Types SSVT and SSMV oil-filled station service voltage transformers
Auxiliary power from high voltage transmission lines

Power and productivity
for a better world™

ABB has been producing instrument transformers for more than 60 years. Thousands of our products perform vital functions in electric power networks around the world – day after day, all year round. Their main applications include revenue metering, control, indication and relay protection.

All instrument transformers supplied by ABB are tailormade to meet the needs of our customers. An instrument transformer must be capable of withstanding very high stresses in all climatic conditions. We design and manufacture our products for a service life of at least 30 years. Actually, most last even longer.

ABB's family of Station Service Voltage Transformer (SSVT) products combine the characteristics of voltage transformers with the power rating capability of distribution transformers. This results in fully-insulated products, up to 362 kV, with power performance up to 333 kVA.

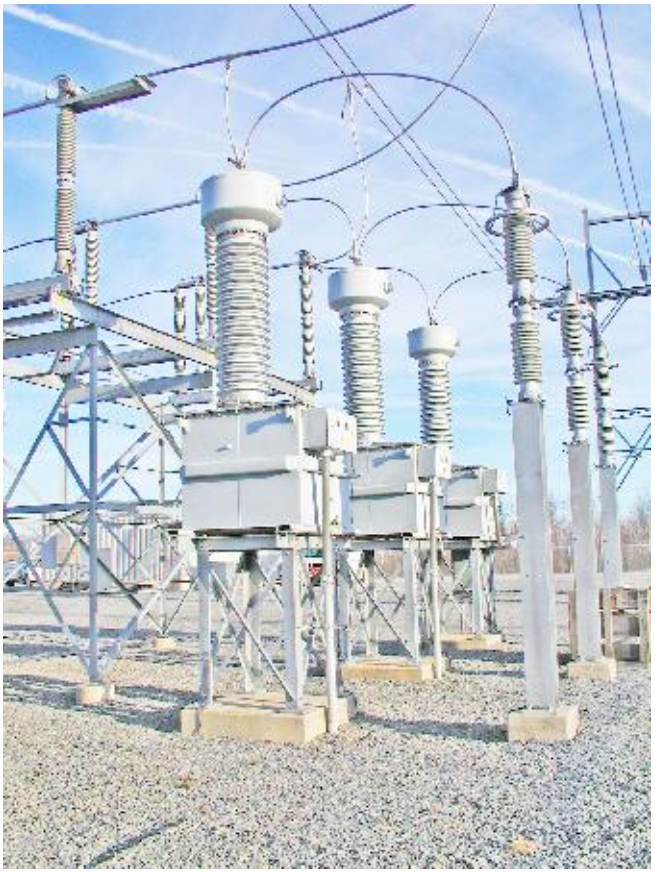
Station Service Voltage Transformer (SSVT)

The SSVT is a line-to-ground connected single-phase transformer that can be used either as an individual unit for supplying single-phase loads, or in a three-phase bank to support larger kVA three-phase loads. The high voltage winding with graded insulation is applied line-to-ground on grounded WYE systems, and is coupled to secondary windings through silicon steel cores.

This unique combination allows for a reliable, direct connection to the high voltage transmission line in a convenient, economical installation using the pedestal mounted transformer. The power transformation is taken directly from the high voltage primary to the low voltage output that supplies 125/250 VAC power, 277 VAC, 480 VAC, or any output up to 600 VAC to supply lighting loads, pump and motor loads, instrumentation and rural electrification power needs.

Station Service Voltage Transformer for Medium Voltage (SSMV)

This variation of the SSVT transforms power directly from the high voltage transmission line connetion and steps it down to a medium voltage output capable of transferring a reasonable amount of power over immediate distances (up to 8-10 kM). This allows loads that are removed from the transmission right of way, to be powered with a cost effective transformer for remote/rural locations The design consists of the same construction as the original SSVT, but with medium voltage bushings in the low side compartment to provide clearance for the increased voltage level.



Standards - Electrical

The SSVT transformers can meet the applicable sections (latest version) of the following standards respectively:

- IEEE C57.13 regarding Instrument transformers
- IEEE C57.12.00 regarding Distribution/voltage transformers
- CAN/CSA C60044-2 regarding Inductive voltage transformers
- IEC 60044 regarding Instrument, voltage and current transformers
- IEC 60076 regarding Distribution/power transformers

Standards - Quality

- ISO 9001: 2000

Standards - Environmental

- ISO 13001: 2004

Standards - Occupational Health & Safety

- OHSAS 18001

Applications

Switching station application

Many utilities maintain switching stations for interconnection of transmission lines. Frequently, these substations do not have low voltage control power available from equipment inside the station, rather they rely on distribution feeders from outside the substation (which may be owned by another utility company). SSVT's are mounted onto a pedestal, with the primary tied to the incoming transmission line with the output secondary control wiring connected to the station power panel.

Benefits:

- Eliminates the need for obtaining long-term power from an outside supplier
- Reliable power for the substation with connection directly to the transmission line
- Control power source self-contained within substation boundary

Rural electrification application

In developing countries where transmission systems are in place but a wide-spread distribution infrastructure is lacking, SSVT's can be used as a compact transformer to greatly reduce the electrification costs for small villages or compounds. SSVT's can either be used with its low voltage output to directly supply needed power for in-close loads near the transmission right of way, or simply step up the SSVT low voltage output through distribution transformers for a local distribution network.

Small substations can be sited specific to the load requirements without a large distribution network. Tapping the high voltage transmission line and connecting SSVT's with a small footprint substation will provide affordable, readily-available electricity to millions of people presently without power.

