

TYPE F SWITCH

EQUIPMENT SPECIFICATIONS: The Type F Switch is a three phase load break switch with motor operator for stored energy closing utilizing vacuum interrupters. Application is primarily for supervisory control schemes, although it can be used for general purpose switching. A separate cabinet is used to house control elements.

STANDARDS

The Type "F" switch has been designed and tested in accordance with the following standards as applicable:

C37.60-1981 - American National Standard requirements for Overhead Pad-Mounted, Dry Vault and Submersible Automatic Circuit Reclosers and Fault Interrupters for Alternating Current Systems.

C37.66-1969 - American National Standard Requirements for Oil-Filled Capacitor Switches for Alternating Current Systems.

C37.85-1972 - American National Standard Safety Requirements for X-Radiation Limits for AC High-Voltage Power Vacuum Interrupters Used in Power Switchgear.

VOLTAGE RATINGS-KV

Nominal Voltage Class	14.4	24.9
Rated Maximum Voltage	15.5	27.0
Rated Impulse Withstand Voltage (BIL) Crest	110	125
60 Hz Withstand		
Dry, One Minute	50	60
Wet, Ten Seconds	45	50

Radio Influence Voltage measured @ 1.0 Mhz, 9.4 kV, should not exceed 100 microvolts.

CURRENT RATINGS - AMPS

Continuous Current Rating	600
Overload Capability	750 (125%) 4 hrs.
(After Level-off at rated continuous current)	900 (150%) 2 hrs.

Rated Load Interrupting Current:

@ 70% PF, Series Loading	600
Rated Symmetrical Making Current (RMS)	16,000
Rated Asymmetrical Making Current (RMS)	25,000
Rated Momentary Current, Asym. (RMS)	25,000
Rated 1 Second Current, Symmetric	16,000
Rated Magnetizing Current	21
Rated Line Charging Current	2 @ 15.5kV
	5 @ 27.0kV

Maximum Symmetrical Fault Interrupting Capability, X/R = 15, 2,000 amp RMS

DUTY CYCLE

2500 operations @ 600 amperes.

MECHANICAL LIFE

2500 Operations

OPERATING TEMPERATURE

Minimum	-40° F
Maximum	+120° F

OPERATING TIME

Closing Signal to Contact Make - 40 ms maximum
Contact Close Time - 23 ms maximum
Trip Signal to Contact Break - 33 ms maximum
Contact Open Time - 12 ms maximum

ELECTRICAL SPECIFICATIONS

Trip/Close Solenoid Volts	24v DC
Maximum Current	17.0 amps
Operating Current Duration	39.0 seconds
Operating Motor	
Volts	120v AC
Voltage Range	104-127v
Maximum Current (RMS)	5.3 A
Running Current	1.6 A
After one closing operation	9.0 seconds
After two closing operations	27.0 seconds
To charge a fully discharged mechanism	36 seconds

SWITCH FEATURES

Stored energy operator for minimum of three and maximum of four operations (O-C-O or C-O-C-O), without presence of 120v AC operating voltage.

Has capability of manual charging of operating springs.

Includes a two stage auxiliary switch (2 "a" and 2 "b" contacts) for customer usage, wired to a terminal strip in the control cabinet.

Has manual operation for OPEN and CLOSE. Lever provided to disable close operation and lock unit in the open position.

Operation not affected by icing or contaminated atmospheric conditions.

Bushing terminals shall be universal clamp type to accommodate #1/0 to 500 MCM cable.

Grounding connector for 2/0 to 250 MCM cable, provided on Switch tank and on Switch head.

Cabinet heater 30 watts (always on).

Receptacle for connection of customer 120v AC power.

Has mechanical counter to record operations.

120vac power cable with 10 feet of weatherproof cable and matching plug.

Inboard and Outboard surge arrestor brackets to be provided.

Switch to be provided with pole mounting hanger.

Switch to include surge suppression per IEEE Standard 587 - Categories A and B and IEEE 587 - Category B Transients.

CONTROL FEATURES

Control to be mounted in a separate control cabinet, not to exceed 18"H X 16"W X 14"D.

Standard control components include:

Close-open pistol grip type switch.

Red and green contact position lights with spring-loaded "contact position" and, lamp test switch.

Remote control on-off switch.

120v AC thermal circuit breaker (5A)

Battery test terminals

24 volt, 1.3 amp-hour Ni-cad battery and temperature regulated battery charger.

Fuses-separate fuse switches for switch motor (15A) and switch housing heater (3A)

Terminal blocks for connections: - 120v AC, auxiliary switch, remote close and trip, and fault indicator accessory (status and reset).

Trip and close relays.

25 watt heater (thermostatically regulated).

- On temperature, 85° F and below
- Off temperature, 100° F and above

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