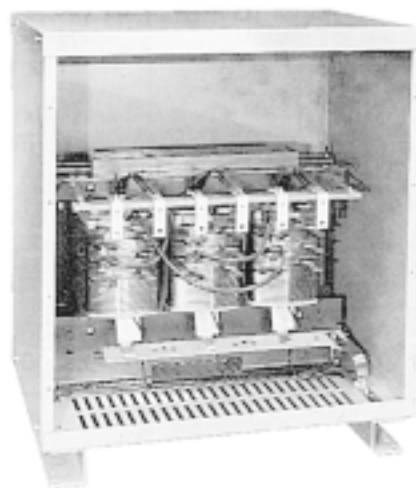
3.0 Standards

3.1 UL Listed under UL 506, File E2739.

3.2 CSA Certified under CSA Standard C22.2, No. 66, File 3272.

3.3 Meets ANSI/NEMA ST-20-1988 requirements.

GENERAL ELECTRIC



Type QL, Single-phase, 25-167 KVA Three-phase, 15-1500 KVA

Product Specification

1.0 General

1.1 This dry type transformer is designed for low voltage power distribution. It is of rugged construction suitable for general commercial and industrial power applications.

2.0 Construction

2.1 The core is constructed of high grade grain oriented silicon steel.

2.2 The coil utilizes high grade magnet wire. Clearly marked terminal pads are attached to a rugged fiberglass termination strip. Universal taps consisting of two 2.5% above nominal and four 2.5% below nominal full capacity taps are provided.

2.3 A UL recognized 220°C insulation system capable of continuous operation at 40°C ambient without exceeding a 150°C winding temperature rise is used. Windings are vacuum impregnated with nonhydroscopic thermosetting varnish for superior strength and heat transfer.

2.4 The floor mount enclosure is constructed of heavy gauge steel for indoor use. Weathershield kits are available to modify the enclosure for NEMA 3R outdoor use. The finish consists of degreasing, phosphate cleaning, and an electrodeposit ANSI 61 gray enamel rust inhibiting paint. Surface temperature rise does not exceed the 50°C limit specified by UL. The roomy wiring compartment allows for the use of aluminium cable sized for 125% of rated current and long shanked crimp type connectors. It is accessible by simply removing the enclosure front panel. Wiring compartment temperature rise is below the 35°C limit specified by UL. Vibration from the core and coil assembly is isolated from the enclosure by means of neoprene vibration pads and sleeves. A flexible copper grounding strap connects the core and enclosure. A schematic connection diagram is located on the enclosure nameplate for quick referral.

3.0 Standards

3.1 UL Listed under UL 1561, File E79145.

3.2 CSA Certified under CSA Standard C22.2, No. 47, File 3272.

3.3 Meets ANSI/NEMA ST-20-1988 requirements.

Transformers



GENERAL ELECTRIC

Single-phase

KVA	240 x 480 Volts Primary Secondary 120/240 Volts			480 Volts Primary Secondary 120/240 Volts			600 Volts Primary Secondary 120/240 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

.50-3 kVA, Indoor/Outdoor, Type QB

UL Listed

CSA Certified

.050	60	9T51B0002	N	60	9T51B0002	N	60	9T51B0082	N
	50/60	9T51B0502	N	-	-	-	50/60	9T51B0582	N
.075	60	9T51B0003	N	60	9T51B0003	N	-	9T51B0083	N
	50/60	9T51B0503	N	-	-	-	-	-	-
.100	60	9T51B0004	N	60	9T51B0004	N	60	9T51B0084	N
	50/60	9T51B0504	N	-	-	-	50/60	9T51B0584	N
.150	60	9T51B0005	N	60	9T51B0005	N	60	9T51B0085	N
	50/60	9T51B0505	N	-	-	-	50/60	9T51B0585	N
.250	60	9T51B0007	N	60	9T51B0007	N	60	9T51B0087	N
	50/60	9T51B0507	N	50/60	9T51B0547	2	50/60	9T51B0587	N
.500	-	-	-	-	-	-	50/60	9T51B0567	2
	60	9T51B0008	N	60	9T51B0008	N	60	9T51B0088	N
.750	50/60	9T51B0508	N	50/60	9T51B0548	2	50/60	9T51B0588	N
	-	-	-	-	-	-	50/60	9T51B0568	2
1	60	9T51B0009	N	60	9T51B0009	N	60	9T51B0089	N
	50/60	9T51B0509	N	50/60	9T51B0549	2	50/60	9T51B0589	N
1.5	-	-	-	-	-	-	50/60	9T51B0569	2
	60	9T51B0010	N	60	9T51B0010	N	60	9T51B0090	N
2	50/60	9T51B0510	N	60	9T51B0050	2	60	9T51B0070	2
	-	-	-	50/60	9T51B0550	2	50/60	9T51B0590	N
1.5	-	-	-	-	-	-	50/60	9T51B0570	2
	60	9T51B0011	N	60	9T51B0011	N	60	9T51B0091	N
2	50/60	9T51B0511	N	60	9T51B0051	2	60	9T51B0071	2
	-	-	-	50/60	9T51B0551	2	50/60	9T51B0591	N
3	-	-	-	-	-	-	50/60	9T51B0571	2
	60	9T51B0012	N	60	9T51B0012	N	60	9T51B0092	N
3	50/60	9T51B0512	N	60	9T51B0052	2	60	9T51B0072	2
	-	-	-	50/60	9T51B0552	2	50/60	9T51B0592	N
3	-	-	-	-	-	-	50/60	9T51B0572	2
	60	9T51B0013	N	60	9T51B0013	N	60	9T51B0093	N
3	50/60	9T51B0513	N	60	9T51B0053	2	60	9T51B0073	2
	-	-	-	60	9T51B0135	4	50/60	9T51B0593	N
-	-	-	-	50/60	9T51B0553	2	50/60	9T51B0573	2