Benefits:

- Cost of electrification can be greatly reduced for developing countries with limited size load requirements and small substations
- Output can be tailored to each specific voltage and load requirement using the flexible SSVT capability
- Modular substations using the SSVT as the main transformer can be pre-packed, shipped in containers, and quickly erected on site to reduce time and costs

Remote cell tower site application

Given the rapid expansion of the cellular telephone industry, it is vital that all possible points be reached with clear communication signals. Given the limited distances that cellular signals can be transmitted, it is often necessary to site cell towers in remote locations to enable repetition of phone transmissions. When a selected cell tower site lacks nearby electrical secondary feeders, locating the cell tower adjacent to the high voltage transmission line is now an economical option. A tap can be taken from the transmission line to an SSVT placed in a fenced-in area (a miniature substation) to energize the cell tower. Where permitted, the cell transceiver can be located directly on the transmission tower.

Benefits:

- Cost savings compared to installing a dedicated distribution feeder over long distances (Evaluation shows break-even point to be approximately ½ to 1 mile of distribution line.)
- User advantage of economical power purchases at transmission level (with SSVT ownership)
- Avoid costs of tower permits when installing on existing towers

Applications (cont'd)

Substation auxiliary power application without using power transformer tertiary

In normal transmission substation installations, power transformers are typically equipped with tertiary windings in order to supply distribution transformers with 15 or 25 kV primary voltages for substation load. The distribution transformers supply control power for the substation location. In substations where the power transformers do not have tertiary windings, control power must be supplied by alternate means. SSVT's can be mounted on the bus, as both a bus potential transformer with measuring winding, and a control power source.

Benefits:

- Control power is supplied from within the substation directly from the transmission bus, improving reliability
- Power transformer tertiary can remain buried, which prevents connection abuse and improves power quality control
- Power from transmission line is less susceptible to weather-related outages
- Dual functions incorporated, with SSVT's acting as a power source and voltage control winding

Transmission line lighting application

Transmission towers which span a body of water require overhead lighting be supplied for safety and security purposes. ABB has designed a 46 kV, 5 kVA power rating transformer with hanger brackets for pole-mounting, and fusing in the control cabinet for mounting atop a transmission pole adjacent to the transmission line. This arrangement eliminated the need to maintain control wiring at near ground level from distribution transformers high up the transmission tower. SSVT's safely provide lighting power directly on the tower.

Benefits:

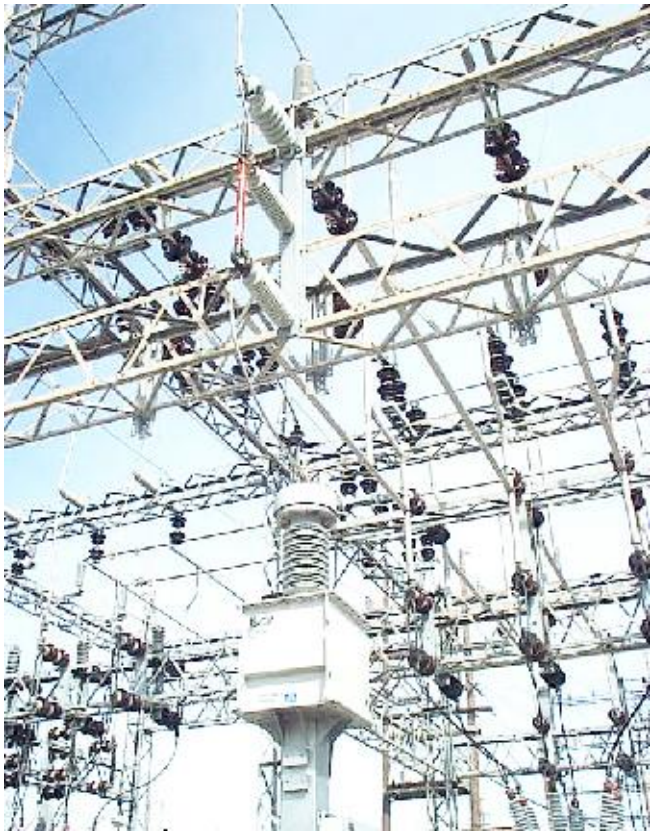
- Small footprint allowing restricted installation in a compact space near transmission line
- Short distance control wiring to reduce losses
- Self-contained fusing and mounting format for quicker installation and reduced costs

Transmission switch automation application

To improve the service of a substation which feeds a 69 kV radial tap line, switches can be automated to sectionalize the line in the event of a fault. A distribution feeder may not always be available in order to power the SCADA RTU, radio, and motor-operated switches, so by supplying a 69 kV SSVT with 10 kVA power rating and a measuring winding, utilities can achieve both control power and tap voltage indication for monitoring circuits. If necessary, additional standard voltage transformers can be supplied on the loop line to monitor voltages on both sides of the switches.

Benefits:

- Savings from reduced space and installation times on compact switch structure arrangement
- Self-contained power from transmission line, reliability assured by transmission connection
- Could be used as part of a measuring circuit if primary measuring where needed



Features and benefits

The SSVT and SSMV feature rugged transformer designs incorporating high creepage insulators and high over-voltage capability with impedance protection to limit fault currents.

Features and benefits of the transformer designs include:

Incorporated inductive voltage transformer insulation and magnetic performance.
- Readily accommodates high momentary and maximum continuous operation voltage relative to power transformers.
- Fully-rated impulse levels provide improved withstand to HV transients.

Low profile, compact overall size and weight relative to power transformers.
- Units do not require expensive concrete pad, simply a support stand and small foundation.
- Minimal substation footprint.

