Single Phase Step Voltage Regulator

VR8 series

ANSI/IEEE C57.15

FARADY ELECTRIC CO.,LTD

General

Farady Electric VR-8 single phase step voltage regulators are tap-changing autotransformers. They regulate distribution line voltages from 10% raise (boost) to 10% lower (buck) in thirty-two steps of approximately 5/8% each. Voltage ratings are available from 2400 volts (60 kV BIL) to 34,500 volts (200 kV BIL) for 60 Hz and 50 Hz systems. Internal potential winding taps and an external ratio correction transformer are provided on all ratings so that each regulator may be applied to more than one system voltage. Smaller kVA sizes are supplied with support lugs for pole mounting and with substation or platform tie down provisions. Larger sizes are provided with substation bases with pad-mounting provisions

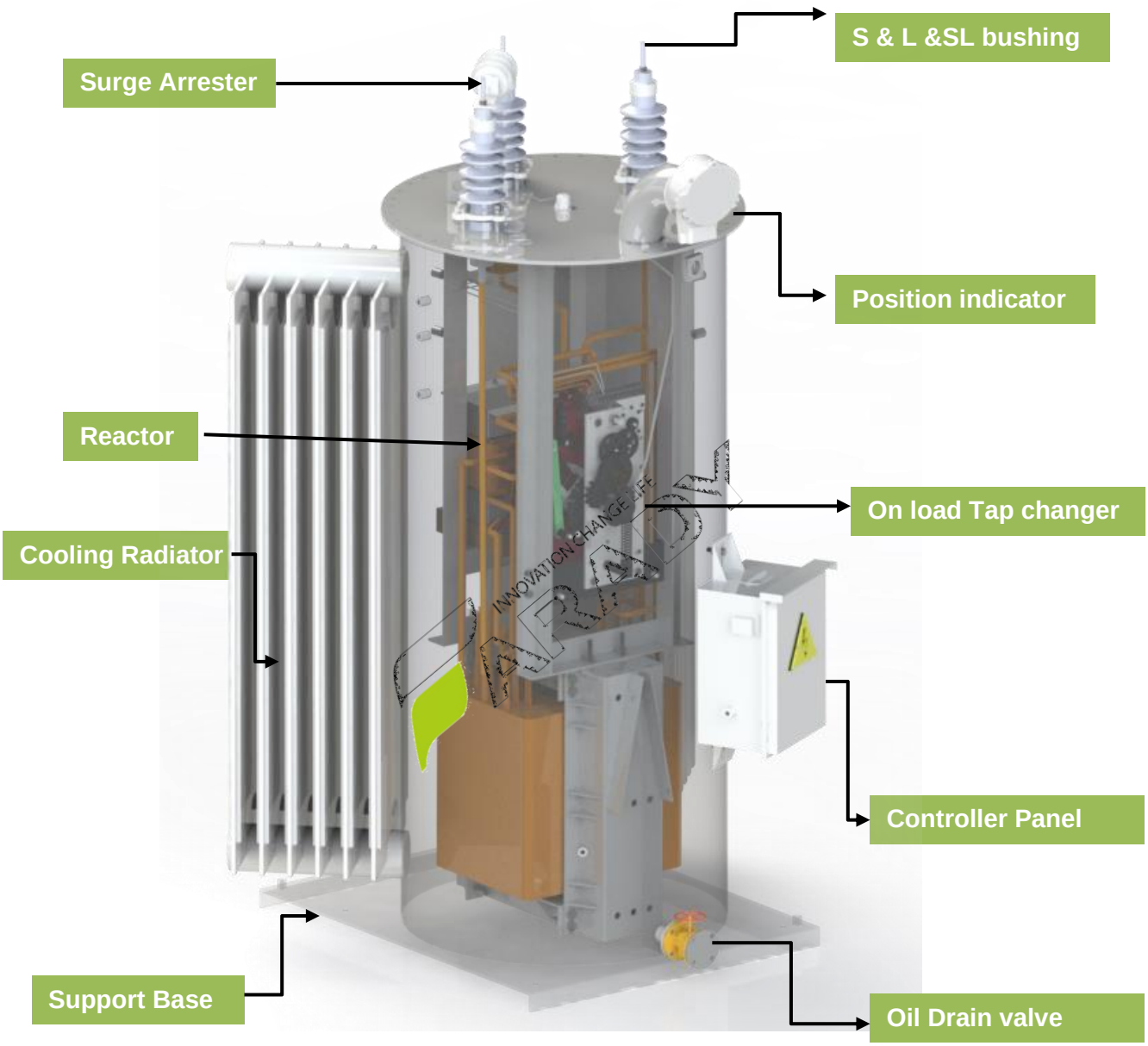
Product Standards

- IEEE Std C57.15™Part 21: Standard requirements, terminology, and test code for step-voltage regulators
- IEC 60076-21 2018 version Part 21
- IEEE C57.12.00-2015™ General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
- IEEE C57.12.90-2015 IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers
- Operating taps comply to IEEE requirements

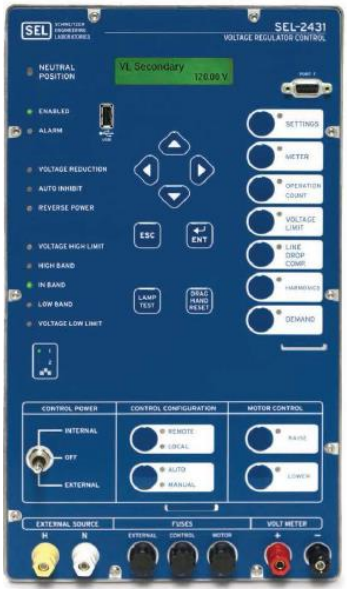
Main Features

- Regulator Controller
- Tap changer with motor and power supply
- Position indicator with ADD-AMP adjustment
- Two laser-etched nameplates
- Lifting lugs
- Oil drain valve and sampling device
- Upper filter press connection
- Oil sight gauge
- High-creep bushings with NEMA connectors
