

# MCG Surge Protection

## Model 160MXT Installation Instructions

### Important Warranty Information

OEI "uwti g"rtqvgevqtu"ctg"fgukipgf"vq"yqtm"cv"urgekLe"xqnvci gu"cpf"eqpLiwtcvkqpu."hqt"gzco rng."cv"342l 42:XCE."y {g0"kpucnncvkqp"qh"vjg"uwti g"rtqvgevqt"ko rtqrgtn{"qp"cqygt"u{uvgo"yknn"cwvqo cvkecm{"xqkf" vjg"ycttcpv{0

### 1. Confirm Model with Power Service.

Ogcuwtg"Ó/P."Ó/Ó."Ó/ I pf"ykvj"xqnvogvgt"vq"eqpLto"cr rnkcvkqp"xqnvci g"rtkqt"vq"kpucnncvkqp0

| <u>160MXT</u> | <u>Power Service</u> | <u>Description</u>             | <u>Wiring Diagram (pg. 2)</u> |
|---------------|----------------------|--------------------------------|-------------------------------|
| 120T          | 120/240 VAC          | 1 ph, 3w + gnd, split phase    | 1                             |
| 120Y          | 120/208 VAC          | 3 ph, 4w + gnd, Wye            | 2                             |
| 220Y          | 220/380 VAC          | 3 ph, 4w + gnd, Wye            | 2                             |
| 240Y          | 240/415 VAC          | 3 ph, 4w + gnd, Wye            | 2                             |
| 240DCT        | 240/120/120 VAC      | 3 ph, 4w + gnd, High-leg Delta | 3                             |
| 277Y          | 277/480 VAC          | 3 ph, 4w + gnd, Wye            | 2                             |
| 347Y          | 347/600VAC           | 3 ph, 4w + gnd, Wye            | 2                             |
| 240D          | 240 VAC              | 3 ph, 3w + gnd, Delta          | 4                             |
| 480D          | 480 VAC              | 3 ph, 3w + gnd, Delta          | 4                             |
| 600D          | 600 VAC              | 3 ph, 3w + gnd. Delta          | 4                             |

### 2. Disconnect Power before Installation.

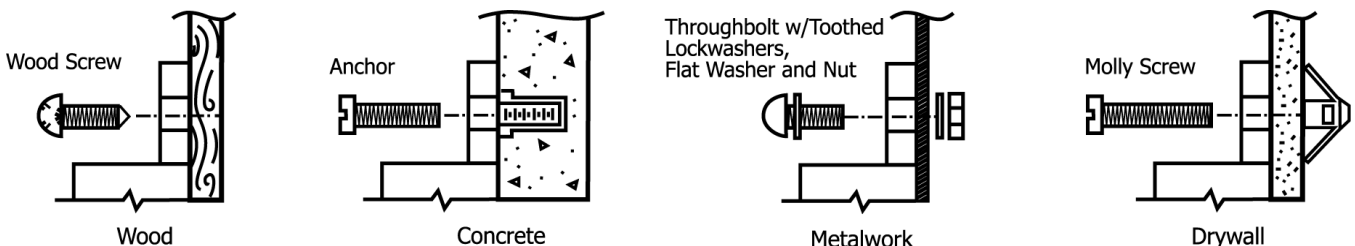
Cnn"ytkpi"vq"dg"fpgg"kp"ceeqtfcepg"ykvj"pvcqpcn"Gngevtke"Eqfg"cpf"nqecn"eqfgu"d{"swcnkLgf"gngevtkekcpu0

Note: This device features internal protection that will disconnect the surge protective component at the end of its useful life dwv"yknn"ockpckp"rqygt"vq"vjg"nqcf"/"pqy"wp"rtqvgevgf0"Kh"vjku"ukwcvkqp"ku"wpfguktcdng"hqt"vjg"cr rnkcvkqp."hqmny"vjg"kpvtwekqpu" hqt"ugtckepi"vjg"fgxkegl

### 3. Mounting.

For best performance, mount protector as close to service panel as possible."Ugewtg"wpkv"vq"o qwpvki"uwthceg0"

