

SENTRON VL Series Product Specifications

VL 400 Frame
400 Amperes

Electronic Releases

ETU TRIP RELEASE

Ampere Rating	I_N	I_r			
315	126 - 315	3VL4731	-	A	3 6 - 0AA0
400	160 - 400	3VL4740	-	A	3 6 - 0AA0

All VL400 circuit-breakers are shipped with factory supplied Nut Keeper Plates for both incoming and outgoing terminals. Customer determines need for termination devices.

1 = Standard interruption
2 = High interruption
3 = Very High interruption

A = Designates frame only
B = Line protection with LI functions
C = Line protection LIG functions residual earth for 3 phase 4 wire systems
D = Line protection with LIG functions—residual earth for 3 phase 3 wire systems
E = Line protection with LS functions (instantaneous override)
G = Line protection with LSG functions-residual earth for 3 phase 3 wire systems
H = Line protection with LSG functions-residual earth for 3 phase 4 wire systems
J = Line protection with LIG functions-for earth return systems
K = Line protection with LSI functions for earth return systems

ETU TRIP RELEASE

Ampere Rating	I_N	I_r			
315	126-315	3VL4731	-	B	4 6 - 0AA0
400	160 - 400	3VL4731	-	B	4 6 - 0AA0

1 = Standard interruption
2 = High interruption
3 = Very High interruption

A = Line protection with LI functions—(N) pole protected
B = Line protection with LI functions—(N) pole not protected
C = Line protection LIG functions—residual earth—(N) pole not protected
D = Line protection with LIG functions—residual earth— (N) pole protected
E = Line protection with LS functions—(fixed override)—(N) pole not protected
F = Line protection with LS functions—(fixed override)—(N) pole protected
G = Line protection with LSG functions—(fixed override)—(N) pole not protected
H = Line protection with LSG functions—(fixed override)—(N) pole protected

LCD TRIP RELEASE

Ampere Rating	I_N	I_r			
315	126 - 315	3VL4731	-	C	6 - 0AA0
400	160 - 400	3VL4740	-	C	6 - 0AA0

1 = Standard interruption
2 = High interruption
3 = Very High interruption

H = Line protection with customer set LI/LS/LSI functions 3 pole only
J = Line protection with customer set LI/LS/LSI functions 4 pole only
L = Line protection with LSI functions for 3 phase 3 wire systems
M = Line protection with LSI functions for 3 phase 4 wire systems
N = Line protection with LSI functions for 3 phase 4 wire systems—4 pole only
P = Motor / generator protection with LI functions

