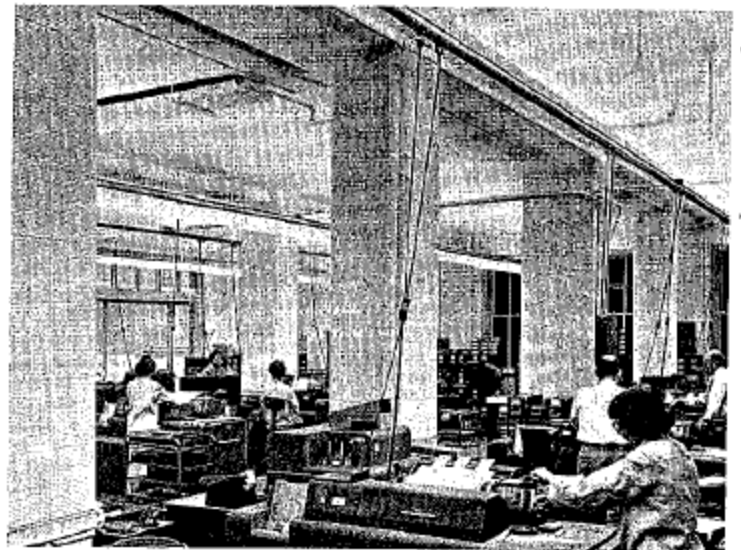


Type LTG Busway

50 Amperes - 300 Volts - 2, 3 or 4 Wire

Power Source for Incandescent Lighting — Mercury Vapor Lighting — Fluorescent Lighting



Power Source for Tools — Small Machines — Business Machines — Appliances

DISTRIBUTION ASSEMBLIES DEPARTMENT
PLAINVILLE, CONNECTICUT

GENERAL

Type LTG busway is an unusually rugged power distribution system—a prefabricated plug-in busway designed to provide flexibility and dependability in a wide variety of industrial and commercial buildings.

LTG is rated 50 amperes, 300-volts, a-c or d-c, is available in 2-, 3- and 4-wire construction, and is effectively used as a power supply for lighting fixtures, small power tools and machines in: industrial plants, office buildings, department stores, garages, warehouses, truck terminals, shipping docks, railroad freight terminals.

The use of 2-wire Type LTG busway is recommended where only single-phase power is available, where the initial cost is of primary importance or where lighting loads are supplied at 277 volts from a 480Y/277-volt power distribution system. For all other applications, 3-, or 4-wire Type LTG busway is recommended because of its greater load carrying capacities.

Power take-offs are made by inserting plugs at any point along the entire length of the run. Loads can be added or shifted without curtailing production.

A complete Type LTG busway system is composed of prefabricated units, fittings and a large variety of accessories, which are available to adapt the system to the requirements of virtually any plant layout.

If relocation of an LTG busway run becomes necessary, the entire installation can be quickly and easily dismantled and reinstalled with virtually complete reuse of all equipment.

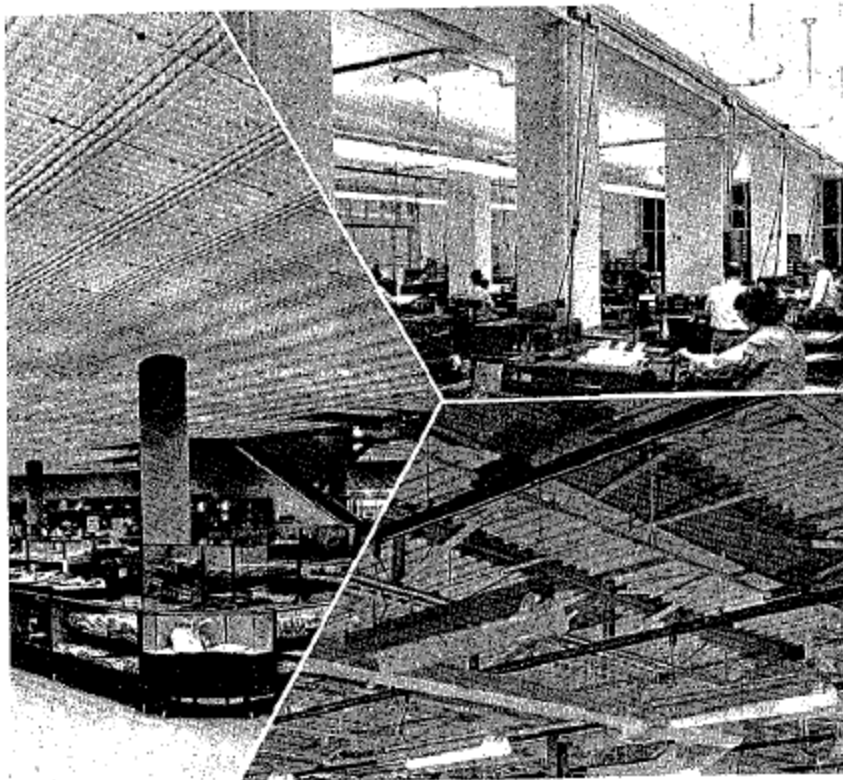
FEATURES

Easy, Low-Cost Installation—Lightweight, standardized sections of Type LTG busway are quickly and easily installed. This busway, on an installed-cost basis, is often less expensive than conventional wire and conduit systems. There is no costly conduit to run; no outlet boxes needed. Plugs can be inserted or removed as required at any point along the run—not at fixed outlets.