Low cost alternative to distribution feeder construction.
- Self-contained power source within substation fence, not subject to weather related outages.
- Simplest power source for reliable station power.

Power ratings up to 333 kVA per phase (1 MVA bank), available with isolated measuring winding option.
- Ample single-phase power ratings for any station power need, as well as for limited power applications.
- Line voltage information and control power needs from one source.

Reliable transmission voltage access for substation power.
- Very reliable control power access available directly from the transmission lines.
- Eliminates need to bring in outside distribution voltage.
- Not typically subject to line outages.

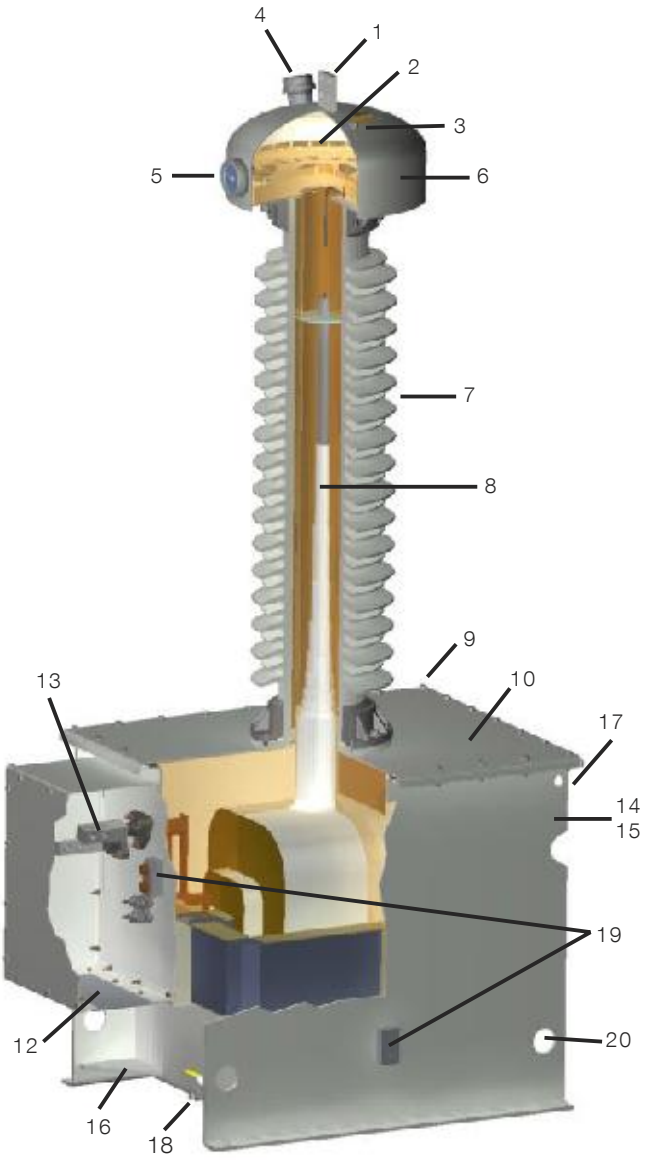
Special designs easily accommodate for different low voltages and outputs.
- Quick transformer availability with customer-specified design to meet site needs.

Isolated windings for flexibility in making various required secondary connections.
- Access to the full kVA regardless of voltage is needed.
- Standard design can be used for both single phase installation, as well as three-phase needs.

High seismic withstand capability.
- Most designs are rated for high seismic withstand per IEEE 693 via dynamic analysis.
- Mechanically robust to withstand transportation and handling.

Short lead-time Station Service Voltage Transformer.
- Produced using lean manufacturing techniques to provide short lead times and to prevent project delays.

Product details



The ABB Station Service Voltage Transformer (SSVT) incorporates an integral inner condenser bushing connected to a layer wound coil (except 50 and 100 kVA 230 kV unit which is a disk wound design).

1 NEMA 4-hole stainless steel 4”x4” (100 mm x100 mm) pad primary terminal
2 Gas cushion (dry air or dry nitrogen cushion)
3 Pressure relief valve to prevent pressure buildup
4 Shrader gas valve for cushion application / fillcap
5 Magnetic oil level gauge
6 Powder-coated polyester paint on mild steel dome
7 Glazed porcelain with major-minor shed pattern for high creepage distance
8 Condenser graded inner bushing
9 Stainless and bronze corrosion-resistant hardware
10 Powder-coated polyester paint on mild steel cover and tank
11 High contrast aluminum schematic and nameplates (not shown)
12 Power conduit box with 12” x 20” (305 mm x 508 mm) removable bottom plate
13 Aluminum 2-hole lugs for standard low voltage terminals
14 Measuring conduit box (if measuring winding is specified) with three (3) 1-1/2” (38 mm) NPT openings (not shown)
15 Measuring low voltage ¼”-20 (6 mm) copper alloy terminals (not shown)
16 High visibility ratio and kVA stencils
17 5 kV rated isolated H0 bushing connected to dedicated tank ground
18 ½” (13 mm) bronze drain ball valve with stainless steel pipe plug
19 Two (2) NEMA 2-hole stainless steel ground pads
20 Four (4) 2” (51 mm) and four (4) ¾” (19 mm) lifting holes

Optional Accessories
- One (1) or two (2) measuring windings
- Special low voltage lugs or connectors (NEMA 4-hole, stud or cable connectors, etc.)
- Special low voltage output ratings (277 VAC, 347 VAC, 480 VAC, any voltage up to 600 VAC)
- Special medium voltage output ratings (voltates up to 15 kV class output)
- Extra strike and creep insulators
- Polymer insulators in lieu of porcelain designs
- Corrosion-resistant stainless steel housings
- Secondary terminal box heaters
- Sudden pressure relay
- CTs to power secondary monitoring
- Oil sampling valve

For needs or features not listed, contact the factory.