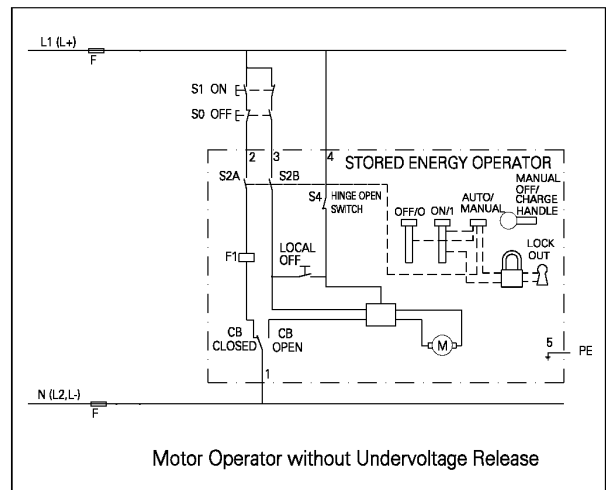
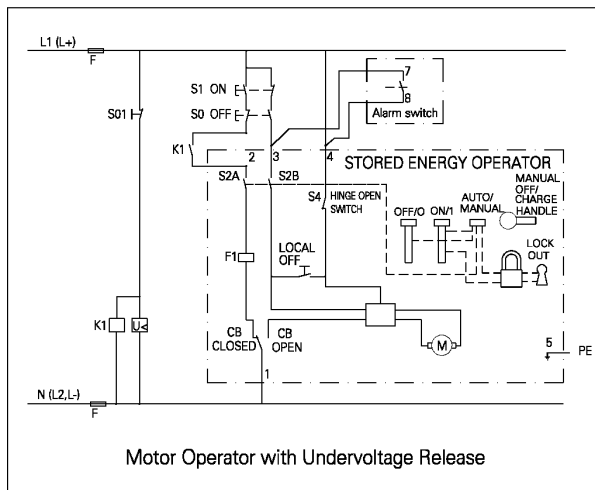
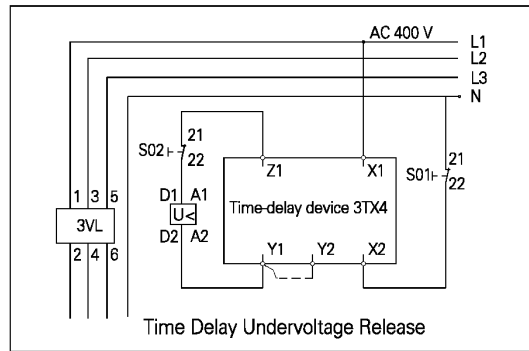
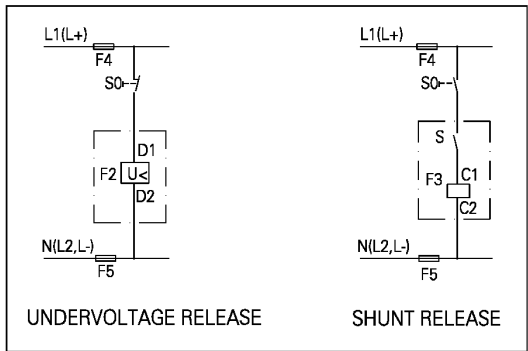
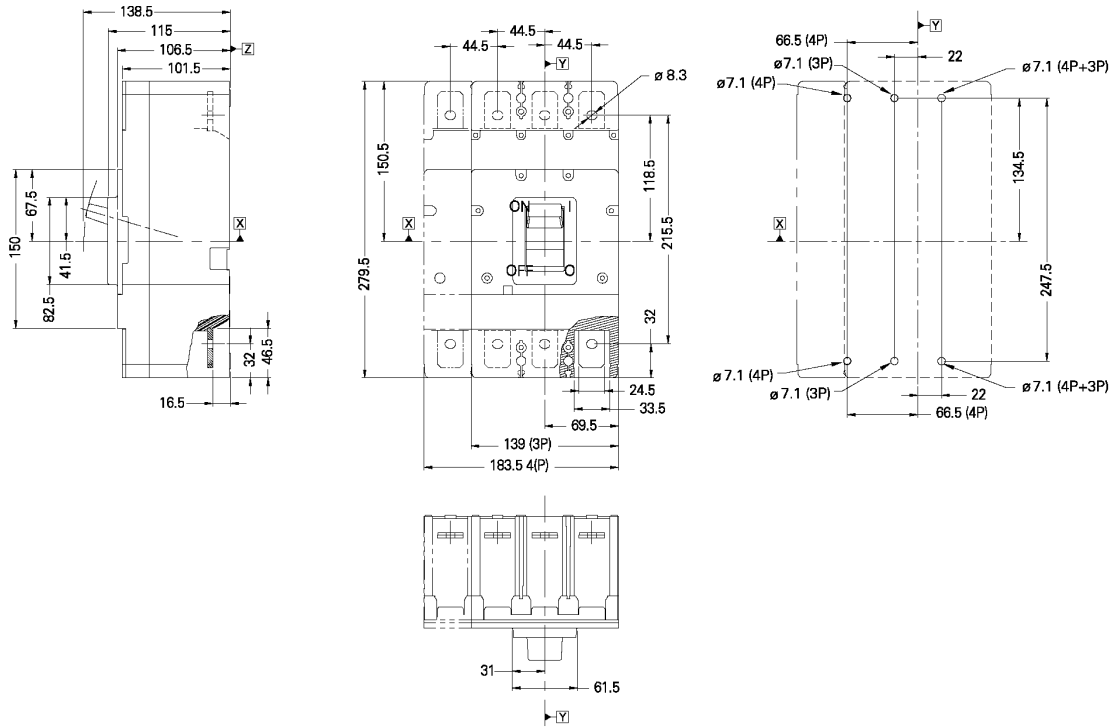
Hand held test kit for electronic trip releases

Test kit: (battery powered) for ETU/LCD releases, as well as interface with laptop or PC
Cat.no 3VL9000-8AK00

Communications adapter:

Allows for testing of ETU/LCD release as well as parameterization of LCD releases by interface with laptop or PC
Cat.no 3VL9000-8AM00

VL400



Stand: 1/00

<http://www.siemens.de/sentron-vl>
<http://www.siemens.de/energieverteilung>

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SIEMENS

SENTRON® VL400 Specifications



SENTRON VL Series Product Specifications

VL400 Frame
400 Amperes

Specifications:

Category A

IEC 60947-2

EN60947

3-4 Poles

200-400 Amperes, 220/240Vac, 380/415Vac,

690Vac

50-60hz.

