SIEMENS

VL circuit breakers

Information guide

www.usa.siemens.com/circuitbreakers

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Introduction
The VL family of circuit breakers by Siemens utilizes a compact and modular design which can be configured to suit a wide range of ratings and applications. Designed for global requirements, these breakers include the following standards and markings:

UL (UL 489)
CSA (CSA-C22.2)
NOM (NMX-J-266-ANCE-2002)[1)]
IEC (IEC-60947-2)
CE (EN 60947-2)
CCC [1)]

The range of frames includes 150A to 1600A and each rating is available with interchangeable trip units. The frames are available in three (3) interrupting ratings classes:

N – Normal
H – High
L – Very High

The assortment of trip units allows a choice of trip functions and each trip unit features adjustable settings. The interchangeable trip units are available in three (3) varieties as well:

Model 525 – Thermal-magnetic
Model 545 & 555 – Electronic
Model 576 & 586 – Electronic with LCD display

The VL family also includes Molded Case Switches, Motor Circuit Protectors, special 600V DC breakers, and other complete breakers with non-interchangeable trip units.

Internal accessories are field installable and are conveniently located in pockets behind the front accessory cover. To simplify the selection of accessories, just two (2) groups of internal accessories cover the entire VL product family. To accommodate the wide variety of application requirements for connecting, mounting, and operating the breakers, a wide range of external accessories is also available. Some of these accessories are listed in this guide.

VL circuit breakers have been tested for series connected short circuit ratings. Refer to the website for more information.

UL File Numbers:
E10848 – circuit breakers, motor circuit protectors
E68312 – molded case switches

1) Select frames.

Catalog number information

	Primary catalog number								Lugs	Switch		Release		Other	
Position	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**P1**	**P1**	**P2**	**P1**	**P2**	**P1**	**P2**
Breaker example	**H**	**F**	**G**	**3**	**B**	**2**	**5**	**0**	**L**						
Trip unit example	**C**	**F**	**T**	**3**	**E**	**2**	**5**	**0**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Character type	**a**	**a**	**a**	**n**	**a**	**n**	**n**	**n**	**a**	**a**	**n**	**a**	**a/n**	**a**	**a**

Interrupting capacity
N – Normal
H – High
L – Very high

Frame size
{D, F, J, L, M, N, P}

Breaker type
G – Global (UL, IEC, CE, CSA, NOM)
X – Global, non-interchangeable
Y – Global, 100% rated, non-interchangeable
T – Trip unit only

Number of poles {1, 2, 3}

Trip unit type {F for frame only}

Current rating (I_n) in amperes
(Amperes/10 if > = 1000)

Terminations

Two letter suffixes describing accessories and modifications

Technical data

		DG	FG	JG	LG	MG	NG	PG
Max rated continuous current		150	250	400	600	800	1200	1600
Rated operational voltage								
NEMA	V AC	600	600	600	600	600	600	600
IEC	V AC	690	690	690	690	690	690	690
Rated impulse withstand voltage								
Main conducting paths	kV	8	8	8	8	8	8	8
Auxiliary circuits	kV	4	4	4	4	4	4	4
Ambient temperature range	°C	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75
High ambient derating (thermal-mag.)	50°C	93%	93%	93%	93%	95%	95%	95%
	60°C	86%	86%	86%	86%	86%	86%	80%
	70°C	80%	80%	80%	80%	80%	80%	74%
Operating cycles		20,000	20,000	20,000	10,000	5,000	3,000	3,000
Max switching rate (per hour)		120	120	120	60	60	30	30
Power loss (at max. rated current)								
Thermal-magnetic	W	15 – 48	32 – 80	60 – 175	85 – 230	170 – 250	150 – 220	200 – 260
Electronic trip unit	W	40	60	90	160	250	210	260
IEC [1]								
Time constant t = 10 ms								
1 current path / Up to 250V DC		—	—	—	—	—	—	—
2 current paths in series / 440V DC								
3 current paths in series / 600V DC								
NEMA								
Time constant t = 8 ms								
2 poles switching, 1 current path 250V DC max. [2]		30	30	30	30	42	42	42
3 poles switching, 2 current paths in series 500V DC max. [2]		18	25	35	35	65	65	65
Accessories								
Auxiliary / Alarm switch								
Current rating (1 or 2 switches)		10	10	10	10	10	10	10
Current rating (3 or 4 same switch)	A	5	5	5	5	5	5	5
Shunt trip								
Pick-up voltage	V	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1
Power consumption (short-time) at:								
48 –60 V AC	VA	158 – 200	158 – 200	158 – 200	158 – 200	380 – 480	380 – 480	380 – 480
110 – 127 V AC	VA	136 – 158	136 – 158	136 – 158	136 – 158	302 – 353	302 – 353	302 – 353
208 – 277 V AC	VA	274 – 350	274 – 350	274 – 350	274 – 350	330 – 439	330 – 439	330 – 439
380 – 600 V AC	VA	158 – 237	158 – 237	158 – 237	158 – 237	243 – 384	243 – 384	243 – 384
24 V DC	W	110	110	110	110	360	360	360
48 – 60 V DC	W	110 – 172	110 – 172	110 – 172	110 – 172	512 – 820	512 – 820	512 – 820
110 –127 V DC	W	220 – 254	220 – 254	220 – 254	220 – 254	302 – 353	302 – 353	302 – 353
220 – 250 V DC	W	97 – 110	97 – 110	97 – 110	97 – 110	348 – 397	348 – 397	348 – 397
Max. operating time	ms	50	50	50	50	50	50	50

[1] Consult Siemens for short circuit values.
[2] Review individual frame and type values.

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		DG	FG	JG	LG	MG	NG	PG
Undervoltage trip								
Drop voltage (percentage)	V	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%
Pick-up voltage (percentage)	V	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%
Power consumption (continuous) at:								
110 – 127 V AC	VA	1.5	1.5	1.5	1.5	1.1	1.1	1.1
220 – 250 V AC	VA	1.5	1.5	1.5	1.5	2.1	2.1	2.1
208 V AC	VA	1.8	1.8	1.8	1.8	2.2	2.2	2.2
277 V AC	VA	2.1	2.1	2.1	2.1	1.6	1.6	1.6
380 – 415 V AC	VA	1.6	1.6	1.6	1.6	2.0	2.0	2.0
440 – 480 V AC	VA	1.8	1.8	1.8	1.8	2.3	2.3	2.3
500 – 525 V AC	VA	2.5	2.5	2.5	2.5	2.9	2.9	2.9
Max. opening time	ms	50	50	50	50	50	50	50
Motorized operating mechanism								
Motor with stored energy mechanism (synchronizable)		X	X	X	X	X	–	–
Motor Operator						–	X	X
Max. switching rate (per hour)		120	120	120	60	60	30	30
Command duration	ms	20 – 50	20 – 50	20 – 50	20 – 50	20 – 50	50	50
Closing time	ms	<100	<100	<100	<100	<100	<5,000	<5,000
Charging time	s	<5	<5	<5	<5	<5	<5	<5
Break time	s	<5	<5	<5	<5	<5	<5	<5
Power consumption	VA/W	<100	<100	<100	<100	<250	<250	<250
Control voltages	24 V DC							
	42 – 48 V AC / DC							
	60 V AC / DC							
	110 - 127 V AC/ DC							
	220 - 250 V AC/ DC							
Operating range:	85 – 110% of rated control voltage							

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DC switching

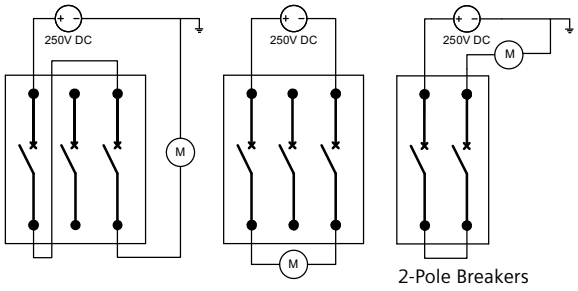
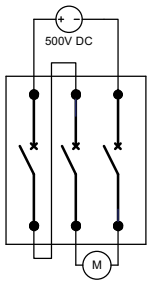
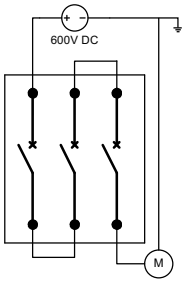
The DG through PG frame circuit breakers with thermal-magnetic trip units, as motor circuit protectors, or as molded case switches are suitable for switching and protecting DC circuits.

The DG through PG frame circuit breakers with electronic trip units are not suitable for DC currents.

For switching DC currents, the maximum allowable DC voltage per conducting path has to be considered.

For voltages greater than 250V, the series connection of 2 or 3 conducting paths is required. To maintain the thermal-tripping characteristics, the current needs to flow through all conducting paths. Recommended circuit arrangements are shown below.

With DC applications, the operating values of the instantaneous values are increased by 30 to 40%

Recommended Connection	Maximum Voltage	Comments
 2-Pole Breakers	250 V DC	Circuits shown for grounded systems may also be used as ungrounded. Circuits shown as ungrounded must not be grounded.
	500 V DC	Ungrounded 500 V DC systems only. Typical application in UPS systems.
	600 V DC	Grounded or ungrounded system. Three conducting paths in series. The grounded pole must be assigned to the non-switched conducting path.

Polarity shown for all circuits may be reversed.

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Unusual Operating Conditions Reference Note: The information provided on this and the next page is intended for reference and recommendation only. Because several variables can act on a circuit breaker's performance at the same time, the data below is based less on controlled testing, than on experience and engineering judgment. Contact Siemens for further information on special conditions and treatment.

High Ambient Temperatures
Because thermal-magnetic trip breakers are temperature sensitive and calibrated for a specific ambient of 40° C (104° F) (average enclosure temperature), a higher ambient will cause the breaker to trip at lower current than its nameplate rating, in other words, causing the breaker to "derate" (see Table 1). Similarly, the current carrying capacity of a circuit conductor is based upon a certain ambient temperature, a higher ambient will reduce its current carrying capacity, causing it to "derate." Thus, with a fluctuating temperature, a thermal-magnetic breaker will derate nearly parallel with its connected circuit conductors and maintain close circuit protection. If the application temperature exceeds 40° C (104° F) and is known, either a breaker specially calibrated for the higher ambient or one oversized according to Table 1 may be selected. In a case such as this, the circuit conductors should be oversized as well.

Siemens Electronic Trip Unit Breakers are insensitive to temperature changes. However, they do include circuitry to protect the components from abnormally high temperatures.

Altitude
Reduced air density at altitudes greater than 6600 ft. (2000 meters) affects the ability of a molded case circuit breaker to transfer heat and interrupt faults. Therefore, circuit breakers applied at these altitudes should have interrupting, insulation and continuous currents derated as indicated in Figure 1.

Table 1 – Temperature derating date for thermal-magnetic breakers

Reference Ampere Rating at 40° C (104° F)	Ampere Rating at: 25° C (77° F)	50°C (122° F)	60° C (140° F)	Siemens Breaker Frames
50	55	46	42	DG
60	66	56	52	DG
70	77	65	60	DG
90	99	84	78	DG
100	110	94	87	DG
125	137	114	100	DG
150	165	136	120	DG
175	192	159	140	FG
200	220	182	160	FG
225	247	205	180	JG
250	275	235	220	JG
300	330	276	252	JG
350	385	325	301	LG
400	440	372	340	LG
500	550	468	435	MG
600	660	564	525	MG
700	770	658	613	NG
800	880	754	704	NG
900	990	828	749	NG
1000	1100	900	825	PG
1200	1320	1090	1000	PG
1400	1540	1304	1148	PG
1600	1760	1500	1320	PG

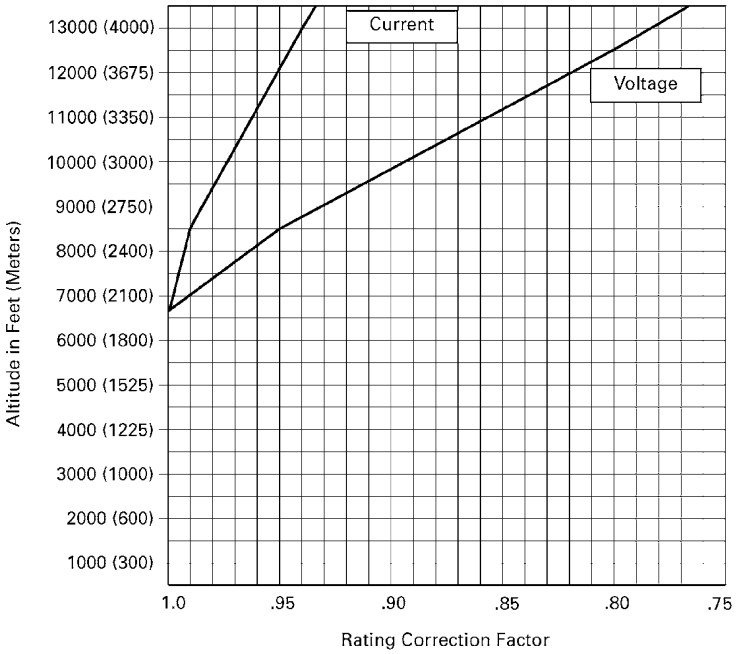


Figure 1 – Altitude adjustment

Technical data

Unusual Operating Conditions Reference 400 Hz Systems

Circuit Breaker Derating Required
This table lists the maximum continuous current carrying capacity for Siemens breakers at 400Hz. Due to the increased resistance of the copper sections resulting from the skin effect produced by eddy currents at these frequencies, circuit breakers in many cases require derating. The thermal derating on these devices is based upon 100%, three phase application in open air in a maximum of 40°C (104° F) with 48 in. (1219 mm) of the specified cable or bus at the line and load side. Additional derating of not less than 20% will be required if the circuit breaker is to be utilized in an enclosure. Further derating may be required if the enclosure ambient temperature exceeds 40°C(104° F).

Cable and Bus Sizing
The cable and bus sizes to be utilized at 400Hz are not based on standard National Electric Codes tables for 60Hz application. Larger cross sections are necessary at 400Hz. All bus bars specified are based upon mounting the bars in the vertical plane to allow maximum air flow. All bus bars are spaced at a minimum of 0.25 in. (6 mm) apart. Mounting of bus bars in the horizontal plane will necessitate additional drafting. Edgewise orientation of the bus may change the maximum ratings indicated. If additional information is required for other connections of cable or bus, contact Siemens for information.

Application Recommendations
It is recommended that temperatures be measured on the line and load terminals or T-connectors of the center pole. These are usually the hottest terminals with a balanced load. A maximum temperature of 75°C (35°C over a maximum ambient of 40° C) would verify the particular application. Temperature profiles taken on these breakers can be correlated to ensure that the hottest points within the breaker are within the required temperature limits.

Interrupting Rating
Circuit breakers used in 400 Hz systems are limited to a 5000 A interrupting rating. If higher ratings are required, consult Siemens.

