

# 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

Interrupting Class	Breaker Type	RMS symmetrical amperes (kA)								
		UL 489			IEC 60947-2			UL or IEC		
		Volts AC			Volts AC			Volts DC <sup>①</sup>		
		240	480	600	240	415	690	250	500	600 <sup>②</sup>
					$I_{cu}/I_{cs}$	$I_{cu}/I_{cs}$	$I_{cu}/I_{cs}$			
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

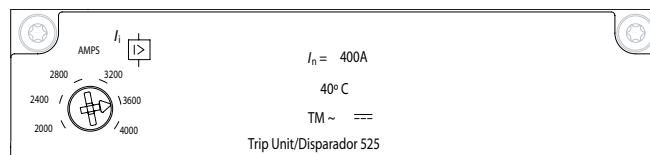
① For DC applications and wiring diagrams, see p. 5 of VL Information Guide.

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

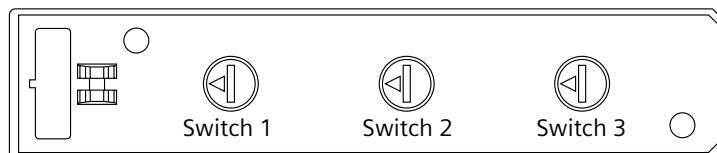
## Trip Unit Model 545

### 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
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 @ $6 \times I_r$									
		250, 400	2.5	4	6	8	10	14	17	20	25
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
400	500	600	800	1200	1600	2000	2400	3200	4000	4400	

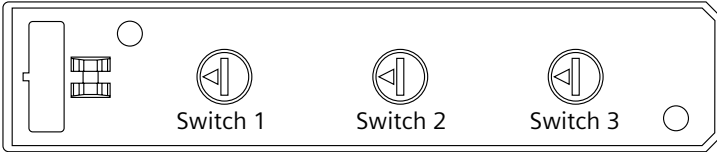
## Fixed settings (LIG only)

$I_n$ – 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)



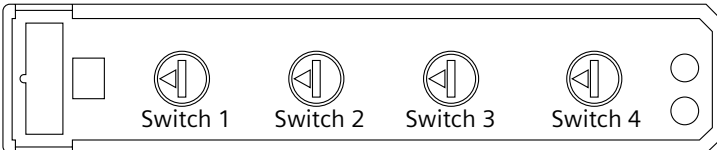
#### Electronic trip units, Model 545 with LSI (Trip unit type P) or LSIG (Trip unit type U) Trip Functions

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. ( $I^2t$ @ $6 \times I_r$ )	2750A	200A	.07 sec.
400		4400A	320A	.11 sec

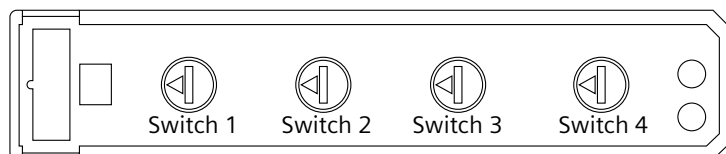
### Trip Unit Model 555



#### 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) $I^2t$ @ $6 \times I_r$										
	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		
Switch 4 (LIG Only)	$I_n$ – 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)



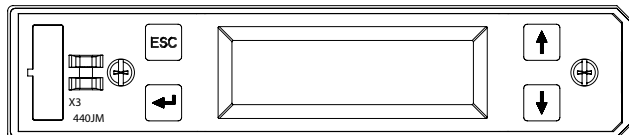
### Electronic trip unit, Model 555 with LSI (Trip unit type T) Trip Functions

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	
Switch 1	$I_n$ – Trip unit rating (amps)	$t_r$ – Long time delay switch settings (seconds) $I^2t @ 6 \times I_r$										
	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) $\times I_r$										
	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	

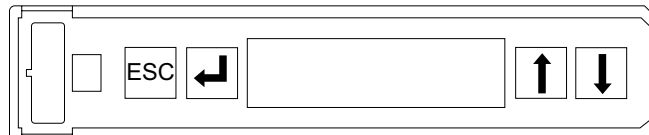
### Electronic trip unit, Model 555 with LSIG (Trip unit type V) Trip Functions

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	
Switch 1	$I_n$ – Trip unit rating (amps)	$t_r$ – Long time delay switch settings (seconds) $I^2t @ 6 \times I_r$										
	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) $\times I_r$										
	250, 400	1.5	2	2.5	3	4	5	6	7	8	10	
Switch 2	$I_n$ – Trip unit rating (amps)	$I_i$ – Nominal instantaneous trip switch settings (amps) $\times I_n$										
	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	
Switch 4	$I_n$ – 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 range <sup>①</sup>	$t_r$ – Long time delay settings ( $I^2t @ 6 \times I_r$ )	$I_{sd}$ – Short time pick-up range	$t_{sd}$ – Short time delay settings	$I_i$ – Nominal instantaneous trip range <sup>①②</sup>
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. or $I^2t @ 8 \times I_r$	313 - 2750A 500 - 4400A
400	150 - 400	17, 20, 25, 30 sec.			
$I_n$ – Trip unit rating (amps)	$I_g$ – Ground fault pick-up range <sup>①</sup>	$t_g$ – Ground fault delay	Pre-alarm indication		
250	100 - 250A	0.1, 0.2, 0.3, 0.4, 0.5 sec.	80 - 100% x $I_r$ (Amps)		
400	160 - 400A	$I^2t @ .5 \times I_n$			