SSVT technical data

SSVT product rating matrix

Type	System MSV	kV BIL	Style	10 kVA[1]	25 kVA[1]	50 kVA[1]	100/125 kVA[1]	160/167 kVA[1]	200 kVA[1]	250 kVA[1]	315/333 kVA[1]
SSVT-250	48 kV	250 kV	Power windings Measuring windings[2]	✓ Cl 0.5[5]	✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓ Cl 0.2[3]				
SSVT-350	72 kV	350 kV	Power windings Measuring windings[2]	✓ Cl 0.5[5]	✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓			
SSVT-550	123 kV	550 kV	Power windings Measuring windings[2]	✓ Cl 0.5[5]	✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓			
SSVT-650	145 kV	650 kV	Power windings Measuring windings[2]			✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓			
SSVT-650	170 kV	650 kV	Power windings Measuring windings[2]			✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓	✓	✓	✓
SSVT-750	170 kV	750 kV	Power windings Measuring windings[2]			✓ Cl 0.2[3]	✓ Cl 0.2[3]	✓	✓	✓	✓
SSVT-900	245 kV	900 kV	Power windings Measuring windings[2]				✓ Cl 0.5[4]	✓	✓	✓	✓
SSVT-1050	245 kV	1050 kV	Power windings Measuring windings[2]				✓ Cl 0.5[4]	✓	✓	✓	✓
SSVT-1300	362 kV	1300 kV	Power windings				✓	✓			

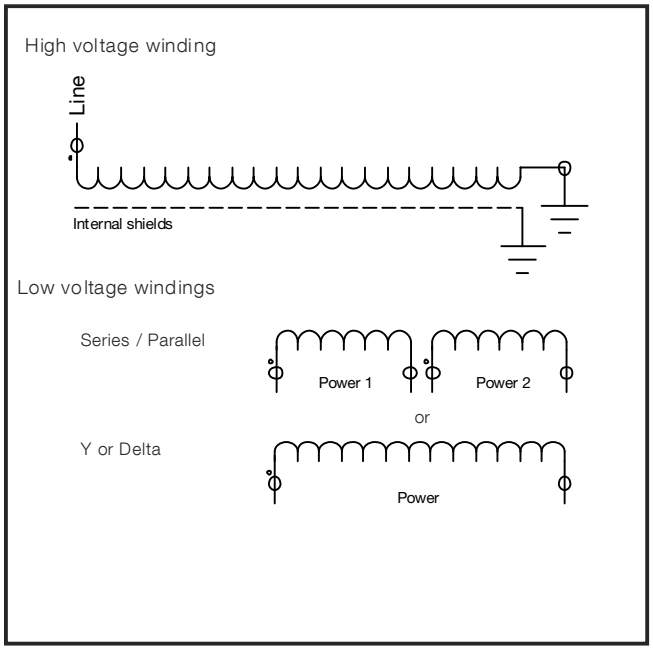
1. kVA ratings shown are based on a 30° C average ambient condition and a 65° C rise.
2. Measuring windings, where available, may be quantity of one or two windings, except as noted.
3. Accuracy of 0.2% at 400 VA or 0.15% at 400 VA (ZZ).
4. Two measuring windings are standard with accuracy class 0.5% at 400 VA or 0.3% at 400 VA (ZZ).
5. One or two measuring windings are available with accuracy class 0.5% at 400 VA or 0.3% at 400 VA (ZZ).

Product winding options

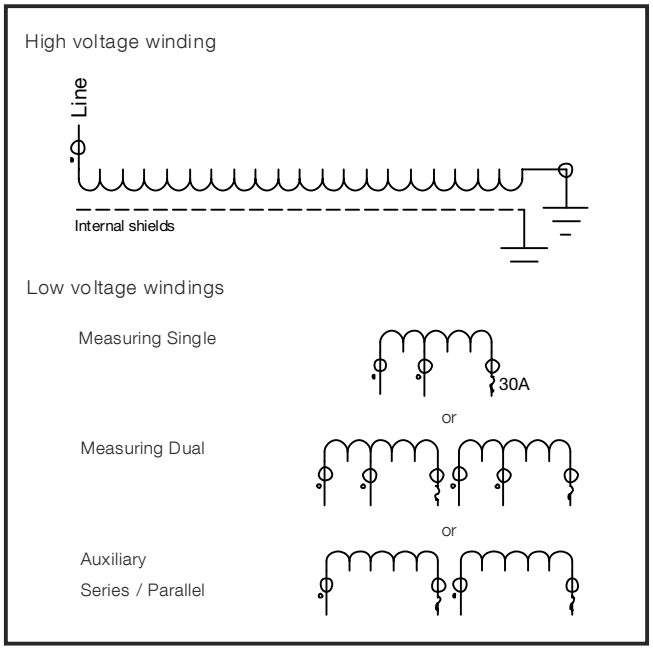
The standard Station Service Voltage Transformer (power only) has two (2) isolated secondary power windings that can be either series or parallel connected for different voltage output. Also, one (1) or two (2) additional tapped measuring windings can be supplied for measurement and control application with some isolation from the power coils to minimize voltage fluctuations.

These extra windings supply rated accuracy and burden support only when the power winding is loaded at 10% or less of its power rating, otherwise these measuring windings will become less accurate as the power winding is loaded above 10% of rating.