5-25 kVA, Indoor/Outdoor, Type QMS

UL Listed

CSA Certified

5	60	9T21B1004G02	N	60	9T21B1007G02	2	60	9T21B1016G02	N
	50/60	9T21B1055G02	N	60	9T21B1013G02	4	60	9T21B1019G02	2
7.5	-	-	-	50/60	9T21B1055G02	N	-	-	-
	60	9T21B1005G02	N	60	9T21B1008G02	2	60	9T21B1017G02	N
10	50/60	9T21B1056G02	N	60	9T21B1014G02	4	60	9T21B1020G02	2
	-	-	-	50/60	9T21B1056G02	N	-	-	-
15	60	9T21B1006G02	N	60	9T21B1009G02	2	60	9T21B1018G02	N
	50/60	9T21B1057G02	N	60	9T21B1015G02	4	60	9T21B1021G02	2
25	-	-	-	50/60	9T21B1057G02	N	-	-	-
	60	9T21B9103	N	60	9T21B9105	2	60	9T21B9111	N
25	50/60	9T21B9133	N	60	9T21B9109	4	60	9T21B9113	2
	-	-	-	50/60	9T21B9133	N	-	-	-
25	60	9T21B9104	N	60	9T21B9106	2	60	9T21B9112	N
	50/60	9T21B9134	N	60	9T21B9110	4	60	9T21B9114	2
-	-	-	-	50/60	9T21B9134	N	-	-	-

25-167 kVA, Indoor, Type QL

UL Listed

For Outdoor NEMA 3R Enclosure add suffix G62 to Catalog Number

25	60	9T23B2671	6	60	9T23B2671	6	60	9T23B2681	6
37.5	60	9T23B2672	6	60	9T23B2672	6	60	9T23B2682	6
50	60	9T23B2673	6	60	9T23B2673	6	60	9T23B2683	6
75	60	9T23B2674	6	60	9T23B2674	6	60	9T23B2684	6
100	60	9T23B2675	6	60	9T23B2675	6	60	9T23B2685	6
167	60	9T23B2676	6	60	9T23B2676	6	60	9T23B2686	6

- ① Tap arrangements: N-No taps.
2-(2) 5% taps below rated primary volts.
4-(4) 2 1/2% taps, 2 above and 2 below rated primary volts.
6-(6) 2 1/2% taps, 2 above and 4 below rated primary volts.

Electrolines Est.

Transformers



GENERAL ELECTRIC

Single-phase (Continued)

kVA	120 x 240 Volts Primary Secondary 120/240 Volts			208 Volts Primary Secondary 120/240 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

.050-3 kVA Indoor/Outdoor, Type QB

UL Listed

CSA Certified

.050	60	9T51B0022	N	-	-	-
.100	60	9T51B0024	N	-	-	-
.150	60	9T51B0025	N	-	-	-
.250	60	9T51B0027	N	-	-	-
.500	60	9T51B0028	N	-	9T51B0158	-
.750	60	9T51B0029	N	-	9T51B0159	-
1	60	9T51B0030	N	-	9T51B0160	-
1.5	60	9T51B0031	N	-	-	-
2	60	9T51B0032	N	60	9T51B0156	N
3	60	9T51B0033	N	60	9T51B0157	N

5-25 kVA Indoor/Outdoor, Type QMS

UL Listed

CSA Certified

5	60	9T21B1001G02	N	60	9T21B1028G02	N
7.5	60	9T21B1002G02	N	60	9T21B1029G02	N
10	60	9T21B1003G02	N	60	9T21B1030G02	N
15	60	9T21B9101	N	60	9T21B9119	N
25	60	9T21B9102	N	60	9T21B9120	N

kVA	277 Volts Primary Secondary 120/240 Volts			380/400/416 Volts Primary Secondary 120/240 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