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 – 2500 <sup>①</sup>
400	2000 – 4000 <sup>②</sup>

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 AC <sup>①</sup>
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 <sup>①</sup>
3/0 – 250 kcmil	2 (Cu / Al)	#3/0–250	275 (31.07)	3TA2JG250 <sup>①②</sup>
3/0 – 250 kcmil	2 (Cu only)	#3/0–250	275 (31.07)	TC2JG250 <sup>③</sup>
3/0 – 750 kcmil	1 (Cu only)	#3/0–250 300–750	275 (31.07) 500 (56.59)	TC1JG750 <sup>③</sup>
3/0 – 750 kcmil	1 (Cu / Al)	#3/0–250 300–750	275 (31.07) 500 (56.49)	3TA1JGG750 <sup>①</sup>

### Compression connector kits

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

### 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 <sup>①</sup>
#14 – #4	6 (Cu only)	#14 – #4	35 (3.95)	3TA12JG04 <sup>①</sup>

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/B <sup>①</sup> bases AMBL2 and AMBL3	Left, right <sup>②</sup>	ASKL1
2 Aux. switches 1A + 1B base AMBL1	Left, right	ASKL2
2 Aux. + 1 Alarm switch 1A + 1B, 1A/B bases <sup>①</sup> AMBL2 and AMBL3	Left, right <sup>②</sup>	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.

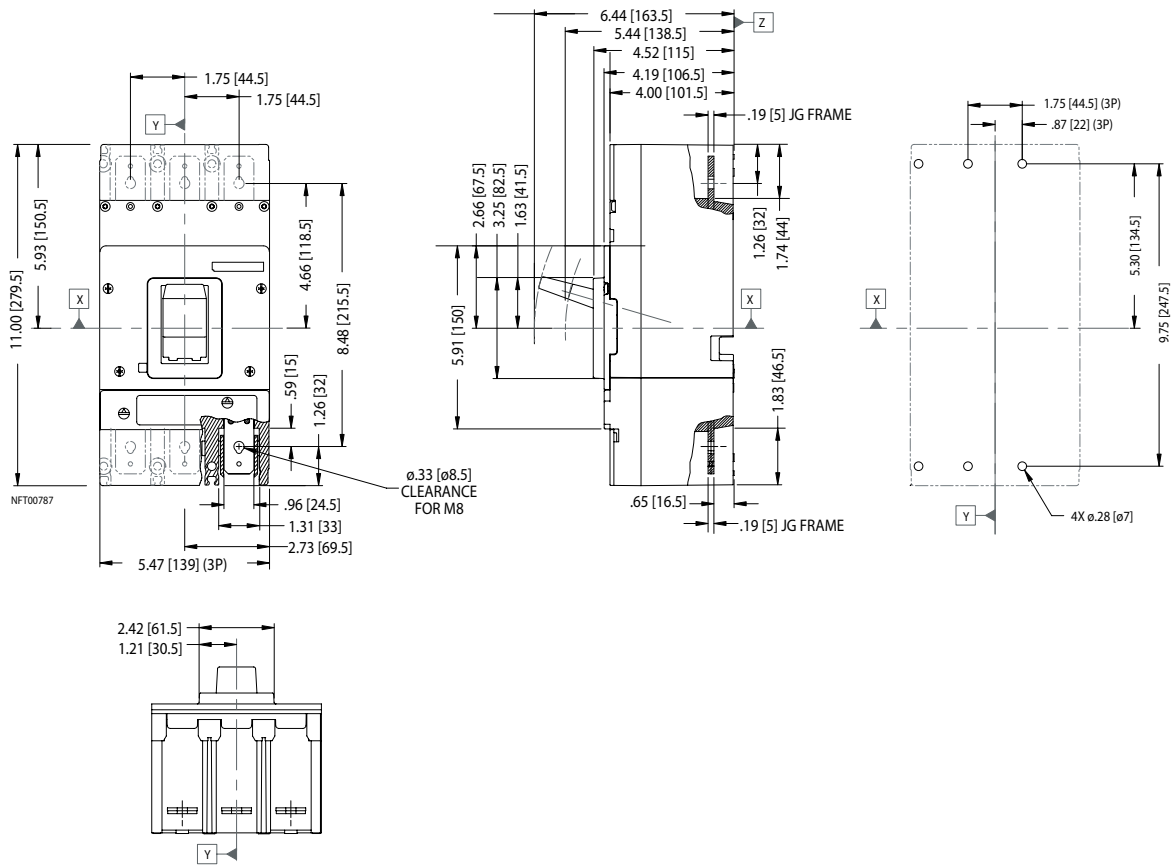
(B) Normally closed contacts are closed when the breaker contacts are open.

### 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

