

IRV, ULV, IRH, ULH WIRE WOUND, METAL CLAD RESISTORS



The IRV(V=vertical) & IRH(H=horizontal) models are our standard wire wound, metal clad resistors. The ULV and ULH models are UL approved versions of the IRV and IRH. These models have an extruded aluminum housing providing rugged and strong protection. Options include flying leads or tab terminals, inductive or non-inductive windings. The most common applications for these models are motor drives, braking and snubber applications and power sources for industrial equipment.

GENERAL SPECIFICATIONS

| Model | Wattage Rating On Heat Sink | Resistance Range [ohms] | | | | Notes: | |
|-------------|-----------------------------|-------------------------|--------------|---------------|--------------|--|--|
| | | Inductive | | Inductive | | | |
| | | Tab Terminals | Flying Leads | Tab Terminals | Flying Leads | | |
| IRV/IRH 60 | 60W | 0.1-400 | | 0.1-180 | | Standard Tolerances +-2%(G) +-5%(J) +-10%(K) | |
| ULV/ULH 60 | | 0.1-375 | 0.1-400 | 0.1-180 | 0.1-180 | | |
| IRV/IRH 80 | 80W | 0.1-910 | | 0.1-110 | | Optional Tolerances +-1.0%(F) +-0.5%(D) +-0.25%(C) +-0.1%(B) | |
| ULV/ULH 80 | | 0.1-281 | 0.1-910 | 0.1-110 | 0.1-110 | | |
| IRV/IRH 100 | 100W | 0.1-1.1K | | 0.1-240 | | >150K depending on model (please enquire) | |
| ULV/ULH 100 | | 0.1-225 | 0.1-1.1K | 0.1-225 | 0.1-240 | | |
| IRV/IRH 120 | 120W | 0.1-1.3K | | 0.1-300 | | Extended Resistances | |
| ULV/ULH 120 | | 0.1-187 | 0.1-1.3K | 0.1-187 | 0.1-300 | | |
| IRV/IRH 150 | 150W | 0.1-1.6K | | 0.1-390 | | >150K depending on model (please enquire) | |
| ULV/ULH 150 | | 0.1-150 | 0.1-1.6K | 0.1-150 | 0.1-390 | | |
| IRV/IRH 200 | 200W | 0.1-2.2K | | 0.1-1.1K | | >150K depending on model (please enquire) | |
| ULV/ULH 200 | | 0.1-450 | 0.1-2.2K | 0.1-450 | 0.1-1K | | |
| IRV/IRH 300 | 300W | 0.1-2.7K | | 0.1-1.5K | | >150K depending on model (please enquire) | |
| ULV/ULH 300 | | 0.1-300 | 0.1-2.7K | 0.1-300 | 0.1-1.5K | | |
| IRV/IRH 400 | 400W | 0.1-4.3K | | 0.1-2.2K | | >150K depending on model (please enquire) | |
| ULV/ULH 400 | | 0.1-225 | 0.1-4.3 | 0.1-225 | 0.1-2.2K | | |
| IRV/IRH 500 | 500W | 0.1-6.8K | | 0.1-3K | | >150K depending on model (please enquire) | |
| ULV/ULH 500 | | 0.1-180 | 0.1-6.8K | 0.1-180 | 0.1-3K | | |