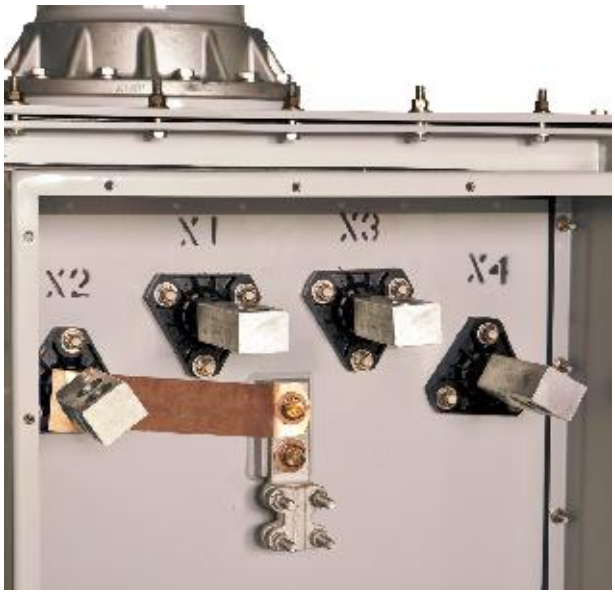
Power winding options



Measurement winding options



Power conduit box



Power conduit box internal view
(750 kV BIL rating and lower)

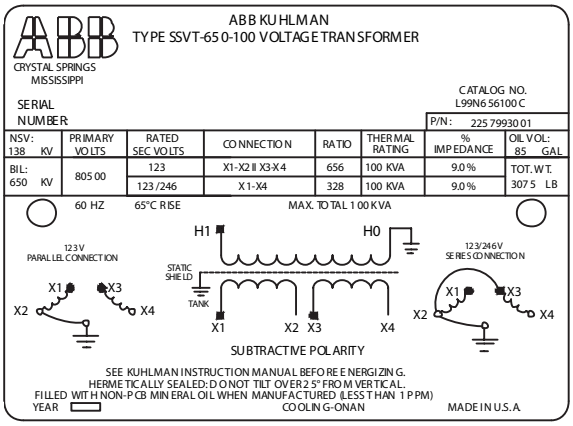
Measuring conduit box

Measuring conduit box internal view
(750 kV BIL rating and lower)

Conduit box internal view
(900 kV BIL rating and higher)

Typical nameplate layout

The supplied nameplates are laser-etched aluminum and contain product technical details, as well as winding schematics. A power winding nameplate is affixed near the power conduit box and, where applicable, a separate nameplate for measuring windings is provided near the measuring terminals. The example shown is for illustration purposes; actual nameplates will reflect the specification for each site application.



Dielectric ratings

In general, the SSVT (low voltage output only) is produced according to IEEE C57.13 relative to the dielectric ratings and for 60 hertz performance.

The unit can be configured for IEC dielectric ratings as well as for 50 hertz systems.

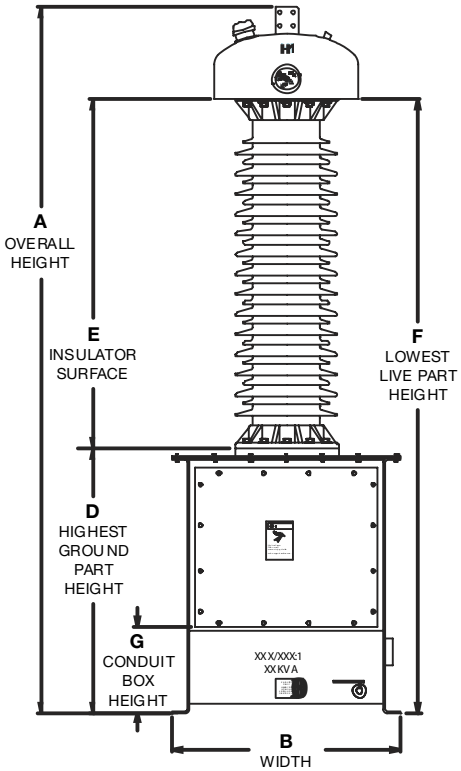
The information shown below reflects the IEEE specification.

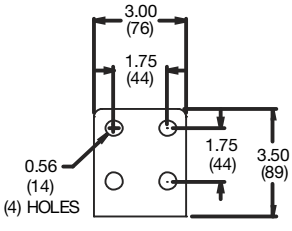
Rating	Product voltage levels								
	SSVT-250	SSVT-350	SSVT-550	SSVT-650	SSVT-650	SSVT-750	SSVT-900	SSVT-1050	SSVT-1300
NSV	46 kV	69 kV	115 kV	138 kV	161 kV	161 kV	230 kV	230 kV	345 kV
MSV	48 kV	72 kV	123 kV	145 kV	170 kV	170 kV	245 kV	245 kV	362 kV
BIL	250 kV	350 kV	550 kV	650 kV	650 kV	750 kV	900 kV	1050 kV	1300 kV
MCOV (power only)	115%	115%	115%	115%	115%	115%	110%	115%	115%
MCOV (power + measure)	140%	140%	140%	140%	140%	140%	106%	N/A	N/A
MMOV (power only)	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min	125% - 1 min
MMOV (power + measure)	173% - 1 min	173% - 1 min	173% - 1 min	173% - 1 min	173% - 1 min	173% - 1 min	120% - 1 min	N/A	N/A
PF Withstand - Dry - Wet	95 kV - 1 min 95 kV - 10 sec	140 kV - 1 min 140 kV - 10 sec	230 kV - 1 min 230 kV - 10 sec	275 kV - 1 min 275 kV - 10 sec	275 kV - 1 min 275 kV - 10 sec	325 kV - 1 min 315 kV - 10 sec	395 kV - 1 min 350 kV - 10 sec	460 kV - 1 min 445 kV - 10 sec	575 kV - 1 min 575 kV - 10 sec
PD free @	37 kV	54 kV	93 kV	109 kV	124 kV	124 kV	186 kV	186 kV	300 kV
H0 bushing	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV	5 kV
H0 BIL	30 kV	30 kV	30 kV	30 kV	30 kV	30 kV	30 kV	30 kV	30 kV
**Extra creep and strike insulators available, contact factory.									
Creep** in. (mm)	37 (940)	52 (1321)	130 (3302)	147 (3734)	147 (3734)	199 (5055)	267 (6782)	351 (8915)	391 (9931)
Strike** in. (mm)	17 (432)	23 (584)	42 (1067)	49 (1245)	49 (1245)	54 (1372)	72 (1829)	79 (2007)	98 (2489)