U_i 750Vac

U_{imp} 8kV

Type	I _N	U _E	I _{CU}	I _{CS}	ICM
VL400N	200-400A	220/240~	65kA	65kA	143kA
		380/415~	45kA	45kA	94.5kA
		690~	20kA	10kA	42kA
VL400H	200-400A	220/240~	100kA	75kA	220kA
		380/415~	70kA	70kA	143kA
		690~	22kA	12kA	46.2kA
VL400L	200-400A	220/240~	200kA	150kA	440kA
		380/415~	100kA	75kA	220kA
		690~	25kA	12kA	52.5kA

Endurance

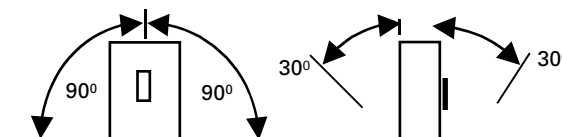
20,000 operations @ 120 per/hour

Watts loss (power loss)

at maximum rated current I_N

3 phase symmetrical load for line protection----175 watts

Permissible mounting position



Reverse feed--All VL400 frame circuit breakers are suitable for reverse feed applications.

Breaker shipping weight 3 pole = 11.9 lbs. / 5.5kg.

4 pole = 15.7lbs. / 7.2kg.

Adj. thermal overload 80 to 100% x I_N

Adj. short circuit releases I_i

I _N	Short circuit release I _i
200	1000 - 2000
250	1200 - 2500
315	1575 - 3150
400	2000 - 4000

CE Marked

Calibrations for 50°C ambient

Permissible Load

for various ambient temperatures close to the circuit-breaker, related to the rated current of the circuit-breaker used for line protection.

@ 40°C--100%

@ 50°C--100%

@ 60°C--93%

@ 70°C--86%

Catalog Information

Ampere

Rating

I _N	I _r	Model	Configuration
200	160 to 200	3VL4720	6 - 0AA0
250	200 to 250	3VL4725	6 - 0AA0
315	250 to 315	3VL4731	6 - 0AA0
400	315 to 400	3VL4740	6 - 0AA0

Thermal/magnetic circuit-breaker

All VL400 circuit-breakers are shipped with factory supplied Nut Keeper Plates for both incoming and outgoing terminals. Customer determines need for termination devices.

1 = Standard interruption
2 = High interruption
3 = Very High interruption

D = Thermal/magnetic protection---3 poles

E = Thermal/magnetic protection---4 poles

3 = 3 poles

4 = 4 poles w/ left pole (N) switching

C = Adjustable thermal overload & short-circuit releases

(N) pole protected when using with 4 pole

(N) pole = 60% protected

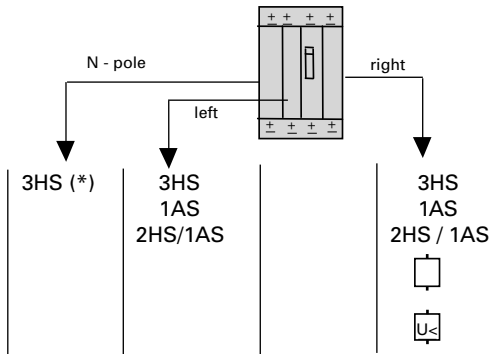
E = Non-adjustable circuit-breaker I_N = 400A only

K = Starter protection only -- I_N = 200A, 250A, 400A---3 pole only

J = 4 pole (N) without protection

Internal accessories:

Maximum internal accessory combinations



(* Do not use N - pole is accessories are installed in left pole

Switch kits:

	Catalog Number
2HS (1NO +1NC)	3VL9400-2AB00
2HS (1NO +1NC) + 1AS (1NO)	3VL9400-2AD00 (left pole only)
1AS (1NC +1NO) use 1 switch only	3VL9400-2AG00 (left pole only)

