



Controllix Corporation SurgePack

PROTECTION FOR CRITICAL INDUSTRIAL APPLICATIONS

Electrical distribution systems are subject to power surges, transients, faults and lightning strikes at nearly any time. Such occurrences can be damaging to electrical system as well as various apparatus used in a manufacturing process. CONTROLLIX offers the **SurgePack**, a protective equipment that provides protection for motors, rotating machines and transformers, and yields assurance of continuous operation of the equipment, the electrical system and the manufacturing process.



THEORY OF OPERATION

The primary function of the **SurgePack** is to guard the winding insulation of the device being protected. Station class metal oxide lightning arresters act to limit the maximum voltage to the device to a predetermined magnitude. Specially designed surge capacitors, connected in parallel with the arresters, control the rate of rise of the resultant overvoltage. In conjunction, the combination of surge arresters and surge capacitors serve to limit the turn-to-turn insulation stress being impressed on the device being protected.

GENERAL FEATURES

The **SurgePack** consists of a welded, 11 guage metal enclosure, surge arresters and surge capacitors, isolated copper busbars and a common ground connection. Working access is provided via a hinged, padlockable front door and removable plates in both the roof and floor.

Two sizes of enclosures are available, either of indoor (standard) or outdoor (optional) application, allowing ample space for cable connections and servicing. The standard finish paint color is ANSI #61 light gray.



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Three-phase surge capacitors provide high transient overvoltage withstand, low operating losses and long life. Complete with porcelain bushings, these all-film units utilize Faradol 800, a non-PCB, completely biodegradable dielectric fluid. Internal discharge resistors provide a five minute discharge time after de-energization. The standard operating temperature range of the **SurgePack** is -40°C to +46°C.

Station class metal oxide surge arresters are supplied as standard, while polymer intermediate class metal oxide surge arresters (optional) are also available. Internal cable connections include phase leads tied to isolated buswork fixed on porcelain insulators. Pre-punched busbars provide for simplified external connections and integrity of the insulation system. Grounding of the **SurgePack** is made to the device being protected.

The **SurgePack** should be located as close as possible to the device being protected to insure maximum protection. Virtually maintenance free, only an occasional inspection and cleaning may be necessary to check the tightness of electrical and mechanical connections and the integrity of the insulation system. The **SurgePack** is completely factory assembled and tested, ready for installation and service.

“SURGEPACK” STYLE NUMBER IDENTIFICATION

To select a **SurgePack** equipment for your application, follow these steps :