.050-3 kVA Indoor/Outdoor, Type QB

UL Listed

CSA Certified

.050	-	-	-	50/60	9T51B0162	N
.150	-	-	-	50/60	9T51B0165	N
.250	60	9T51B0187	2	50/60	9T51B0167	N
.500	60	9T51B0188	2	50/60	9T51B0168	N
.750	60	9T51B0189	2	50/60	9T51B0169	N
1	60	9T51B0190	2	50/60	9T51B0170	N
1.5	60	9T51B0191	2	50/60	9T51B0171	N
2	60	9T51B0192	2	50/60	9T51B0172	N
3	60	9T51B0193	2	50/60	9T51B0173	N

5-25 kVA Indoor/Outdoor, Type QMS

UL Listed

CSA Certified

5	60	9T21B1046G02	2	-	-	-
7.5	60	9T21B1047G02	2	-	-	-
10	60	9T21B1048GH02	2	-	-	-
15	60	9T21B9143	2	-	-	-
25	60	9T21B9144	2	-	-	-

Three-phase

kVA	480 Volts Delta Primary Secondary 208Y/120 Volts			480 Volts Delta Primary Secondary 240 Volts Delta			600 Volts Delta Primary Secondary 208Y/120 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

3-15 kVA Indoor/Outdoor, Type QMS 3

UL Listed

CUL Listed

3	60	9T21J3000	2	60	9T21J3001	4	60	9T21J3708	2
	60	9T21J3002	4	60	-	-	60	-	-
6	60	9T21J6000	2	60	9T21J6001	4	60	9T21J6008	2
	60	9T21J6002	4	60	-	-	60	-	-
9	60	9T21J9000	2	60	9T21J9704	4	60	9T21J9705	2
	60	9T21J9001	4	60	-	-	60	-	-
15	60	9T21J1702	2	60	9T21J1701	4	60	9T21J1703	2
	60	9T21J1000	4	60	-	-	60	-	-

- ① Tap arrangements: N-No taps.
 2-(2) 5% taps below rated primary volts.
 4-(4) 2 1/2% taps, 2 above and 2 below rated primary volts.
 6-(6) 2 1/2% taps, 2 above and 4 below rated primary volts.

Electrolines Est.

Transformers



GENERAL ELECTRIC

Three-phase (Cont'd.)

KVA	480 Volts Delta Primary Secondary 208Y/120 Volts			480 Volts Delta Primary Secondary 240 Volts Delta			600 Volts Delta Primary Secondary 208Y/120 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

15-1500 kVA, Indoor, Type QL UL Listed

For Outdoor NEMA 3 R Enclosure add suffix G62 to Catalog Number

15	60	9T23B3871	6	60	9T23B3881	6	60	9T23B3891	6
30	60	9T23B3872	6	60	9T23B3882	6	60	9T23B3892	6
45	60	9T23B3873	6	60	9T23B3883	6	60	9T23B3893	6
50	60	9T23B3864	6	-	-	-	-	-	-
75	60	9T23B3874	6	60	9T23B3884	6	60	9T23B3894	6
112.5	60	9T23B3875	6	60	9T23B3885	6	60	9T23B3895	6
150	60	9T23B3876	6	60	9T23B3886	6	60	9T23B3896	6
225	60	9T23B3877	6	60	9T23B3887	6	60	9T23B3897	6
300	60	9T23B3878	6	60	9T23B3888	6	60	9T23B3898	6
400	60	9T23B3866	6	-	-	-	-	-	-
500	60	9T23B3879	6	60	9T23B3889	6	60	-	-
750	60	9T23B3867	②	-	-	-	-	-	-
1000③	60	9T23B3868	②	-	-	-	-	-	-
1500③	60	Consult Factory	-	-	-	-	-	-	-

15-1000 kVA, Indoor, Copper-Winding, Type QL UL Listed

For Outdoor NEMA 3 R Enclosure add suffix G62 to Catalog Number

15	60	9T23Q9871	6	60	9T23Q9881	6	-	-	-
30	60	9T23Q9872	6	60	9T23Q9882	6	-	-	-
45	60	9T23Q9873	6	60	9T23Q9883	6	-	-	-
50	60	9T23Q9864	6	-	-	-	-	-	-
75	60	9T23Q9874	6	60	9T23Q9884	6	-	-	-
112.5	60	9T23Q9875	6	60	9T23Q9885	6	-	-	-
150	60	9T23Q9876	6	60	9T23Q9886	6	-	-	-
225	60	9T23Q9877	6	60	9T23Q9887	6	-	-	-
300	60	9T23Q9878	6	60	9T23Q9888	6	-	-	-
400	60	9T23C4066	6	-	-	-	-	-	-
500	60	9T23C4079	6	60	9T23C4089	6	-	-	-
750	60	9T23C4067	4	-	-	-	-	-	-
1000	60	9T23C4068	2	-	-	-	-	-	-

