KRALOY®
The Fitting Choice

ELECTRICAL SYSTEMS

KRALOY® JBox™

The Next Generation Junction Box

PVC Molded Junction Boxes

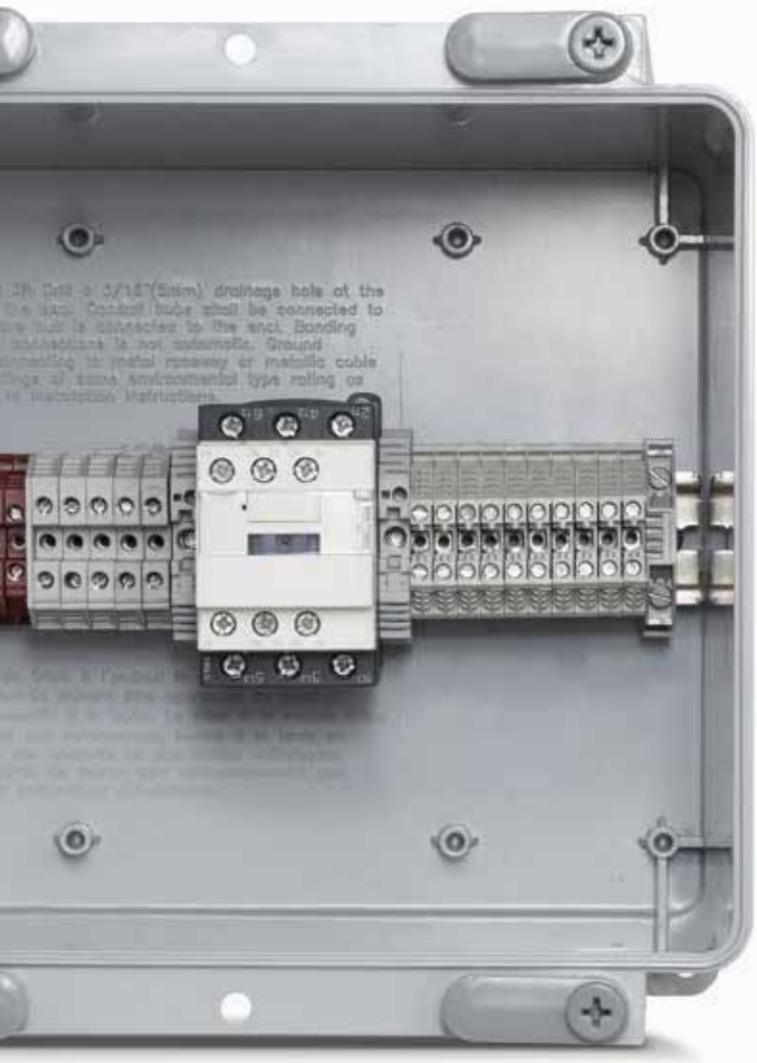
- 4” to 16”

PVC Molded Hinged Cover Junction Boxes

- 8” to 16”

www.kraloyfittings.com

The EASIEST Junction Box you'll EVER use



KRALOY® JBox™

The Next Generation Junction Box

The frustrations are gone – no more worries about positioning a gasket or over-tightening a cover screw, and no more loose parts to misplace before installation. We've added features to make the installation of a junction box faster and easier; whether locating and aligning conduit entry holes, easily mounting the box to a wall or pole or installing a cover with only one hand, you will appreciate the new design features.

Discover the many labor-saving features of the NEW Kraloy® JBox™.

KRALOY JBOX

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The NEW Kraloy® JBox™ is ideally suited for indoor and outdoor use and made to perform in the most demanding environments. Made of PVC it is extremely durable and resistant to impact in a wide range of temperatures and not adversely affected by water and chemicals. Built for corrosive environments, the NEW Kraloy® JBox™ is entirely non-metallic, eliminating corrosion concerns with screws and other metal parts.

NEMA Rated
1, 2, 3R, 4, 4X, 6*, 6P*, 12, 13

Listed
CSA C22.2 No. 40
CSA C22.2 No. 85
UL 50 / CSA C22.2 No. 94.1
UL 50E / CSA C22.2 No. 94.2

*Applies only to sizes 4" to 12"

FEATURES & BENEFITS

FASTENERS
- Close by hand – tool assist to open
- 100% non-metallic – corrosion resistant material
- No loose hardware for easy installation

LOCK-OUT OPTION
- Available on sizes 6" to 16"
- Use a tie-wrap, bolt or padlock for added security

INTEGRATED GASKET
- Injection molded and Extruded gaskets permanently fixed to the cover – no installation required
- Proprietary gasket material creates a 6P rated enclosure (4" – 12")
- Neoprene gasket material creates a 4X rated enclosure (14" – 16")