- Pole-type mounting brackets
- Substation base (substation units)
- External series arrester
- Automatic pressure relief device
- Control cabinet with removable front panel
- Ratio correction transformer
- Shunt & Series arresters

Product Design



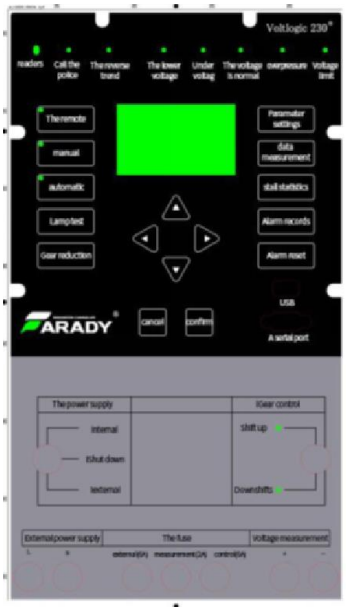
Regulator controller



VR-8 series step voltage regulator use Schweitzer Engineering Laboratories ,Inc(SEL) universal controller box model number **SEL-2431** Following standard IEEE C37.118

◆Built-In Reliability, Ten-Year Warranty
◆Plug-In Voltage Regulator Compatibility
◆Advanced Tap-Position Tracking
◆Easy Application Settings
◆Cnnect and Retrieve Data Quickly

Operating temperature -40degree-+85 degree
Power source range 88-132 VAC,
auxiliary output source Range 11-14vdc,
output power 6w at 12vdc
Nominal current 450mA,
Current range 45 to 540mA
Frequency range+_ 5hz of nominal(50-60Hz)
phase angle range-180 to 180 degree



FARADY **Voltlogic-230** Digital Regulator Control is a microprocessor-based step-voltage regulator load tap changer control which design and manufactured by FARADY.

◆Comply to IEC60255-1 and IEEE C37.118

◆Simple, intuitive, controls for voltage regulators, LTC transformers

◆Flexible communication options (MODBUS, IEC101/104, DNP3.0)integrate the controls to SCADA/DMS systems for remote control monitoring, volt/VAR optimization and distributed generation

◆ Low cost of ownership delivered with industry leading warranties, a software based design approach and outstanding customer service and technical support