400Hz breakers

Breaker type	Maximum continuous ampere rating at 40 °C (104 °F) [2]			75 °C (167 °F) Copper cable per pole	
	60HZ	400HZ			
	Open air	Open air [3]	Enclosed after derating	No. of pieces	Wire size
DG	50	48	38	1	#8
	60	57	46	1	#6
	70	63	50	1	#4
	80	72	58	1	#4
	90	80	64	1	#3
	100	90	72	1	#3
	110	95	75	1	#2
	125	105	84	1	#1
	150	125	100	1	#1/0
FG	100	90	72	1	#3
	110	95	75	1	#2
	125	105	84	1	#1
	150	125	100	1	#1/0
	175	140	112	1	#2/0
	200	160	128	1	#3/0
	225	180	144	1	#4/0
	250	200	160	1	250 kcmil
JG	250	210	168	1	250 kcmil
	300	240	192	1	350 kcmil
	350	260	208	1	500 kcmil
	400	300	240	2	#2/0
JG 100% Rated	250	210	210	1	250 kcmil
	300	240	240	1	350 kcmil
	350	260	260	1	500 kcmil
	400	300	300	2	#3/0
LG	400	300	240	2	#3/0
	500	375	300	2	250 kcmil
	600	420	336	2	350 kcmil

Breaker type	Maximum continuous ampere rating at 40 °C (104 °F) [2]			75 °C (167 °F) Copper cable per pole	
	60HZ	400HZ			
	Open air	Open air [3]	Enclosed after derating	No. of pieces	Wire size
LG	600	430	360	2	350 kcmil
MG	700	500	400	3	250 kcmil
	800	560	448	3	300 kcmil
MG 100% Rated	600	430	430	2	350 kcmil
	700	500	500	3	250 kcmil
	800	560	560	3	300 kcmil
NG	800	560	448	3	300 kcmil
	900	600	480	3	350 kcmil
	1000	650	520	3	400 kcmil
	1200	780	624	4	350 kcmil
NG 100% Rated	900	600	600	3	350 kcmil
	1000	650	650	3	400 kcmil
	1200	780	780	4	350 kcmil
	1200	780	624	4	400 kcmil
PG	1400	850	680	4	500 kcmil
	1600	960	768	5	500 kcmil
	1200	780	780	4	400 kcmil
PG 100% Rated	1400	850	850	4	500 kcmil
	1600	960	960	5	500 kcmil

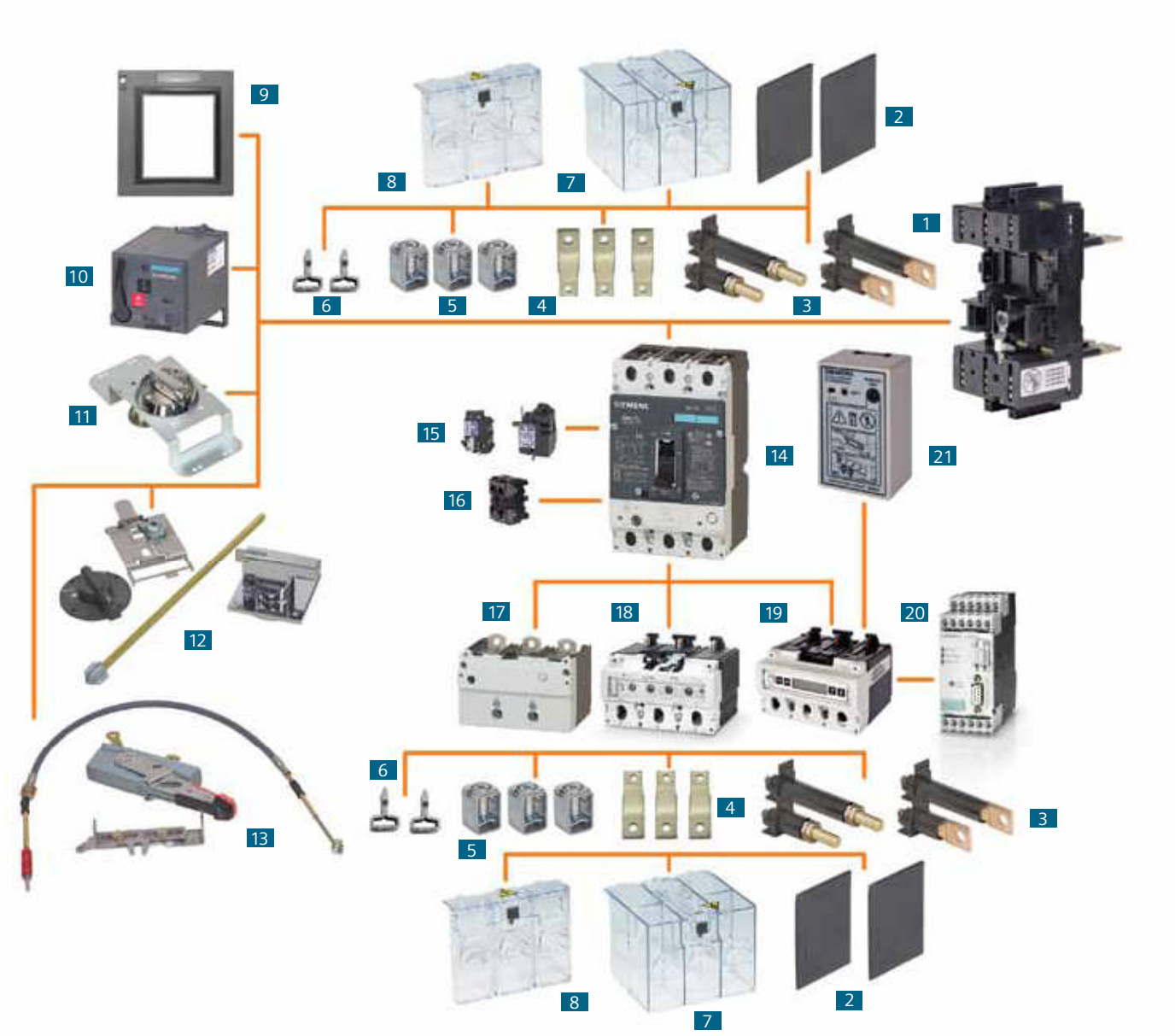
1) The information provided on this page is intended for reference and recommendation only. Because several variables can act on a circuit breaker's performance at the same time, the data above is based less on controlled testing, than on experience and engineering judgment.Contact Siemens for further information on special conditions and treatment.

2) Additional derating may be required if the ambient temperature is greater than 40°C (104°F).

3) Calculated after derating to compensate for the heating of the copper conductor, caused by the skin effect generated by eddy currents produced at 400/415HZ.

Technical data

Modularity to support all your application needs
Modules and more: VL Circuit Breakers with optional accessories



1 Base for Plug-In or Draw-Out
2 Interphase Barriers
3 Rear Terminals – Flat and Round
4 Bus Extensions
5 Terminal Connectors
6 Plug-In Terminal Blades
7 Extended Terminal Shield
8 Standard Terminal Shield
9 Cover Frame for Door Cutout
10 Stored Energy Operator
11 Rotary Handle Operator
12 Variable Depth Rotary Operator
13 Max Flex Operator
14 Circuit Breaker
15 Shunt Trip or Undervoltage Releases
16 Auxiliary/Alarm Switches
17 Thermal-Magnetic Trip Unit (525)
18 Electronic Trip Unit (555)
19 Elec. Trip Unit with LCD (586)
20 Communication Module with ZSI
21 Electronic Trip Unit Tester and LCD Power Supply

VL Circuit Breaker – DG 150A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, IEC, CE, CCC), interchangeable
X – Global, non-interchangeable
Y – Global, 100% rated, non-interchangeable, electronic only

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
Due to the location of the magnetic tripping solenoid, the left accessory pocket of electronic breakers is not available for accessories.
HACR rated.

Interrupting ratings

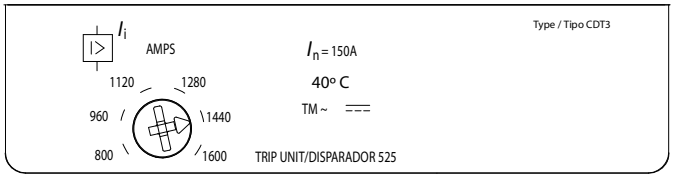
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NDGA	65	35	18	65 / 65	40 / 40	12 / 6	30	18	–
H	HDGA	100	65	20	100 / 75	70 / 70	12 / 6	30	18	42
L	LDGA	200	100	25	200 / 150	100 / 75	12 / 6	30	18	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HDGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
50	450	480	510	540	570	600
60	450	480	510	540	570	600
70	450	500	550	600	650	700
80	450	520	590	660	730	800
90	500	600	700	800	900	1000
100	500	600	700	800	900	1000
110	550	660	770	880	990	1100
125	625	750	875	1000	1125	1250
150	800	960	1120	1280	1440	1600



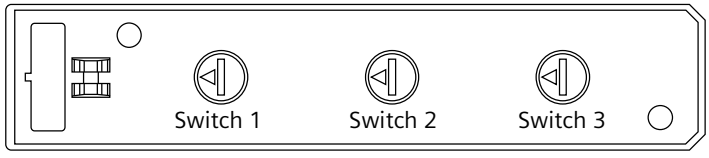
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	60	30	30	30	30	32	35	40	45	50	60
	100	40	40	45	50	60	63	70	80	90	100
	150	60	60	63	70	80	90	100	110	125	150
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	60, 100, 150	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	60	75	90	120	180	240	300	360	480	600	660
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650

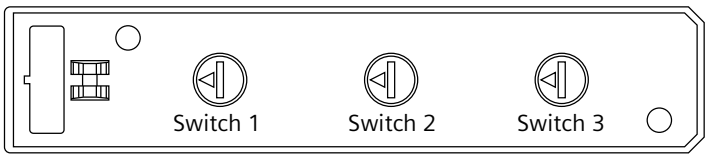
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
60	48	.07 sec
100	80	.07 sec
150	120	.07 sec



Trip unit model 545

Trip Unit Model 545 (continued)

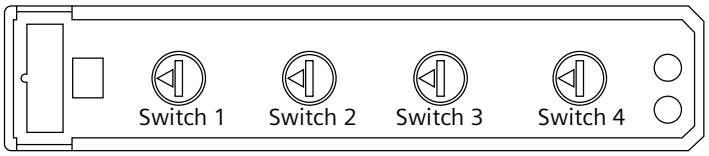


Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions										
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	60	30	30	30	30	32	35	40	45	50	60
	100	40	40	45	50	60	63	70	80	90	100
	150	60	60	63	70	80	90	100	110	125	150
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r									
	60, 100, 150	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds) @ 8xI_r									
	60, 100, 150	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

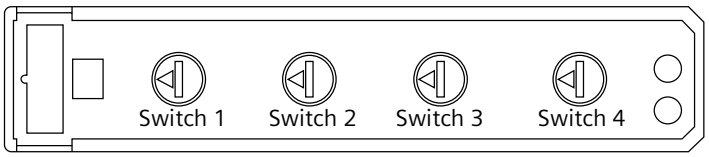
I_n – Trip unit rating (amps)	t_r – Long time delay	I_i – Nominal instantaneous trip	I_g – Ground fault pick-up (LSIG only)	t_g – Ground fault delay (LSIG only)
60	10 sec. (I^2t @ 6 x I_r)	660A	48A	.07 sec.
100		1100A	80A	.07 sec
150		1650A	120A	.07 sec

Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions										
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	60	30	30	30	30	32	35	40	45	50	60
	100	40	45	50	55	60	63	70	80	90	100
	150	60	63	70	75	80	90	100	110	125	150
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r									
	60, 100, 150	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i - Nominal instantaneous trip switch settings (amps)									
	60	75	90	120	180	240	300	360	480	600	660
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650
Switch 4 (LIG Only)	I_n – Trip unit rating (amps)	I_g - Ground fault pick-up switch settings (amps)									
	60	48	24	24	24	36	36	36	60	60	60
	100	80	40	40	40	60	60	60	100	100	100
	150	120	60	60	60	90	90	90	150	150	150
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)									
	60, 100, 150	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



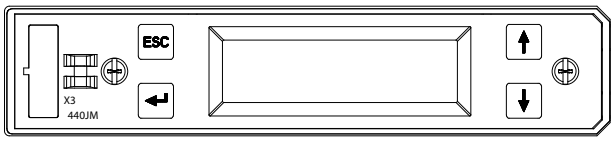
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**									
	60	30	35	40	50	60	30	35	40	50	60
	100	40	50	60	80	100	40	50	60	80	100
	150	70	80	100	125	150	70	80	100	125	150
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**									
	60, 100, 150	4	4	4	4	4	14	14	14	14	14
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**									
	60, 100, 150	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**									
	60, 100, 150	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_i – Nominal instantaneous trip switch settings (amps)**									
	60	75	90	120	180	240	300	360	480	600	660
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650

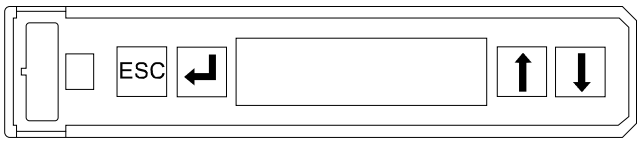
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**									
	60	30	35	40	50	60	30	35	40	50	60
	100	40	50	60	80	100	40	50	60	80	100
	150	70	80	100	125	150	70	80	100	125	150
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**									
	60, 100, 150	4	4	4	4	4	14	14	14	14	14
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**									
	60, 100, 150	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	**I_i – Nominal instantaneous trip switch settings (amps) x I_n**									
	60, 100, 150	5	5	5	5	5	11	11	11	11	11
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**									
	60, 100, 150	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_g – Ground fault pick-up switch settings (amps)**									
	60	48	24	24	24	36	36	36	60	60	60
	100	80	40	40	40	60	60	60	100	100	100
	150	120	60	60	60	90	90	90	150	150	150
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**									
	60, 100, 150	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
60	30 - 60	2.5, 4, 6, 8, 10, 14, 17, 20, 25, 30 sec.	1.25 - 10 x I_r	0.1, 0.2, 0.3, 0.4, 0.5 sec. or I^2t @ 8 x I_r	75 - 660A
100	40 - 100				125 - 1100A
150	60 - 150				188 - 1650A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①③	t_g – Ground fault delay	Pre-alarm indication
60	24 - 60A	0.1, 0.2, 0.3, 0.4, 0.5 sec. I2t @ .5 x I_n	80 - 100% x I_r (Amps)
100	40 - 100A		
150	60 - 150A		

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.
③ Model 586, trip unit type K = alarm only.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)
150	450 - 900①
150	750 - 1500②
150	1250 - 2500③

① Settings adjustable in increments of 90 amps.
② Settings adjustable in increments of 150 amps.
③ Settings adjustable in increments of 250 amps.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
50, 60 70, 80, 90, 100, 110, 125, 150	42 kA

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
150	2500A	65 kA

① Max. available current when protected by an appropriate overcurrent protective device.

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
#8 –1/0	1 (Cu only)	#8 #6 – #1/0	35 (3.95) 70 (7.91)	**3TW1DG20**①
#6 – 3/0	1 (Cu / Al)	#6 – #1 1/0 – 3/0	50 (5.85) 120 (13.56)	**3TA1DG30**①②
#6 – 3/0	1 (Cu only)	#6 – #1 1/0 – 3/0	50 (5.65) 120 (13.56)	**3TC10G30**①④

Compression connector kits

#14 – 2/0	1 (Cu / Al)			**3CLD20**①
#14 – 2/0	1 (Cu / Al)			**2CLD20**③

Distribution connector kits

#14 – #2	3 (Cu / Al)	#14 – #8 #6 – #2	35 (3.95) 60 (6.78)	**3TA3DG02**①
#14 – #4	6 (Cu / Al)	#14 – #4	35 (3.95)	**3TA6DG04**①

① Packaged as 3 connectors.
② Standard connectors when an "L" suffix is used on an assembled breaker catalog number.
③ Packaged as 2 connectors.
④ Required for 100% rated DG breakers. Requires 90°C cable sized at 75°C ampacity.

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
1 Alarm switch 1 A/B① bases AMBL2 and AMBL3	Left, right②	**ASKL1**
2 Aux. switches 1A + 1B base AMBL1	Left, right	**ASKL2**
2 Aux. + 1 Alarm switch 1A + 1B, 1A/B bases① AMBL2 and AMBL3	Left, right②	**ASKL3**

① Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.
② Kit includes 2 bases - one for mounting switches in left pocket and another for mounting in right pocket.