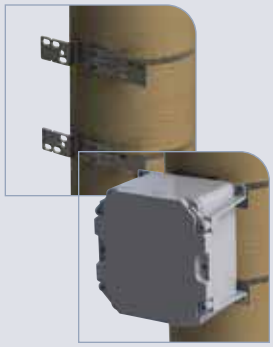
FLAT COVER
- No ribs – offers a flat, smooth surface for mounting of devices or labels
- No engravings

BACK PANEL
- Designed to fit sizes 6" to 16"
- Made of 14 gauge carbon steel
- White epoxy powder-coated finish
- Easy to cut and drill to mount devices

GRIDLINES
- Easy reference for drilling knockouts
- Makes conduit alignment a snap
- Indicates a "drill zone"

MOUNTING FEET
- Molded – no loose parts to assemble
- Located on corners out of the way of conduit connections
- Flush with the back of the box for close surface mounting
- Integrated design of mounting feet offers improved strength

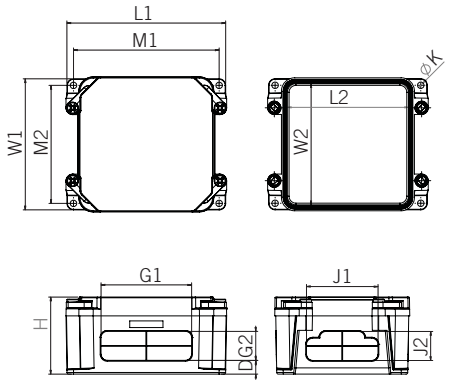
POLE MOUNTING KIT
- One kit fits 4" to 12"
- Supplied as a complete kit
- Works with wood, concrete, steel and composite poles
- Installs on round, square & octagonal poles up to 15" diameter



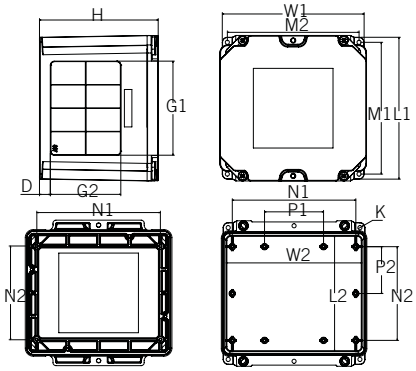
PRODUCT DIMENSIONS

Size Inches	Part Number	Product Code	L1	W1	L2	W2	H	M1	M2	G1	G2	J1	J2	D	K
			inches												
4x4x2	JBX442	278300	4.97	3.93	3.48	3.48	2.90	4.48	3.44	2.41	1.09	1.72	1.09	0.51	0.24
4x4x4	JBX444	278301	4.90	3.86	3.48	3.48	4.89	4.41	3.37	2.22	2.97	1.59	2.97	0.59	0.24
5x5x2	JBX552	278302	5.97	4.93	4.55	4.55	2.90	5.48	4.44	3.41	1.09	2.69	1.09	0.51	0.24
6x3x4	JBX634	278303	3.90	5.86	2.48	5.48	4.89	3.41	5.37	1.22	2.72	3.42	2.72	0.59	0.28
6x6x4	JBX664	278304	7.58	7.58	5.86	7.20	4.90	6.90	6.90	4.47	2.47	4.47	2.47	0.59	0.28
6x6x6	JBX666	278305	7.51	7.51	5.79	7.13	6.90	6.83	6.83	4.22	4.47	4.22	4.47	0.72	0.28

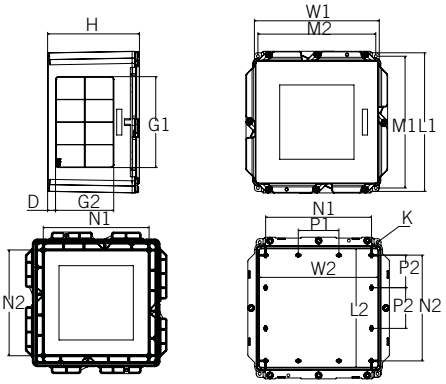
Size Inches	Part Number	Product Code	L1	W1	L2	W2	H	M1	M2	G1	G2	N1	N2	P1	P2	D	K
			inches														
8x8x4	JBX884	278306	9.58	9.58	7.86	9.20	4.90	8.90	8.90	6.47	1.97	8.25	6.26	3.94	3.13	0.59	0.28
8x8x7	JBX887	278307	9.47	9.47	7.76	9.10	7.90	8.90	8.90	6.22	4.65	8.25	6.26	3.94	3.13	0.75	0.28
12x12x4	JBX12124	278308	13.58	12.24	11.74	11.74	4.90	12.90	11.56	9.28	2.03	10.26	10.25	3.94	3.13	0.56	0.28
12x12x6	JBX12126	278309	13.58	12.24	11.74	11.74	6.90	12.90	11.56	9.03	3.78	10.26	10.25	3.94	3.13	0.67	0.28
12x12x8	JBX12128	278310	13.58	12.24	11.74	11.74	8.90	12.90	11.56	8.81	5.64	10.26	10.25	3.94	3.13	0.76	0.28
14x14x8	JBX14148	278311	15.72	14.39	13.80	13.80	9.1	15.1	13.70	11.05	5.69	12.25	10.26	3.94	3.16	0.83	0.33
14x14x10	JBX141410	278312	15.72	14.39	13.80	13.80	11.1	15.1	13.70	11.05	7.55	12.25	10.26	3.94	3.16	0.83	0.33
16x16x10	JBX161610	278313	17.64	16.30	15.71	15.71	11.1	17.0	15.60	12.55	7.55	14.25	12.26	4.71	4.09	0.83	0.33