KVA	208 Volts Delta Primary Secondary 480Y/227 Volts			240 Volts Delta Primary Secondary 280Y/120 Volts			480 Volts Delta Primary Secondary 480Y/277 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

9-15 kVA, Indoor/Outdoor, Type QMS 3

UL Listed

CUL Listed

9	60	9T21J9712	4	60	9T21J9713	4	60	9T21J9710	4
15	60	9T21J1710	4	60	9T21J1711	4	60	9T21J1712	4

15-1500 kVA, Indoor, Type QL UL Listed

For Outdoor NEMA 3 R Enclosure add suffix G62 to Catalog Number

15	60	9T23B3801	6	60	9T23B3811	6	60	9T23B3851	6
30	60	9T23B3802	6	60	9T23B3812	6	60	9T23B3852	6
45	60	9T23B3803	6	60	9T23B3813	6	60	9T23B3853	6
50	60	9T23B3014	6	60	9T23B3813	6	60	9T23B3012	6
75	60	9T23B3804	6	60	9T23B3814	6	60	9T23B3854	6
112.5	60	9T23B3805	6	60	9T23B3815	6	60	9T23B3855	6
150	60	9T23B3806	3	60	9T23B3816	3	60	9T23B3856	6
225	60	9T23B3807	3	60	9T23B3817	3	60	9T23B3857	6
300	60	9T23B3808	3	60	9T23B3818	3	60	9T23B3858	6
400	60	9T23B3015	3	-	-	-	60	9T23B3017	6
500	60	9T23B3809	3	60	9T23B3819	3	60	9T23B3859	6

① Tap arrangements:

N-No taps.

2-(2) 5% taps below rated primary volts.

4-(4) 2 1/2% taps, 2 above and 2 below rated primary volts.

6-(6) 2 1/2% taps, 2 above and 4 below rated primary volts.

② 750 kVA has (2) 3.1% full capacity primary taps above and below rated voltages.

1000 kVA has (1) 3.6% full capacity primary tap above and below rated voltage.

③ Not CSA certified.

Electrolines Est.

Transformers



GENERAL ELECTRIC

KVA	380 Volts Delta Primary Secondary 208Y/120 Volts			380 Volts Delta Primary Secondary 220Y/127 Volts			480 Volts Delta Primary Secondary 220Y/127 Volts		
	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps	Hertz	Catalog Number	① Taps

15-300 KVA, Indoor, Type QL - For Outdoor Enclosure add suffix G62 ② to Catalog Number

15	60	9T23Q1173	6	60	9T23Q1077	6	60	9T23Q1082	6
30	60	9T23Q1080	6	60	9T23Q1057	6	60	9T23Q1000	6
45	60	9T23Q1081	6	60	9T23Q1019	6	60	9T23Q1068	6
50	60	9T23Q1161	6	60	9T23Q1335	6	60	9T23Q1068G50	6
75	60	9T23Q1160	6	60	9T23Q1021	6	60	9T23Q1073	6
112.5	60	9T23Q1013	6	60	9T23Q1078	6	60	9T23Q1066	6
150	60	9T23Q1011	6	60	9T23Q1058	6	60	9T23Q1108	6
225	60	9T23Q1159	6	60	9T23Q1022	6	60	9T23Q1109	6
300	60	9T23Q1212	6	60	9T23Q1089	6	60	9T23Q1103	6
400	60	ON REQUEST	-	60	9T23B3396G17	6	60	ON REQUEST	-
500	60	ON REQUEST	-	60	9T23B3396	6	60	9T23B3397	6

3-15 KVA, Indoor/Outdoor Type QMS3

3	60	9T21J3717	4	60	9T21J3713	4	60	ON REQUEST	-
6	60	9T21J6013	4	60	9T21J6015	4	60	9T21J6012	4
9	60	9T21J9507	4	60	ON REQUEST	-	60	ON REQUEST	-
15	60	ON REQUEST	-	60	9T21J1502	4	60	ON REQUEST	-

① Tap arrangements:

4-(4) 2 1/2% taps, 2 above and 2 below rated primary volts.

6-(6) 2 1/2% taps, 2 above and 4 below rated primary volts.

② For Price Adder refer to GE BuyLog.