Dimensions and weights

	SSVT-250	SSVT-350	SSVT-550	SSVT-650	SSVT-650	SSVT-750	SSVT-900	SSVT-1050	SSVT-1300
MSV / BIL kV	48 / 250	72 / 350	123 / 550	145 / 650	170 / 650	170 / 750	245 / 900	245 / 1050	345 / 1300
A - Height in. (mm)	66.39 (1686)	75.00 (1905)	94.05 (2389)	101.73 (2584)	101.73 (2584)	124.29 (3157)	175.20 (4450)	177.56 (4510)	207.48 (5270)
B - Width in. (mm)	30.50 (775)	30.50 (775)	30.50 (775)	31.00 (787)	31.00 (787)	34.25 (870)	70.08 (1780)	70.08 (1780)	70.08 (1780)
C - Depth in. (mm)	44.82 (1138)	44.82 (1138)	44.82 (1138)	48.97 (1244)	48.97 (1244)	53.96 (1371)	68.30 (1735)	66.00 (1676)	75.00 (1905)
D - Highest Gnd Part in. (mm)	34.37 (873)	34.37 (873)	34.37 (873)	35.19 (894)	35.19 (894)	39.81 (1011)	61.42 (1560)	66.07 (1678)	69.53 (1766)
E - Insulator Length in. (mm)	13.88 (353)	22.21 (582)	40.65 (1032)	47.64 (1210)	47.64 (1210)	58.38 (1483)	75.79 (1925)	74.80 (1900)	98.80 (2510)
F - Lowest live part in. (mm)	52.51 (1334)	62.25 (1581)	81.82 (2078)	89.50 (2273)	89.50 (2273)	89.70 (2278)	137.21 (3485)	140.87 (3578)	168.30 (4275)
G - Conduit box height in. (mm)	11.50 (292)	11.50 (292)	11.50 (292)	12.25 (311)	12.25 (311)	16.63 (422)	31.10 (790)	31.10 (790)	27.96 (710)
H - Mtg Holes front-back in. (mm)	30.38 (772)	30.38 (772)	30.38 (772)	34.75 (883)	34.75 (883)	40.88 (1038)	48.00 (1219)	48.00 (1219)	48.00 (1219)
I - Mtg Holes left-right in. (mm)	28.75 (730))	28.75 (730)	28.75 (730)	28.87 (733)	28.87 (733)	32.25 (819)	57.00 (1448) 66.00 (1676)	57.00 (1448) 66.00 (1676)	57.00 (1448) 66.00 (1676)
Shipping Volume (l x w x h) in. (mm)	60x46x75 (1524x1168x1905)	60x46x83 (1524x1168x2108)	60x46x102 (1524x1168x2591)	60x46x102 (1524x1168x2591)	60x46x102 (1524x1168x2591)	60x46x102 (1524x1168x2591)	66x70x142 (1676x1778x3595)	66x70x145 (1676x1778x3683)	196.5x80x125 (4991x2032x3175)
Unit Weight lb. (kg)	2255 (1009)	2470 (1120)	2550 (1156)	2960 (1343)	2960 (1343)	3500 (1588)	9500 (4318)	9910 (4505)	11084 (5038)
Shipping Weight lb. (kg)	2325 (1055)	2570 (1166)	2650 (1202)	3060 (1388)	3060 (1388)	3600 (1633)	11480 (5281)	11500 (5227)	14291 (6496)
Oil Volume gal. (liter)	69 (261)	75 (284)	80 (303)	105 (397)	105 (397)	120 (453)	541 (2048)	550 (2082)	550 (2082)

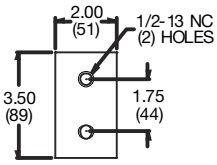
Information shown herein is for informational purposes and is subject to change without notice.
For construction purposes, contact factory for updated information.



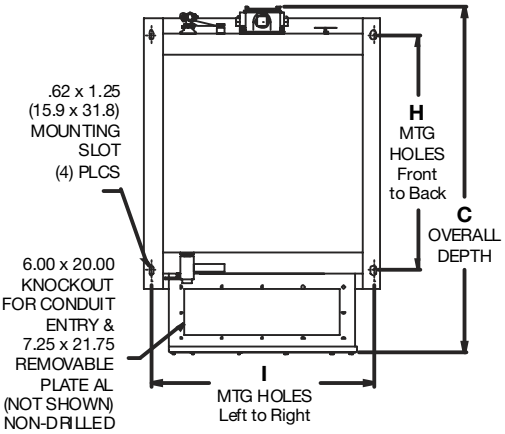


50 mm hole spacing available

NEMA 4-Hole Primary Terminal



NEMA 2-Hole Ground Pad



VIEW FROM BOTTOM

MOUNTING DIAGRAM

For SSVTs with 900 kV BIL and higher ratings, a single conduit box contains both the power windings as well as the measuring windings (when supplied) and has a fixed 3" conduit opening for power outlet.