Maximum Flexibility and Mobility—Because every inch of Type LTG busway is a potential outlet, this busway permits the use of sewing machines, overhead lighting and other electrical equipment at the exact location where it is required. The large selection of standardized fittings and accessories makes LTG adaptable to virtually any plant layout or building contour.

The steel housing has a $\frac{5}{8}$ -inch slot in the bottom which provides a continuous

Type LTG Busway Has Many Applications In Industrial and Commercial Buildings



Type LTG busway used to supply power for lighting in a department store (left); used to power business machines in an office (top); used to supply power for lighting in a manufacturing area (bottom)

overhead outlet for power take-offs. Thus, additional machines can be added to meet changes in production requirements without the need for rewiring, without upsetting plant routine, without losing production. Or, if the need arises, the entire system can be moved from one location to another with virtually complete reuse of all parts.

Safe—With Type LTG busway, all conductors are positioned overhead and the need for extension cords underfoot is eliminated. The bus bars are insulated from the steel housing to assure maximum protection against moisture absorption, flash-over and warping of the bus bars.

Economical Operation and Maintenance—All parts of Type LTG busway are carefully constructed from material designed for durability and long life. The equipment is specifically designed to meet demands of day-in-day-out usage in industry and the availability of up to four conductors in one housing permits several circuit combinations with independent control over each. The large-

size, silver-dipped bus bars assure extremely low voltage drop. Loads can be added or shifted without curtailing production, without costly or troublesome wiring.

The Key To Lighting Flexibility—Where large lighting installations for new buildings are involved Type LTG busway combined with an exclusive method for hanging the busway and lighting fixture can save up to 50% of the normal installation labor cost. This unique installation method is called the "roll in method". With this method large runs of busway and lighting fixtures are assembled and rolled into place from one elevated position.

Key to this "roll in" method is a component called a roller hanger (see photo).

Standard Type LTG Busway with lighting fixtures can be "rolled in" with roller hangers mounted 5 feet apart. For lighting installation conditions where greater hanger spacing is desired LTG Busway can be combined with a roll-in strength beam (see photo).

FEATURES — Cont'd

This increases the rigidity of the busway run to the point where roller hangers can be spaced up to 16 feet apart and can mean additional installation cost savings. Contact your nearest Sales Representative for full details on this unique, money saving lighting installation method. Refer to other bulletins.

COMPONENTS

Standard sections

Housings are rolled from steel strip. A slot in the housing bottom provides continuous outlet for power take-offs. Baked-grey enamel finish over a rust inhibitor base gives the housing a distinctive appearance and protects against severe atmospheric conditions.

System Polarization

To prevent reversing of polarity, the bottom flanges of the busway housing are of different widths. A polarizing wedge or metal tab on each plug will allow insertion of the plug only when it properly matches the flanges of the housing. Before it can be inserted the plug must be turned so the wedge on the plug is on the same side as the narrow flange of the housing.

Conductors are silver dipped and are supported by insulators located at both ends of each length and at approximately one-foot intervals along the length.

All 4-wire insulators and end insulators in 2- and 3-wire designs are molded from impact-resistant, thermo-setting compound. The intermediate 2- and 3-wire insulators are stamped from phenolic sheet material reinforced by laminations of cloth.

Coupling plates

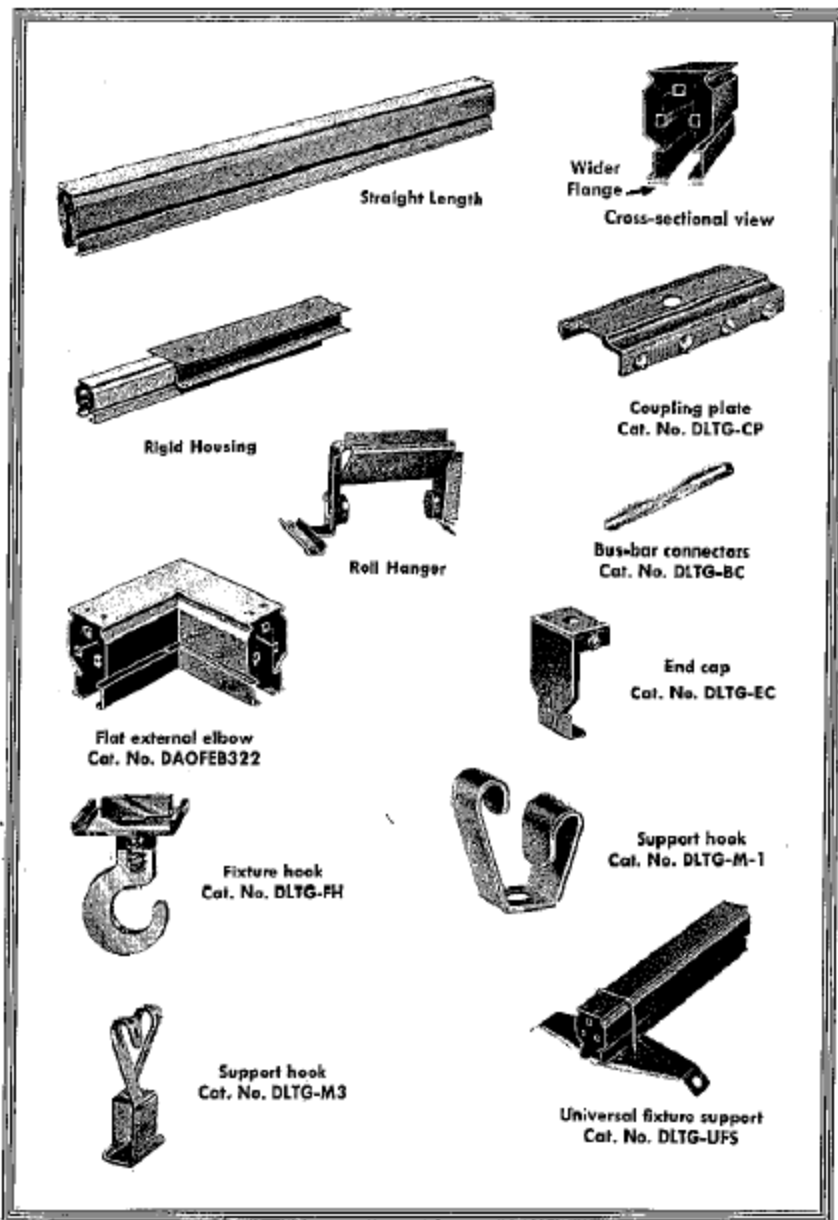
A coupling plate is used to join two sections of busway. It has a hole for attaching to either flat surface, rod or strap hanger, or messenger cable hanger. Recess in plate permits use of standard round-head screws for attaching to hangers.