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 1 Alarm	Left	**AMBL2**
For 2 Aux + 1 Alarm	Right	**AMBL3**
For 3 Aux	Left, right	**AMBL1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRLM60**
110 – 127 VAC	**STRLN120**
208 – 277 VAC	**STRLS277**
380 –600 VAC	**STRLV600**
24 VDC	**STRLB24DC**
48 –60 VDC	**STRLC60DC**
110 – 127 VDC	**STRLD125DC**
220 – 250 VDC	**STRLE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 3 auxiliary switches	Shunt trip or UVR or up to 3 auxiliary switches
Up to 2 auxiliary switches + 1 alarm switch	Shunt trip or UVR or up to 2 auxiliary switches + 1 alarm switch

Maximum of 6 switches total.
Maximum of 2 alarm switches, 1 Left + 1 Right Pocket.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

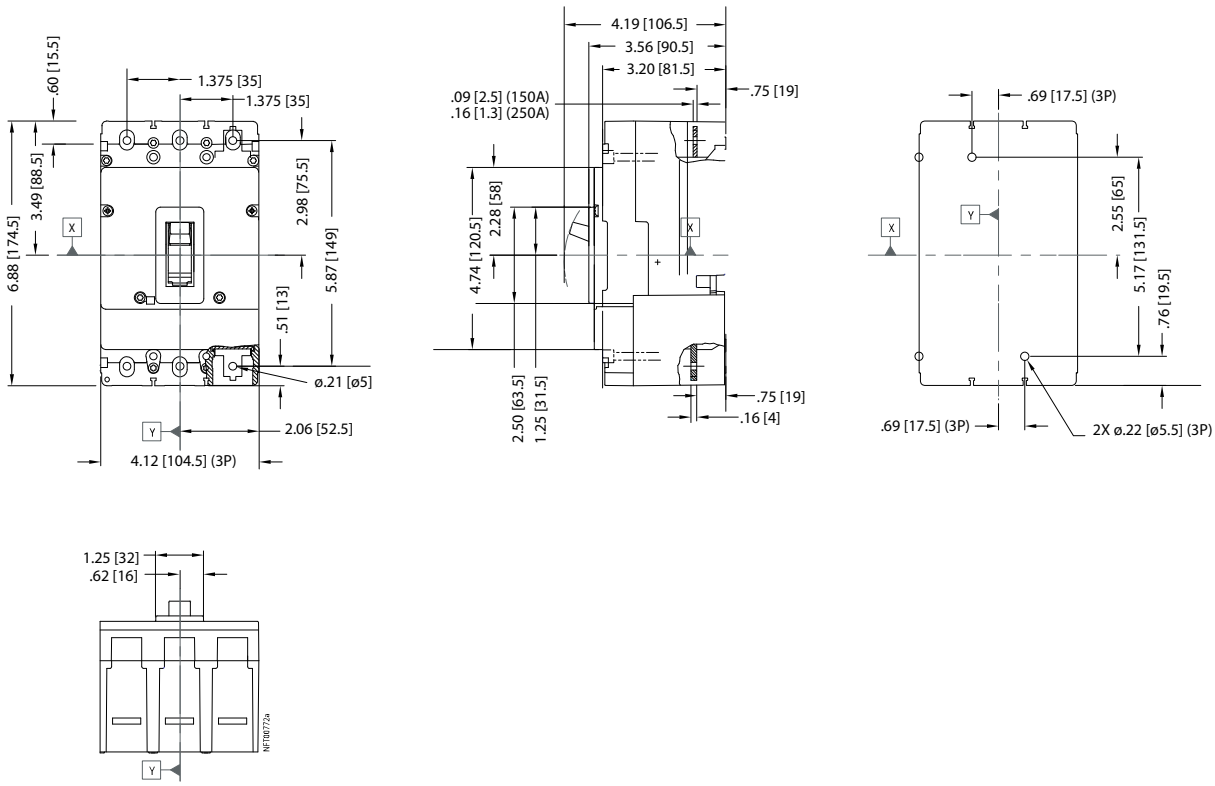
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRLN120**
220 –250 VAC	**UVRLR240**
208 VAC	**UVRLP208**
277 VAC	**UVRLS277**
380 – 425 VAC	**UVRLT415**
440 – 480 VAC	**UVRLU480**
12 VDC	**UVRLA12DC**
24 VDC	**UVRLB24DC**
48 VDC	**UVRLC48DC**
60 VDC	**UVRLG60DC**
110 – 127 VDC	**UVRLD125DC**
220 – 250 VDC	**UVRLE250DC**

Dimensions

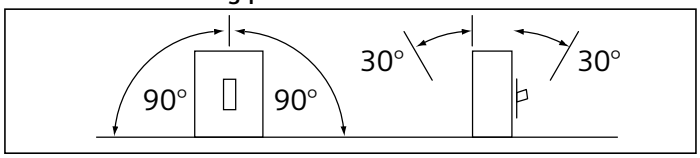
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame only	Trip unit		Complete breaker
		Thermal-mag	Electronic	
2,3	3.35 (1.52)	1.35 (.62)	1.60 (.72)	5.9 (2.7)

Permissible mounting positions



VL Circuit Breaker – FG 250A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, IEC, CE, CCC), interchangeable
X – Global, Non-interchangeable

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
Due to the location of the magnetic tripping solenoid, the left accessory pocket of electronic breakers is not available for accessories.
HACR rated.

Interrupting ratings

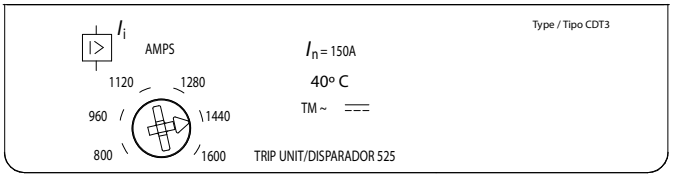
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NFGA	65	35	18	65 / 65	40 / 40	12 / 6	30	18	–
H	HFGA	100	65	20	100 / 75	70 / 70	12 / 6	30	18	42
L	LFGA	200	100	25	200 / 150	100 / 75	12 / 6	30	18	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HFGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
100	625	750	875	1000	1125	1250
110	800	960	1120	1280	1440	1600
125	800	960	1120	1280	1440	1600
150	800	960	1120	1280	1440	1600
175	1000	1200	1400	1600	1800	2000
200	1000	1200	1400	1600	1800	2000
225	1250	1500	1750	2000	2250	2500
250	1250	1500	1750	2000	2250	2500



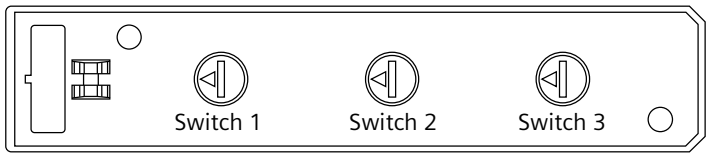
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	100	40	40	45	50	60	63	70	80	90	100
	150	60	60	63	70	80	90	100	110	125	150
	250	70	80	100	125	150	160	175	200	225	250
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	100, 150, 200	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650
	250	312	375	500	750	1000	1250	1500	2000	2500	2750

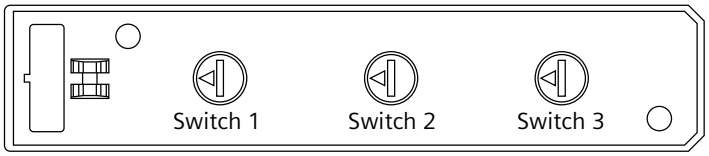
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
100	80	.07 sec
150	120	.07 sec
250	200	.07 sec



Trip unit model 545

Trip Unit Model 545 (continued)

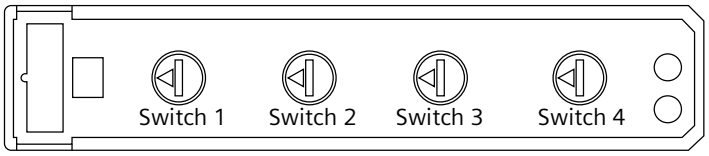


Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions										
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	100	40	40	45	50	60	63	70	80	90	100
	150	60	60	63	70	80	90	100	110	125	150
	250	70	80	100	125	150	160	175	200	225	250
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r									
	100, 150, 250	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds) @ 8xI_r									
	100, 150, 250	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

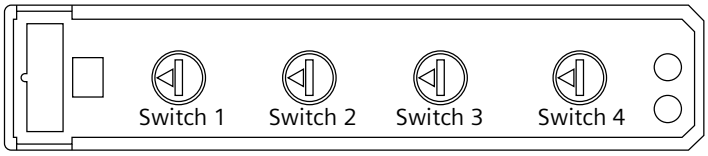
I_n – Trip unit rating (amps)	t_r – Long time delay	I_i – Nominal instantaneous trip	I_g – Ground fault pick-up (LSIG only)	t_g – Ground fault delay (LSIG only)
100	10 sec. (I^2t @ 6 x I_r)	1100A	80A	.07 sec.
150		1650A	120A	.07 sec
250		2750A	200A	.07 sec

Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions										
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	100	40	45	50	55	60	63	70	80	90	100
	150	60	63	70	75	80	90	100	110	125	150
	250	70	80	100	125	150	160	175	200	225	250
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r									
	100, 150, 250	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n - Trip unit rating (amps)	I_i - Nominal instantaneous trip switch settings (amps)									
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650
	250	312	375	500	750	1000	1250	1500	2000	2500	2750
Switch 4 (LIG Only)	I_n – Trip unit rating (amps)	I_g - Ground fault pick-up switch settings (amps)									
	100	80	40	40	40	60	60	60	100	100	100
	150	120	60	60	60	90	90	90	150	150	150
	250	200	100	100	100	150	150	150	250	250	250
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)									
	100, 150, 250	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



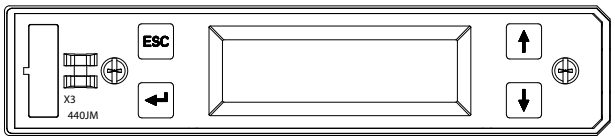
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	100	40	50	60	80	100	40	50	60	80	100
	150	70	80	100	125	150	70	80	100	125	150
	250	125	150	200	225	250	125	150	200	225	250
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	100, 150, 250	4	4	4	4	4	14	14	14	14	14
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	100, 150, 250	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**								
	100, 150, 250	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_i – Nominal instantaneous trip switch settings (amps)**								
	100	125	150	200	300	400	500	600	800	1000	1100
	150	187	225	300	450	600	750	900	1200	1500	1650
	250	312	375	500	750	1000	1250	1500	2000	2500	2750

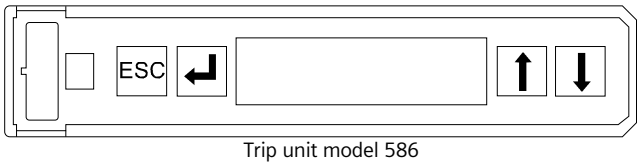
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	100	40	50	60	80	100	40	50	60	80	100
	150	70	80	100	125	150	70	80	100	125	150
	250	125	150	200	225	250	125	150	200	225	250
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	100, 150, 250	4	4	4	4	4	14	14	14	14	14
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	100, 150, 250	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	**I_i – Nominal instantaneous trip switch settings (amps) x I_n**								
	100, 150, 250	5	5	5	5	5	11	11	11	11	11
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**								
	60, 100, 150	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_g – Ground fault pick-up switch settings (amps)**								
	100	80	40	40	40	60	60	60	100	100	100
	150	120	60	60	60	90	90	90	150	150	150
	250	200	100	100	100	150	150	150	250	250	250
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	60, 100, 150	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
100	40 - 100	2.5, 4, 6, 8, 10, 14, 17, 20, 25, 30 sec.	1.25 - 10 x I_r	0.1, 0.2, 0.3, 0.4, 0.5 sec. or I^2t @ 8 x I_r	125 - 1100A
150	60 - 150				187 - 1650A
250	70 - 250				313 - 2750A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
100	40 - 100A	0.1, 0.2, 0.3, 0.4, 0.5 sec. I2t @ .5 x I_n	80 - 100% x I_r (Amps)
150	60 - 150A		
250	100 - 250A		

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)
250	60 - 1200①
250	1000 - 2000②
250	1750 - 3500③

① Settings adjustable in increments of 120 amps.
② Settings adjustable in increments of 200 amps.
③ Settings adjustable in increments of 350 amps.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
100, 150, 250	42 kA

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
250	3500A	65 kA
250	3500A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
#3 – 350 kcmil	1 (Cu only)	#3 –350	220 (25)	**3TW1FG350**
#4 – 350 kcmil	1 (Cu / Al)	#4 #3 – #1 1/0 – 350	150 (16.95) 200 (22.60) 275 (31.07)	**3TAW1FG350**②
#4 – 350 kcmil	1 (Cu only)	#4 #3 – #1 1/0 – 350	150 (16.95) 200 (22.60) 275 (31.07)	**3TCW1FG350**

Compression connector kits

#6 – 350	1 (Cu / Al)			**3CLF350**

Distribution connector kits

#14 – 2/0	3 (Cu only)	#14 – #8 #6 – 2/0	40 (4.52) 120 (13.5)	**3TA3FG20**
#14 – #4	6 (Cu only)	#14 – #4	35 (3.95)	**3TA6FG04**

① Packaged as 3 connectors.
② Standard connectors when an "L" suffix is used on an assembled breaker catalog number.

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
1 Alarm switch 1 A/B① bases AMBL2 and AMBL3	Left, right②	**ASKL1**
2 Aux. switches 1A + 1B base AMBL1	Left, right	**ASKL2**
2 Aux. + 1 Alarm switch 1A + 1B, 1A/B bases① AMBL2 and AMBL3	Left, right②	**ASKL3**

① Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.
② Kit includes 2 bases - one for mounting switches in left pocket and another for mounting in right pocket.