SSMV technical data

SSMV product rating matrix

Type	System MSV	kV BIL	Style	Frequency	100 kVA[1]	125 kVA[1]	167 kVA[1]	200 kVA[1]
SSVT-350	72 kV	350 kV	Power windings	60 Hz 50 Hz	✓ ✓	✓ ✓	✓ ✓	✓
SSVT-550	123 kV	550 kV	Power windings	60 Hz 50 Hz	✓ ✓	✓ ✓	✓ ✓	✓
SSVT-650	145 kV	650 kV	Power windings	60 Hz 50 Hz	✓ ✓	✓ ✓	✓ ✓	✓
SSVT-650	170 kV	650 kV	Power windings	60 Hz 50 Hz	✓ ✓	✓ ✓	✓ ✓	✓

1. kVA ratings shown are based on a 30° C average ambient condition and a 65° C rise.

SSVT Medium Voltage (SSMV) winding rating design

This design has been developed to aid siting the product anywhere there is a transmission line to allow connection. The design will facilitate power tap off of transmission lines for mining sites, rural electrification projects or remote loads of any description.

A distribution class surge arrester is supplied on the side of the tank wall for direct protection of the low side winding. Take off options can be overhead directly from the medium voltage bushings (with protective box cover removed) or sub-surface via conduit entrance at the bottom of the box.

Unit provided for medium voltage power output cannot be proficed with measurement windings.

Product winding schematic and protection arrangement

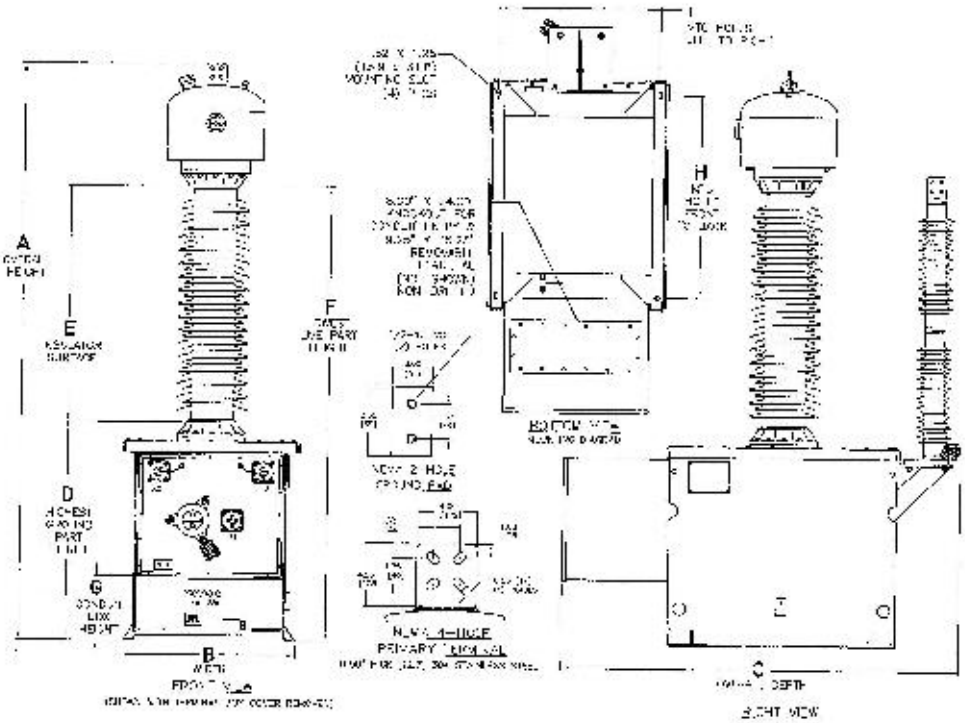
SSMV (secondary) dielectric ratings

	Product voltage levels		
Rating	SSVT-350	SSVT-550	SSVT-650
Frequency	60 Hz	60 Hz	60 Hz
Thermal rating range	100-200	100-200	100-200
Standard thermal ratings			
NSV	69 kV	115 kV	138 kV
MSV	72 kV	123 kV	138 kV
BIL	350 kV	550 kV	650 kV
MCOV power only	115%	115%	115%
MMOV power only	125%, 1 min	125%, 1 min	125%, 1 min
Power frequency withstand			
Dry	140 kV, 1 min	230 kV, 1 min	275 kV, 1 min
Wet	140 kV, 10 sec	230 kV, 10 sec	275 kV, 10 sec
PD free upto	54 kV	93 kV	109 kV
H0 bushing	25 kV	25 kV	25 kV
H0 bushing BIL	125 kV	125 kV	125 kV
Secondary voltage	7200 V	7200 V	7200 V
X1 - X2 bushing class	25 kV	25 kV	25 kV
X1 - X2 bushing BIL	125 kV	125 kV	125 kV
HV creep in. (mm)	52 (1321)	130 (3302)	147 (3734)
HV strike in. (mm)	23 (584)	40.9 (1040)	48 (1219)

Secondary arrester rating			
Frequency	50 Hz	50 Hz	50 Hz
Thermal rating range	100-200	100-200	100-200
Standard thermal ratings	25 kVA, 50 kVA, 100 kVA, 125 kVA, 167 kVA		
Secondary voltage	6600 V	6600 V	6600 V
HV arrester	60 kV	102 kV	120 kV
MV arrester	60 kV	60 kV	60 kV