Bus-bar connectors

A bus-bar connector is used for electrically joining two sections of busway. The connectors are pushed into tubular conductors of one section. As the bus bars of adjacent section slide over the connector, they are wedged tightly against projecting tabs by spring action.

Elbows

An elbow is used for changing direction of LTG busway runs. It is available in 90-degree type in either flat or edge-wise design. Flat elbows change directions either left or right in horizontal plane with slot on bottom. An edgewise



elbow changes direction up or down with slot on either outside or inside. An internal elbow has polarizing lip on inside of bend, while an external elbow has lip on outside of bend.

All elbows are rated 50 amperes, 300 volts.

End caps

An end cap is used to close end of busway run and it also serves as a means to attach the hanger. Cap adds only 1/4 inch to length of run.

Hanger Plates

The busway is simply inserted into the plate and the screws tightened. The screw clamp type hanger plate firmly grips the busway housing. It can be used for either surface or suspended installations.

Support Hooks

A support hook is used for suspending hanger plate below top surface of messenger cable. DLTG-M3 is for rod or messenger cable hanging.

Hook-type Fixture Supports

A hook-type fixture support is used to support fixtures and power tools weighing as much as 50 pounds directly from housing. This device is easily snapped in and out of busway housing slot with a 90-degree turn. The spring clamp maintains positive positioning.

Universal Fixture Supports

A universal fixture support is used primarily for supporting fluorescent lighting fixtures from LTG Busway housing. It permits fixtures to be hung at right angles or parallel to run. Designed for maximum four-foot fixture.

COMPONENTS — Cont'd

Sectionalizing Couplings

A sectionalizing coupling is used where it is desired to break electrical continuity while maintaining mechanical continuity. It consists of two end caps back to back, which add $\frac{1}{2}$ inch to length of run.

Slot Closure

A slot closure is used to close slot and prevent entrance of dust. It is furnished in standard five-foot lengths, but can easily be cut to required length with shears.

Feed-in Boxes

Since Type LTG busway can be mounted either against or suspended below a ceiling, three types of feed-in boxes are available. A surface-type is used where the run is mounted against a ceiling and either a suspended type or underslung type is used where the run is suspended below a ceiling. Feed-in boxes are available in 50 and 20 ampere, 300 volt ratings.

SURFACE-TYPE FEED-IN BOXES

End feed-in boxes are used where run is to be fed from one end. On the 50-ampere size the connection is made from terminal blocks by flexible connectors with spring-loaded bus connectors on one end. The 20-ampere size has terminals connected directly to the bus bar connectors. The bus bar connectors are plugged into the end of the bus bars. The housing slides in through the opening of the box for a distance of one-half inch until it hits a stop. When length has been inserted, set screws on feed-in box coupling plate are tightened and mechanical connection is complete. The coupling plate has a hole so it can be used for hanging.

Center-feed-in boxes are used where a single feeder is brought to the center of the run, feeding in both directions. It is similar to an end feed-in box with addition of opening and coupling plate at the other end of the box and another set of flexible leads. Box adds $4\frac{3}{8}$ inches to length of run.