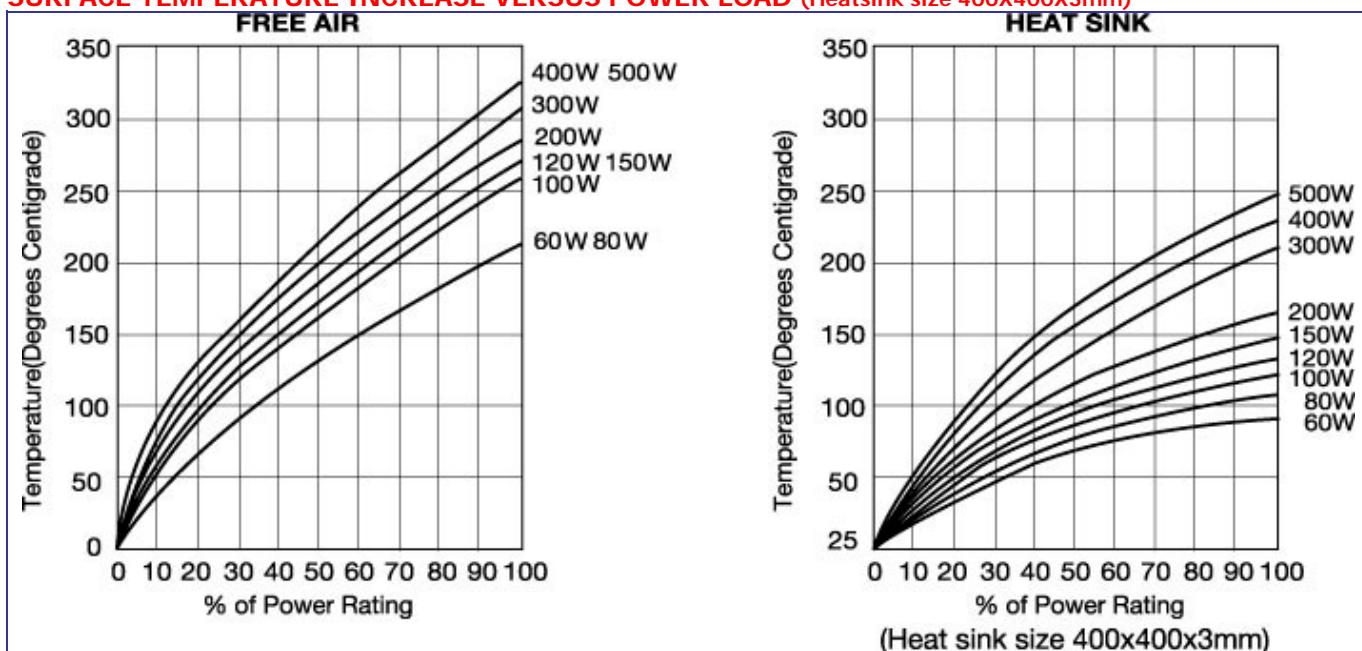
CHARACTERISTICS

| | | | | | |
|-------------------------|---|--|--|--|--|
| 1/Temperature Range | -55C to +200C | | | | |
| 2/Insulation Resistance | 20Mohms minimum | | | | |
| 3/Dielectric Strength | IRV/IRH | Available options: AC1500V, 3500V, 4500V, 5400V; Max. leakage current: 2mA | | | |
| | ULV/ULH | See Note | | | |
| 4/Temp. Coefficient | +260ppm/C maximum | | | | |
| 5/Short Time Overload | +-[2%+0.05 ohms] 60W: 5XWatt Rating-5second, 80to500W: 10 X wattage rating-5seconds | | | | |
| 6/Moisture Resistance | +-[3%+0.05 ohms] 40C, 95% RH, DC100V case to terminal (500hrs.) | | | | |
| 7/Thermal Shock | +-[2%+0.05 ohms] wattage rating 30min., -25C, 15minutes | | | | |
| 8/Vibration | +-[1%+0.05 ohms] 10Hz-55Hz-10Hz (1min.), 2hrs. each direction | | | | |
| 9/Moisture Load Life | +-[3%+0.05 ohms] 40C, 95%RH, 0.1Xwattage rating, 1.5h.on, 30min.off, 500 hours | | | | |
| 10/Load Life | +-[5%+0.05 ohms] wattage rating 1.5h. on, 30min. off, 500hours | | | | |

Note: ULV/ULH dielectric strength options of 1500V, 3500V, 4500V, 5400V are also available.

Optional dielectric strength must be higher than standard (calculated by formula)

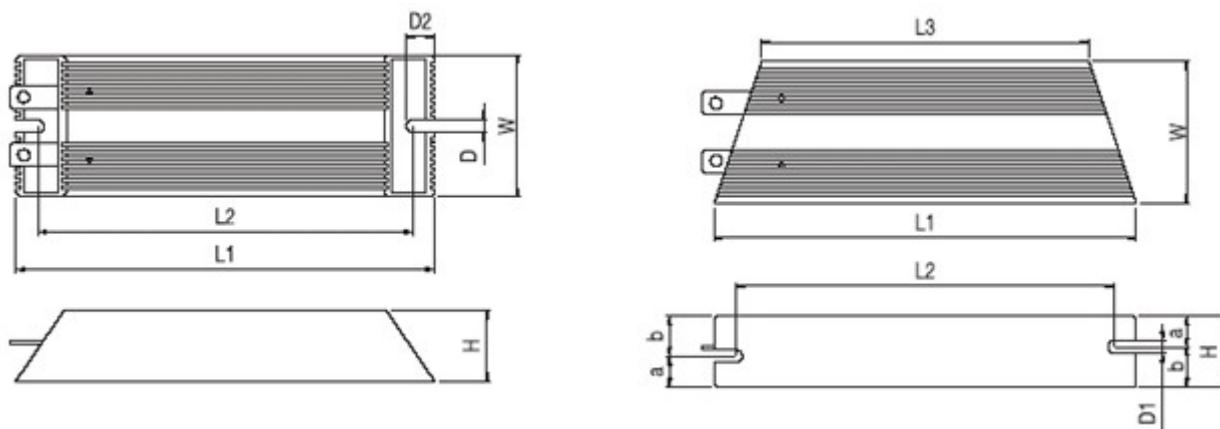
SURFACE TEMPERATURE INCREASE VERSUS POWER LOAD (Heatsink size 400X400X3mm)



A mid-point bracket is required for 600 & 1200W models to ensure sufficient contact with the heat sink.