JBX442 – JBX666



JBX884 – JBX887



JBX12124 – JBX161610

For compatible back panel sizing, please refer to pg 16

Tested to perform in tough environments, the NEW Kraloy® JBox™ Hinged Cover junction box has added features to make this the easiest box to use – no matter the situation.

The new Hinged Cover opens up to 214° and are removable for complete and easy access to control devices and instrumentation.
The Kraloy® JBox™ Hinged Cover is NEMA 3R and 4X rated, ideally suited for indoor and outdoor industrial, MRO and OEM applicaitons, and in wash-down environments. It is 100% non-metallic and includes all the features that users have come to appreciate in the Kraloy JBox.

NEMA Rated
1, 2, 3R, 4, 4X, 12, 13

Fully Certified
CSA C22.2 No. 94.1/94.2
UL 50/50E

FEATURES & BENEFITS

HINGED COVER
- The new Hinged Cover opens over 214° for complete access to installed boxes
- Removable for easy mounting of devices in cover

FASTENER SYSTEM
- Features quarter-turn fasteners that are hand-close and tool-assist to open

LOCK-OUT OPTION
- Use a tie-wrap, bolt or padlock for added security

INTEGRATED GASKET
- Injection molded and Extruded gaskets permanently fixed to the cover – no installation required
- Sizes 8" to 12" feature a proprietary gasket material
- Sizes 14" to 16" feature a neoprene gasket material

FLAT COVER
- Easily mount devices in the flat & unobstructed cover

MOLDED MOUNTING FEET
- No loose parts & positioned on the corners

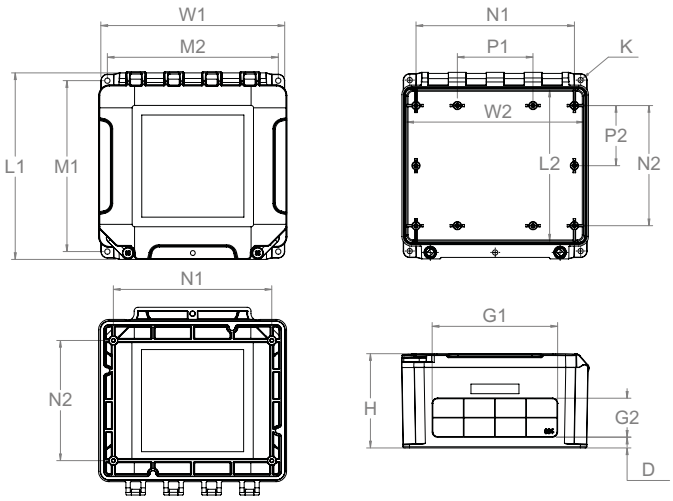
GRIDLINES
- Provide an easy reference for drilling conduit entry holes

MOLDED PANEL MOUNTS
- Standoffs are molded-in to accept back panels plus DIN rails

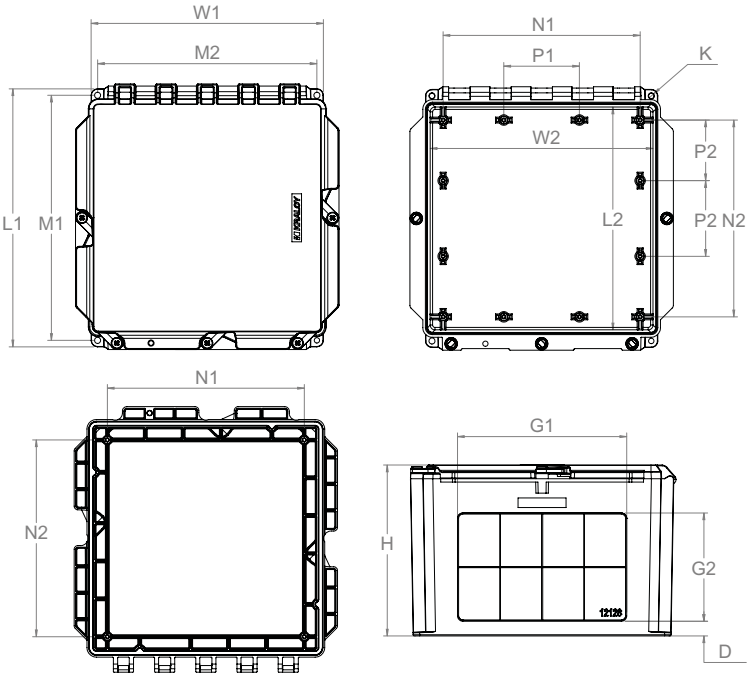
BACK PANEL
- Designed to fit sizes 6" to 16"
- Made of 14 gauge carbon steel
- White epoxy powder-coated finish
- Easy to cut and drill to mount devices