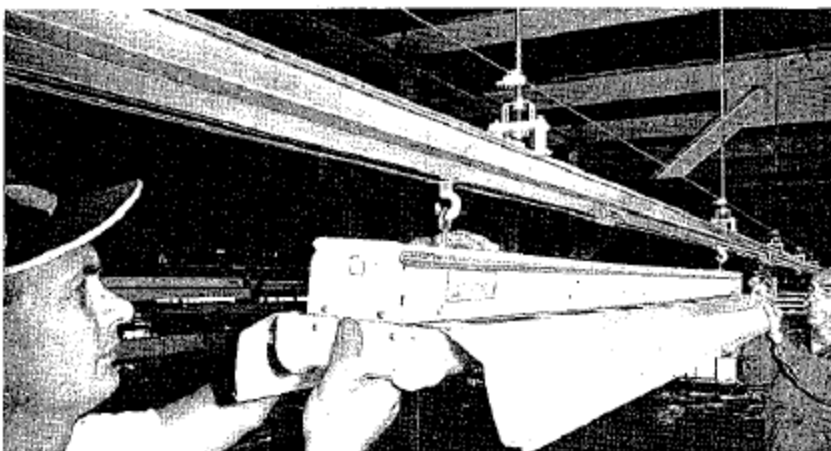
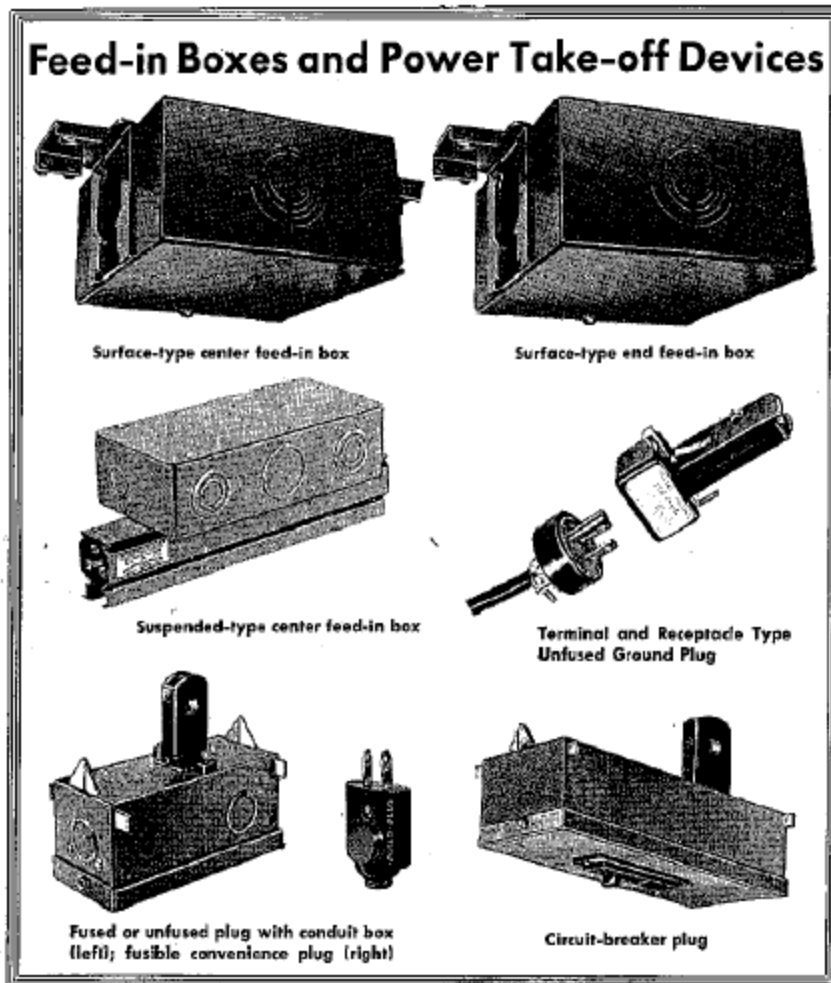
Sectionalizing Center feed-in boxes are used where busway is center fed from two separate feeders with feeds going in opposite directions. It is available in two-pole construction only. It has an opening and coupling plate at each end. Four flexible leads are furnished for 4-wire terminal block. Two leads are plugged into busway conductors on each side. Box adds $4\frac{3}{8}$ inches to length of run. For 3- and 4-wire applications, two end feed-in boxes should be used.

SUSPENDED-TYPE FEED-IN BOXES

Center feed-in boxes are used to feed a run in both directions from a common feeder. Box rests on top of Type LTG housing and has screw-removable top plate. A 24-inch section of busway is attached to each box. Coupling sets are not included. Connections from terminal

blocks to busway conductors are made at factory.

Sectionalizing feed-in boxes are used where Type LTG busway is center-fed from two feeders. Connections from terminal blocks to busway conductors are made at factory.



General Electric Busway "roll-in" system allows busway and lighting fixtures to be hung from one point at one time. Saves up to 50% in installation costs

POWER TAKE-OFF DEVICES

Unfused Plugs

Unfused plugs are available for use with 2-, 3-, and 4-wire busway as follows:

- With terminals for wire connections.
- With receptacles for convenience attachment caps or fusible convenience plugs.
- With both terminal and receptacles incorporated in a single base.
- Conduit box plugs are similar to terminal type except with conduit box added.

Fusible Plugs

Fusible-type, 2-wire plugs utilize a single cartridge fuse mounted in a fuse box and are rated 20 amperes, 125 volts a-c or d-c. The 3-wire and 4-wire fusible plugs utilize 3 cartridge fuses and are rated 20 amperes, 250 volts a-c. Fuses are not included with the units.

Circuit Breaker Plugs

Circuit breaker plugs are equipped with single-pole, G-E Type TQL 15- or 20-ampere circuit breakers enclosed in boxes. They are available for 120 volts a-c only.

APPLICATION DATA

The 2-wire Type LTG busway is normally used only when 2-wire circuits are involved and for low-initial-cost installations.

For most applications, the use of 3- or 4-wire Type LTG busway is recommended because of its greater load carrying capacities. Where a 2-wire busway can carry 6 kva at 120 volts, a 3-wire busway can carry 12 kva and a 4-wire busway can carry 18 kva at the same voltage.