Individual Auxiliary switch:

3SB3400-0K (NO contact)	Rated thermal current I_{th} ---10Amps Rated making capacity-----10Amps
3SB3400-0J (NC contact)	

AC Volts

Rated operational voltage	24	48	110	230	400	600
Rate operational current	10	10	10	10	10	(AC-12)
	6	6	6	6	3	1 (AC-15)

Shunt trip releases

	Catalog Number	Power Consumption
48 - 60Vac	3VL9400 01SM00	158 to 200va
110 - 127Vac	3VL9400-1SR00	136 to 350va
208 - 277Vac	3VL9400-1ST00	277 to 350va
380 - 600Vac	3VL9400-1SV00	158 to 237va
12Vdc	3VL9400-1SB00	110 watts
24Vdc	3VL9400-1SC00	110 watts
48 - 60Vdc	3VL9400-1SJ00	110 to 172 watts
110 - 127Vdc	3VL9400-1SK00	220 to 254 watts
220 - 250Vdc	3VL9400-1SQ00	97 to 220 watts

Undervoltage releases

	Catalog Number	Power Consumption
110 - 127Vac	3VL9400-1UG00	4.5va
208Vac	3VL9400-1UM00	4.5va
220 - 250Vac	3VL9400-1UH00	4.5va
227Vac	3VL9400-1UQ00	4.5va
380 - 415Vac	3VL9400-1UJ00	4.5va
440 - 480Vac	3VL9400-1UK00	4.5va
550 - 526Vac	3VL9400-1UL00	4.5va
600Vac	3VL9400-1UL00	4.5va
12Vdc	3VL9400-1UT00	3.5watts
24Vdc	3VL9400-1UN00	3.5watts
48Vdc	3VL9400-1UP00	3.5watts
60Vdc	3VL9400-1UU00	3.5watts
110 - 127Vdc	3VL9400-1UR00	3.5watts
220 - 250Vdc	3VL9400-1US00	3.5watts

DC Volts

Rated operational voltage	24	48	110	230
Rate operational current	10	5	2.5	1 (DC-12)
	3	1.5	0.7	0.3 (DC-13)

External Accessories

Rotary Drives

Direct drive

Standard-----	3VL9400-3HA00
Emergency Stop-----	3VL9400-3HC00

Rotary drive extended

Standard-----	3VL9400-3HF00
Emergency Stop-----	3VL9400-3HG00
Without knob-----	3VL9400-3HE00

Door-coupling rotary operating mechanism kit to be used with operator ---3VL9400-3HE00

Standard-----	8UC6212-1BD22
Emergency Stop-----	8UC6222-3BD22

Kit consists of ---

- (1) proper handle with masking plate
- (1) coupling driver for 8mm shaft
- (1) 8mm extension shaft 300mm long
- (1) shaft coupling for 8mm shaft

Cylinder lock kit for field installation:

(key removal when circuit-breaker is in the OFF position)

Ronis-----	3VL9715-8HA00
CES-----	3VL9711-8HA00

Standard or Emergency-stop rotary drive operator auxiliary switch kit(s). Each switch is a change over contact design

1 - leading OFF to ON	3VL9400-3AS10
2 - leading OFF to ON	3VL9400-3AT10
1 - early-break ON to OFF	3VL9400-3AU10
2 - early-break ON to OFF	3VL9400-3AW10

Changeover switch specifications

Rated thermal current I_{th} -----	2A
Rated making capacity	2A resistive - 0.5A inductive
AC-----	pf 0.7
Rated operational voltage-----	220Vac
Rated operational current-----	2A
Rated making capacity	2A resistive - 0.5A inductive

Walking-beam interlock mechanism:

Fixed mounted circuit-breakers-----	3VL9400-8LC00
Draw-out/Plug-in mounted-----	3VL9200-8LD00

Cable interlock system:

Kit contains operator plates only for two circuit-breakers-----	3VL9400-8LA00
Recommended 1.0m long cable-----	3VL9000-8LH20