Dimensions and Weights

KVA	Max. Height. (mm)	Max. Width (mm)	Max. Depth (mm)	Approx. Net Wt. (mm)	
				Al	Cu

Type QB-Single-phase, 60, 50/60 Hertz

.050	161	130	82	3
.075	161	130	82	3
.100	161	130	82	3
.150	187	155	108	5
.250	187	155	108	5
.500	213	174	124	7
.750	245	200	140	11
1.000	245	200	140	11
1.500	282	238	170	18
2.000	282	238	170	18
3.00	334	238	170	27

Type QMS-Single-phase, 60 Hertz

5.0	368	273	283	46
7.5	403	303	318	63
10.0	434	309	323	78
115.0	503	374	369	116
25.0	504	408	398	168

KVA	Max. Height. (mm)	Max. Width (mm)	Max. Depth (mm)	Approx. Net Wt. (mm)	
				Al	Cu

Type QMS 3-Three-phase, 60 Hertz

3	14.75	14.30	10.44	140
6	14.75	14.30	10.44	140
9	19.62	18.03	11.62	245
15	19.62	18.03	11.62	245

Type QL-Three-phase, 15-1000 KVA, 60 Hertz

15	695	482	421	84	91
30	819	609	458	125	136
45	819	609	458	147	163
50	819	609	458	147	-
75	908	813	601	211	234
112.5	1016	813	601	274	306
150	1167	888	601	358	399
225	1219	977	735	467	535
300	1314	1079	768	621	696
400	1482	1206	882	862	-
500	1482	1206	882	952	-
750	1930	1523	1269	1565	-
1000	1930	1523	1269	1950	-

Electrolines Est.

Transformers

GENERAL ELECTRIC

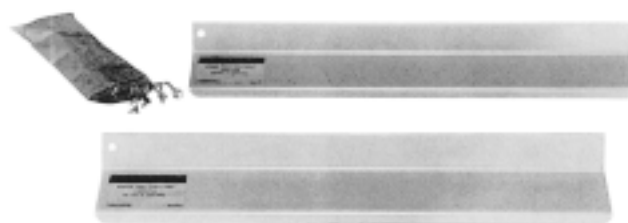
Type QL Accessories & Parts

Wall Mounting Brackets



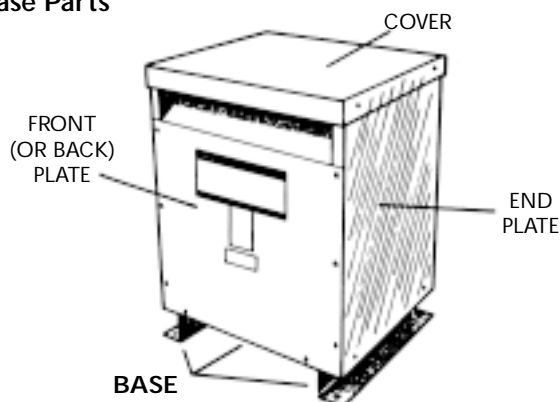
Enclosure No. QL-	Bracket Model Number (Includes 2 Per Set)
Single Phase	
1	9T18Y5042
2,3	9T18Y5043
Single Phase	
7,8	9T18Y5042
9	9T18Y5043

Weather Shield Kits



Enclosure No. QL-	Kit Catalog Number
Single Phase	
1	9T18Y4317G12
2,3	9T18Y4317
4	9T18Y4317G02
5	9T18Y4317G03
6	9T18Y4317G04
Three-Phase	
7	9T18Y4317G11
8	9T18Y4317G05
9,10	9T18Y4317G06
11	9T18Y4317G07
12	9T18Y4317G08
13	9T18Y4317G09
14	9T18Y4317G10

Case Parts



Enclosure No. QL-	Complete Enclosure Less Base	Base	Front or Back Plate	End Plate	Cover
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Single-phase

1	9T18Y4391	9T18Y4391G02	9T18Y4391G03	9T18Y4391G04	9T18Y4391G05
2	9Y18Y4300	9Y18Y4300G02	9Y18Y4300G03	9Y18Y4300G04	9Y18Y4300G05
3	9T18Y4301	9T18Y4301G02	9T18Y4301G03	9T18Y4301G04	9T18Y4301G05
4	9T18Y4302	9T18Y4302G02	9T18Y4302G03	9T18Y4302G04	9T18Y4302G05
5	9T18Y4303	9T18Y4303G02	9T18Y4303G03	9T18Y4303G04	9T18Y4303G05
6	9T18Y4304	9T18Y4304G02	9T18Y4304G03	9T18Y4304G04	9T18Y4304G05

Three-phase

7	9T18Y4411	9T18Y4411G02	9T18Y4411G03	9T18Y4411G04	9T18Y4411G05
8	9T18Y4412	9T18Y4412G02	9T18Y4412G03	9T18Y4412G04	9T18Y4412G05
9	9T18Y4413	9T18Y4413G02	9T18Y4413G03	9T18Y4413G04	9T18Y4413G05
10	9T18Y4414	9T18Y4414G02	9T18Y4414G03	9T18Y4414G04	9T18Y4414G05
11	9T18Y4415	9T18Y4415G02	9T18Y4415G03	9T18Y4415G04	9T18Y4415G05
12	9T18Y4416	9T18Y4416G02	9T18Y4416G03	9T18Y4416G04	9T18Y4416G05
13	9T18Y4367	9T18Y4367G02	9T18Y4367G03	9T18Y4367G04	9T18Y4367G05
14	9T18Y4368	9T18Y4368G02	9T18Y4368G03	9T18Y4368G04	9T18Y4368G05

Electrolines Est.