In effect, 3-wire Type LTG busway provides two independent circuits in the same housing while 4-wire busway can be considered three independent circuits in one housing. Thus, the use of 3- and 4-wire busway provides greater switching flexibility, extra circuits at low cost, and greater service continuity.

Independently controlled circuits are desirable wherever it is necessary to control separate loads or separate portions of the same load. For example, a

department store may require two or three different lighting circuits depending on the material displayed and an industrial plant may require one circuit for work periods and another for maintenance crews. By using single-pole breakers in each of the hot legs with a grounded neutral, it is easy to obtain maximum switching flexibility with 3- and 3-wire LTG busway.

In most distribution systems, normal day-lighting circuits are paralleled by other branch circuits. These additional circuits supply night-lighting, convenience outlets, small offices or wash-rooms, heaters, fans, portable tools, etc. If 2-wire busway is used, other loads must be supplied by other independent circuits which may be either Type LTG busway or wire and conduit. In many instances, a considerable saving can be effected by using 3- or 4-wire Type LTG busway to supply two or three of these circuits.

Where service continuity is essential, as in emergency lighting systems, it is desirable to split the loads among various circuits in a 3- or 4-wire housing. Then, if a temporary overload condition should occur on one phase, the single-pole breaker in that circuit may trip, but the other circuit will be left in operation. Thus, only a portion of the load will be shut down and production will not be lost.

Special Atmospheric Conditions

Type LTG busway is designed for use under most normal indoor industrial and commercial conditions. The housing and auxiliary enclosures are given a base rust inhibitor treatment to provide a durable base for the finish of grey baked enamel. Non-current-carrying parts are cadmium-plated while electrical parts are silver dipped. Insulating parts are made of hot molded phenolic compound.

While all materials are selected for durability and long life under relatively severe usage, Type LTG busway should not be used in outdoor, damp, corrosive or hazardous locations. In locations where foreign substances might enter the housing, it is advisable to use the fiber slot closure.

STANDARDS

Type LTG busway and its components have been tested and listed by the

Underwriters' Laboratories, Inc., except where otherwise indicated in this bulletin. The busway has been tested at 1600 volts in accordance with Underwriters' Laboratories, Inc., requirements.

SHORT-CIRCUIT RATINGS

Type LTG busway is capable of withstanding the effects of a potential 5000 RMS asymmetrical ampere short circuit without electrical or mechanical damage when protected by circuit breakers.

When protected by 60-ampere maximum Type CLF current-limiting fuses, Type LTG busway may be used on a system where a maximum of 100,000 RMS asymmetrical amperes is available.

VOLTAGE DROP

The table is based on the load being equally distributed along the run.

If the load is concentrated at the end of the run multiply the tabulated values by 2.

The voltage drop for other than rated load may be obtained by multiplying the voltage drop for rated load by the ratio of actual load to rated load. Similarly, the voltage drop for lengths other than 100 feet may be obtained by multiplying the voltage drop for 100 feet by the ratio of actual length to 100 feet.

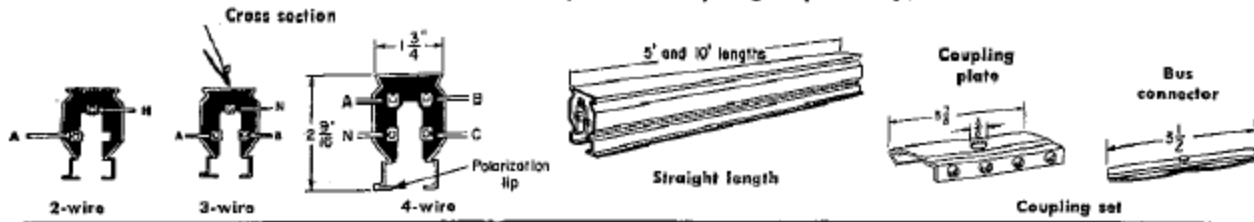
Thus, actual voltage drop (balanced three-phase system) equals:

$$\text{Voltage drop at rated load} \times \frac{\text{actual load}}{\text{rated load}} \times \frac{\text{actual length}}{100 \text{ feet}}$$

Percent Power Factor	Type LTG-50A Voltage Drop	
	1φ, 2 Wire	3 and 4 Wire
0	0.61	0.52
10	0.85	0.72
20	1.00	0.85
30	1.25	1.04
40	1.36	1.16
50	1.58	1.35
60	1.72	1.46
70	1.88	1.59
80	2.05	1.74
90	2.09	1.81
95	2.10	1.85
100	2.05	1.78

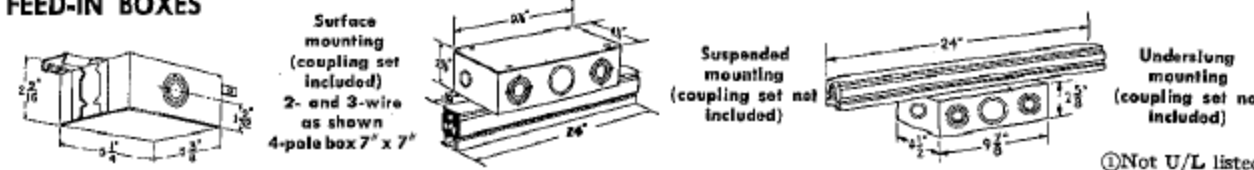
DIMENSIONS, WEIGHTS AND TECHNICAL DATA

STRAIGHT LENGTHS AND COUPLING SET (Order Coupling Separately)