"Wug"rtqrgt"hcuvpggtu"cu"kp fkecvgf0""\*Hcuvpggtu"pq"uwr rnk g f0+



#### 4. Wiring and Circuit Breaker Recommendations.

Eww"jg"rtg/kpucmgf"32"CY I " r qy gt"ecdng"dcem"cu"ujqtv"cu"rqukdng0""Electrician Note:"Wug" c" fgfkecvgf"52C."WN6: ; "Nkuvgf"ekewkv" dtgcmgt"vq"eqppge"vjg"rtqveiq0"Ektewkv"dtgcmgt"xqmcig"cpf"kpigttrv"tcvki" o wuv"dg"uwkvcndng"hqt"vjg"ugtxkeg0

Fig. 1

#### Single Phase

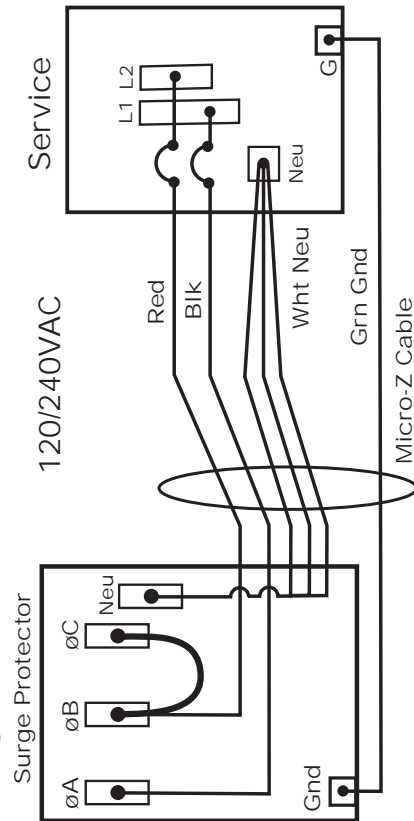


Fig. 2

#### Three Phase, Wye

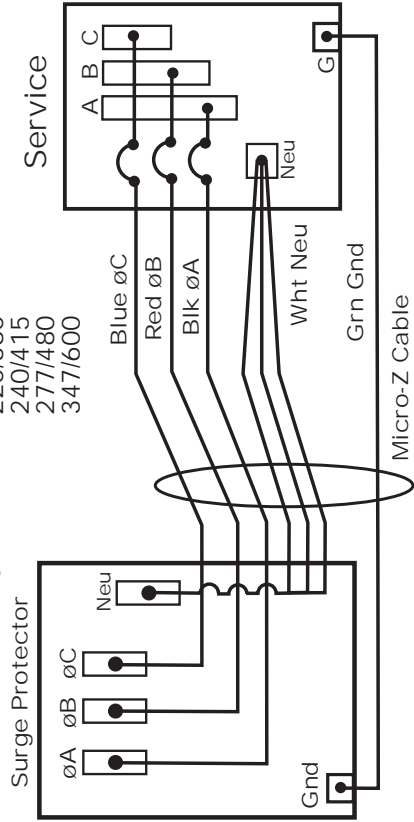


Fig. 3

#### -240 DCT (Hi-Leg)

Hi-Leg (208VAC L-N) is connected at øB position, but sometimes øA or øC may be used. Measure voltage to ensure which phase is the Hi-Leg. Use Orange wire for Hi-Leg.