Transformers

GENERAL ELECTRIC

'Auto Transformers'

Single and Three-phase 60 Hertz 0.5-75 KVA 240 Volts and Below

Autotransformers are more economical than transformers designed to carry the same load. Within their voltage limitations, they will perform the same function as transformers with the exception of insulating two circuits. You can use these autotransformers to obtain 120 volts from a 240-volt circuit, to derive a neutral on a 240-volt, 2-wire circuit, or to balance a 120/240-volt, 3-wire circuit. They also may be used in banks of poly-phase circuits. Check possible restrictions under local codes before installing.

Wiring Diagram



① KVA	Catalog Number	Approximate Dimensions in Inches			Approx. Net. Wt. In Pounds
		Height	Width	Depth	

Input 120 or 240 Volts–Output 120 or 240/120 volts, 3-wire
60 Hertz Type QB, Indoor/Outdoor, No Taps

UL Listed

CSA Certified

.500	9T51B0136	7 ³ / ₈	6 ¹ / ₈	4 ¹ / ₄	10
.750	9T51B0137	8 ³ / ₈	6 ⁷ / ₈	4 ⁷ / ₈	16
1	9T51B0138	8 ³ / ₈	6 ⁷ / ₈	4 ⁷ / ₈	16
1.5	9T51B0139	9 ⁵ / ₈	7 ¹ / ₈	5 ¹ / ₂	25
2	9T51B0140	9 ⁵ / ₈	7 ¹ / ₈	5 ¹ / ₂	25
3	9T51B0141	11 ¹ / ₈	9 ³ / ₈	6 ³ / ₄	40
5	9T51B0142	13 ¹ / ₈	9 ⁷ / ₈	6 ⁷ / ₄	60

60 Hertz, Type QMS, Indoor/Outdoor, No Taps

UL Listed

CSA Certified

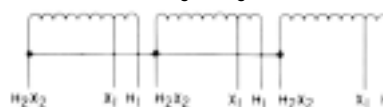
7.5	9T21B4552G02	14 ¹ / ₂	10 ³ / ₄	11 ¹ / ₈	102
10	9T21B4552G02	14 ¹ / ₂	10 ⁷ / ₄	11 ¹ / ₈	102
15	9T21B9201	15 ⁵ / ₈	12 ¹⁵ / ₁₆	12 ² / ₁₆	140
25	9T21B9202	18 ¹ / ₄	14 ¹ / ₄	14 ¹ / ₂	255

① KVA output at 120 volts, 2-wire, or allowable unbalance at 240/120 volts, 3-wire.

For Boosting Voltage of Three-phase Grounded Circuits

The autotransformers listed below are designed to boost the voltage of a three-phase secondary network system where the neutral is available and solidly grounded. **Warning:** These are autotransformers. Do not use buck-boost tables. Check possible restrictions under local codes before installing.

Wiring Diagram



Three-phase^②

KVA	Catalog Number	Approximate Dimensions in Inches			Approx. Net. Wt. In Pounds
		Height	Width	Depth	

60 Hertz, Type QB, Indoor/Outdoor, Input 208Y/120 Volts–Output 230 Volts, No Taps

UL Listed

CSA Certified

6	9T51B0143	7 ³ / ₈	6 ¹ / ₈	4 ¹ / ₄	10
9	9T51B0144	8 ³ / ₈	6 ⁷ / ₈	4 ⁷ / ₈	16
15	9T51B0145	8 ³ / ₈	6 ⁷ / ₈	4 ⁷ / ₈	16
30	9T51B0146	9 ⁵ / ₈	7 ¹ / ₈	5 ¹ / ₂	25
45	9T51B0147	11 ¹ / ₈	9 ³ / ₈	6 ³ / ₄	40
75	9T51B0148	13 ¹ / ₈	9 ⁷ / ₈	6 ⁷ / ₄	60

60 Hertz, Type QB, Indoor/Outdoor, Input 208Y/120 Volts–Output 240 Volts, No Taps

UL Listed

CSA Certified

6	9T51B0150	7 ³ / ₈	6 ¹ / ₈	4 ¹ / ₄	10
15	9T51B0152	9 ⁵ / ₈	7 ¹ / ₈	4 ⁷ / ₁₆	25
30	9T51B0153	11 ¹ / ₈	9 ³ / ₈	4 ⁷ / ₈	40
45	9T51B0154	11 ¹ / ₈	9 ⁷ / ₈	4 ⁷ / ₈	40

② Bank of 3 single-phase autotransformations to be connected wye. Dimensions and weights are for each unit in bank. Each single autotransformer is rated 1/3 of the bank kva rating. Order 3 single-phase transformers for each three-phase.