Description	TWO-WIRE			THREE-WIRE			FOUR-WIRE		
	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
10-ft straight length	DLTG222	6	90	DLTG322	6	96	DLTG422	6	102
5-ft straight length	DLTG225	6	42	DLTG325	6	48	DLTG425	6	48
Coupling set (one coupling plate with a bus connector for each pole)	DLTG8CP2	24	12	DLTG8CP3	24	12	DLTG8CP4	24	12
Coupling plate (only)	DLTGCP	50	7	DLTGCP	50	7	DLTGCP	50	7
Bus connector (only)	DLTGBC	25	1	DLTGBC	25	1	DLTGBC	25	1

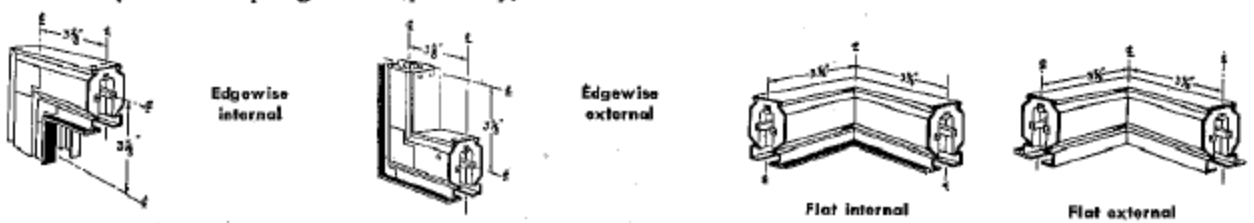
FEED-IN BOXES



Description	TWO-WIRE			THREE-WIRE			FOUR-WIRE		
	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
SURFACE MOUNTING									
End type, 20-amp	DFEB221	1	3	DFEB321	1	3	DFEB421	1	3
End type, 50-amp	DFEB222	1	3	DFEB322	1	3	DFEB422	1	5
Center type	DFCB222	1	4	DFCB322	1	4	DFCB422	1	5
Sectionalizing type	DFCSB222	1	4	.....	.....	.....	.....	.....	.....
SUSPENDED MOUNTING									
Center type	DAOCB222	1	6	DAOCB322	1	6	DAOCB422	1	6
Sectionalizing type	DAOSC222	1	6	DAOSC322	1	6	DAOSC422	1	7
UNDERSUNG MOUNTING									
Center type	DASCB222	1	6	DASCB322	1	6	DASCB422	1	6
Sectionalizing type	DASC5222	1	6	DASC5322	1	6	DASC5422	1	7

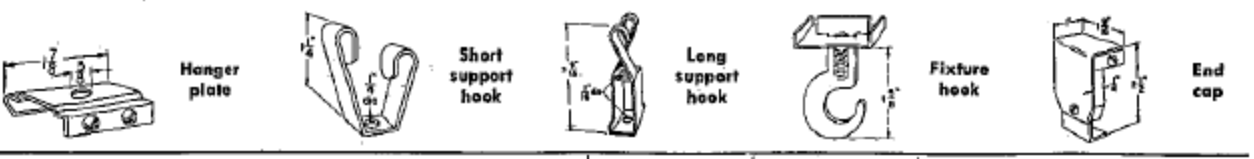
Ⓢ Not U/L listed

ELBOWS (Order Coupling Sets Separately)



Description	TWO-WIRE			THREE-WIRE			FOUR-WIRE		
	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
Edgewise, internal	DAIEB322	1	2	DAIEB322	1	2	DAIEB422	1	2
Edgewise, external	DAEEB322	1	2	DAEEB322	1	2	DAEEB422	1	2
Flat, internal	DAIFB322	1	2	DAIFB322	1	2	DAIFB422	1	2
Flat, external	DAEFB322	1	2	DAEFB322	1	2	DAEFB422	1	2

HARDWARE



Description	Cat. No.	Std Pkg	Pkg Wt (Lb)
Hanger plate (only) with screws	DLTGF	20	3
End cap with screws	DLTGC	3	10
Short (1 1/4") support hook for messenger cable	DLTGM1	50	5
Long (2 1/2") support hook for messenger cable	DLTGM3	50	9
Fixture hook	DLTGFH	50	4
Fiber slot closures, 5-ft long (set of 20)	DLTGS5	1 set	2
Universal fluorescent fixture support (4-ft fixture maximum)	DLTGUF5	20	9
Hanger plate (DLTGF) assembled with 1 1/4-inch hook (DLTGM1)	DLTGMF1	50	10
Hanger plate (DLTGF) assembled with 3/16-inch hook (DLTGM3)	DLTGMF3	50	14

DIMENSIONS, WEIGHTS AND TECHNICAL DATA — (Cont'd)