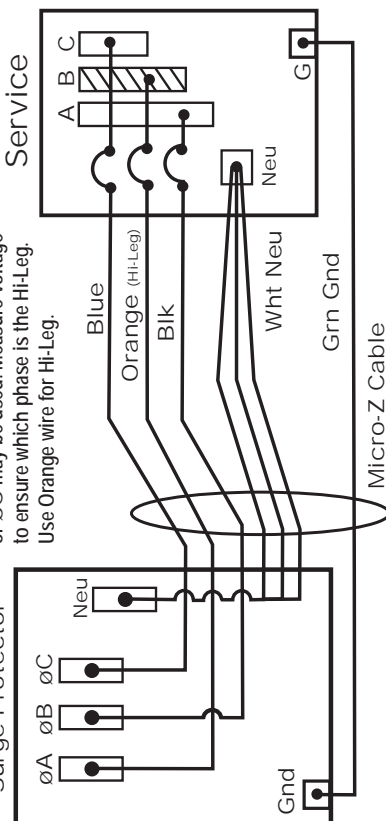
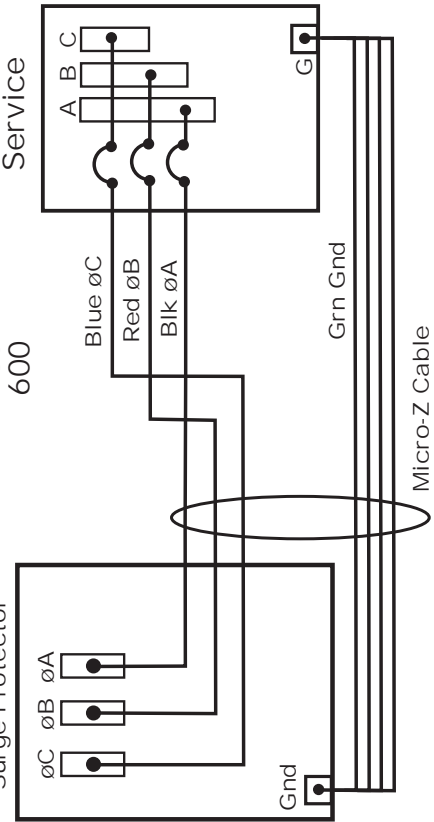


Fig. 4

#### Three Phase, Delta



### 5. Powering up the Protector.

Vq"rtgxpvr"rqqukdng"ngtevkcn"j c|ctf."fqqt"qp"rtqvgevt"OWUV"dg"enqugf"dghqgt"cr rn{kpi"rqygt}
Wrqp"rqygt"wr."vjg"htqpv"rcpgn"yknn"ujqy"vjg"hqmqykipi<

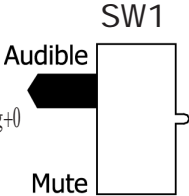
- " c0" I tggp"RTQVGEVKQP"RTGUGPV light should be illuminated
- " d0" Tgf"RTQVGEVKQP"TGFWEGF"nkijv"ujqwnf"dg"qhh0
- " e0" Kh"eqwvgt"kpfkcevgu"cpqp/|gtq"xcnwg."tgugv"kv"d{"rtguukpi"UY 40""Ugg"Uvgr":0"



### 6. Beeper Mute Feature. See Diagram on Page 4.

To access the mute switch:

- c0" Nqqugp"enc o ru"cpf"qrgp"fqqt0
- " FQ"PQV"VQWEJ"CP [ VJKPI"o"JKIJ"XQNVCI"RTGUGPV0
- d0" Qdugt"ektewkv"dqctf" o qwpvgf"qp"dcem"qh"fqqt0
- e0" Nqecvg"unkfg"uykvej"cv"nqygt"nghv"rqukvkqp"qp"ektewkv"dqctf" o ctmgf"UY 3"\*Cwfkndgl"Owvg+0
- f0" Oq"q"uykvej"vq"fguktgf"rqukvkqp0"UYkvej"ku"hcveqt{"ugv"vq"CWFKDNG"rqukvkqp0
- g0" Enqug"fqqt"cpf"ugewtg"enc o ru0

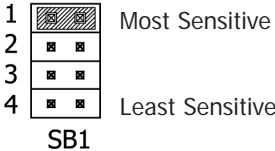


### 7. Counter Trigger Sensitivity. See Diagram on Page 4.

Vjg"eqwvgt"ugpukvkv{"ku"rtgugv"cv"vjg"hcveqt{"vq"kvu" o quv"ugpukvkv"rqukvkqp0"Kh{"qwc"tg"qdugtxkpi"vqq" o cp{"eqwv"qp"vjg"
fkurnc{"{qw"ecp"tgfweg"vjg"ugpukvkv{"qh"vjg"eqwvgt0"Rtqvgevkqp"ku"pqv"chhgevfg0

To access the counter's sensitivity adjustment:

- c0" Nqqugp"enc o ru"cpf"qrgp"fqqt"o" FQ"PQV"VQWEJ"CP [ VJKPI"o"JKIJ"XQNVCI"RTGUGPV0
- d0" Qdugt"ektewkv"dqctf" o qwpvgf"qp"dcem"qh"fqqt0
- e0" Nqecvg"ujqtkpi"dnqem"nqecvgf"cv"vqr"tkijv"qh"ektewkv"dqctf0" Pqvg<"Vjg"ujqtkpi"dnqem"ku"cu" o cmm."dnqem"rncuvke"
lw o rgt"vjcv"eqppgevu"vyq"rqpku"vq"igvjgt"ngtevkcn{"0"Vq"tg o qxg"kv."uk o rn{" rwmn"kv"uvtkijv"qvw0
- f0" Hqt"vjg"jki"jguv"ugpukvkv{" o qxg"vjg"ujqtkpi"dnqem"vq"vjg"vqr/ o quv"rqukvkqp/Rqukvkqp"30
- g0" Hqt"vjg"nqyguv"ugpukvkv{" o qxg"vjg"ujqtkpi"dnqem"vq"vjg"dqvwq/ o quv"rqukvkqp/Rqukvkqp"60
- h0" Enqug"fqqt"cpf"ugewtg"enc o ru0



### 8. Counter Reset Feature. See Diagram on Page 4.

Vjku"hgcvwtg"ugvu"vjg"htqpv"rcpgn"gxgp"eqwvgt"dcem"vq"|gtq0"Vjg"eqwvgt"tgugv"ecrdknk{"ku"igpgtcmm{"qp{"gzgtekugf"cv"
vk o g"qh"kpucmncvkqp."y jgtg"rqygt"wr" o c{"jcxg"ecwugf"cpf"gxgp0"C" o qpvn{"nqi"ku"tgeq o gpf"gf"vq"mggr"vtcem"qh"vtcpukgpv"
qeewttgpegu0

To reset event counter:

- c0" Nqqugp"enc o ru"cpf"qrgp"fqqt"o" FQ"PQV"VQWEJ"CP [ VJKPI"o"JKIJ"XQNVCI"RTGUGPV0
- d0" Qdugt"ektewkv"dqctf" o qwpvgf"qp"dcem"qh"fqqt0
- e0" Nqecvg"uykvej"qp"dqvwq o "qh"dqctf"ncdngf"UY 40
- f0" Rtguu"UY 4"vq"tgugv"eqwvgt"dcem"vq"|gtq0
- g0" Enqug"fqqt"cpf"ugewtg"enc o ru0



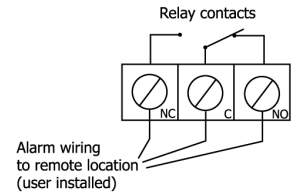
# 9. Remote Relay Feature. See Diagram Below.

Vjku'hgcvtg'gpcdngu' {qw'vq'qr'gtcvg'c'tg'o'qvg'dgg'rgtlkpfkccvqt'nki'jv'hqt'o'qpkvqtkpi'v'jg'uwti'g' r'tqvgvqt'uv'cwu'htq'o'c'tg'o'qvg'nqecvkqp}

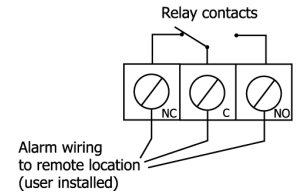
Vq'ceegu'tg'o'qvg'tgnc' {vgt'o'kpcn'dnqem}

- c0" Nqqugp'enc'o'ru'cpf'qrgp'fqqt}
- " FQ"PQV"VQWEJ"CP [ VJKP I "6"JKI J"XQNVCI G"RTGUGPV}
- d0" Qdugt'xg'ektewk'v'dqct'f'o'qwp'v'f'qp'dcem'qh'fqqt}
- e0" Nqecvg"VD3"cv'v'j'g'ng'hv'dqv'v'q'o'qh'v'j'g'ektewk'v'dqct'f}
- f0" Vjgt'g'ctg'v'j'tgg'vgt'o'kpcnu.'gce'j'hcd'gng'f"PE"\*Pqt'o'cnn' { "En'qu'gf+."E"\*Eq'o'o'qp+." cp'f"PQ"\*Pqt'o'cnn' { "Qrgp+0"Vj'gug'ctg'3"Hqt'o"E'eq'p'v'ce'v'c'v'g'f'cv'3C."52XFE0" Oczk'o'w'o'u'y'k'v'j'g'f'r'q'y'gt'<52Y182XC0
- g0" Eqpp'ge'v'tg'o'qvg'o'qpkvqtkpi'ektewk'\*wugt'uw'r'rnkg'f+v'v'j'g'c'r'r'tq'r'tk'c'v'g'vgt'o'kpcnu0"
- h0" En'qu'g'fqqt'cpf'ug'ewt'g'enc'o'ru}