PRODUCT DIMENSIONS

Size Inches	Part Number	Product Code	L1	W1	L2	W2	H	M1	M2	G1	G2	N1	N2	P1	P2	D	K
8x8x4	JBXH884	278400	9.58	9.58	7.86	9.2	4.9	8.9	8.9	6.47	1.97	8.25	6.26	3.94	3.13	0.59	0.28
8x8x7	JBXH887	278401	9.47	9.47	7.86	9.2	7.9	8.9	8.9	6.22	4.65	8.25	6.26	3.94	3.13	0.75	0.28
12x10x6	JBXH12106	278402	11.51	12.17	9.67	11.67	6.9	10.8	11.49	8.03	3.78	10.25	8.26	3.94	2.16	0.67	0.28
12x12x4	JBXH12124	278403	13.58	12.24	11.74	11.74	4.9	12.9	11.56	9.28	2.03	10.26	10.25	3.94	3.13	0.56	0.28
12x12x6	JBXH12126	278404	13.58	12.24	11.74	11.74	6.9	12.9	11.56	9.03	3.78	10.26	10.25	3.94	3.13	0.67	0.28
12x12x8	JBXH12128	278405	13.58	12.24	11.74	11.74	8.9	12.9	11.56	8.81	5.64	10.26	10.25	3.94	3.13	0.76	0.28
14x14x8	JBXH14148	278406	15.72	14.39	13.80	13.80	9.1	15.1	13.70	11.05	5.69	12.25	10.26	3.94	3.16	0.83	0.33
14x14x10	JBXH141410	278407	15.72	14.39	13.80	13.80	11.1	15.1	13.70	11.05	7.55	12.25	10.26	3.94	3.16	0.83	0.33
16x16x10	JBXH161610	278408	17.64	16.30	15.71	15.71	11.1	17.0	15.60	12.55	7.55	14.25	12.26	4.71	4.09	0.83	0.33



JBXH884 – JBXH887



JBXH12106 – JBXH161610

For compatible back panel sizing, please refer to pg 16

APPLICATION / USE

APPLICATIONS

The Kraloy JBoxes are ideal for use wherever PVC conduit and fittings are employed. Kraloy JBoxes have no metallic parts or hardware to be of concern making these boxes ideal for indoor, outdoor, wet locations and challenging corrosive environments. They are well suited for a wide range of applications such as corrosive environments, agricultural, wash down, water and waste-water treatment facilities, marine and car washes.

WHY SELECT PVC FOR AN ENCLOSURE?

Nonmetallic PVC boxes/enclosures are lightweight, easily installed and modified, ideal for outdoor exposed to weather applications. They are also corrosion resistant and offer a high degree of resistance to chemical elements. PVC is a cost effective option for enclosures with a proven long life in indoor and outdoor applications. PVC does not support combustion, is self-extinguishing and non-conductive eliminating the danger of shock. Boxes/enclosures can be cut and drilled on site without risk of airborn fibre inhalation associated with fiberglass filled materials.

See all 10 reasons in the Kraloy PVC conduit brochure found at www.kraloyfittings.com.

PERFORMANCE RATINGS

Max. Temp. Range		50ºC (122ºF)
Rec. Operating Temp.		-40ºC to 50ºC (-40ºF to 122ºF)
UV and Water Exposure		UL 746C
Flame & Smoke		UL 94V-0 (UL94 Vertical Flame Test)
NEMA	JBX: JBXH:	1,2,3R,4,4X,6,6P,12,13 1,2,3R,4,4X,12,13
Industrial Control Panels		UL 508A
Conductors		Suitable for 90ºC rated conductors

PHYSICAL PROPERTIES

SUNLIGHT RESISTANCE (UV) & WEATHERING

The performance of an enclosure during its service life will be impacted by environmental conditions. Selecting the correct material for the application will ensure a long trouble-free installation. Adverse conditions such as continuous direct exposure to sunlight, extreme temperatures and aggressive elements like wind-blown sand will have an impact on the enclosure. Steel enclosures are prone to corrosion when exposed to moisture and chemical atmospheres, the unprotected finish surfaces of Fiberglass enclosures can be adversely affected by direct exposure to sunlight (a condition known as fiberbloom).