UNFUSED PLUGS



Terminal only—
includes cable
clamp and
ground terminal



Receptacle only—
does not include
cable
clamp



Terminal or receptacle—
includes cable clamp
and ground terminal

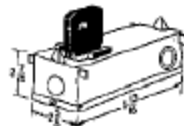


Conduit
box

Description of Plug					FOR TWO-WIRE BUSWAY			FOR THREE-WIRE BUSWAY			FOR FOUR-WIRE BUSWAY			
Type Plug	No. Poles	Amp	Volts		Bus Bar Contact	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
			A-c	D-c										
TERMINAL (ONLY)	2	15A, 300V, A-c; 20A, 120 or 240V, A-c; 15A, 125V, D-c	120	125	A-N	DATP221A	20	3	DATP221A	20	5
	2		120	125	B-N	.....	.....	.....	.....	.....	.....	.....	.....
	2	120	125	A-B	.....	.....	.....	.....	.....	.....	.....	.....	.....
	2	120	125	A-B	.....	.....	.....	.....	.....	.....	.....	.....	.....
RECEPTACLE (ONLY)	3	20	240	.....	A-B-N	.....	.....	DATRP321	16	8	.....	.....	.....
	4		240	.....	A-B-C-N	.....	.....	.....	.....	.....	.....	.....	.....
TERMINAL OR RECEPTACLE	2	15	125	125	A-N	DARP221A	20	3	DARP221A	20	3	.....	.....
	2		125	125	B-N	.....	.....	.....	.....	.....	.....	.....	.....
TERMINAL OR RECEPTACLE	2	When Applying Use Some Ratings as above for Terminal only or Receptacle only	120	125	A-N	DATRP221	20	6	DATRP221	20	6	DATRP2214A	20	6
	2		120	125	B-N	DATRP2214B	20	6
	2		120	125	A-B
	2		120	125	C-N	DATRP2214C	20	6
CONDUIT BOX	2	15A, 300V, A-c; 20A, 120 or 240V, A-c; 15A, 125V, D-c	120	125	A-N	DAUC221	1	3	DAUC221	1	3	DAUC2214A	1	3
	2		120	125	B-N	.....	.....	.....	.....	.....	.....	.....	.....
	2		120	125	A-B
	2		120	125	C-N
3	20	240	.....	A-B-N	.....	.....	.....	DAUC321	1	3	.....	.....	.....
														4

• Change location of polarizing wedge in the field.

FUSIBLE PLUGS (Arranged for cartridge fuses—fuses not included)



Fused or unfused plug with
conduit box arranged for
single or three fuses

Fusible convenience plug
Use two 1/4 X 1 1/4 No. 3AG
glass fuses—no fuses included
Cat. No. DPP21



Description of Plug					FOR TWO-WIRE BUSWAY			FOR THREE-WIRE BUSWAY			FOR FOUR-WIRE BUSWAY			
Type Plug	No. Poles	Amp	Volts		Bus Bar Contact	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
			A-c	D-c										
SINGLE FUSE	2	20	120	125	A-N	DFC221	1	3	DFC221	1	3	DFC2214A	1	3
	2		120	125	B-N	.....	.....	.....	.....	.....	.....	DFC2214B	1	3
	2		120	125	A-B	.....	.....	.....	.....	.....	.....	.....	.....	.....
	2		120	125	C-N	DFC2214C	1
3 FUSES	3	20	240	A-B-N	DFC321	1	3
	4		240	A-B-C-N	DFC421	1	3

CIRCUIT-BREAKER PLUGS (Includes Type TQL circuit breakers)



Description of Plug					FOR TWO-WIRE BUSWAY			FOR THREE-WIRE BUSWAY			FOR FOUR-WIRE BUSWAY			
Type Plug	No. Poles	Amp	Volts		Bus Bar Contact	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt	Cat. No.	Std Pkg	Pkg Wt
			A-c	D-c										
ONE SINGLE-POLE BREAKER	2	15	120	.....	A-N	DATL82115	1	3	DATL82115	1	3	DATL821154A	1	3
	2		120	.....	B-N	.....	.....	.....	.....	.....	.....	DATL821154B	1	3
	2		120	.....	C-N	.....	.....	.....	.....	.....	.....	DATL821154C	1	3
	2	20	120	.....	A-N	DATL82120	1	3	DATL82120	1	3	DATL821204A	1	3
	2		120	.....	B-N	.....	.....	.....	.....	.....	.....	DATL821204B	1	3
	2		120	.....	C-N	.....	.....	.....	.....	.....	.....	DATL821204C	1	3
TWO SINGLE-POLE BREAKERS	3	15	120/240	.....	A-B-N	.....	.....	.....	DATL83115	1	3	.....	.....	.....
	3		120/240	.....	A-B-N	.....	.....	.....	.....	.....	.....	.....	.....	.....

GUIDE FORM SPECIFICATIONS

GENERAL—The prefabricated plug-in busway system shall be rated 300 volts, 50 amperes, (two) (three) (four) wire.

All busway assemblies shall be listed by Underwriters' Laboratories, Inc., and so labeled.

HOUSING—The housing shall include an integrally formed polarizing lip to permit installation of outlet devices in only one position to assure maintenance of phase relationship. The form of the housing shall be such that a positive grip is provided for the hangers. A slot in the bottom of the housing shall provide a continuous outlet for power takeoffs.

BUS BARS—Bus bars shall be silver immersed for their entire length.