Dimensions and weights			
	SSVT-350	SSVT-550	SSVT-650
MSV / BIL kV	72 / 350	123 / 550	145 / 650
A - Height in. (mm)	75.05 (2261.87)	108.52 (2756)	116.33 (2955)
B - Width in. (mm)	33.75 (857)	33.75 (857)	34.25 (870)
C - Depth in. (mm)	66.18 (1681)	66.21 (1681)	70.56 (1792)
D - Highest Gnd Part in. (mm)	41.83 (1062)	42.91 (1090)	43.71 (1110)
E - Insulator Length in. (mm)	22.91 (582)	40.65 (1033)	47.64 (1210)
F - Lowest live part in. (mm)	64.93 (1649)	83.74 (2127)	91.55 (2325)
G - Conduit box height in. (mm)	11.50 (292)	11.50 (292)	12.25 (311)
H - Mtg Holes front- back in. (mm)	36.40 (925)	36.40 (925)	40.77 (1038)
I - Mtg Holes left- right in. (mm)	32.13 (816)	32.13 (816)	32.25 (819)
Shipping Volume (l x w x h) in. (mm) 2 crates	80x48x72 (2032x1219x1829) 24x24x26 (610x610x660)	80x48x92 (2032x1219x2337) 24x24x26 (610x610x660)	85x50x98 (2159x1270x2489) 24x24x26 (610x610x660)
Unit Weight lb. (kg)	3513 (1593)	3593 (1629)	4343 (1970)
Shipping Weight lb. (kg)	3620 (1642)	3700 (1678)	4450 (2023)
Oil Volume gal. (liter)	150 (568)	75 (284)	180 (681)

Information shown herein is for informational purposes and is subject to change without notice.
For construction purposes, contact factory for updated information.



Inquiry and order information sheet

Copy form as needed.

ABB Station Service Voltage Transformers
Type SSVT: Single Phase, Single Bushing

Quote requests: HVIT@us.abb.com

Customer / Project			
Size / Load Rating		kVA	10, 25, 50, 100, 167 or higher
Primary Voltage		Volt	Line-to-Neutral average, actual, not nominal
MMOV		Volt	☐ 30 seconds or ☐ 60 seconds maximum over voltage, L-N
MCOV		Volt	Continuous maximum over voltage, L-N
Primary Protection		kV BIL	250 - 1300 kV
SEC. Power Voltages		V nominal	110/220, 120/240, 240/480, 277, 347, other (600 V class)
or		Limits	NLV high / FLV low (V or ratio)
Ratios: PRI. L-N:SEC		:1	for each Secondary Power Voltage at no load
Load Power Factor		% at maximum power loading	

Measuring Outputs	None	Single with tap	Dual with tap	Special
High accuracy is standard				

Operating Environment	Elev > 3000 ft.	Temp. > 40°C	Temp < 40°C	24 hr. avg.

	STANDARD FEATURES	SPECIAL FEATURES	
Primary Bushing	ANSI 70 Gray	Brown	Increased / Reduced BIL rated
H-spade terminal standard			

Type of Secondary Terminals	2-hole lug		2-hole g spade	4-hole h spade
Tank Material	Mild steel	304L SST or Other:		
Dome Material	Mild steel	304L SST or Other:		
Finish Coating	ANSI 70 Gray polyester powder	Other:		
Tank Ground Pads	1 on side / 1 in T.B.	Other:		

Cable Connector Option	Y/N	Size Range	
Primary Terminal			MCM
Tank Ground			MCM

Other options available

- Oil sampling device
- 1 or 2 CTs in terminal box
- Heater in terminal box
- Export crating
- Temperature gauge
- Mounting riser stand

Comments: _____

ABB Station Service Voltage Transformers
Type SSMV: Additional Information

Frequency	60 Hz	50 Hz

Operating Environment	6 - 61 kV	72 kV	7 - 62 kV	7 - 96 kV

Power Take-off	Underground	Overhead

Catalog number breakdown

Low Voltage Output

250 kV through 750 kV BIL (46 kV - 161 kV Systems)

Typical SSVT Catalog Number:
J99N328050C-XXX

J — Dielectric Insulation Code (kV BIL)
H = 250 kV
J = 350 kV
K = 550 kV
L = 650 kV
M = 750 kV

99 — Transformer Type
Factory assigned

N — Power / Meter
M = Meter windings
N = No meter windings
D = Dual meter windings

328 — Winding Code
Factory assigned
Highest turns ratio

050 — KVA
10
25
50
100/125
160/167
200
250

C — Series
Factory assigned

XXX — Special Features
As required

900 kV through 1300 kV BIL (230 kV - 345 kV Systems)

Typical SSVT Catalog Number:
N91110N100-XXX

N — Dielectric Insulation Code (kV BIL)
N = 900 kV or 1050 BIL
P = 1300 kV BIL

91 — Series
Factory assigned

110 — Winding Code
Factory assigned
Highest turns ratio

N — Power / Meter
M = Meter windings
N = No meter windings
D = Dual meter windings
T = Taps power only

100 — KVA
100
167
200
250
315/333

XXX — Special Features
As required

Medium Voltage Output

350 kV through 750 kV BIL (46 kV - 161 kV Systems)

Typical SSVT-MV Catalog Number:
J99NA28050C-XXX

J — Dielectric Insulation Code (kV BIL)
J = 350 kV
K = 550 kV
L = 650 kV
M = 750 kV

99 — Transformer Type
Factory assigned

N — Power / Meter
N = No meter windings

A — Frequency
A = 60 Hz
B = 50 Hz

28 — Winding Code
Factory assigned
Highest turns ratio

050 — KVA
10
25
50
100/125
160/167
200

C — Series
Factory assigned

XXX — Special Features
As required

Notes

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