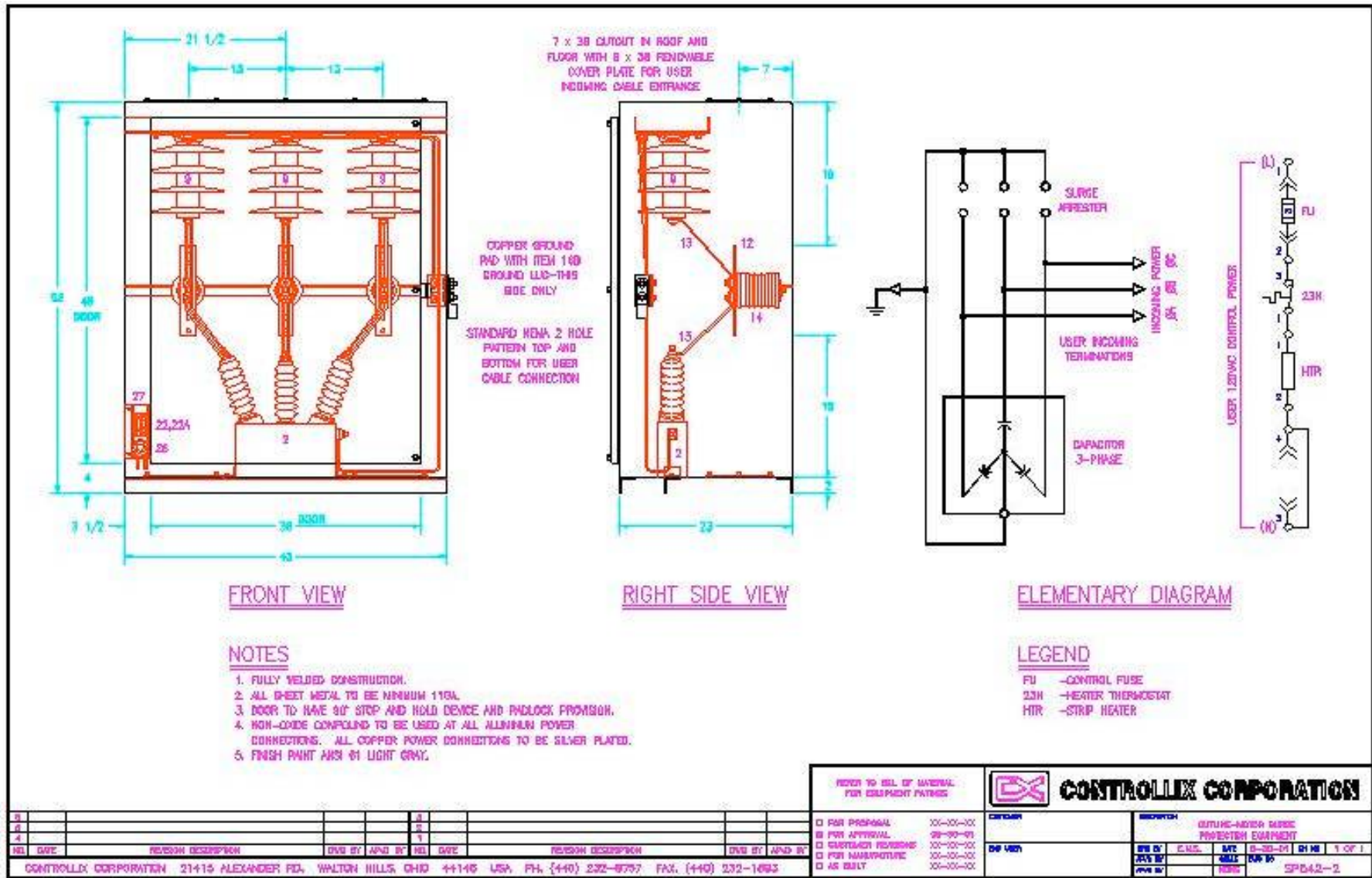
- 1) Determine the line-to-line voltage of the system
- 2) Determine the system grounding – delta, grounded or ungrounded neutral
- 3) Select required Part Number which matches #1 and #2

Capacitor Part No.	Voltage L-L	Δ or U.Y. System	Grd. Y System	Arr. KV rms	Arr. MCOV	Arrester Part No.	uF Pole	Capacitor Part No.	Encl. Depth
2GUR000100	2400	X	- - -	3.0	2.55	Q003SA002ASCG1	0.50	2GUS031803A7	23"
2GUR000101	4160	X	- - -	6.0	5.10	Q006SA005ASCG1	0.50	2GUS031803A7	23"
2GUR000102	4160	- - -	X	3.0	2.55	Q003SA002ASCG1	0.50	2GUS031803A7	23"
2GUR000103	4800	X	- - -	6.0	5.10	Q006SA005ASCG1	0.50	2GUS031803A1	23"
2GUR000104	6900	X	- - -	9.0	7.65	Q009SA008ASCG1	0.50	2GUS031803A1	23"
2GUR000105	7200	X	- - -	9.0	7.65	Q009SA008ASCG1	0.50	2GUS031803A1	23"
2GUR000106	13200	X	- - -	18.0	15.30	Q018SA015ASCG1	0.25	2GUS031803A9	23"
2GUR000107	13200	- - -	X	10.0	8.40	Q010SA008ASCG1	0.25	2GUS031803A9	23"
2GUR000108	13800	X	- - -	18.0	15.30	Q018SA015ASCG1	0.25	2GUS031803A9	23"
2GUR000109	13800	- - -	X	12.0	10.20	Q012SA010ASCG1	0.25	2GUS031803A9	23"
2GUR000110	24000	X	- - -	27.0	22.00	Q027SA022ASCG1	0.125	2GUS031801A4	36"
2GUR000111	24000	- - -	X	21.0	17.00	Q021SA017ASCG1	0.125	2GUS031801A4	36"