FARADY®

-Rating and Dimensions-60HZ

Voltage (kV)	Current (Amperes)	kVA	Height (mm)	Width (mm)	Length (mm)	Oil （L）	Un-tanking WGT(KG)	WGT (KG)
7.62 95kV BIL	50	38	1875	600	950	220	800	1450
	100	76	1875	625	950	225	820	1650
	150	114	2000	800	1125	250	850	1750
	219	167	2050	900	1225	305	980	1890
	328	250	2150	1000	1525	511	1580	3250
	438	333	2400	1050	1575	731	1988	3887
	546	416	2650	1100	1675	855	2222	4730
13.8 110kV BIL	50	69	2000	700	875	220	860	1450
	100	138	2000	700	1175	275	950	1800
	150	207	2050	1000	1300	360	1450	2665
	200	276	2375	1000	1625	680	2200	4320
	300	414	2625	1075	1800	1100	2350	5700
	400	552	2750	1175	1800	1500	2900	7500
14.4 150kV BIL	50	72	1875	675	1225	265	860	1680
	100	144	2050	1100	1125	350	1280	2250
	200	288	2375	1125	1425	555	2000	4000
	300	432	2450	1150	1675	800	2650	5000
	400	576	2750	1275	1775	1150	3165	6400
19.92 200kV BIL	50	100	2125	925	1250	400	1000	2100
	100	200	2200	1000	1400	580	1800	3300
	167	333	2300	1075	1450	680	2200	4120
	200	400	2375	1050	1675	800	2700	5000
	335	667	2650	1325	1825	1300	3500	6800
34.5 200kV BIL	50	165	3050	800	1275	757	1080	2000
	100	330	3125	975	1575	1480	1638	3350
	150	495	3200	1275	1825	1567	1765	3760
	200	660	3250	1150	1900	1648	1835	4100

FARADY®

-Rating and Dimensions-50HZ

Voltage (kV)	Current (Amperes)	kVA	Height (mm)	Width (mm)	Length (mm)	Oil (Liters)	Untanking Weight(KG)	Total Weight(KG)
6.6 95kV BIL	50	33	1716	800	965	217	341	609
	100	66	1715	813	965	231	341	609
	150	99	1755	853	995	250	380	700
	200	132	1818	915	1232	303	445	860
	300	198	1908	988	1333	500	678	1200
	400	264	1958	1008	1353	550	870	1450
	500	330	1958	1008	1353	620	1000	1780
	600	396	1990	1220	1450	980	1200	2150
11.0 95kV BIL	50	55	1817	694	890	208	389	661
	100	110	1818	864	1194	275	432	816
	150	165	1869	1193	1161	370	560	1080
	200	220	1920	1003	1320	360	649	1211
	300	330	2208	998	1633	674	1007	1964
	400	440	2462	1081	1784	1060	1059	2545
	500	550	2562	1081	1784	1060	1200	2670
	600	660	2580	1081	1784	1060	1300	2800
15.0 150kV BIL	50	75	1769	1007	1010	344	500	875
	100	150	1869	1107	1110	344	573	1007
	150	225	1971	1163	1278	479	707	1334
	200	300	2209	1095	1445	555	910	1800
	300	450	2310	1022	1701	791	1191	2252
	400	600	2539	1275	1786	1098	1434	2904
	500	750	2600	1786	1800	1560	1560	3200
22.0 150kV BIL	50	110	1920	927	1270	371	455	945
	100	220	2031	1005	1405	550	783	1494
	150	330	2183	1075	1467	659	1005	1873
	200	440	2234	1036	1704	765	1223	2243
	300	660	2414	1330	1848	1213	1566	3086
3.0 200kV BIL	50	165	2754	799	1294	757	1080	1957
	100	330	2947	1003	1585	1480	1638	3249
	150	495	2981	1285	1839	1567	1765	3616
	200	660	3086	1166	1921	1648	1835	3915

Quality Assurance

Farady Quality assurance is an integral part of the process. All electrical testing is per IEEE & ANSI standards.. Quality of processed parts and subassemblies are the responsibility of the production personnel. Regular quality inspections and spot checking are conducted to make sure that good and consistent quality is achieved and maintained.

Routine Tests

- In-process Core Loss Test
- Operation Test
- Winding Resistance Test
- Polarity and Phase Displacement Test
- Insulation Power Factor Test
- Oil DBV Test
- No Load Loss & Excitation Test
- Impedance Voltage & Load Loss Test
- Voltage Ratio Test
- Applied Potential Test
- Induced Potential Test

Type Tests

- Temperature Rise Test
- Lighting Impulse Level (BIL)
- Sound Level test
- Short circuit test

Production

End User & Utility

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