INSULATORS—The bus bars shall be rigidly supported in and insu-

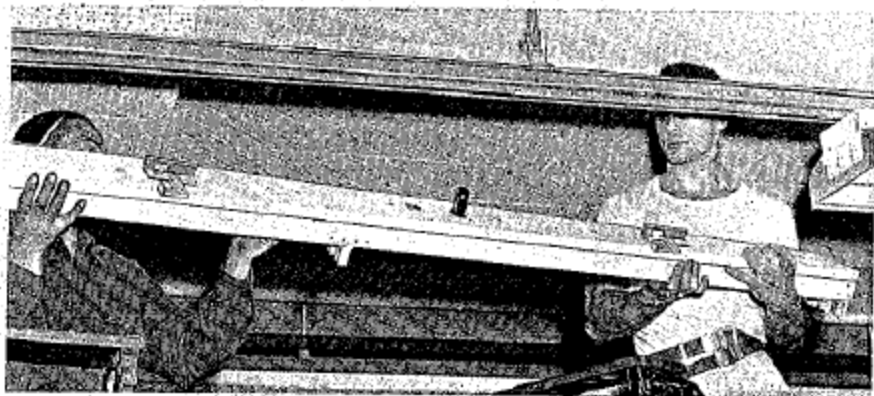
lated from the housing by insulators having high-impact and dielectric strength.

HANGING—The housing shall be supported at intervals not exceeding 5 feet in accordance with the National Electrical Code by means of (steel rods) (brackets) (messenger cable) attached to (sliding) (fixed) plates, coupling plates, and hangers.

The (steel rods) (brackets) (messenger cable) shall be provided by the installer.

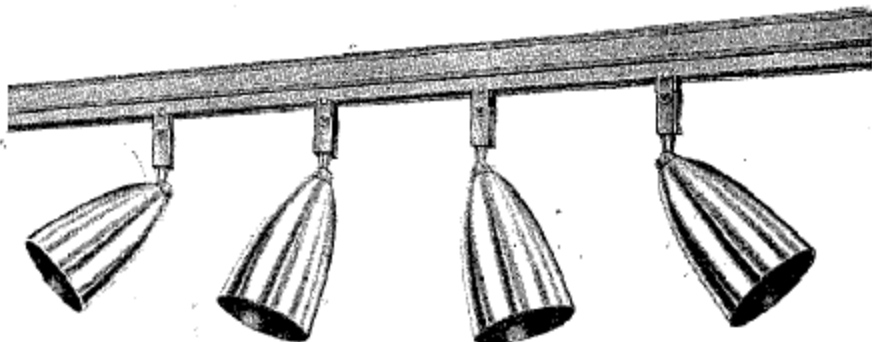
OUTLET DEVICES—All outlet devices shall be of the polarized type to prevent incorrect phasing, and provide means for balancing single-phase loads. They shall be designed so that they may be inserted in the busway at any point without the necessity of using access doors or removing sections or end caps.

INSTALLATION (Include if desired)—The busway shall be installed by the General Electric roll-in system using the devices specifically designed for that purpose.



Carries the power and the fixture

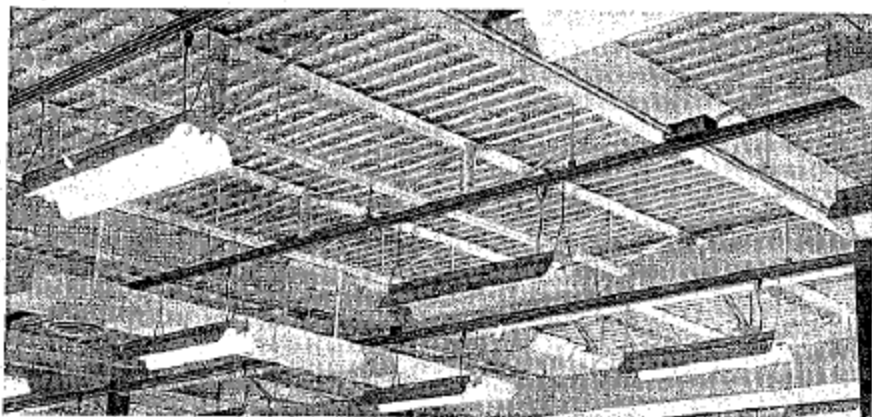
So fixtures can be mounted directly against busway ... or ... suspended parallel with or at right angles to it.



Provides continuous outlet for display lighting.

So ... on moment's notice ... display fixtures* can be concentrated or dispersed for desired lighting effect.

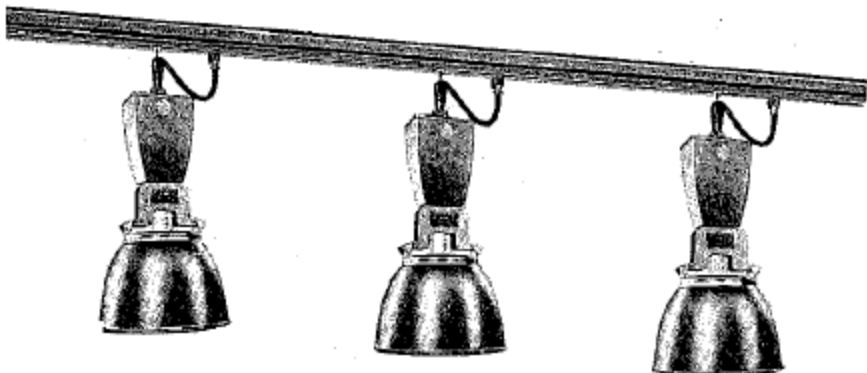
*The display fixtures depicted manufactured by Swivelier Company, Inc.



Provides 1-, 2- or 3 circuits in one housing, with independent control of each

So one-third, two-thirds or the entire system may be used at any time.

Also makes available separate circuits for receptacles, air conditioners, etc.



Most flexible lighting busway available. Even mercury vapor luminaires are easily mounted on and plugged into this rugged, versatile busway.