Electrolines Est.

GENERAL ELECTRIC

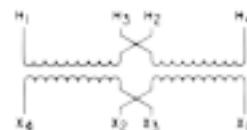
Buck-boost Transformer

GE bucking and boosting transformers provide an economical and convenient means for bucking or boosting voltage on single- and three-phase circuits. They are compact, lightweight, and can be easily installed for indoor or outdoor service.

Buck-boost transformers are employed primarily for boosting single- and three-phase circuits by connecting them as auto-transformers. Before using, check possible restrictions under local codes. For application information, see pages 19 through 21. When used as autotransformers, the voltage change is small and the kva load they can handle is large in comparison to their physical size.

The transformers with series-multiple 12/24-, 16/32-, or 24/48-volt secondary windings are suitable for wide variety of applications. In addition to boosting low circuit voltages to rated voltage, they can be used, for example, as transformers to supply 12 or 24 volts 2-wire or 24/12 volts 3-wire. Two or more units can be used in various combinations to obtain many other special voltages.

Wiring Diagram # 1



KVA	Catalog Number		
	Primary Volts 120/240		Primary Volts 240/480
	Secondary Volts		Secondary Volts
	12/24	16/32	24/48

Single-phase, Type QB, 60 Hertz, Indoor/Outdoor

UL Listed, CSA Certified

.050	9T51B0102	9T51B0122	9T51B0202
.075	9T51B0103	9T51B0123	9T51B0203
.100	9T51B0104	9T51B0124	9T51B0204
.150	9T51B0105	9T51B0125	9T51B0205
.250	9T51B0106	9T51B0127	9T51B0207
.500	9T51B0107	9T51B0128	9T51B0208
.750	9T51B0108	9T51B0129	9T51B0209
1	9T51B0109	9T51B0130	9T51B0210
1.5	9T51B0110	9T51B0131	9T51B0211
2	9T51B0111	9T51B0132	9T51B0212
3	9T51B0112	9T51B0133	9T51B0213

60 Hertz, Type QMS, Indoor/Outdoor

UL Listed, CSA Certified

5	9T21B1037G02	9T21B1040G02	—
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50 Hertz, Type QMS, Indoor/Outdoor

UL Listed, CSA Certified

5	9T21B1061G02	9T21B1064G02	—
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Electrolines Est.

Transformers

GENERAL ELECTRIC

Drive Isolation Transformer

Three-phase, 60 Hertz, Enclosed

The use of SCR control circuitry with adjustable-speed drives has resulted in a need for a line of isolation transformers specifically designed to meet the demanding requirements of SCR drives. Symmetrically placed taps and added coil bracing minimize mechanical forces caused by the often severe SCR drive duty cycles. These features also help protect the transformer from the regenerative nature and more frequent short circuits associated with SCR drives.



Type QL Drive Isolation Transformer
(closed, indoor)

Isolation transformers also reduce line-pollution feedback resulting from SCR firing circuits. The GE delta-woye designs meet the NEC requirements for grounded secondary neutrals that isolate primary distribution systems. KVA ratings of the DIT line cover most do motor requirements from 3 to 300 hp.

Enclosed drive isolation transformers are UL Listed. Insulation systems (vacuum impregnated) are UL Recognized.



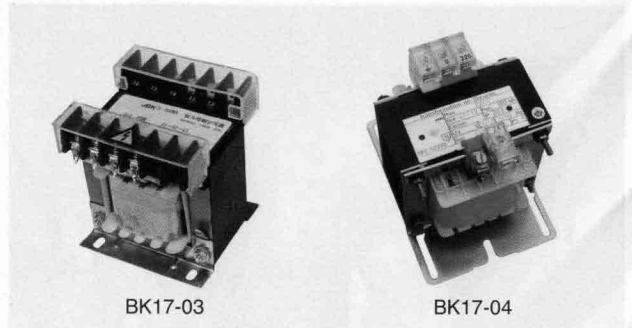
Type QL Drive Isolation Transformer
(open)