Normal Operation (100% Protection)



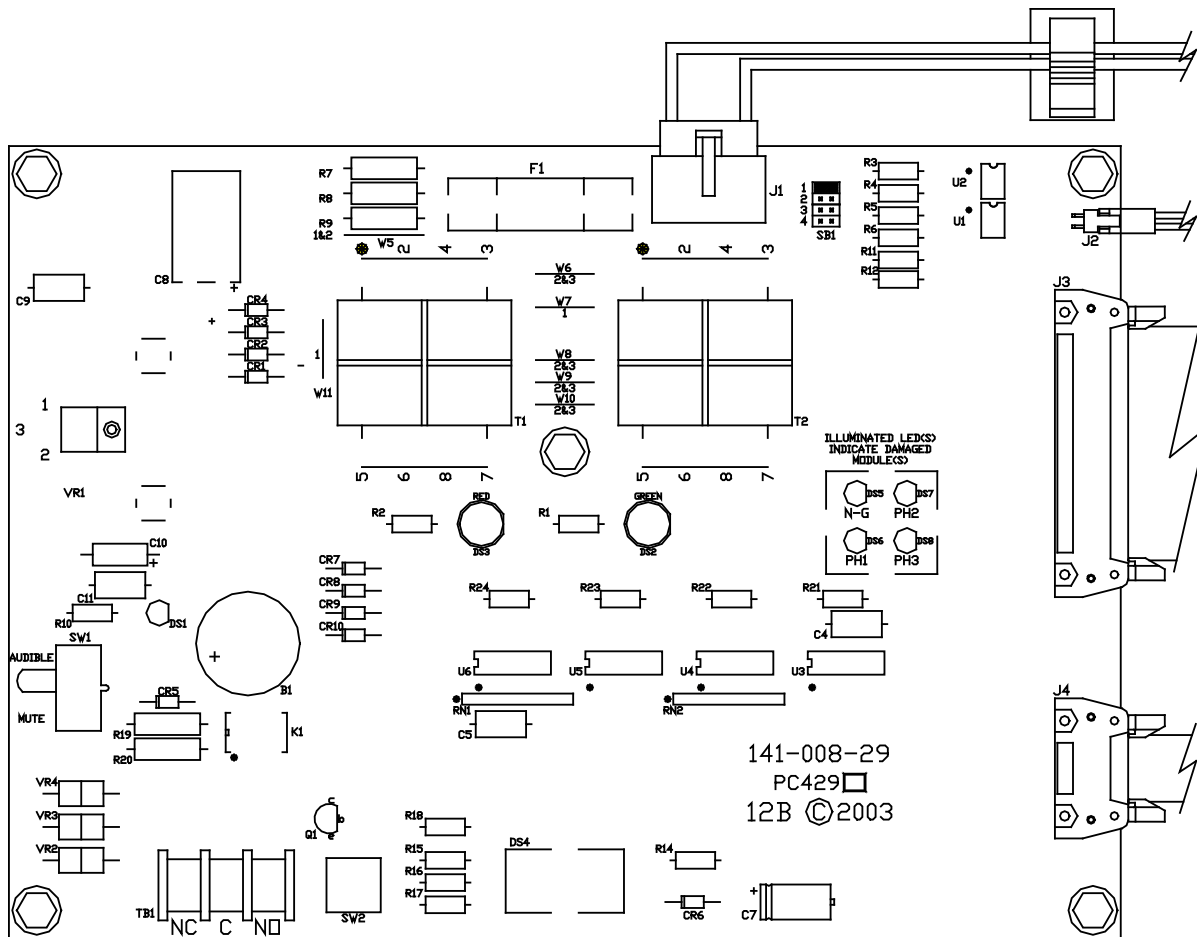
Reduced Protection (or Power Off)