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 1 Alarm	Left	**AMBL2**
For 2 Aux + 1 Alarm	Right	**AMBL3**
For 3 Aux	Left, right	**AMBL1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRLM60**
110 – 127 VAC	**STRLN120**
208 – 277 VAC	**STRLS277**
380 –600 VAC	**STRLV600**
24 VDC	**STRLB24DC**
48 –60 VDC	**STRLC60DC**
110 – 127 VDC	**STRLD125DC**
220 – 250 VDC	**STRLE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 3 auxiliary switches	Shunt trip or UVR or up to 3 auxiliary switches
Up to 2 auxiliary switches + 1 alarm switch	Shunt trip or UVR or up to 2 auxiliary switches + 1 alarm switch

Maximum of 6 switches total.
Maximum of 2 alarm switches, 1 Left + 1 Right Pocket.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

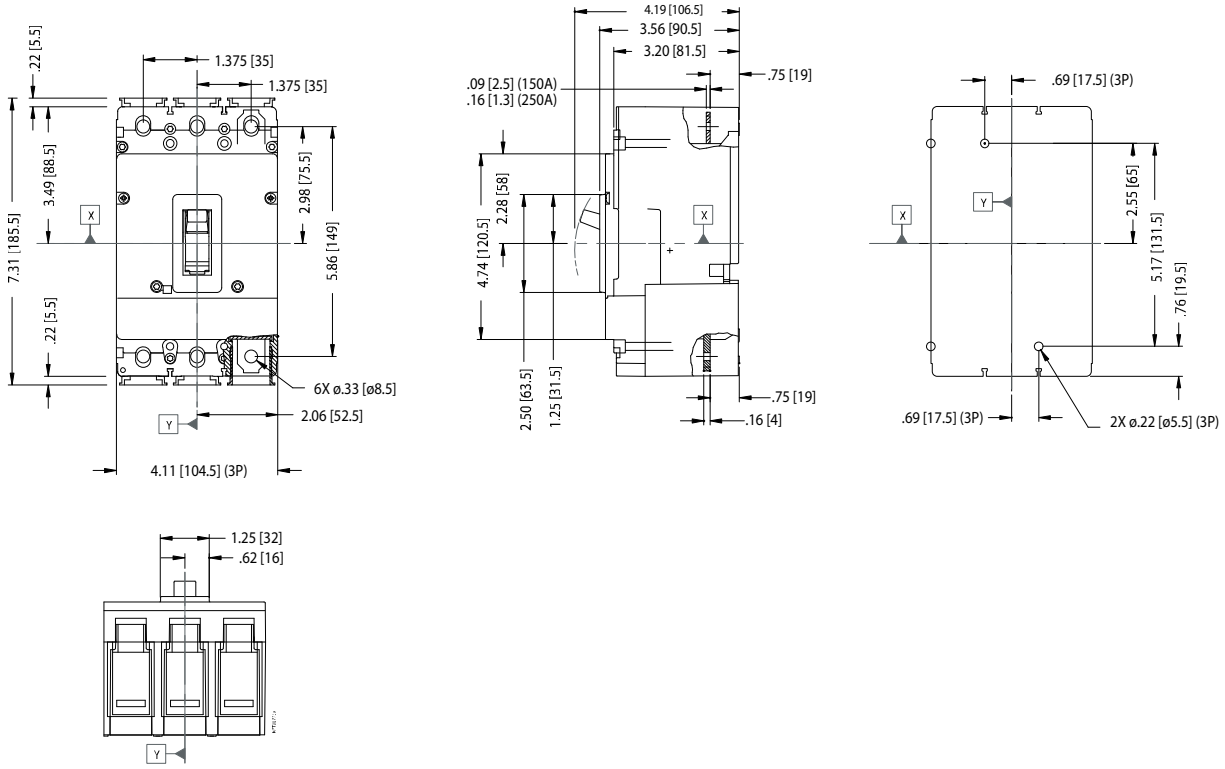
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRLN120**
220 –250 VAC	**UVRLR240**
208 VAC	**UVRLP208**
277 VAC	**UVRLS277**
380 – 425 VAC	**UVRLT415**
440 – 480 VAC	**UVRLU480**
12 VDC	**UVRLA12DC**
24 VDC	**UVRLB24DC**
48 VDC	**UVRLC48DC**
60 VDC	**UVRLG60DC**
110 – 127 VDC	**UVRLD125DC**
220 – 250 VDC	**UVRLE250DC**

Dimensions

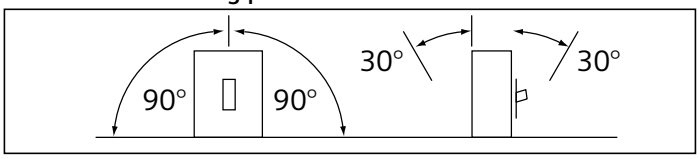
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame only	Trip unit		Complete breaker
		Thermal-mag	Electronic	
2,3	3.45 (1.56)	1.35 (.62)	1.60 (.72)	6.2 (2.8)

Permissible mounting positions



VL Circuit Breaker – JG 400A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, IEC, CE, CCC), interchangeable
X – Global, Non-interchangeable
Y – Global, 100% rated, Non-interchangeable

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
HACR rated.

Interrupting ratings

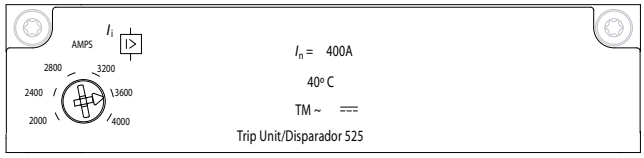
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NFGA	65	35	25	65 / 65	40 / 40	12 / 6	30	25	–
H	HFGA	100	65	25	100 / 75	70 / 70	15 / 8	30	35	65
L	LFGA	200	100	25	200 / 150	100 / 75	15 / 8	30	35	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HFGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
250	1250	1500	1750	2000	2250	2500
300	1500	1800	2100	2400	2700	3000
350	1750	2100	2450	2800	3150	3500
400	2000	2400	2800	3200	3600	4000



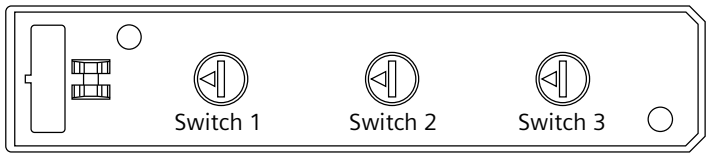
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	250	70	80	100	125	150	160	175	200	225	250
	400	150	160	175	200	225	250	300	315	350	400
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	250, 400	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	250	312	375	500	750	1000	1250	1500	2000	2500	2750
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400

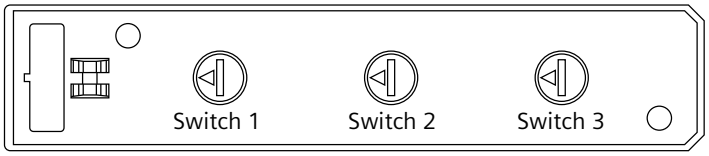
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
250	200	.07 sec
400	320	.07 sec



Trip unit model 545

Trip Unit Model 545 (continued)



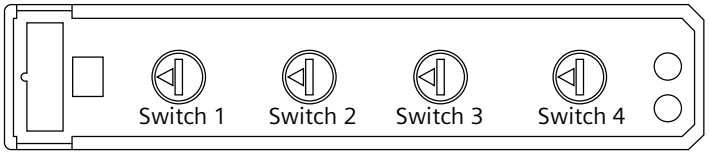
Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	250	70	80	100	125	150	160	175	200	225	250
	400	150	160	175	200	225	250	300	315	350	400
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	250, 400	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds) @ 8xI_r**								
	250, 400	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

I_n – Trip unit rating (amps)	**t_r – Long time delay**	**I_i – Nominal instantaneous trip**	**I_g – Ground fault pick-up (LSIG only)**	**t_g – Ground fault delay (LSIG only)**
250	10 sec. (I^2t @ 6 x I_r)	2750A	200A	.07 sec.
400		4400A	320A	.11 sec

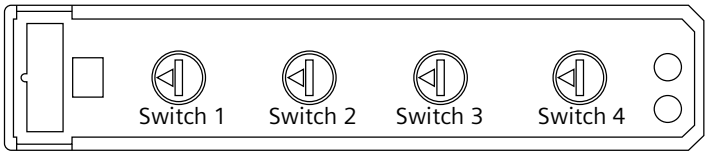
Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	250	70	80	100	125	150	160	175	200	225	250
	400	150	160	175	200	225	250	300	315	350	400
Switch 2	**I_n – Trip unit rating (amps)**	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	250, 400	2.5	4	6	8	10	14	17	20	25	30
Switch 3	**I_n - Trip unit rating (amps)**	**I_i - Nominal instantaneous trip switch settings (amps)**								
	250	312	375	500	750	1000	1250	1500	2000	2500	2750
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400
Switch 4 (LIG Only)	**I_n – Trip unit rating (amps)**	**I_g - Ground fault pick-up switch settings (amps)**								
	250	200	100	100	100	150	150	150	250	250	250
	400	320	160	160	160	240	240	240	400	400	400
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	250	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	400	0.11	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



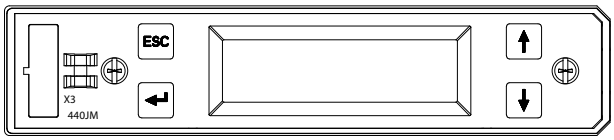
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	250	125	150	200	225	250	125	150	200	225	250
	400	200	250	300	350	400	200	250	300	350	400
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r									
	250	4	4	4	4	4	14	14	14	14	14
	400	10	10	10	10	10	20	20	20	20	20
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r									
	250, 400	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)									
	250, 400	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	250	312	375	500	750	1000	1250	1500	2000	2500	2750
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400

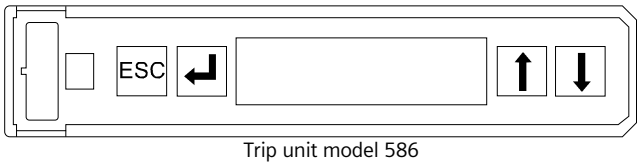
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	250	125	150	200	225	250	125	150	200	225	250
	400	200	250	300	350	400	200	250	300	350	400
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r									
	250	4	4	4	4	4	14	14	14	14	14
	400	10	10	10	10	10	20	20	20	20	20
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r									
	250, 400	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps) x I_n									
	250, 400	5	5	5	5	5	11	11	11	11	11
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)									
	250, 400	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_g – Ground fault pick-up switch settings (amps)									
	250	200	100	100	100	150	150	150	250	250	250
	400	320	160	160	160	240	240	240	400	400	400
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)									
	250	0.07	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	400	0.11	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
250	70 - 250	2.5, 4, 6, 8, 10, 14,	1.25 - 10 x I_r	0.1, 0.2, 0.3, 0.4, 0.5 sec.	313 - 2750A
400	150 - 400	17, 20, 25, 30 sec.		or I^2t @ 8 x I_r	500 - 4400A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
250	100 - 250A	0.1, 0.2, 0.3, 0.4, 0.5 sec.	80 - 100%
400	160 - 400A	I2t @ .5 x I_n	x I_r (Amps)

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)
400	1200 – 2500①
400	2000 – 4000②

① Settings adjustable in increments of 250 amps.
② Settings adjustable in increments of 400 amps.

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
400	4400A	65 kA
400	4400A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
250, 300, 350, 400	65 kA

Terminal Connectors

Wire range	Cables per connectors	Wire range	Torque lb-in. (Nm)	Catalog number
1/0 – 600 kcmil	1 (Cu only)	#1/0–600	330 (24.86)	**3TW1JG600**①
3/0 – 250 kcmil	2 (Cu / Al)	#3/0–250	275 (31.07)	**3TA2JG250**①②
3/0 – 250 kcmil	2 (Cu only)	#3/0–250	275 (31.07)	**TC2JG250**③
3/0 – 750 kcmil	1 (Cu only)	#3/0–250 300–750	275 (31.07) 500 (56.59)	**TC1JG750**③
3/0 – 750 kcmil	1 (Cu / Al)	#3/0–250 300–750	275 (31.07) 500 (56.49)	**3TA1JGG750**①

Compression connector kits

#6 – 350	1 (Cu / Al)			**3CLJ350**①
250 –600	1 (Cu / Al)			**3CLJ600**①
250 – 750	1 (Cu / Al)			**3CLJ750**①

Distribution connector kits

#14 – 2/0	6 (Cu / Al)	#14 – #10 #8 #6 – 2/0	35 (3.95) 40 (4.52) 120 (13.56)	**3TA6JG20**①
#14 – #4	6 (Cu only)	#14 – #4	35 (3.95)	**3TA12JG04**①

① Packaged as 3 connectors.
② Standard connectors when an "L" suffix is used on an assembled breaker catalog number.
③ Required for 100% rated JG breakers. Requires 90°C cable sized at 75°C ampacity.

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
1 Alarm switch 1 A/B① bases AMBL2 and AMBL3	Left, right②	**ASKL1**
2 Aux. switches 1A + 1B base AMBL1	Left, right	**ASKL2**
2 Aux. + 1 Alarm switch 1A + 1B, 1A/B bases① AMBL2 and AMBL3	Left, right②	**ASKL3**

① Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.
② Kit includes 2 bases - one for mounting switches in left pocket and another for mounting in right pocket.

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 1 Alarm	Left	**AMBL2**
For 2 Aux + 1 Alarm	Right	**AMBL3**
For 3 Aux	Left, right	**AMBL1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRLM60**
110 – 127 VAC	**STRLN120**
208 – 277 VAC	**STRLS277**
380 –600 VAC	**STRLV600**
24 VDC	**STRLB24DC**
48 –60 VDC	**STRLC60DC**
110 – 127 VDC	**STRLD125DC**
220 – 250 VDC	**STRLE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 3 auxiliary switches	Shunt trip or UVR or up to 3 auxiliary switches
Up to 2 auxiliary switches + 1 alarm switch	Shunt trip or UVR or up to 2 auxiliary switches + 1 alarm switch

Maximum of 6 switches total.
Maximum of 2 alarm switches, 1 Left + 1 Right Pocket.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

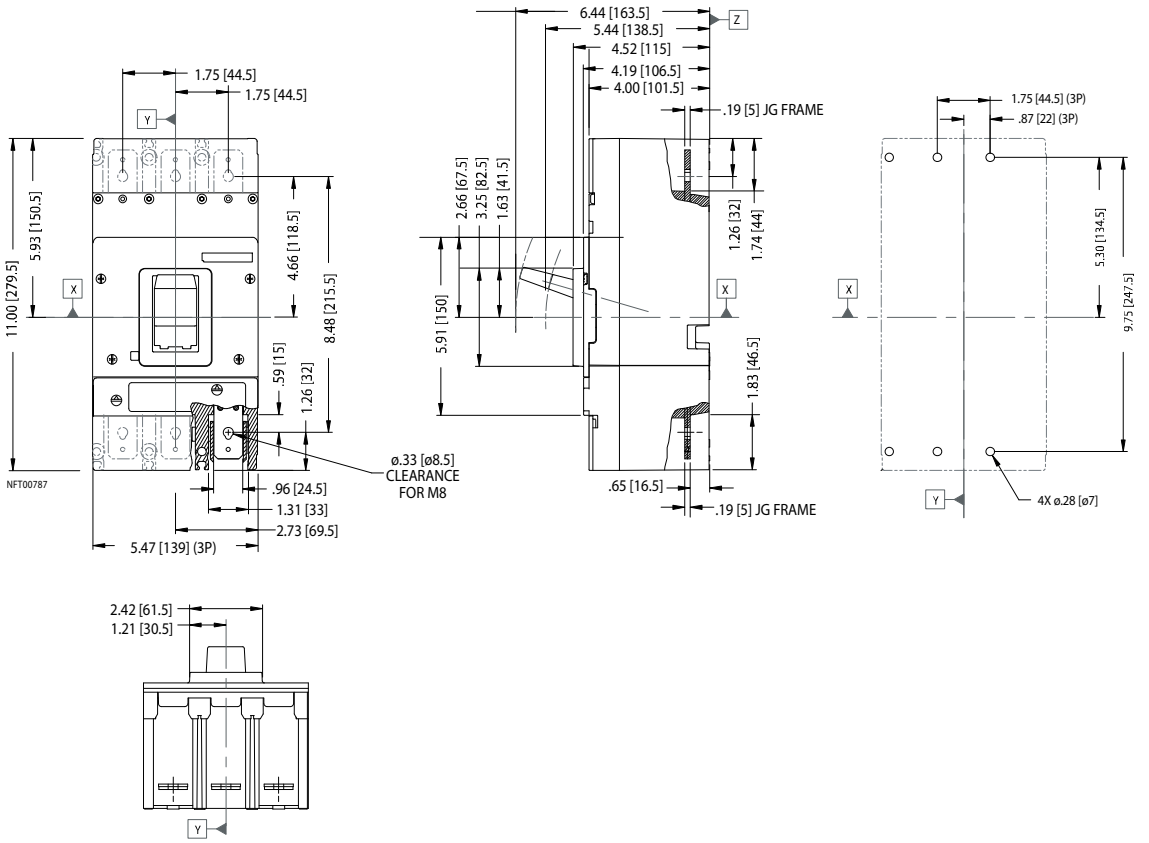
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRLN120**
220 –250 VAC	**UVRLR240**
208 VAC	**UVRLP208**
277 VAC	**UVRLS277**
380 – 425 VAC	**UVRLT415**
440 – 480 VAC	**UVRLU480**
12 VDC	**UVRLA12DC**
24 VDC	**UVRLB24DC**
48 VDC	**UVRLC48DC**
60 VDC	**UVRLG60DC**
110 – 127 VDC	**UVRLD125DC**
220 – 250 VDC	**UVRLE250DC**

Dimensions

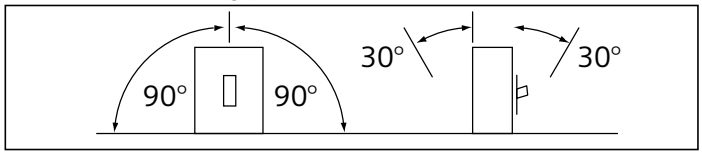
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame	Trip unit	Complete breaker
2,3	31.3 (14.2)	4.0 (1.8)	35.3 (16.0)

Permissible mounting positions



VL Circuit Breaker – LG 600A frame

Breaker type
Defined by the 3rd character of the catalog number
X – Global (UL, CSA, IEC, CE) non-interchangeable, thermal-magnetic
Y – Global, 100% rated, non-interchangeable, thermal-magnetic (400/500A only)
K – Global, non-interchangeable, electronic
W– Global, 100% rated, non-interchangeable, electronic

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
HACR rated.