PVC provides an excellent balance between material strength and environmental performance. The surface appearance of Kraloy JBoxes are not adversely affected by exposure to UV, can withstand years of weather exposure and are particularly well suited for marine areas and salt water spray.

MAXIMUM TEMPERATURE RANGE

Kraloy JBoxes are acceptable for use in ambient temperatures as permitted by the NEC. The NEC limits the use of PVC in ambient temperatures to 75°C (167°F):

RECOMMENDED OPERATING TEMPERATURE

The maximum recommended continuous use temperature for the Kraloy JBox is 50°C (122°F).

Enclosures/boxes are designed to provide protection and enclose electrical/electronic controls, instruments, components and wiring for indoor and outdoor applications. Ambient temperature may pose a concern for the enclosure and the products enclosed. The nature of the materials used to manufacture non-metallic enclosures provide a range of operating use temperatures but what is most important is the temperature rating of the products contained within. For example, if the control equipment within an enclosure has a maximum operating temperature of 50°C (122°F), having a box that can withstand 130°C (266°F) is extraneous.

Declared Operating Temperatures of Non-metallic Enclosures

JBX/JBXH	-40°C to 50°C	(-40°F to 122°F)
ABS	-18°C to 52°C	(0°F to 125°F)
Polycarbonate 'A'	-40°C to 85°C	(-40°F to 185°F)
Polycarbonate 'B'	-35°C to 82°C	(-31°F to 180°F)
Polyester 'A'	-40°C to 130°C	(-40°F to 266°F)
Polyester 'B'	-40°C to 120°C	(-40°F to 248°F)
Fiberglass 'A'	-40°C to 120°C	(-40°F to 250°F)
Fiberglass 'B'	-35°C to 130°C	(-31°F to 266°F)

ENCLOSURE TEMPERATURE RISE

The difference between the air temperature inside the enclosure resulting from heat generated by components installed within and the air temperature outside the enclosure is the temperature rise.

It is common for enclosures to be unventilated to provide maximum protection for the internal components from environment effects and allow internal heat to be transferred by conduction through the walls of the enclosure. Metallic enclosures will dissipate heat better than non-metallic products; however, they also absorb heat whereas non-metallic enclosures have an insulating effect. Unpainted metallic enclosures directly exposed to the sun often become too hot to touch. Painted metallic enclosures and non-metallic enclosures have similar heat transfer characteristics.

Temperature rise may be important as increased heat can reduce the life of electrical and electronic components and the temperature within the enclosure may impact the operating parameters (i.e. AMR or Absolute Maximum Rating) of the installed components. As an example, most manufacturers' variable speed drives are designed for full load continuous operation at 40°C (104°F) maximum ambient, operating above the rated temperature reduces the life.

To appreciate the temperature rise and whether or not it is a concern for a specific application the following information is provided as a guide. To determine the heat rise, the enclosure surface area and the total internal heat load are required.

The table provides the total surface area exposed at air for specific Kraloy JBox sizes and assumes the box is surface mounted against a wall/surface – the back wall of the box is not included in the surface area calculation.

Kraloy JBX box	Total Surface Area (sq ft) 5 sides
JBX/H 884	2
JBX/H 887	2.3
JBX/H 12106	3.6
JBX/H 12124	3.6
JBX/H 12126	3.9
JBX/H 12128	4.25
JBX/H 14148	5.6
JBX/H 141410	6.4
JBX/H 161610	7.6

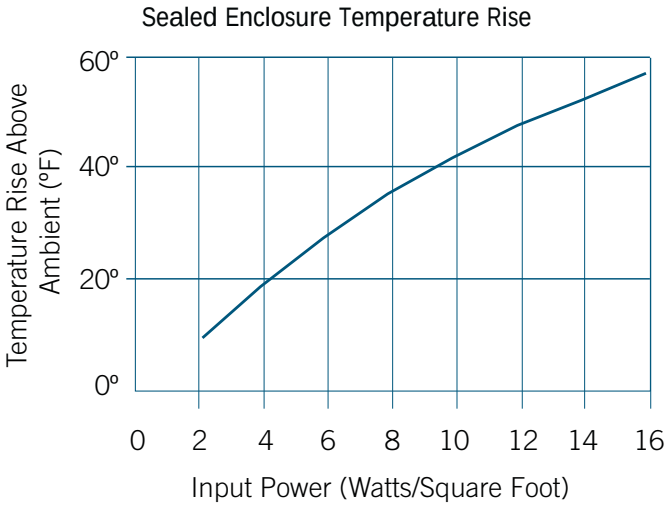
The heat load is the total watts generated by the components within the enclosure.