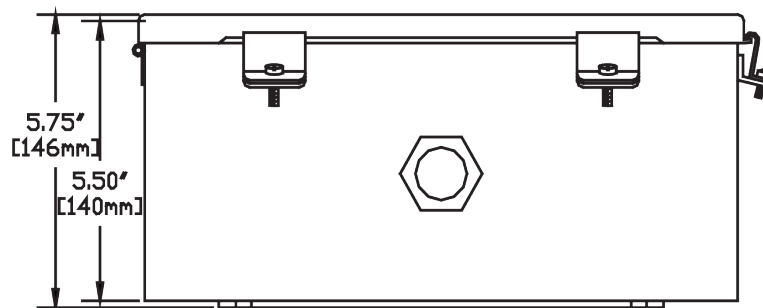
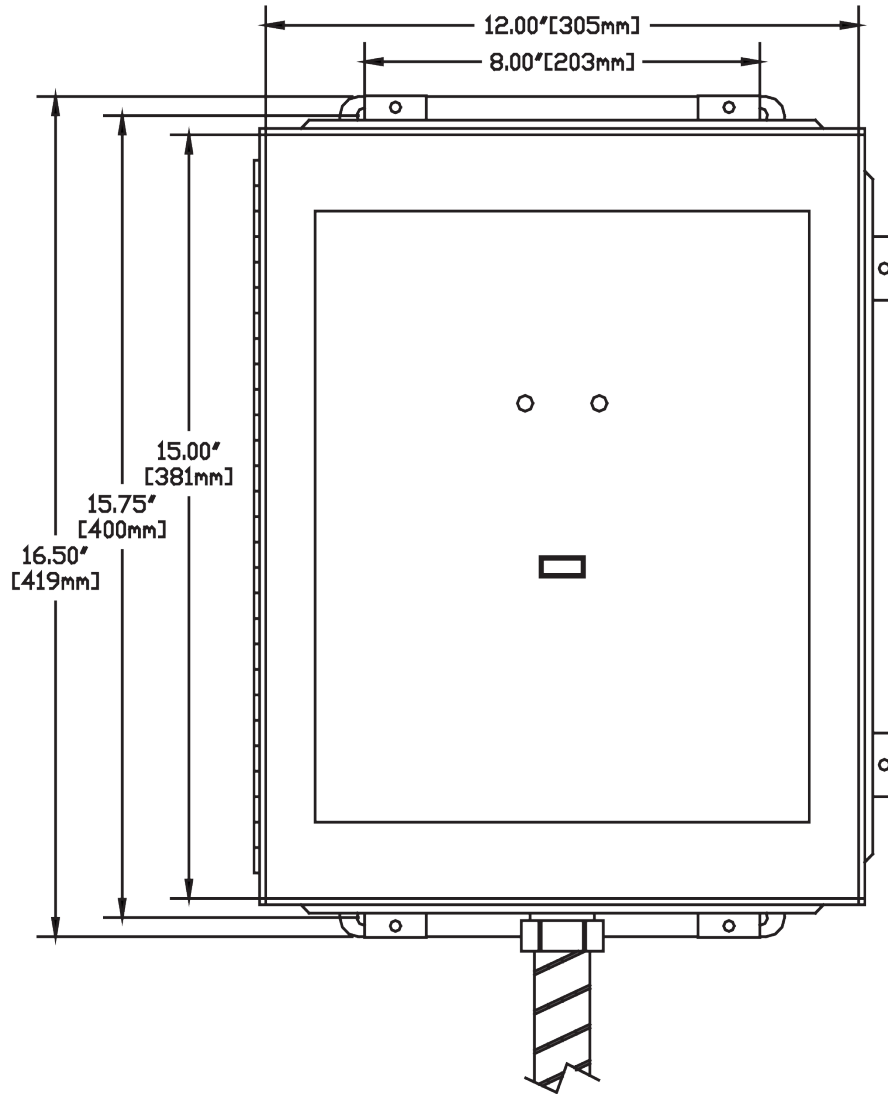
**Note 1: Class 2 Wiring Only. 14-22 AWG.**