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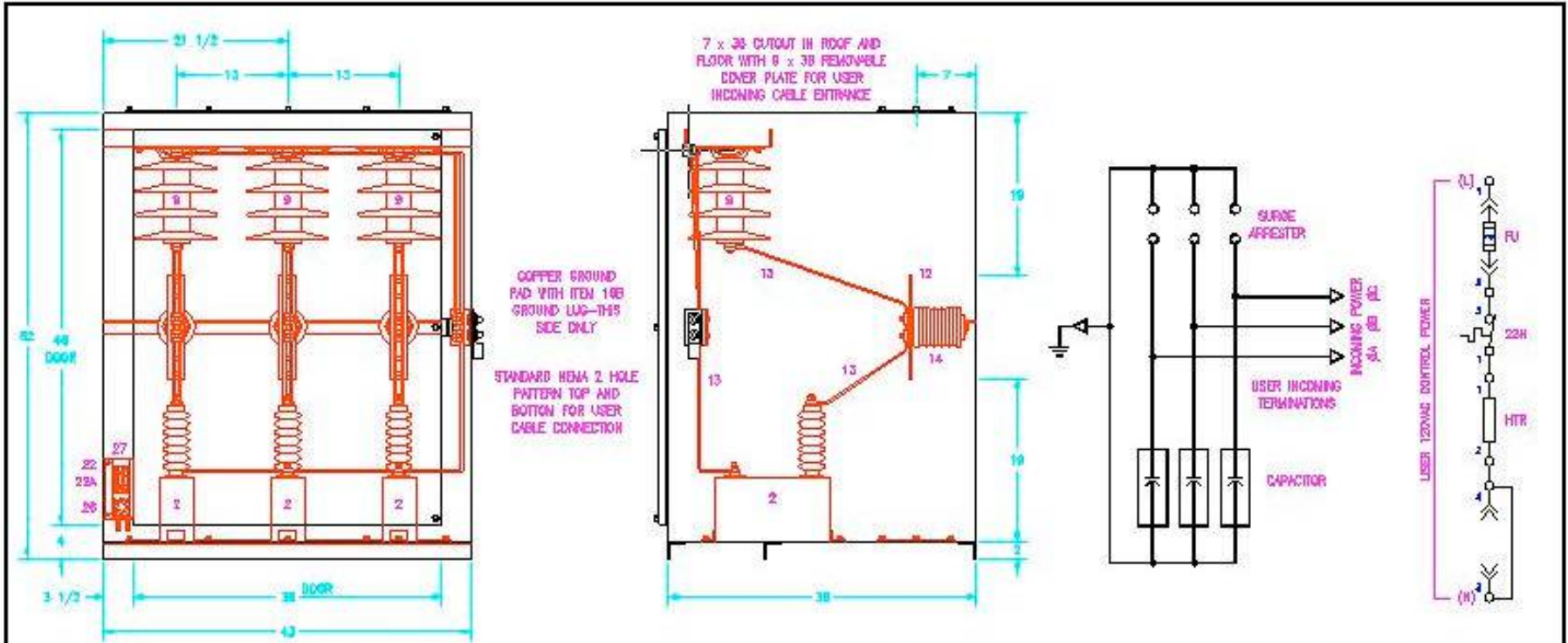
23" Wide Enclosure





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36" Wide Enclosure



FRONT VIEW

RIGHT SIDE VIEW

ELEMENTARY DIAGRAM

NOTES

1. FULLY WELDED CONSTRUCTION.
2. ALL SHEET METAL TO BE MINIMUM 11GA.
3. DOOR TO HAVE 90° STOP AND HOLD DEVICE AND PADLOCK PROVIDED.
4. NON-OXIDE COMPOUND TO BE USED AT ALL ALUMINUM POWER CONNECTIONS. ALL COPPER POWER CONNECTIONS TO BE SILVER PLATED.
5. FINISH PAINT ANSI #1 LIGHT GRAY.

LEGEND

- FU -CONTROL FUSE
- 22H -HEATER THERMOSTAT
- HTR -STRIP HEATER

<p>ORDER TO BILL OF MATERIAL FOR EQUIPMENT PARTS</p>					<p>CONTROLLIX CORPORATION</p>	
<p>□ FOR PROPOSAL 00-00-00</p> <p>□ FOR APPROVAL 08-11-02</p> <p>□ CUSTOMER REQUESTS 00-00-00</p> <p>□ FOR MANUFACTURE 00-00-00</p> <p>□ AS BUILT 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>	<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>
<p>CONTROLLIX CORPORATION 21415 ALEXANDER RD. WALTON HILLS, OHIO 44148 USA PH: (440) 232-8757 FAX: (440) 232-1893</p>						<p>DATE 00-00-00</p> <p>BY 00-00-00</p> <p>BY 00-00-00</p>