Temperature Rise (watts/ft²) = total input watts / total surface area in square feet

Example: A JBX12126 box has a total internal heat load of 30 watts. The calculation is total watts / surface area (30/3.90) or 7.7 watts/ ft²; using the graph, the estimated temperature rise is approximately 35°F.

The calculation and graph is an estimation of temperature rise. Internal component layout, external air movement and other factors can create variations in the actual temperature rise. If in doubt, we recommend applying a safety factor of 25%.

There are options to address an unfavorable temperature rise and its effect on equipment:



1. Increasing the enclosure box size will result in a lower temperature rise
2. Add venting, a fan or other air cooling options (note: this can impact the rating of the enclosure)
3. Heat rises; position equipment within the box accordingly. Equipment that can handle higher heat should be situated at the top.

Note: This information is a guideline only and provided to assist the user in determining the suitability of the product for the application.

Kraloy JBoxes can be used in ambient temperature of 50°C (122°F) maximum. The maximum heat rise tolerated in an enclosed, gasketed and sealed enclosure with no venting would be dependent upon the rating of the components installed and the size of the enclosure.

FLAME RESISTANCE

The Kraloy JBox is manufactured of a specific PVC formulation and the material has been evaluated by UL for flammability in accordance with UL 94. The flame classification is 94V-0.

IMPACT RESISTANCE

The Kraloy JBox has been designed and manufactured to exceed the impact testing requirements of the product standard. Steel ball impact tests were conducted at ambient room temperature and at -35°C (-31°F). The Kraloy JBox meets the same impact testing requirements as all non-metallic enclosures (fiberglass, polycarbonate etc.) listed to UL50/50E.

EMI / RFI SHIELDING

Electromagnetic Interference and Radio Frequency Interference Shielding is not a standard physical feature of non-metallic boxes/enclosures. For non-metallic products a special coating must be applied to provide shielding protection. This customization option is not provided by KRALOY on the Kraloy JBox however shielding products are commercially available for the user/installer to apply a spray-on or painted shielding.

RELATIVE THERMAL INDEX

This PVC material used in the manufacture of the Kraloy JBox has been evaluated for Relative Thermal Index (RTI) ratings as noted below.

Relative Thermal Index, °C (°F)		
Electrical	Mechanical	
	w/Impact	w/o Impact
95 (200)	85 (185)	95 (200)

CHEMICAL RESISTANCE

Environmental resistance ratings are based upon tests where the material specimens were subjected to complete immersion in the reagent. This is severe and is not typical of actual installation use. Where there is a question of suitability for the enclosure in a specific environment, physical product samples should be tested under actual conditions. Any information provided on chemical resistance is intended as a guideline only, actual testing in the application environment is always recommended.

The user must determine the suitability of the product in an environment based upon individual characteristics. In many applications, several corrosive agents are present and reactions among them are not always documented. Application environments can be unique necessitating the identification of all possible corrosive elements that may affect the intended enclosure application.

The ability for an enclosure to perform in specific environments is affected by the various materials that comprise the functional elements of the enclosure. To ensure the long term performance of the enclosure, the hardware and components must also be suitable for use in the environment.

Kraloy JBoxes are well suited for most environments and offer very good chemical resistance to dilute acids, dilute alkalis, oils and greases, alcohols.

The green proprietary gasket has been formulated to provide low temperature flexibility, tear resistance and tensile strength to provide performance in a wide range of environmental conditions.

Similar to our PVC boxes, gaskets offer good chemical resistance to dilute acids, dilute alkalis, oils, some alcohols and water.

To confirm suitability for a given environment, samples should be tested under actual conditions.

NEMA RATINGS

Many applications require the use of a box that has an environmental rating. Enclosures rated to NEMA standards are identified with a marking to define the ability of that enclosure to withstand the specific environmental conditions. The different NEMA ratings that the Kraloy JBox is certified to and the conditions are described below.