**Note 2: Recommended screw torque: 9 in-lbs.**

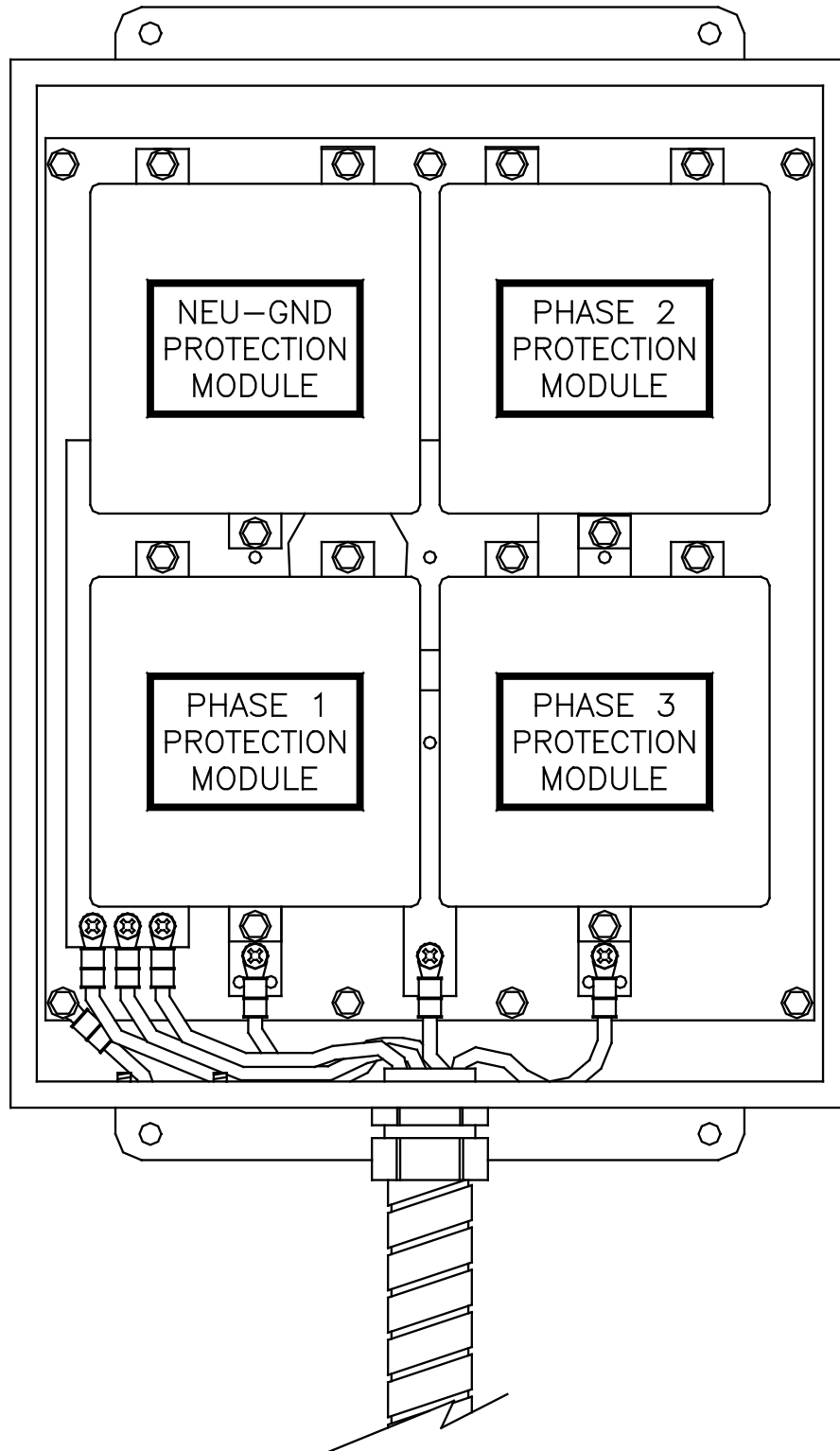
## Circuit Board Located on Back of Door.