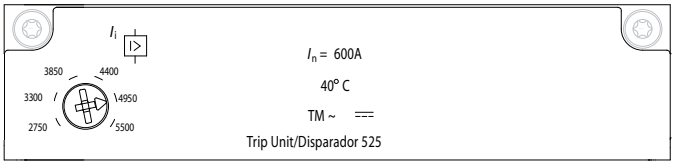
Interrupting ratings

RMS symmetrical amperes (kA)										
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NLGB	65	35	18	65 / 65	45 / 45	12 / 6	30	25	–
H	HLGB	100	65	18③	100 / 75	70 / 70	15 / 8	30	35	65
L	LLGB	200	100	18	200 / 150	100 / 75	15 / 8	30	35	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz
① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HLGD. See Speedfax catalog for more information.
③ Special version, 600VDC 25kA available. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
400	2000	2400	2800	3200	3600	4000
500	2500	3000	3500	4000	4500	5000
600	2750	3300	3850	4400	4950	5500



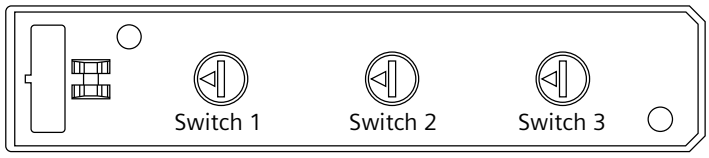
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	400	150	160	175	200	225	250	300	315	350	400
	600	200	200	225	250	300	315	350	400	500	600
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	400, 600	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000

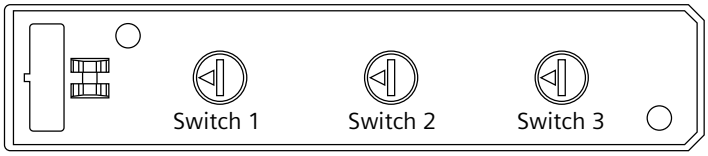
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
400	320	.11 sec
600	360	.18 sec



Trip unit model 545

Trip Unit Model 545 (continued)



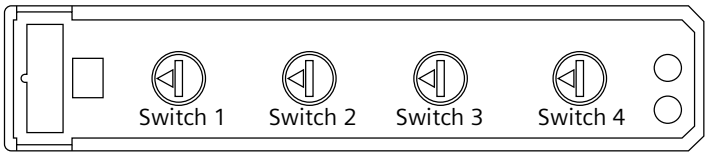
Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	400	150	160	175	200	225	250	300	315	350	400
	600	200	200	225	250	300	315	350	400	500	600
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	400, 600	1.5	2	2.5	3	4	5	6	7	8	9
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds) @ 8xI_r**								
	400, 600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

I_n – Trip unit rating (amps)	**t_r – Long time delay**	**I_i – Nominal instantaneous trip**	**I_g – Ground fault pick-up (LSIG only)**	**t_g – Ground fault delay (LSIG only)**
400	10 sec. (I^2t @ 6 x I_r)	4000A	320A	.11 sec.
600		6000A	360A	.18 sec

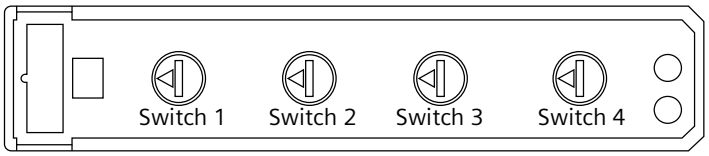
Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	400	150	160	175	200	225	250	300	315	350	400
	600	200	225	250	300	315	350	400	450	500	600
Switch 2	**I_n – Trip unit rating (amps)**	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	400, 600	2.5	4	6	8	10	14	17	20	25	30
Switch 3	**I_n - Trip unit rating (amps)**	**I_i - Nominal instantaneous trip switch settings (amps)**								
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000
Switch 4 (LIG Only)	**I_n – Trip unit rating (amps)**	**I_g - Ground fault pick-up switch settings (amps)**								
	400	320	160	160	160	240	240	240	400	400	400
	600	360	240	240	240	360	360	360	600	600	600
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	400	0.11	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	600	0.18	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



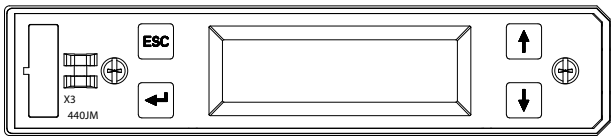
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	400	200	250	300	350	400	200	250	300	350	400
	600	350	400	450	500	600	350	400	450	500	600
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r								
	400, 600	10	10	10	10	10	20	20	20	20	20
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r								
	400, 600	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)								
	400, 600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)								
	400	500	600	800	1200	1600	2000	2400	3200	4000	4400
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000

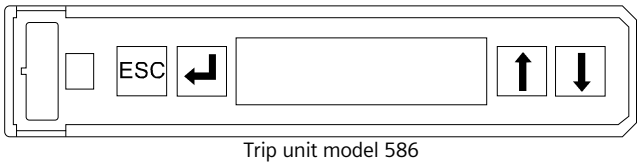
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	400	200	250	300	350	400	200	250	300	350	400
	600	350	400	450	500	600	350	400	450	500	600
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r								
	400, 600	4	4	4	4	4	14	14	14	14	14
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r								
	400, 600	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps) x I_n								
	250, 400	5	5	5	5	5	11	11	11	11	11
	600	5	5	5	5	5	10	10	10	10	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)								
	400, 600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_g – Ground fault pick-up switch settings (amps)								
	400	320	160	160	160	240	240	240	400	400	400
	600	360	240	240	240	360	360	360	600	600	600
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)								
	400	0.11	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	600	0.18	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
400	150 - 400	2.5, 4, 6, 8, 10, 14,	1.25 - 10 x I_r	0.1, 0.2, 0.3, 0.4, 0.5 sec.	500 - 4400A
600	200 - 600	17, 20, 25, 30 sec.		or I^2t @ 8 x I_r	750 - 6000A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
400	160 - 150A	0.1, 0.2, 0.3, 0.4, 0.5 sec.	80 - 100%
600	240 - 600A	I^2t @ .5 x I_n	x I_r (Amps)

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)
600	2000 – 4000①
600	2750 – 5500②

① Settings adjustable in increments of 400 amps.
② Settings adjustable in increments of 550 amps.

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
600	5500A	65 kA
600	5500A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
400, 600	65 kA

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
#2 – 600 kcmil	2 (Cu / Al)	#2 – 600	375 (42.37)	**3TA2LG600LN** (Line end only)①②④
#2 – 600 kcmil	2 (Cu / Au)	#2 – 600	375 (42.37)	**3TA2LG600LD** (Load end only) ①②④
Cu: 3/0 – 600	2 (Cu only)	300 – 750	500 (56.69)	**3TA1JG750**②⑤
Al: 250 – 750 kcmil	1 (Cu / Al)	250 300 – 750	275 (31.07) 500 (56.59)	
#2 – 600 kcmil	1 (Cu only)	#2 – 600	375 (42.37)	**3TC2LG600LN** (Line end only)②④⑥
#2 – 600 kcmil	2 (Cu only)	#2 – 600	375 (42.37)	**3TC2LG600LN** (Load end only)②④⑥

Compression Lug kits

#6 – 350 kcmil	2 (Cu / Al)		**6CLL350**③
250 – 750 kcmil	1 (Cu / Al)		**3CLL750**②
250 – 600 kcmil	2 (Cu / Al)		**6CLL600**③

① Standard connector when an "L" suffix is used on an assembled breaker catalog number.
② Packaged as 3 connectors.
③ Packaged as 6 connectors (2 connectors per phase).
④ Includes extended length terminal cover - see dimensions on drawing.
⑤ Up to 400A applications only.
⑥ Required for 100% rated LG breakers. Requires 90°C cable sized at 75°C ampacity.

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
1 Alarm switch 1 A/B① bases AMBL2 and AMBL3	Left, right②	**ASKL1**
2 Aux. switches 1A + 1B base AMBL1	Left, right	**ASKL2**
2 Aux. + 1 Alarm switch 1A + 1B, 1A/B bases① AMBL2 and AMBL3	Left, right②	**ASKL3**

① Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.
② Kit includes 2 bases - one for mounting switches in left pocket and another for mounting in right pocket.

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 1 Alarm	Left	**AMBL2**
For 2 Aux + 1 Alarm	Right	**AMBL3**
For 3 Aux	Left, right	**AMBL1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRLM60**
110 – 127 VAC	**STRLN120**
208 – 277 VAC	**STRLS277**
380 –600 VAC	**STRLV600**
24 VDC	**STRLB24DC**
48 –60 VDC	**STRLC60DC**
110 – 127 VDC	**STRLD125DC**
220 – 250 VDC	**STRLE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 3 auxiliary switches	Shunt trip or UVR or up to 3 auxiliary switches
Up to 2 auxiliary switches + 1 alarm switch	Shunt trip or UVR or up to 2 auxiliary switches + 1 alarm switch

Maximum of 6 switches total.
Maximum of 2 alarm switches, 1 Left + 1 Right Pocket.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

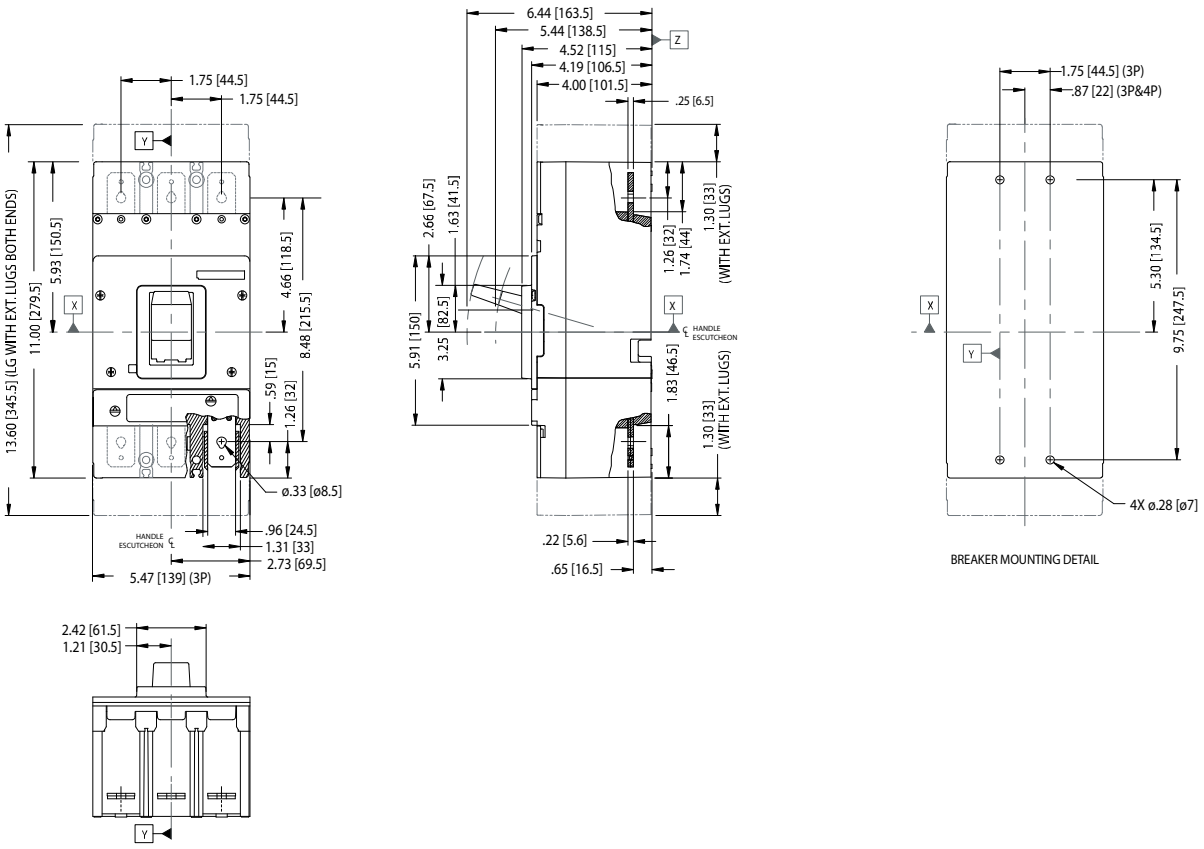
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRLN120**
220 –250 VAC	**UVRLR240**
208 VAC	**UVRLP208**
277 VAC	**UVRLS277**
380 – 425 VAC	**UVRLT415**
440 – 480 VAC	**UVRLU480**
12 VDC	**UVRLA12DC**
24 VDC	**UVRLB24DC**
48 VDC	**UVRLC48DC**
60 VDC	**UVRLG60DC**
110 – 127 VDC	**UVRLD125DC**
220 – 250 VDC	**UVRLE250DC**

Dimensions

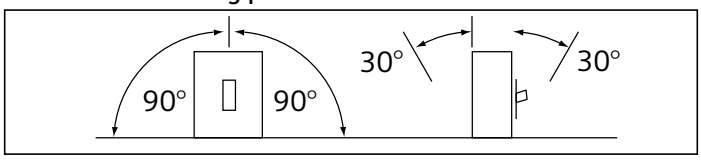
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame only	Trip unit		Complete T/M breaker
		Thermal-mag	Electronic	
2, 3	33 (15)	4.0 (1.8)	5 (2)	37 (17)

Permissible mounting positions



VL Circuit Breaker – MG 800A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, NOM, IEC, CE), interchangeable
X – Global, non-interchangeable
Y – Global, 100% Rated, non-interchangeable

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
HACR rated.