Type	Description
1	Enclosures for indoor use providing protection from contact with the enclosed equipment and ingress of solid objects (falling dirt).
2	Enclosures for indoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt) and from harmful effects on equipment due to ingress of water (dripping and light splashing)
3R	Enclosures for indoor or outdoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt) and from harmful effects on equipment due to ingress of water (rain, sleet, snow) and is undamaged by the external formation of ice.
4	Enclosures for indoor or outdoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt and windblown dust) and from harmful effects on equipment due to ingress of water (rain, sleet, snow, splashing water and hose directed water) and is undamaged by the external formation of ice.
4X	Enclosures for indoor or outdoor use providing protection from contact with the enclosed equipment, ingress of solid objects (windblown dust) and from harmful effects on equipment due to ingress of water (rain, sleet, snow, splashing water and hose directed water), protection against corrosion and is undamaged by the external formation of ice.
* 6	Enclosures for indoor or outdoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt) and from harmful effects on equipment due to ingress of water (hose directed water and entry of water on occasional temporary submersion at a limited depth) and is undamaged by the external formation of ice.
*6P	Enclosures for indoor or outdoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt) and from harmful effects on equipment due to ingress of water (hose directed water and entry of water during prolonged submersion at a limited depth) and is undamaged by the external formation of ice.
12	Enclosures for indoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt circulating dust, lint, fibers and flyings) and from harmful effects on equipment due to ingress of water (dripping and light splashing).
13	Enclosures for indoor use providing protection from contact with the enclosed equipment, ingress of solid objects (falling dirt circulating dust, lint, fibers and flyings) and from harmful effects on equipment due to ingress of water (dripping and light splashing) and against the spraying, splashing and seepage of oil and non-corrosive coolants.

* JBX Series only (sizes 442 – 12128)

Enclosure constructed for:	1	2	3	3R	4	4X	6	6P	12	13
Indoor use	X	X	X	X	X	X	X	X	X	X
Outdoor use			X	X	X	X	X	X		
Enclosure provides degree of protection against:										
Contact with enclosed equipment	X	X	X	X	X	X	X	X	X	X
Ingress of solid objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (dripping and light splashing)		X	X	X	X	X	X	X	X	X
Ingress of water (rain, sleet, snow)			X	X	X	X	X	X		
Ingress of water (rain, sleet, snow, splashing water and hose directed water)					X	X	X	X		
Ingress of water (hose directed water and occasional temporary submersion at a limited depth)							X	X		
Ingress of water (hose directed water and occasional prolonged submersion at a limited depth)								X		
Oil and coolant seepage									X	X
Oil and coolant spraying and splashing										X

NEMA Enclosure Type Number	IEC Enclosure Classification Designation
1	IP10
2	IP11
3, 3R	IP54
4, 4X	IP55/IP56
6, 6P	IP67
12	IP52
13	IP54

The chart is an approximate comparison between NEMA and IP enclosure ratings

IP RATINGS

Kraloy JBoxes are not IP rated.

IP designations are similar to NEMA ratings, they define the degree of protection the enclosure provides against solid foreign bodies and liquids (water), but they are not equivalent. The IEC rating does not include requirements and testing for corrosion, gasket aging, dust or external icing.

The designation consists of the letters IP followed by two numerals. The first numeral indicates the degree of protection provided with respect to foreign objects entering the enclosure (i.e. hand, finger, tool, dust). The second numeral indicates the degree of protection provided with respect to ingress of water (i.e. splashing, rain, direct hose spray, immersion).

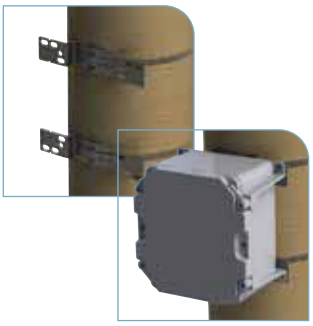
INSTALLATION

MOUNTING

The Kraloy JBox is designed to be secured in place using integral mounting feet that are external to the box compartment. The mounting feet, located at the corners, are contained within the 'footprint' of the box allowing for close (side-by-side) mounting to other boxes or equipment, walls or structural components without conflict. The mounting holes 1/4" (6mm) diameter (JBX442-JBX634) and 9/32" (7mm) (JBX664-JBX887) allow for screws, bolts and other fasteners to be used to secure the box.

External mounting ensures the boxes are compliant with NEC 314.43. It is the installer's responsibility to correctly secure the Kraloy JBox for the application especially if the box will be supporting additional weight inside (i.e. devices on a Din Rail or Back Panel). The selection of fasteners for mounting is dependent upon the surface and material on to which the Kraloy JBox is being secured.

POLE MOUNTING



KRALOY has developed a unique universal pole mount bracket for the attachment of Kraloy JBox series to poles and posts. The PMK-412 kit is designed to accommodate sizes from 4" to 12" and fit with a round, octagonal or square pole/post up to 15" diameter. Instructions are provided with each kit to adjust the bracket correctly for the specific size of box and stainless steel gear clamps tighten around the pole using a nut driver to provide a secure hold. Those customers who have a banding tool (i.e. Band-It brand) can use the brackets included in the kits with the Band-It supplied bands.

Part Number	Product Code	Fits JBox
PMK4-12	077940	4" to 12"
PMK4-12SS	077946	4" to 12"
PMK14-16SS	277086	14" to 16"

The PMK4-12 pole mount kit was designed to support a weight of up to 40lbs. Additional support should be provided where the installation of a box using the PMK4-12 exceeds 40 lbs.