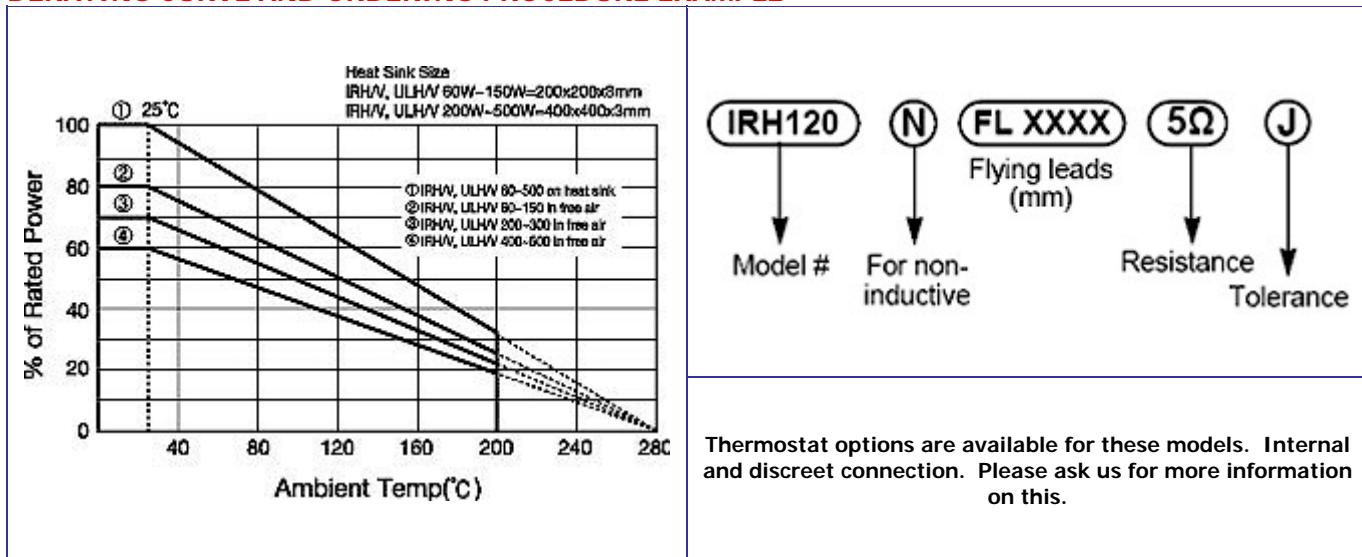
DIMENSIONS

| Model | Dimensions [mm] | | | | | | | | Weight [g] | | |
|---------|-----------------|---------|---------|----------|----------|-----------|-----------|----|------------|-----|-----|
| | L1 + -2 | L2 + -2 | L3 + -2 | W + -0.5 | H + -0.5 | D1 + -0.5 | D2 + -0.5 | a | b | IRH | IRV |
| H/V 60 | 100 | 87 | 60 | 41 | 22 | 4.3 | 8.65 | 10 | 12 | 110 | 113 |
| H/V 80 | 150 | 137 | 110 | 41 | 22 | 4.3 | 8.65 | 10 | 12 | 195 | 189 |
| H/V 100 | 165 | 152 | 125 | 41 | 22 | 4.3 | 8.65 | 10 | 12 | 216 | 215 |
| H/V 120 | 182 | 169 | 142 | 41 | 22 | 4.3 | 8.65 | 10 | 12 | 245 | 241 |
| H/V 150 | 210 | 197 | 170 | 41 | 22 | 4.3 | 8.65 | 10 | 12 | 283 | 290 |
| H/V 200 | 165 | 146 | 125 | 60 | 30 | 5.3 | 12 | 13 | 17 | 485 | 447 |
| H/V 300 | 215 | 196 | 175 | 60 | 30 | 5.3 | 12 | 13 | 17 | 600 | 600 |
| H/V 400 | 265 | 246 | 225 | 60 | 30 | 5.3 | 12 | 13 | 17 | 770 | 780 |
| H/V 500 | 335 | 316 | 295 | 60 | 30 | 5.3 | 12 | 13 | 17 | 990 | 980 |





DERATING CURVE AND ORDERING PROCEDURE EXAMPLE



FLYING LEADS

| Model | 8mm ² | 5.5mm ² | 2mm ² | 1.25mm ² | UL3512AWG10 | UL3512AWG14 |
|--------------|------------------|--------------------|------------------|---------------------|-------------|----------------|
| IRH/V60-150 | - | - | 0.1-0.99ohm | 1ohm and up | - | - |
| IRH/V200-500 | 0.1-0.99ohm | 1-4.99ohm | 5ohm and up | - | - | - |
| IRH/V60-120 | - | - | - | - | - | 0.10ohm and up |
| ULH/V150 | - | - | - | - | - | 0.11ohm and up |
| ULH/V200 | - | - | - | - | 0.1-0.15ohm | 0.16ohm and up |
| ULH/V300 | - | - | - | - | 0.1-0.22ohm | 0.23ohm and up |
| ULH/V400 | - | - | - | - | 0.1-0.30ohm | 0.31ohm and up |
| ULH/V500 | - | - | - | - | 0.1-0.37ohm | 0.38ohm and up |