Interrupting ratings

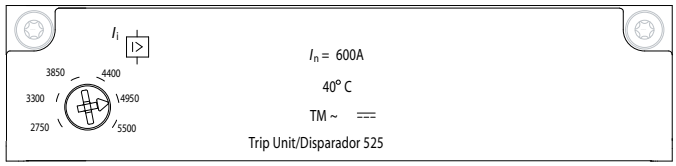
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NMG	65	35	25	65 / 65	50 / 50	20 / 10	22	35	–
H	HMG	100	65	35	100 / 75	70 / 70	30 / 15	25	50	65
L	LMG	200	100	65	200 / 150	100 / 75	35 / 17	42	65	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HMGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
600	3000	3600	4200	4800	5400	6000
700	3250	3900	4550	5200	5850	6500
800	3250	3900	4550	5200	5850	6500



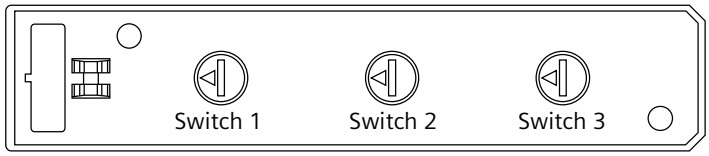
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	600	200	200	225	250	300	315	350	400	500	600
	800	300	300	315	350	400	500	600	630	700	800
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	600, 800	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000
	800	1000	1000	1200	1600	2400	3200	4000	4800	5600	6000

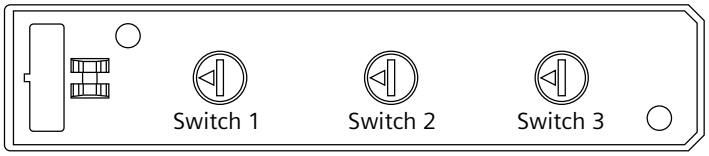
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
600	360	.18 sec
800	480	.25 sec



Trip unit model 545

Trip Unit Model 545 (continued)



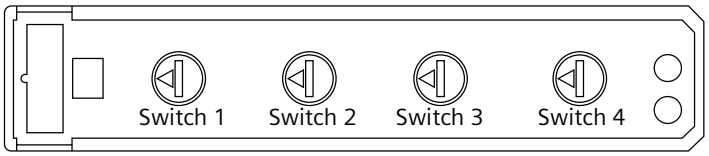
Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	600	200	200	225	250	300	315	350	400	500	600
	800	300	300	315	350	400	500	600	630	700	800
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	600	1.5	2	2.5	3	4	5	6	7	8	9
	400, 600	1.5	1.5	1.5	2	2.5	3	4	5	6	7
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds) @ 8xI_r**								
	600, 800	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

I_n – Trip unit rating (amps)	**t_r – Long time delay**	**I_i – Nominal instantaneous trip**	**I_g – Ground fault pick-up (LSIG only)**	**t_g – Ground fault delay (LSIG only)**
600	10 sec. (I^2t @ 6 x I_r)	6000A	360A	.18 sec.
800		6000A	480A	.25 sec

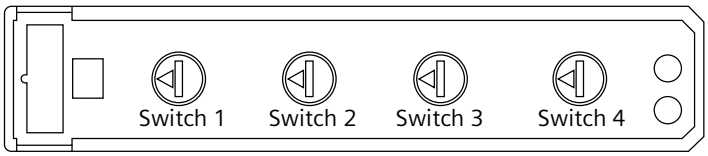
Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	600	200	225	250	300	315	350	400	450	500	600
	800	300	315	350	400	450	500	600	630	700	800
Switch 2	**I_n – Trip unit rating (amps)**	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	600, 800	2.5	4	6	8	10	14	17	20	25	30
Switch 3	**I_n - Trip unit rating (amps)**	**I_i - Nominal instantaneous trip switch settings (amps)**								
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000
	800	1000	1000	1200	1600	2400	3200	4000	4800	5600	6000
Switch 4 (LIG Only)	**I_n – Trip unit rating (amps)**	**I_g - Ground fault pick-up switch settings (amps)**								
	600	360	240	240	240	360	360	360	600	600	600
	800	480	320	320	320	480	480	480	800	800	800
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	600	0.18	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	800	0.25	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



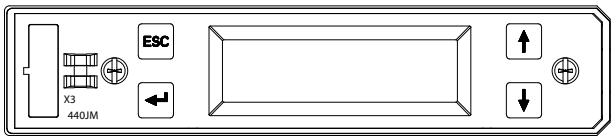
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	600	350	400	450	500	600	350	400	450	500	600
	800	400	500	600	700	800	400	500	600	700	800
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	600, 800	10	10	10	10	10	20	20	20	20	20
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	600, 800	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**								
	600, 800	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_i – Nominal instantaneous trip switch settings (amps)**								
	600	750	900	1200	1800	2400	3000	3600	4800	5400	6000
	800	1000	1000	1200	1600	2400	3200	4000	4800	5600	6000

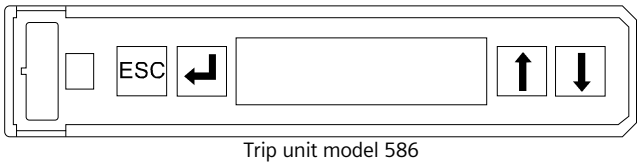
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	600	350	400	450	500	600	350	400	450	500	600
	800	400	500	600	700	800	400	500	600	700	800
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	600, 800	10	10	10	10	10	20	20	20	20	20
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	600, 800	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	**I_i – Nominal instantaneous trip switch settings (amps) x I_n**								
	600	5	5	5	5	5	10	10	10	10	10
	800	5	5	5	5	5	7.5	7.5	7.5	7.5	7.5
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**								
	400, 600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_g – Ground fault pick-up switch settings (amps)**								
	600	360	240	240	240	360	360	360	600	600	600
	800	480	320	320	320	480	480	480	800	800	800
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	600	0.18	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	800	0.25	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
600	200 - 600	2.5, 4, 6, 8, 10, 14,	1.25 - 10 x I_r (5,400 A max.)	0.1, 0.2, 0.3, 0.4, 0.5 sec.	750 - 6000A
800	300 - 800	17, 20, 25, 30 sec.	1.25 - 10 x I_r (5,600 A max.)	or I^2t @ 8 x I_r	1000 - 6000A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
600	240 - 600A	0.1, 0.2, 0.3, 0.4, 0.5 sec. (I^2t off) or	80 - 100%
800	320 - 800A	I^2t @ .5 x I_n (I^2t on)	x I_r (Amps)

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)
800	3250 – 6500

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
600, 700, 800	65 kA

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
800	6500A	65 kA
800	6500A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
500 – 750 kcmil	2 (Cu / Al)	500 - 750	375 (42.37)	**TA2MG750**
1/0 – 500 kcmil	3 (Cu / Au)	1/0 - 500	375 (42.37)	**TA3MG500** ①
1/0 – 500 kcmil	3 (Cu)	1/0 - 500	375 (42.37)	**TC3MG500**③
#2 – 600 kcmil	3 (Cu / Al)	#2 - 600	375 (42.37)	**3TA3MG600**②

① Standard connector when an "L" suffix is used on an assembled breaker catalog number.
② Packaged as 3 connectors.
③ Required for 100% rated MG breakers. Requires 90°C cable sized at 75°C ampacity.

Internal accessories

Auxiliary and alarm switch kits		
Description	**Mounting pocket**	**Catalog number**
2 Aux + 2 Alarm switches (2NO + 2NC + 1 base)	Left	**ASKP3**
4 Aux. switches (2NO + 2NC + 1 base)	Left, right	**ASKP4**

Auxiliary and alarm switch mounting base only		
Description	**Mounting pocket**	**Catalog number**
For 2 Aux + 2 Alarm	Left	**AMBP2**
For 4 Aux	Left, right	**AMBP1**

Shunt trip	
Control voltage	**Catalog number**
48 – 60 VAC	**STRLM60**
110 – 127 VAC	**STRLN120**
208 – 277 VAC	**STRLS277**
380 –600 VAC	**STRLV600**
24 VDC	**STRLB24DC**
48 –60 VDC	**STRLC60DC**
110 – 127 VDC	**STRLD125DC**
220 – 250 VDC	**STRLE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations	
Left accessory pocket	**Right accessory pocket**
Up to 4 auxiliary switches	Shunt trip or UVR or up to 4 auxiliary switches
Up to 2 auxiliary switches + 2 alarm switches	Shunt trip or UVR or up to 4 auxiliary switches

Maximum of 8 switches total.
Maximum of 2 alarm switches, Left Pocket only.
Maximum of 4 switches in Left Pocket.

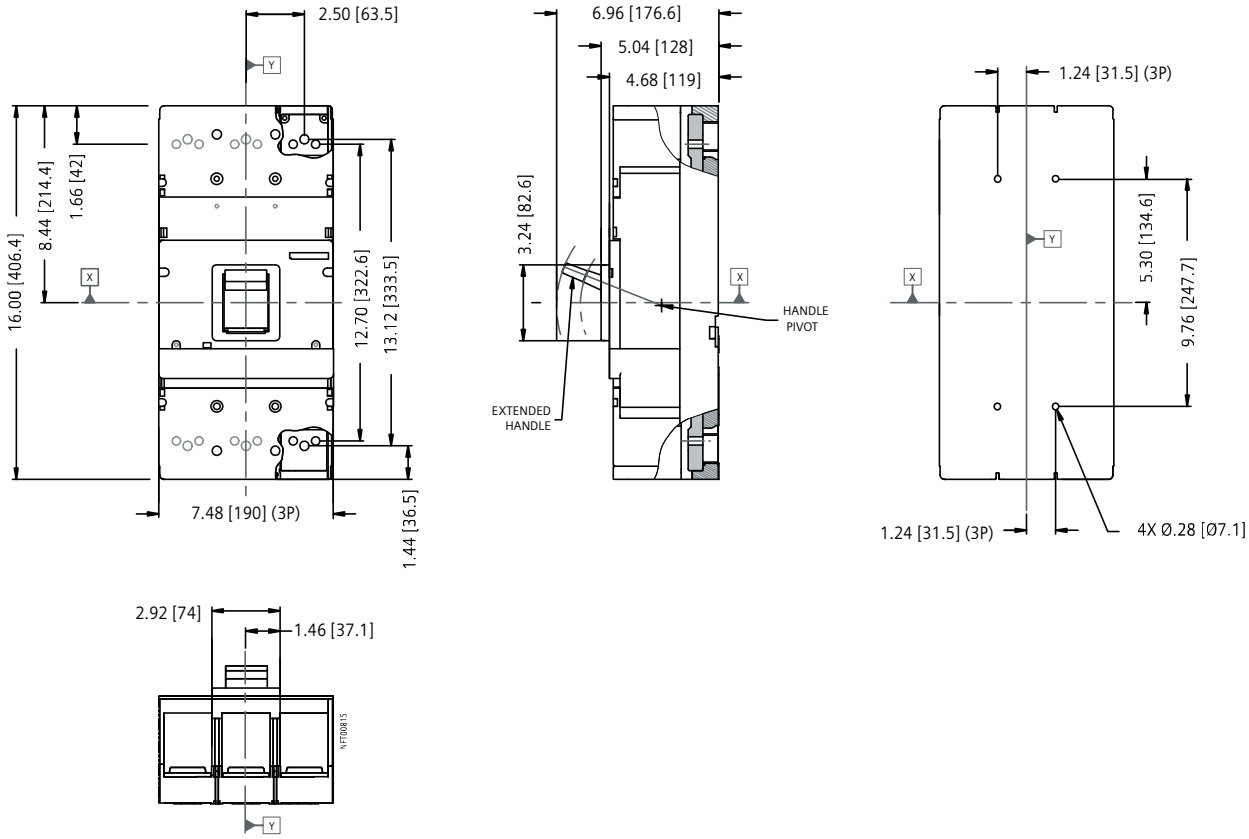
Auxiliary / Alarm switches only (requires a base)	
Description	**Catalog number**
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release	
Control voltage	**Catalog number**
110 – 127 VAC	**UVRPN120**
220 –250 VAC	**UVRPR240**
208 VAC	**UVRPP208**
277 VAC	**UVRPS277**
380 – 425 VAC	**UVRPT415**
440 – 480 VAC	**UVRPU480**
12 VDC	**UVRPA12DC**
24 VDC	**UVRPB24DC**
48 VDC	**UVRPC48DC**
60 VDC	**UVRPG60DC**
110 – 127 VDC	**UVRPD125DC**
220 – 250 VDC	**UVRPE250DC**

Dimensions

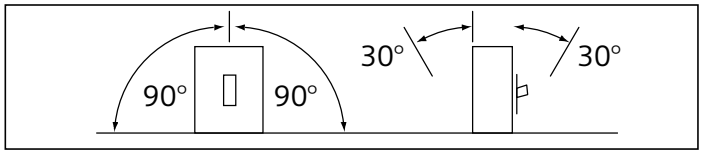
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame	Trip unit	Complete breaker
2,3	31.3 (14.2)	4.0 (1.8)	35.3 (16.0)

Permissible mounting positions



VL Circuit Breaker – NG 1200A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, NOM, IEC, CE), interchangeable
X – Global, non-interchangeable
Y – Global, 100% rated, non-interchangeable

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
HACR rated.

Interrupting ratings

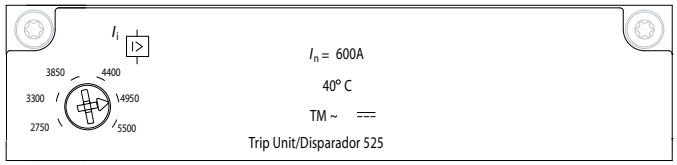
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NNG	65	35	25	65 / 35	50 / 25	20 / 10	22	35	–
H	HNG	100	65	35	100 / 50	70 / 35	30 / 15	25	50	65
L	LNG	200	100	65	200 / 100	100 / 50	35 / 17	42	65	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HNGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
800	4000	4800	5600	6400	7200	8000
900	5000	6000	7000	8000	9000	10000
1000	5000	6000	7000	8000	9000	10000
1200	7000	8000	9000	10000	11000	12000



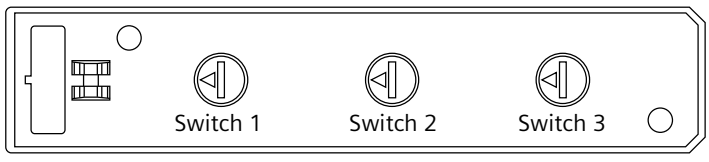
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	800	300	300	315	350	400	500	600	630	700	800
	1000	400	400	400	500	600	630	700	800	900	1000
	1200	400	400	500	600	630	700	800	900	1000	1200
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	800, 1000, 1200	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	800	1000	1200	1600	2400	3200	4000	4800	6400	8000	8800
	1000	1205	1500	2000	3000	4000	5000	6000	8000	10000	11000
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000

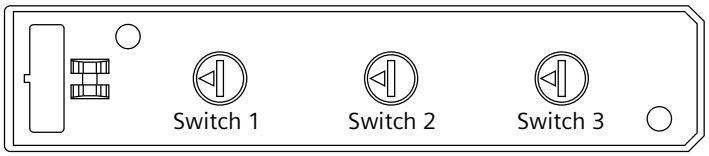
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
800	480	.25 sec
1000	600	.32 sec
1200	720	.32 sec



Trip unit model 545

Trip Unit Model 545 (continued)

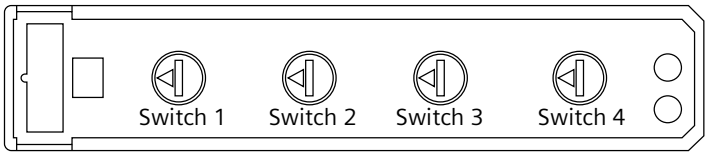


Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	800	300	300	315	350	400	500	600	630	700	800
	1000	400	400	400	500	600	630	700	800	900	1000
	1200	400	400	500	600	630	700	800	900	1000	1200
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r									
	800, 1000, 1200	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds) @ 8xI_r									
	800, 1000, 1200	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

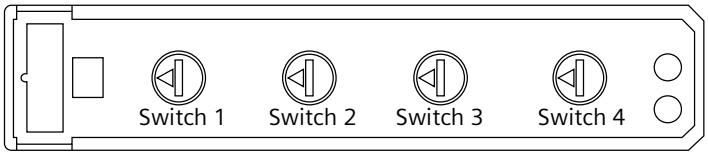
I_n – Trip unit rating (amps)	t_r – Long time delay	I_i – Nominal instantaneous trip	I_g – Ground fault pick-up (LSIG only)	t_g – Ground fault delay (LSIG only)
800	10 sec. (I^2t @ 6 x I_r)	8000A	480A	.25 sec.
1000		10000A	600A	.32 sec
1200		12000A	720A	.32 sec

Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	800	300	315	350	400	450	500	600	630	700	800
	1000	400	450	500	550	600	630	700	800	900	1000
	1200	400	450	500	600	630	700	800	900	1000	1200
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r									
	800, 1000, 1200	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n - Trip unit rating (amps)	I_i - Nominal instantaneous trip switch settings (amps)									
	800	1000	1200	1600	2400	3200	4000	4800	6400	8000	8800
	1000	1250	1500	2000	3000	4000	5000	6000	8000	10000	11000
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000
Switch 4 (LIG Only)	I_n – Trip unit rating (amps)	I_g - Ground fault pick-up switch settings (amps)									
	800	480	320	320	320	480	480	480	800	800	800
	1000	600	400	400	400	600	600	600	1000	1000	1000
	1200	720	480	480	480	720	720	720	1200	1200	1200
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)									
	800	0.25	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	1000, 1200	0.32	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