Catalog Type	KVA	230 V ▲ Primary		460 V ▲ Primary		575 V ▲ Primary		Approx. Net. Wt. In Lbs.	Approx. Impedance in %	Wiring Diagram Number
		230Y Volt Secondary	460Y Volt Secondary	230Y Volt Secondary	460Y Volt Secondary	230Y Volt Secondary	460Y Volt Secondary			
ML	3	9T21B3001G29	9T21B3001G28	9T21B3001G23	9T21B3001G22	9T21B3001G27	9T21B3001G26	70	3.4	12
	6	9T21B3002G29	9T21B3002G28	9T21B3002G23	9T21B3002G22	9T21B3002G27	9T21B3002G26	110	3.2	12
	7.5	9T21B3003G29	9T21B3003G28	9T21B3003G23	9T21B3003G22	9T21B3003G27	9T21B3003G26	150	2.3	12
	11	9T21B3004G29	9T21B3004G28	9T21B3004G23	9T21B3004G22	9T21B3004G27	9T21B3004G26	260	2.0	12
QL	15	9T23Q4000G29	9T23Q4000G28	9T23Q4000G23	9T23Q4000G22	9T23Q4000G27	9T23Q4000G26	185	4.7	22
	20	9T23B4001G29	9T23B4001G28	9T23B4001G23	9T23B4001G22	9T23B4001G27	9T23B4001G26	265	3.8	22
	27	9T23B4002G29	9T23B4002G28	9T23B4002G23	9T23B4002G22	9T23B4002G27	9T23B4002G26	275	5.1	22
	34	9T23B4003G29	9T23B4003G28	9T23B4003G23	9T23B4003G22	9T23B4003G27	9T23B4003G26	310	4.1	22
	40	9T23B4004G29	9T23B4004G28	9T23B4004G23	9T23B4004G22	9T23B4004G27	9T23B4004G26	320	4.9	22
	51	9T23B4005G29	9T23B4005G28	9T23B4005G23	9T23B4005G22	9T23B4005G27	9T23B4005G26	330	5.5	22
	63	9T23B4006G29	9T23B4006G28	9T23B4006G23	9T23B4006G22	9T23B4006G27	9T23B4006G26	450	4.1	22
	75	9T23B4007G29	9T23B4007G28	9T23B4007G23	9T23B4007G22	9T23B4007G27	9T23B4007G26	470	4.9	22
	93	9T23B4008G29	9T23B4008G28	9T23B4008G23	9T23B4008G22	9T23B4008G27	9T23B4008G26	590	4.0	22
	118	9T23B4009G29	9T23B4009G28	9T23B4009G23	9T23B4009G22	9T23B4009G27	9T23B4009G26	615	5.0	22
	145	9T23B4010G29	9T23B4010G28	9T23B4010G23	9T23B4010G22	9T23B4010G27	9T23B4010G26	790	4.2	22
	175	9T23B4011G29	9T23B4011G28	9T23B4011G23	9T23B4011G22	9T23B4011G27	9T23B4011G26	1000	4.4	22
	220	9T23B4012G29	9T23B4012G28	9T23B4012G23	9T23B4012G22	9T23B4012G27	9T23B4012G26	1030	5.5	22
	275	9T23B4013G29	9T23B4013G28	9T23B4013G23	9T23B4013G22	9T23B4013G27	9T23B4013G26	1350	5.5	22
	330	9T23B4014G29	9T23B4014G28	9T23B4014G23	9T23B4014G22	9T23B4014G27	9T23B4014G26	1850	4.5	22
	440	9T23B4018G07	9T23B4018G08	9T23B4018G04	9T23B4018G06	9T23B4018G50	9T23B4018G51	2050	4.0	22
	550	9T23B4018G52	9T23B4018G53	9T23B4018G13	9T23B4018G19	9T23B4018G54	9T23B4018G55	2575	5.6	22
	750	①	①	9T23B4027G23	9T23B4027G22	9T23B4027G27	9T23B4027G26	3600	4.7	22
	1000	①	①	9T23B4028G23	9T23B4028G22	9T23B4028G27	9T23B4028G26	4500	4.5	22

① Contact factory.

Note: Full capacity symmetrical taps (1) +5% and (1) -5%, in primary windings for 230 and 460Y through 550 kva; (1) +6.2% and (1) -6.2% at 750 kva; (1) +6.4% and (1) -6.4% at 1000 kva. With 575V primary, symmetrical 5% taps apply through 750 kva; at 100 kva, (1) +5.1%. For ratings less than 15 kva, all taps are (1) +5% and (1) -5%, but not symmetrical.

Machine Tool Control Transformer



Structure And Use

BK17 series machine tools control transformers apply to be used as control power, working light of general electric appliance and mechanical equipment of various trades, and power of signal lamp with AC50-60Hz, input voltage doesn't exceed 500V, output rated voltage doesn't exceed 220V.

Technical Data

Type	Rated capacity(VA)	Rated input voltage (V)	Rated output voltage(V)		
			Control	illumination	indication
BK17-40~63	40~63	220 ± 5% 380 ± 5%	24 48 110 (127) 220	24 (36)	6 (12)
BK17-100	100				
BK17-160	160				
BK17-250	250				
BK17-400~500	400~500				
BK17-630	630				
BK17-800	800				
BK17-1000	1000				
BK17-1600	1600				
BK17-2500	2500				
Distribution of capacity for different windings may be made according to the user's requirements					

