

Sentron VL Series Product Specifications

VL1600 Frame
1600 Amperes

Electronic Releases

ETU TRIP RELEASE

Ampere Rating I_N	I_r	3VL8716 -	A	3 0 - 0AA0
1600	640 - 1600			

3 = 3 poles

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 LSIG functions for earth return systems

All VL1600 are shipped with bus-bar extensions for both incoming and outgoing terminals. Customer determines need for termination devices.

ETU TRIP RELEASE

Ampere Rating I_N	I_r	3VL8716 -	B	4 0 - 0AA0
1600	640 - 1600			

4 = 4 poles

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	3VL8716 -	C	0 - 0AA0
1600	640 - 1600			

3 = 3 poles
4 = 4 poles

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 LSIG functions for 3 phase 3 wire systems
M = Line protection with LSIG functions for 3 phase 4 wire systems
N = Line protection with LSIG functions for 3 phase 4 wire systems—4 pole only
P = Motor / generator protection with LI functions

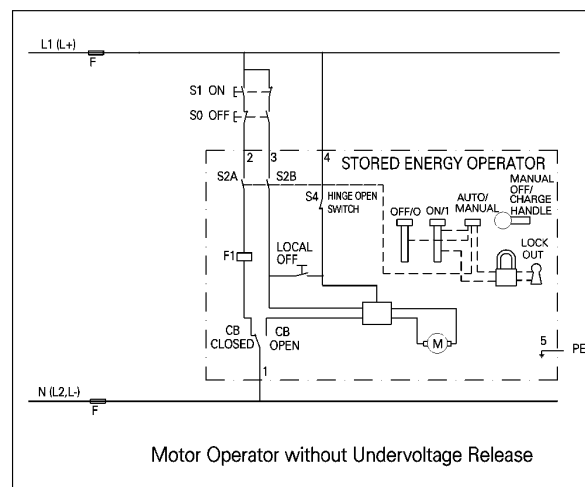
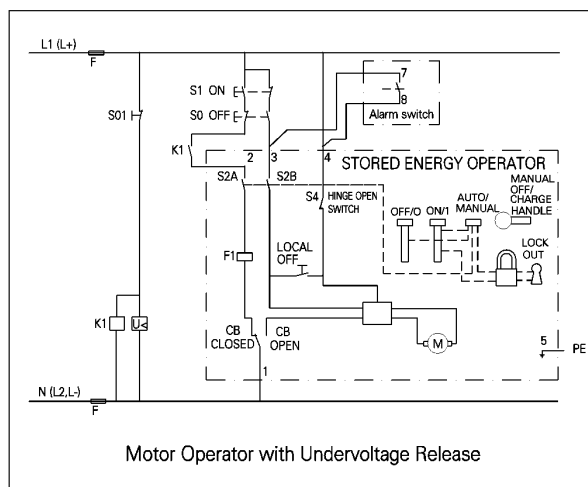
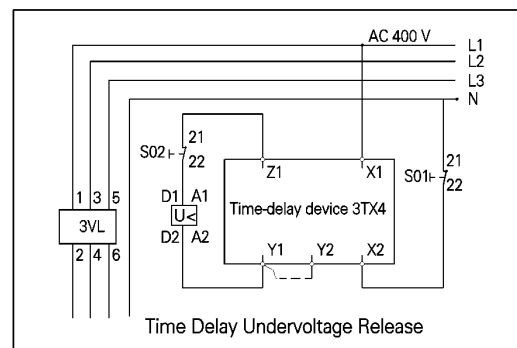
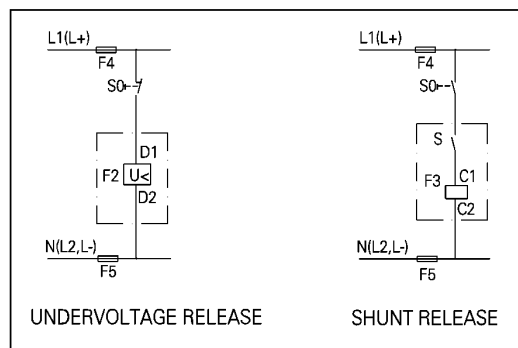
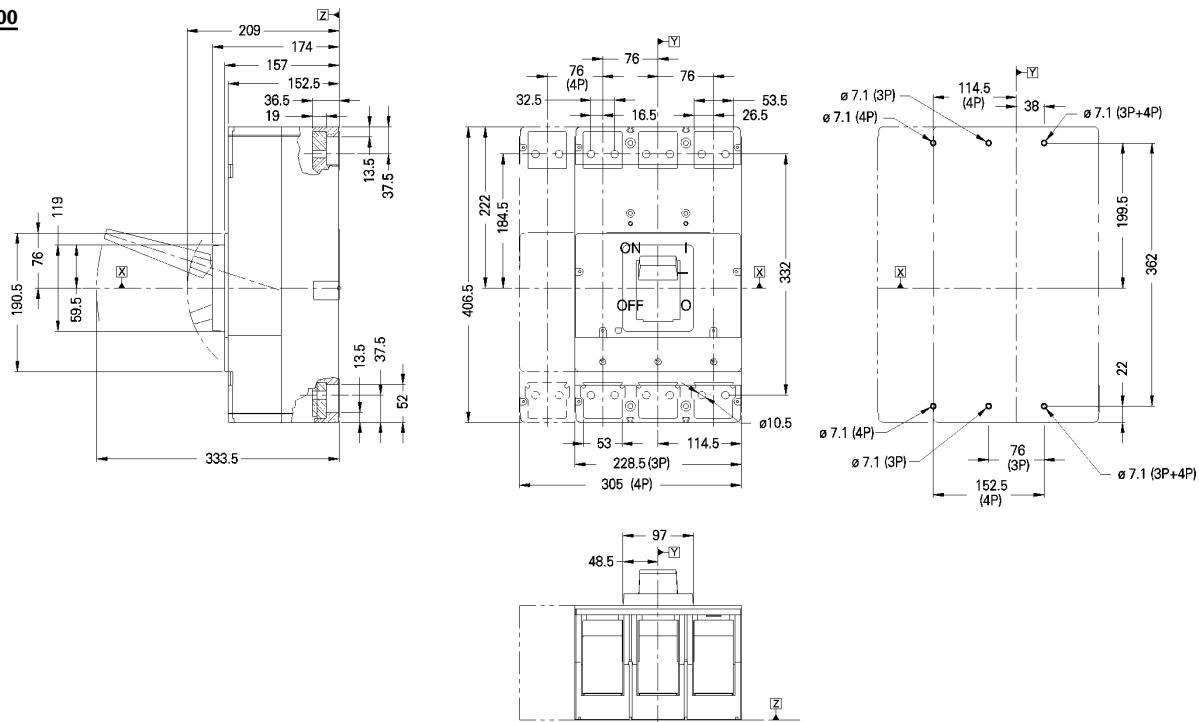
Hand held test kit for electronic trip releases