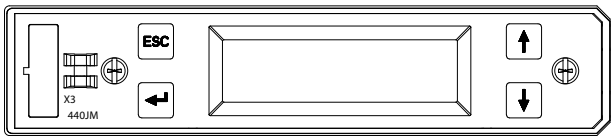
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	800	400	500	600	700	800	400	500	600	700	800
	1000	600	700	800	900	1000	600	700	800	900	1000
	1200	700	800	900	1000	1200	700	800	900	1000	1200
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**									
	800, 1000, 1200	10	10	10	10	10	20	20	20	20	20
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**									
	800, 1000, 1200	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**									
	800, 1000, 1200	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_i – Nominal instantaneous trip switch settings (amps)**									
	800	1000	1200	1600	2400	3200	4000	4800	6400	8000	8800
	1000	1250	1500	2000	3000	4000	5000	6000	8000	10000	11000
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000

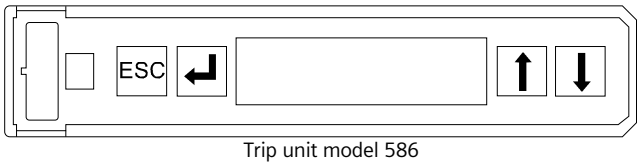
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	800	400	500	600	700	800	400	500	600	700	800
	1000	600	700	800	900	1000	600	700	800	900	1000
	1200	700	800	900	1000	1200	700	800	900	1000	1200
	I_n – Trip unit rating (amps)	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**									
	800, 1000, 1200	10	10	10	10	10	20	20	20	20	20
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**									
	800, 1000, 1200	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	**I_i – Nominal instantaneous trip switch settings (amps) x I_n**									
	800, 1000	5	5	5	5	5	11	11	11	11	11
	1200	5	5	5	5	5	10	10	10	10	10
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds)**									
	800, 1000, 1200	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	**I_n – Trip unit rating (amps)**	**I_g – Ground fault pick-up switch settings (amps)**									
	800	480	320	320	320	480	480	480	800	800	800
	1000	600	400	400	400	600	600	600	1000	1000	1000
	1200	720	480	480	480	720	720	720	1200	1200	1200
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**									
	800	0.25	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	1000, 1200	0.32	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
800	300 - 800	2.5, 4, 6, 8, 10, 14, 17, 20, 25, 30 sec.	1.25 - 10 x I_r (8,000 A max.)	0.1, 0.2, 0.3, 0.4, 0.5 sec. (I^2t off) or I^2t @ 8 x I_r (I^2t on)	1000 - 8800A
1000	400 - 1000		1.25 - 10 x I_r (10,000 A max.)		1250 - 11000A
1200	400 - 1200		1.25 - 10 x I_r (10,800 A max.)		1500 - 12000A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
800	320 - 800A	0.1, 0.2, 0.3, 0.4, 0.5 sec. (I^2t off) or I^2t @ .5 x I_n (I^2t on)	80 - 100% x I_r (Amps)
1000	400 - 1000A		
1200	480 - 1200A		

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

Motor circuit protectors

Amp rating	I_i – Nominal instantaneous trip adjustable range (amps)①
1200	7000 – 12000

① Settings adjustable in increments of 1000 amps.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
800, 900, 1000, 1200	65 kA

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
1200	12000A	65 kA
1200	12000A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
1/0 – 500 kcmil	4 (Cu / Al)	1/0 - 500	375 (42.37)	**3TA4NG500** ①②
500 – 750 kcmil	3 (Cu / Au)	500 - 750	375 (42.37)	**3TA3NG750** ②
1/0 – 500 kcmil	4 (Cu / Al)	1/0 - 500	375 (42.37)	**3TA4NG500H**②③
1/0 – 500 kcmil	4 (Cu / Al)	1/0 - 500	375 (42.37)	**3TC4NG500**②③

Compression connector kits

1/0 - 500 kcmil	4 (Cu / Al)		**12CLN500**④

① Standard connector when an "L" suffix is used on an assembled breaker catalog number.
② Packaged as 3 connectors.
③ For 100% rated NG applications. Requires 90°C cable sized at 75°C ampacity.
④ Packaged as 12 connectors (4 connectors per phrase).

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
2 Aux + 2 Alarm switches (2NO + 2NC + 1 base)	Left	**ASKP3**
4 Aux. switches (2NO + 2NC + 1 base)	Left, right	**ASKP4**

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 2 Alarm	Left	**AMBP2**
For 4 Aux	Left, right	**AMBP1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRPM60**
110 – 127 VAC	**STRPN120**
208 – 277 VAC	**STRPS277**
380 –600 VAC	**STRPV600**
24 VDC	**STRPB24DC**
48 –60 VDC	**STRPC60DC**
110 – 127 VDC	**STRPD125DC**
220 – 250 VDC	**STRPE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 4 auxiliary switches①	Shunt trip or UVR or up to 4 auxiliary switches①
Up to 2 auxiliary switches② + 2 alarm switches	Shunt trip or UVR or up to 4 auxiliary switches①

Maximum of 8 switches total.
Maximum of 2 alarm switches, Left Pocket only.
Maximum of 4 switches in Left Pocket.

① Max load is 5A per switch when 4 switches are mounted.
② Max load is 10A per switch.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

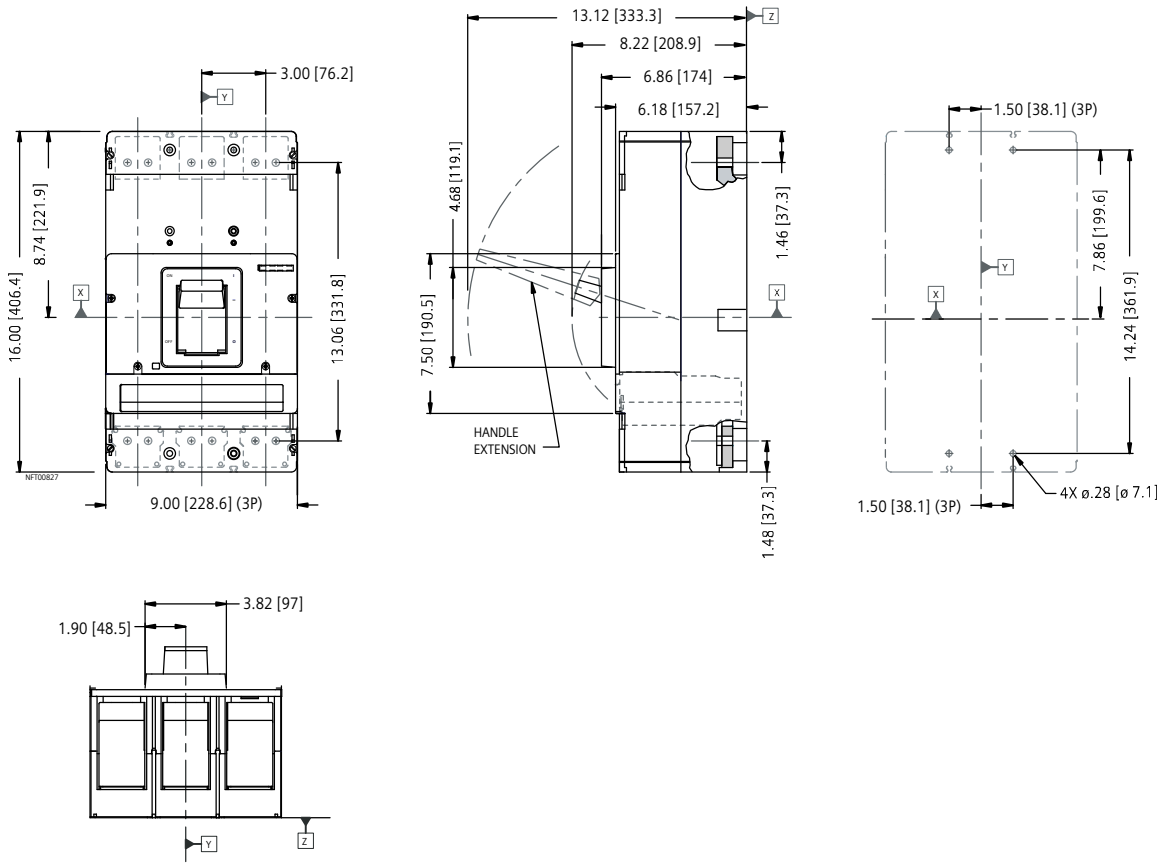
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRPN120**
220 –250 VAC	**UVRPR240**
208 VAC	**UVRPP208**
277 VAC	**UVRPS277**
380 – 425 VAC	**UVRPT415**
440 – 480 VAC	**UVRPU480**
12 VDC	**UVRPA12DC**
24 VDC	**UVRPB24DC**
48 VDC	**UVRPC48DC**
60 VDC	**UVRPG60DC**
110 – 127 VDC	**UVRPD125DC**
220 – 250 VDC	**UVRPE250DC**

Dimensions

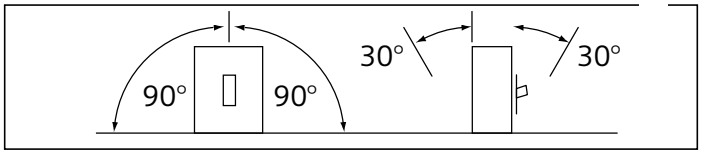
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame	Trip unit	Complete breaker
2,3	46.3 (21.0)	8.8 (4.0)	55.1 (25.0)

Permissible mounting positions



VL Circuit Breaker – PG 1600A frame

Breaker type
Defined by the 3rd character of the catalog number
G – Global (UL, CSA, NOM, IEC, CE),
X – Global, non-interchangeable
Y – Global, 100% rated, non-interchangeable

Trip unit type
Defined by the 5th character of the catalog number
B – Thermal-magnetic, model 525
N – LI, electronic, model 545
P – LSI, electronic, model 545
X – LIG, electronic, model 545
U – LSIG, electronic, model 545
D – LSI, electronic with LCD, model 576
E – LSIG, electronic with LCD, model 576
R – LI, electronic, Model 555
T – LSI, electronic, Model 555
W – LIG, electronic, Model 555
V – LSIG, electronic, Model 555
A – LSI, electronic with LCD, Model 586
G – LSIG, electronic with LCD, Model 586
K – LSI + GF alarm, electronic with LCD, Model 586

For DC applications, use thermal magnetic trip unit only.
For reverse-feed applications, select non-interchangeable trip breakers only.
HACR rated.

Interrupting ratings

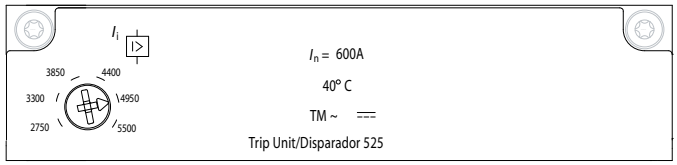
		RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC①		
Interrupting Class	Breaker Type	240	480	600	240 I_{cu}/I_{cs}	415 I_{cu}/I_{cs}	690 I_{cu}/I_{cs}	250	500	600②
N	NPG	65	35	25	65 / 35	50 / 25	20 / 10	22	35	–
H	HPG	100	65	35	100 / 50	70 / 35	30 / 15	25	50	65
L	LPG	200	100	65	200 / 100	100 / 50	35 / 17	42	65	–

UL / CSA / NOM 40°C 50/60Hz IEC 40°C 50/60Hz

① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.
② Special version, Type HPGD. See Speedfax catalog for more information.

Trip Unit Model 525

Thermal magnetic trip units, model 525						
I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip adjustable range (amps)					
1200	7000	8000	9000	10000	11000	12000
1400	7000	8000	9000	10000	11000	12000
1600	7000	8000	9000	10000	11000	12000



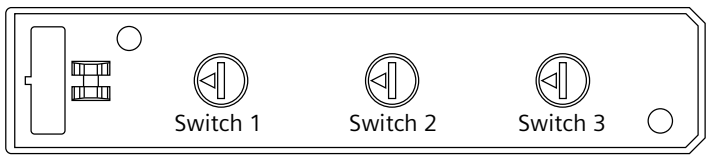
Trip unit model 525

Trip Unit Model 545

Electronic trip units, Model 545 with LI (Trip unit type N) or LIG (Trip unit type X) Trip Functions											
Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)									
	1200	400	400	500	600	630	700	800	900	1000	1200
	1600	700	700	700	800	900	1000	1200	1250	1400	1600
Switch 2	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) Pt @ 6 x I_r									
	1200, 1600	2.5	4	6	8	10	14	17	20	25	30
Switch 3	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)									
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000
	1600	2000	2400	3200	4800	6400	8000	9600	9600	9600	9600

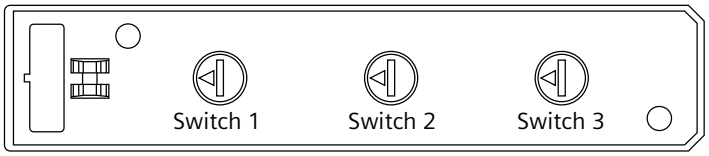
Fixed settings (LIG only)

I_n – Trip unit rating (amps)	I_g – Ground fault pickup (amps)	t_g – Ground fault delay
1200	720	.32 sec
1600	960	.40 sec



Trip unit model 545

Trip Unit Model 545 (continued)

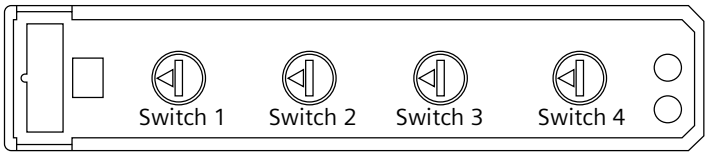


Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions										
Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	1200	400	400	500	600	630	700	800	900	1000	1200
	1600	700	700	700	800	900	1000	1200	1250	1400	1600
Switch 2	**I_n – Trip unit rating (amps)**	**I_{sd} – Short time pick-up switch settings (amps) x I_r**								
	1200	1.5	2	2.5	3	4	5	6	7	8	10
	1600	1.5	1.5	2	2.5	3	4	5	6	7	8
Switch 3	**I_n – Trip unit rating (amps)**	**t_{sd} – Short time delay switch settings (seconds) @ 8xI_r**								
	1200, 1600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON

Fixed settings

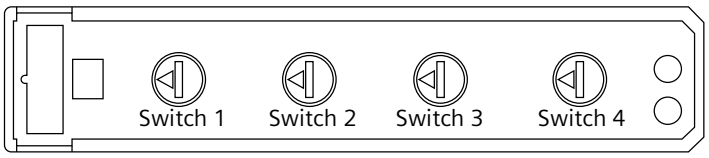
I_n – Trip unit rating (amps)	**t_r – Long time delay**	**I_i – Nominal instantaneous trip**	**I_g – Ground fault pick-up (LSIG only)**	**t_g – Ground fault delay (LSIG only)**
1200	10 sec. (I^2t @ 6 x I_r)	12000A	720A	.32 sec.
1600		9600A	960A	.40 sec