External accessories

Stored energy operators

Voltage		Power		with cylinder lock installed	Power
24 Vdc	3VL9400-3MJ00	< 500 watts		3VL9400-3MK00	< 500 watts
42-48 Vac/Vdc	3VL9400-3ML00	< 500 watts		3VL9400-3MM00	< 500 watts
60 Vac/Vdc	3VL9400-3MS00	< 500 watts		3VL9400-3MT00	< 500 watts
110-127 Vac/Vdc	3VL9400-3MN00	< 500 watts		3VL9400-3MP00	< 500 watts
220-250Vac/Vdc	3VL9400-3MQ00	< 500 watts		3VL9400-3MR00	< 500 watts
			Ronis cylinder lock kit for field installation-----	3VL9715-8HA00	

Front busbar extensions:

requires the use of a Nut Keeper Plate for each pole

Straight

1 piece-----	3VL9400-4EA00
1 set = 3 pieces-----	3VL9400-4EC30
1 set = 4 pieces-----	3VL9400-4EC40

Flared

1 set = 3 pieces-----	3VL9400-4ED30
1 set = 4 pieces-----	3VL9400-4ED40

Rear terminals:

(round stock)

Short length (1 piece)	3VL9400-4RA00
Long length (1 piece)	3VL9400-4RB00
Kit: (2) short + (1) long (3 pieces)	3VL9400-4RC30
(2) short + (2) long (4 pieces)	3VL9400-4RF40

(flat terminals)

Short length (1 piece)	3VL9400-4RK00
Long length (1 piece)	3VL9400-4RL00
Kit: (2) short + (1) long (3 pieces)	3VL9400-4RM30
(2) short + (2) long (4 pieces)	3VL9400-4RN40

Terminal connectors:

Steel wrap around box terminal for VL400

1 piece-----	3VL9400-4TC00
1 set = 3 pieces-----	3VL9400-4TC30
1 set = 4 pieces-----	3VL9400-4TC40

Aluminum body box terminal (1 cavity)

1 piece-----	3VL9400-4TD00
1 set = 3 pieces-----	3VL9400-4TD30
1 set = 4 pieces-----	3VL9400-4TD40

Aluminum body box terminal (2 cavity)

1 piece-----	3VL9400-4TF00
1 set = 3 pieces-----	3VL9400-4TF30
1 set = 4 pieces-----	3VL9400-4TF40

Wire range

solid wire-----	2.5 to 70mm ²
stranded with sleeve end---	2.5 to 70mm ²
flexible bus (w x h)	12 x 10mm

Wire range

1 piece	
solid or stranded wire-----	50 - 240mm ²

Wire range

2 pieces	
solid or stranded wire-----	50 - 120mm ²

Terminal covers:

3 pole extended-----	3VL9400-8CA30
3 pole standard-----	3VL9400-8CB30
4 pole extended-----	3VL9400-8CA40
4 pole standard-----	3VL9400-8CB40

Inter-phase shield

1 piece-----	3VL9600-8CE00
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Plug-in socket assembly:

Includes base plate, sockets, busbarcover, mounting screws, base interlock, (does not include inter-phase shields)

Rear connected

3 pole	3VL9400-4PA30
RCD load end mounted to 3 pole	3VL9400-4PB00
4 pole	3VL9400-5PA40
RCD load end mounted to 4 pole	3VL9400-4PB40

Front connected

3 pole	3VL9400-4PC30
RCD load end mounted to 3 pole	3VL9400-4PD30
4 pole	3VL9400-4PA40
RCD load end mounted to 4 pole	3VL9400-4PD40

Plug-in socket for accessory voltage supply

each plug-in socket contains 8 positions --maximum of 3 sockets can be used with the VL400

Catalog no.	3VL9400-4PJ00
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Draw-out assembly:

Includes base plate, sockets, crank handle, base-interlock, necessary shields

Rear connected

3 pole	3VL9400-4WA30
RCD load end mounted to 3 pole	3VL9400-4WB30
4 pole	3VL9400-4WA40
RCD load end mounted to 4 pole	3VL9400-4WB40

Front connected

3 pole	3VL9400-4WC00
RCD load end mounted to 3 pole	3VL9400-4WD30
4 pole	3VL9400-4WC40
RCD load end mounted to 4 pole	3VL9400-4WD40

Position signaling switch

to indicate connected or unconnected position of plug-in or draw-out assembly. Kit consist of 1 change over switch. Each base can accept up to 2 switches.

Catalog no.	3VL9000-4WL00
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Handle padlocking device:

Catalog no.	3VL9400-3HL00
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Mounting screw kit

4 screws	3VL9500-8SA40
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