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

VL1600



Stand: 1/00
<http://www.siemens.de/sentron-vl>
<http://www.siemens.de/energieverteilung>
 Automation and Drives Group
 Low-Voltage Controls and Distribution
 P. O. Box 32 40, D-91050 Erlangen, Germany

Subject to change without prior notice 01/00

Siemens Aktiengesellschaft

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 Dispostelle 27604/SEK 30191
 SEVL.52.9.01 PA



SIEMENS

**SENTRON® VL1600
Specifications**



SENTRON VL Series Product Specifications

VL1600 Frame
1600 Amperes

Specifications:

Category A

IEC 60947-2

EN60947

3-4 Poles

1600 Amperes, 220/240Vac, 380/415Vac, 690Vac

50-60hz.

U_i 750Vac

U_{imp} 8kV

Endurance

3,000 operations @ 30 per hour

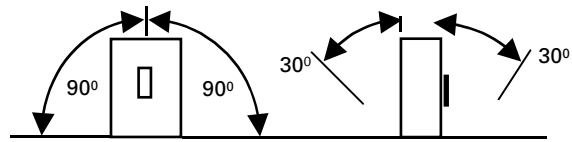
Watts loss (power loss)

at maximum rated current I_N

3 phase symmetrical load for line protection—260 watts—ETU/LCD

Type	I_N	U_E	I_{CU}	I_{CS}	I_{CM}
VL1600N	1600A	220/240~ 380/415~ 690~	65kA 50kA 20kA	65kA 50kA 10kA	143kA 105kA 42kA
VL1600H	1600A	220/240~ 380/415~ 690~	100kA 70kA 30kA	75kA 70kA 15kA	220kA 143kA 63kA
VL1600L	1600A	220/240~ 380/415~ 690~	200kA 100kA 35kA	150kA 75kA 17kA	440kA 220kA 73.5kA

Permissible mounting position



Reverse feed--All VL1600 frame circuit breakers are suitable for reverse feed applications.

Breaker shipping weight 3 pole = 63.7lbs. / 29 kg.
4 pole = 84 lbs. / 39 kg.

Adj. Overload 40 to 100% x I_N

Adj. Time lag = 2.5 to 30 seconds

Adj. Short time release 1.5 to 10 x I_N

Adj. Time lag (t_{SD})= 0 to 0.5 seconds

Adj. Short circuit releases I_i 1.25 to 11 x I_N

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%

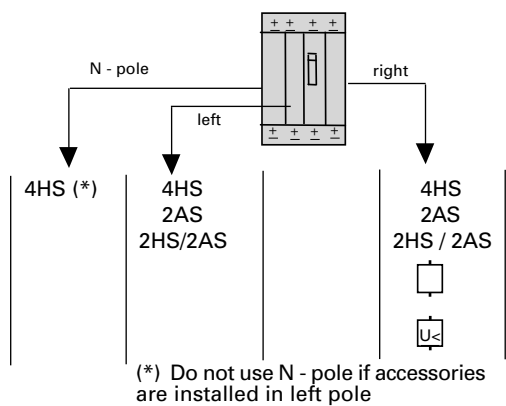
@ 50°C--100%

@ 60°C--95%

@ 70°C--80%

Internal accessories:

Maximum internal accessory combinations



Switch kits:

	Catalog Number
4HS (2NO +2NC)	3VL9800-2AC00
2HS (1NO +1NC) + 1AS (1NO)	3VL9800-2AE00

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

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	3VL9800-1SM00	300 to 480va
110 - 127Vac	3VL9800-1SR00	302 to 352va
208 - 277Vac	3VL9400-1ST00	277 to 350va
380 - 600Vac	3VL9800-1SV00	330 to 349va
12Vdc	3VL9800-1SB00	50 watts
24Vdc	3VL9800-1SC00	360 watts
48 - 60Vdc	3VL9800-1SJ00	500 to 820 watts
110 - 127Vdc	3VL9800-1SK00	302 to 353 watts
220 - 250Vdc	3VL9800-1SQ00	348 to 397 watts

Undervoltage releases

	Catalog Number	Power Consumption
110 - 127Vac	3VL9800-1UG00	4.5va
208Vac	3VL9800-1UM00	4.5va
220 - 250Vac	3VL9800-1UH00	4.5va
227Vac	3VL9800-1UQ00	4.5va
380 - 415Vac	3VL9800-1UJ00	4.5va
440 - 480Vac	3VL9800-1UK00	4.5va
550 - 526Vac	3VL9800-1UL00	4.5va
600Vac	3VL9800-1UL00	4.5va
12Vdc	3VL9800-1UT00	3.5 watts
24Vdc	3VL9800-1UN00	3.5 watts
48Vdc	3VL9800-1UP00	3.5 watts
60Vdc	3VL9800-1UU00	3.5 watts
110 - 127Vdc	3VL9800-1UR00	3.5 watts
220 - 250Vdc	3VL9400-1US00	3.5 watts

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-----3VL9800-3HA00
 - Emergency Stop-----3VL9800-3HC00
- Rotary drive extended
 - Standard-----3VL9800-3HF00
 - Emergency Stop-----3VL9800-3HG00
 - Without knob-----3VL9800-3HE00
- Door-coupling rotary operating mechanism kit to be used with operator —3VL9600-3HE00
 - 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-----3VL9815-8HA00
 - CES-----3VL9811-8HA00

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

- 1 - leading OFF to ON 3VL9800-3AS10
- 2 - leading OFF to ON 3VL9800-3AT10
- 1 - early-break ON to OFF 3VL9800-3AU10
- 2 - early-break ON to OFF 3VL9800-3AW10

Changeover switch specifications

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

Walking-beam interlock mechanism:

- Fixed mounted circuit-breakers----- 3VL9800-8LC00
- Draw-out/Plug-in mounted-----3VL9800-8LD00

Cable interlock system:

- Kit contains operator plates only
- for two circuit-breakers-----3VL9800-8LA00
- Recommended 1.5m long cable-----3VL9000-8LH30

External accessories

Remote operators:

Voltage		Power	with cylinder lock installed	
				Power
24 Vdc	3VL9800-3MJ00	< 500 watts	3VL9815-3MK00	< 500 watts
42-48 Vac/Vdc	3VL9800-3ML00	< 500 watts	3VL9815-3MM00	< 500 watts
60 Vac/Vdc	3VL9800-3MS00	< 500 watts	3VL9815-3MT00	< 500 watts
110-127 Vac/Vdc	3VL9800-3MN00	< 500 watts	3VL9815-3MP00	< 500 watts
220-250Vac/Vdc	3VL9800-3MQ00	< 500 watts	3VL9815-3MR00	< 500 watts
		Ronis cylinder lock kit for field installation-----	3VL9815-8HA00	

Front busbar extensions

requires the use of a Nut Keeper Plate for each pole

Straight

1 piece-----	3VL9800-4EA00
1 set = 3 pieces-----	3VL9800-4EC30
1 set = 4 pieces-----	3VL9800-4EC40

Rear terminals:

Flat bus

1 piece-----	3VL9700-4RG00
Kit = 3 pieces-----	3VL9700-4RH30
Kit = 4 pieces-----	3VL9700-4RH40

Terminal covers:

3 pole extended-----	3VL9800-8CA30
3 pole standard-----	3VL9800-8CB30
4 pole extended-----	3VL9800-8CA40
4 pole standard-----	3VL9800-8CB40

Inter-phase shield:

1 piece-----	3VL9800-8CE00
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Draw-out assembly:

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

Rear connected

3 pole	3VL9800-4WA30
4 pole	3VL9800-4WA40

Front connected

3 pole	3VL9800-4WC00
4 pole	3VL9800-4WC40

Plug-in socket for accessory voltage supply

each plug-in socket contains 8 positions—maximum of 3 sockets can be used with the VL1600

Catalog no. 3VL9800-4PJ00

Position signaling switch

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

Catalog no. 3VL9000-4WL00

Handle padlocking device:

Catalog no. 3VL9800-3HL00

Mounting screw kit

4 screws 3VL9800-8SA40