# Dimensions



# Module Positions



# 10. Troubleshooting and Maintenance.

OE I "uwti g"rtqvgevqtu"fq"pq"tgs wktg"cp{"rgtkqfke" o ckpvgpcepge0" J q y gxgt."kh"v j g"tg f"öRtqvgevkqp"Tgfwegfö"nki j v"  
ku"knw o kpcv g f"qp"v j g"htqpv"rcpgn."c"hcwv n"eqpfkvkqp"gzkuvu"cpf"v j g"dgg rgt" yknn"uqwpf0"  
Y j gp"v j ku"qeewtu."hqmq y"v j g"rtqegfwtg"dgnq y<

c0"Nqqugp"enc o ru"cpf"qrgp"fqqt0" YCTPKP I <"TKUM"QH"GNGEVTKE"U J QEM"0"  
""FQ"PQV"VQWE J"CP [ V J KP I 0"UGTXKEG"VQ"DG"RGTHQTOGF"D [ "SWCNKHKGF"RGTUQP PGN0

d0"Tghgt"vq"fkic itc o "qp"rci g"60"Nqecvg"v j g"hwqt"tg f"NGFøu"\*nki j vu+"kp"v j g" o kf fng/tki j v"rqukvqp"qp"v j g"ektewkv"  
""dqctf"qp"dcem"qh"fqqt0""Gcej"tg f"NGF"eqttgurqp fu"vq"c"rtqvgevkqp" o qfwng0

- 30" Kh"v j g"nghv"vqr"NGF"\*Pgwwtcn"vq" I tqwpf+"ku"qp"ó"tgrnceg"v j g"nghv"vqr" o qfwng0
- 40" Kh"v j g"tki j v"vqr"NGF"\*R J CUG"4+"ku"qp"ó"tgrnceg"v j g"tki j v"vqr" o qfwng0
- 50" Kh"v j g"nghv"dqvvq o "NGF"\*R J CUG"3+"ku"qp"ó"tgrnceg"v j g"nghv"dqvvq o " o qfwng0
- 60" Kh"v j g"tki j v"dqvvq o "NGF"\*R J CUG"5+"ku"qp"ó"tgrnceg"v j g"tki j v"dqvvq o " o qfwng0

PQVG<"Fgnvc" o qfgnu"fq"pqv"eqpvckp"c"Pgwwtcn"ó" I tqwpf" o qfwng0

e0"Qpeg" {qw"jcxg"pqvgf" y jkej" o qfwng\*u+"pggf"vq"dg"tgrncegf0""TGOQXG"RQ YGT"HTQO"RTQVGEVQT0

f0"Wprnwi"v j g"u o cmn."tkddqp"ecdng"htq o "v j g" o qfwng0

g0"Wpuetg y"v j g"v j tgg" o qwpv kpi"dqnvu"\*wug"c"7138ö"jgz"ftkxgt+"nqecvgf"cv"v j g"dcug"qh"v j g" o qfwng0

h0"Ocmg"uwtg"v j g"tgrnceg o gpv" o qfwng"ku"v j g"uc o g"xqnci g"cpf"v {rg"cu"v j g"qtki kpcn"qpg0""V j ku"ku"xgkLgf"d {  
"" o cvej kpi"v j g"rctv"pw o dgtu"\*k0g0"38 ; /zzz/zz+0  
""Kh"v j g"pw o dgtu"fq"pqv" o cvej."eqpvcev"v j g"hcevtq { "cv"3/ : 22/ : 73/372 : 0

i 0"Rnwi"v j g"tkddqp"ecdng"kp"cpf" o qwpv" o qfwng"ugewtgn{0""Pqvg<"V j g"tkddqp"ecdng"eqppgevt"ku"rqnctk | gf"uq"kv  
"" yknn"qpn { "rnwi"kp"qpg"yc {0"Rwuj"eqppgevt"kp"Łton { "dvw"fq"pqv"hqteg"cu"v j g" o cvkpi"eqppgevt" o c {  
"" dg"fc o c i g f 0

j 0"Enqug"fqqt"cpf"ugewtg"enc o ru0

k0"Cr rn { "rqygt"d { "vwtpkpi"ektewkv"dtgcmgt"dcem"qp0

l0"Qdugt xg"i tggp"öRqygt"Rtgugpvö"nki j v"qp"cpf"tg f"öRtqvgevkqp"Tgfwegfö"nki j v"qh0"

## Front Panel Monitoring and Diagnostics



### **WARNING - RISK OF ELECTRIC SHOCK**

Disconnect power before servicing.