Trip Unit Model 555



Electronic trip units, Model 555 with LI (Trip unit type R) or LIG (Trip unit type W) Trip Functions										
Switch 1	**I_n – Trip unit rating (amps)**	**I_r – Continuous amp switch settings (amps)**								
	1200	400	450	500	600	630	700	800	900	1000	1200
	1600	700	800	900	1000	1100	1200	1250	1400	1500	1600
Switch 2	**I_n – Trip unit rating (amps)**	**t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r**								
	1200, 1600	2.5	4	6	8	10	14	17	20	25	30
Switch 3	**I_n - Trip unit rating (amps)**	**I_i - Nominal instantaneous trip switch settings (amps)**								
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000
	1600	2000	2400	3200	4800	6400	8000	9600	9600	9600	9600
Switch 4 (LIG Only)	**I_n – Trip unit rating (amps)**	**I_g - Ground fault pick-up switch settings (amps)**								
	1200	720	480	480	480	720	720	720	1200	1200	1200
	1600	960	640	640	640	960	960	960	1200	1200	1200
	I_n – Trip unit rating (amps)	**t_g – Ground fault delay switch settings (seconds)**								
	1200	0.32	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	1600	0.4	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 555 (continued)



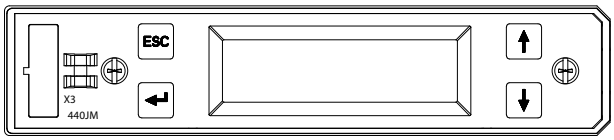
Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	1200	700	800	900	1000	1200	700	800	900	1000	1200
	1600	1000	1200	1400	1500	1600	1000	1200	1400	1500	1600
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r								
	1200, 1600	10	10	10	10	10	20	20	20	20	20
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r								
	1200, 1600	1.5	2	2.5	3	4	5	6	7	8	10
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)								
	1200, 1600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps)								
	1200	1500	1800	2400	3600	4800	6000	7200	9600	12000	12000
	1600	2000	2400	3200	4800	6400	8000	9600	9600	9600	9600

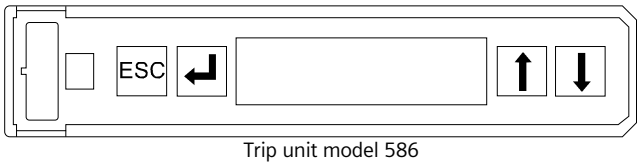
Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

Switch 1	I_n – Trip unit rating (amps)	I_r – Continuous amp switch settings (amps)								
	1200	700	800	900	1000	1200	700	800	900	1000	1200
	1600	1000	1200	1400	1500	1600	1000	1200	1400	1500	1600
	I_n – Trip unit rating (amps)	t_r – Long time delay switch settings (seconds) I^2t @ 6 x I_r								
	1200, 1600	10	10	10	10	10	20	20	20	20	20
Switch 2	I_n – Trip unit rating (amps)	I_{sd} – Short time pick-up switch settings (amps) x I_r								
	1200, 1600	1.5	2	2.5	3	4	5	6	7	8	10
	I_n – Trip unit rating (amps)	I_i – Nominal instantaneous trip switch settings (amps) x I_n								
	1200	5	5	5	5	5	10	10	10	10	10
	1600	5	5	5	5	5	6	6	6	6	6
Switch 3	I_n – Trip unit rating (amps)	t_{sd} – Short time delay switch settings (seconds)								
	1200, 1600	0	0.1, I^2t OFF	0.2, I^2t OFF	0.3, I^2t OFF	0.4, I^2t OFF	0.5, I^2t OFF	0.1, I^2t ON	0.2, I^2t ON	0.3, I^2t ON	0.4, I^2t ON
Switch 4	I_n – Trip unit rating (amps)	I_g – Ground fault pick-up switch settings (amps)								
	1200	720	480	480	480	720	720	720	1200	1200	1200
	1600	960	640	640	640	960	960	960	1200	1200	1200
	I_n – Trip unit rating (amps)	t_g – Ground fault delay switch settings (seconds)								
	1200	0.32	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
	1600	0.4	0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30

Trip Unit Model 576 and 586



Trip unit model 576



Trip unit model 586

Electronic trip units with LCD Model 576 (Trip unit type D and E) or Model 586 (Trip unit type A, G and K)

I_n – Trip unit rating (amps)	I_r – Continuous amps range①	t_r – Long time delay settings (I^2t @ 6 x I_r)	I_{sd} – Short time pick-up range	t_{sd} – Short time delay settings	Ii – Nominal instantaneous trip range①②
1200	400 - 1200	2.5, 4, 6, 8, 10, 14,	1.2 - 10 x I_r (10,800 A max.)	0.1, 0.2, 0.3, 0.4, 0.5 sec.	1500 - 12000A
1600	700 - 1600	17, 20, 25, 30 sec.	1.25 - 10 x I_r (8,000 A max.)	(I^2t off) or I^2t @ 8 x I_r (I^2t on)	2000 - 9600A

I_n – Trip unit rating (amps)	I_g – Ground fault pick-up range①	t_g – Ground fault delay	Pre-alarm indication
1200	400 - 1200A	0.1, 0.2, 0.3, 0.4, 0.5 sec. (I^2t off) or	80 - 100%
1600	700 - 1200A	I^2t @ .5 x I_n (I^2t on)	x I_r (Amps)

① Current settings are adjustable in 1-amp increments.
② Model 586, can turn function OFF. Instantaneous trip override function will be enabled to ensure self protection of circuit breaker.

600 V DC circuit breakers

Amp rating	Short-circuit rating 600 V DC
1200, 1400, 1600	65 kA

Molded case switch

Amp rating	Self-protective instantaneous override	Short-circuit current rating 480 V AC①
1600	14000A	65 kA
1600	14000A	100 kA

① Max. available current when protected by an appropriate overcurrent protective device.

Terminal Connectors

Wire range	Cables per connectors	Wire size	Torque lb-in. (Nm)	Catalog number
1/0 – 750 kcmil	6 (Cu / Al)	1/0 - 750	375 (42.4)	**3TA6PG750** ①②
300 – 600 kcmil	5 (Cu / Au)	300 - 400 500 - 600	600 (67.79) 780 (88.13)	**TA5P600** ③
600 – 750 kcmil	4 (Cu / Al)	600 - 750	480 (54.23)	**TA4P750**③
300 – 600 kcmil	6 (Cu / Al)	300 - 600	600 (67.79)	**TA6R600**③
300 – 600 kcmil	5 (Cu)	300 - 600	600 (67.79)	**TC5R600**③④

① Package of 3 connectors.
② Requires lug mounting assembly LMAP1600.
③ Requires breaker mounting base MBPG1600 or MBPG1601.
④ Required for 100% rated PG breakers. Requires 90°C cable sized at 75°C ampacity.

Internal accessories

Auxiliary and alarm switch kits

Description	Mounting pocket	Catalog number
2 Aux + 2 Alarm switches (2NO + 2NC + 1 base)	Left	**ASKP3**
4 Aux. switches (2NO + 2NC + 1 base)	Left, right	**ASKP4**

Auxiliary and alarm switch mounting base only

Description	Mounting pocket	Catalog number
For 2 Aux + 2 Alarm	Left	**AMBP2**
For 4 Aux	Left, right	**AMBP1**

Shunt trip

Control voltage	Catalog number
48 – 60 VAC	**STRPM60**
110 – 127 VAC	**STRPN120**
208 – 277 VAC	**STRPS277**
380 –600 VAC	**STRPV600**
24 VDC	**STRPB24DC**
48 –60 VDC	**STRPC60DC**
110 – 127 VDC	**STRPD125DC**
220 – 250 VDC	**STRPE250DC**

Shunt trips or UVR's may be mounted in the Right Pocket only.

Internal accessory locations

Left accessory pocket	Right accessory pocket
Up to 4 auxiliary switches①	Shunt trip or UVR or up to 4 auxiliary switches①
Up to 2 auxiliary switches② + 2 alarm switches	Shunt trip or UVR or up to 4 auxiliary switches①

Maximum of 8 switches total.
Maximum of 2 alarm switches, Left Pocket only.
Maximum of 4 switches in Left Pocket.

① Max load is 5A per switch when 4 switches are mounted.
② Max load is 10A per switch.

Auxiliary / Alarm switches only (requires a base)

Description	Catalog number
1 NO (normally open contact)	**ASWPA**
1 NC (normally closed contact)	**ASWPB**

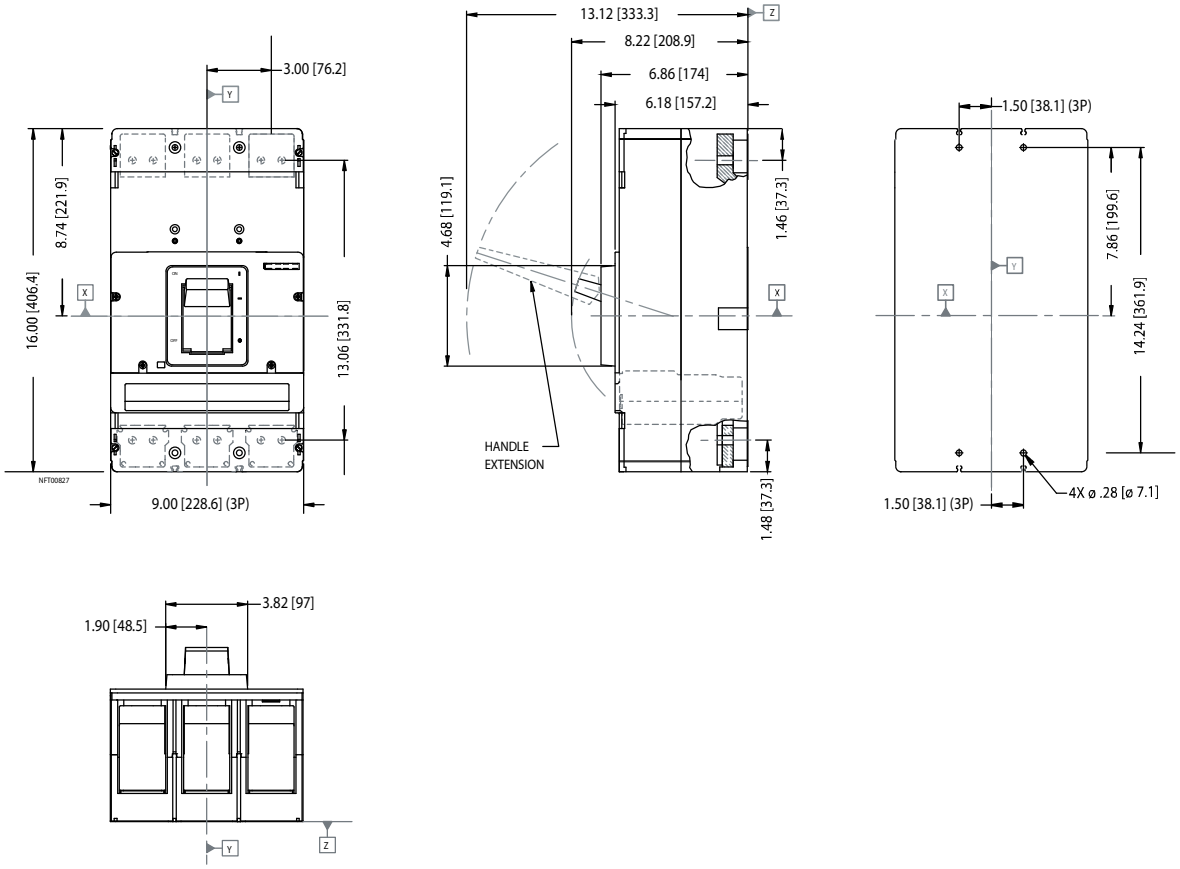
(A) Normally open contacts are open when the breaker contacts are open.
(B) Normally closed contacts are closed when the breaker contacts are open.

Undervoltage release

Control voltage	Catalog number
110 – 127 VAC	**UVRPN120**
220 –250 VAC	**UVRPR240**
208 VAC	**UVRPP208**
277 VAC	**UVRPS277**
380 – 425 VAC	**UVRPT415**
440 – 480 VAC	**UVRPU480**
12 VDC	**UVRPA12DC**
24 VDC	**UVRPB24DC**
48 VDC	**UVRPC48DC**
60 VDC	**UVRPG60DC**
110 – 127 VDC	**UVRPD125DC**
220 – 250 VDC	**UVRPE250DC**

Dimensions

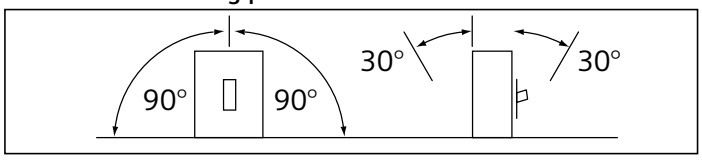
(complete breaker)



Shipping weight, lbs. (kg)

Poles	Frame	Trip unit	Complete breaker
2,3	60.2 (27.3)	8.8 (4.0)	69.0 (31.3)

Permissible mounting positions



External accessories

Description		Catalog Number
Handle padlocking devices		
DG, FG	Handle pad-locking device (Lock off or lock on)	**HPLF**
JG, LG	Handle pad-locking device (Lock off or lock on)	**HPLL**
MG	Handle pad-locking device (Lock off or lock on)	**HPLM**
NG, PG	Handle pad-locking device (Lock off or lock on)	**HPLP**
Handle blocking device		
DG, FG	Handle blocking device	**HBDF**
JG, LG	Handle blocking device	**HBDL**
MG	Handle blocking device	**HBDM**
NG, PG	Handle blocking device	**HBDP**
Other terminals and connection accessories		
DG, FG	Inter-phase barriers, set of 2	**IPBF**
JG, LG, MG	Inter-phase barriers, set of 2	**IPBM**
NG, PG	Inter-phase barriers, set of 2	**IPBP**
DG, FG	Standard terminal shield, 3 pole	**TSSF3**
JG	Standard terminal shield, 3 pole	**TSSL3**
MG	Standard terminal shield, 3 pole	**TSSM3**
NG, PG	Standard terminal shield, 3 pole	**TSSP3**
DG, FG	Extended terminal shield, 3 pole	**TSLF3**
JG	Extended terminal shield, 3 pole	**TSLL3**
MG	Extended terminal shield, 3 pole	**TSLM3**
NG, PG	Extended terminal shield, 3 pole	**TSLP3**
MG	Modified terminal shield for switchboards, 3 pole	**TSLM3M**
NG	Modified terminal shield for switchboards, 3 pole	**TSLN3M**
PG	Modified terminal shield for switchboards, 3 pole	**TSLP3M**
DG	Nut keeper plate, kit of 3 pieces, (imperial thread)	**TNKD3**
FG	Nut keeper plate, kit of 3 pieces, (imperial thread)	**TNKF3**
JG	Nut keeper plate, kit of 3 pieces, (metric thread)	**TNKJ3**
LG	Nut keeper plate, kit of 3 pieces, (imperial thread)	**TNKL3**
MG	Nut keeper plate, kit of 3 pieces, (imperial thread)	**TNKM3**
NG, PG	Nut keeper plate, kit of 3 pieces, (imperial thread)	**TNKP3**
Communications and electronic accessories		
COM20 Profibus Communications Module with ZSI for electronic trip units (order cable separately)		**COMPRO20**
COM21 Modbus Communications Module with ZSI for electronic trip units (order cable separately)		**COMMOD21**
Power Stick - Hand held, battery operated power supply for LCD trip units & trip testing for all electronic trip units		**EPSP18V**
Spare flat cable for Power Stick		**COMPCA**
Cable for COM20/21, 1.5 m (4.9 ft) for DG, FG frames		**COMKIT3**
Cable for COM20/21, 1.5 m (4.9 ft) for JG, LG frames		**COMKIT4**
Cable for COM20/21, 1.5 m (4.9 ft) for MG, NG, PG frames		**COMKIT5**
Cable for COM20/21, 3.0 m (9.8 ft) for DG, FG frames		**COMKIT6**
Cable for COM20/21, 3.0 m (9.8 ft) for JG, LG frames		**COMKIT7**
Cable for COM20/21, 3.0 m (9.8 ft) for MG, NG, PG frames		**COMKIT8**
Addressing Plug - assigns a field bus address without a PC by plugging into COM20/21		**3UF79100AA000**

Notes

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