CONDUIT CONNECTIONS

To maintain the desired enclosure rating (i.e. NEMA 3R) the conduit connection must provide the same environmental resistance. Solvent cemented PVC conduit and fittings provide excellent results for use in demanding wet location, wash-down and water spray environments. Properly installed PVC fittings provide the best conduit connection method to the Kraloy JBox.

PVC conduit hub:

1. Mechanical connection: PVC Male/Terminal Adapter (TA) w/locknut and O-ring
2. Solvent Cement connection: PVC Junction Box Adapter (JBA) and coupling

Threaded connection:

1. Myers Hub, Bullet Hub or similar

CUSTOM CUTTING

KRALOY does not provide custom hole or profile cutting modification services. Our boxes are manufactured of PVC and have a standard wall thickness. Custom holes can easily be made on site as needed or pre-fabricated in the shop using a standard hole-saw or Unibit step drill.

Box Size	Standard Wall Thickness	
	Inches	mm
JBX 442 – JBX/H 887	3/16	4.8
JBX/H 12124 – JBX/H 12128	1/4	6.35
JBX/H 14148 – JBX/H 161610	5/16	25.4

HINGED COVER REMOVAL

Hinged Cover Junction Boxes come with Cover installed. Removal of the cover for instrument installation is made easier by detaching the cover from the box body. A rubber mallet should be used to avoid damaging the cover.

Please Note: We do not recommend repeated removal as this will increase the possibility of damage to the hinge elements. Hinged cover removal should be completed at ambient temperatures to ensure that PVC material is not overly stressed.

STEP 1:

Ensure that the cover is open at a 90 degree angle relative to the top of the box. (Fig.1)

STEP 2:

Strike the top edge of the cover in a downward motion. This will separate the cover hooks from the box pins. (Fig. 1)

Note: For larger sized boxes multiple mallet strikes may be required along the cover for removal.

Fig. 1

TO RE-ATTACH THE COVER

1. Secure the box on a stable flat surface. Align the hinge knuckles on the cover with hinge pins on the box (Fig. 2 and Fig. 3).

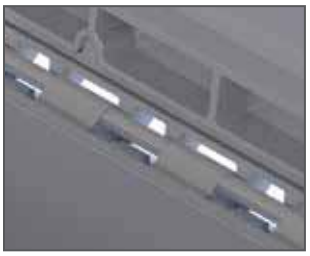


Fig. 2

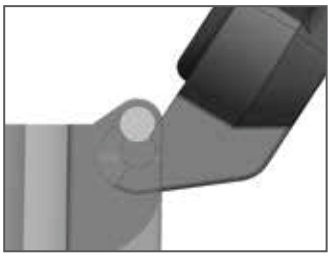


Fig. 3

2a. For 8″ boxes, pull the cover up, and push the box down. You will hear an audible snap signifying that the hooks have engaged (Fig. 4).

2b. For sizes 12″ and larger begin to open the cover slowly past 180 degrees until the knuckles engage. You will hear an audible snap signifying that the hinge has engaged. (Fig. 5)

Some boxes may need to be placed on the edge of a table or turned on its side so that the cover can be opened more than 180 degrees without hitting the top of a surface before hinge is locked.

Fig. 4: 8″ Sizes

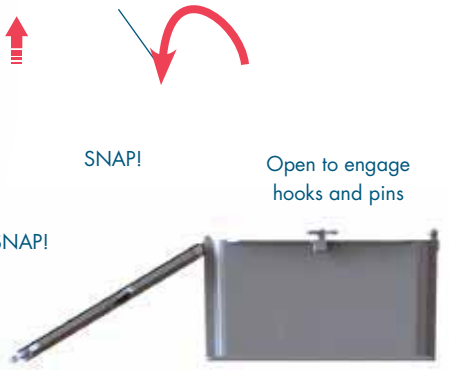


Fig. 5: 12″ & Larger

3. Visually inspect that all knuckles have engaged with hinge pins before attempting to close the cover.

DRILLING AND CUTTING

PVC is the easiest of all box materials to cut and drill allowing installers to use standard drills, hole-saws, step drills and punches to create conduit entries and holes for mounting control devices. There are no health or safety concerns resulting from fibers, fine dust or metal shavings.

A helpful feature of the Kraloy JBox design is the ability for the box to lay flat on all sides which will position the box flat and level for the user when drilling/cutting holes. Other products have flanges/mounting feet that extend from the box preventing the box from being positioned flat and the user must drill and/or cut on an angle.

CUSTOM COLORS

KRALOY does not offer custom colours. Kraloy JBox series boxes are standard PVC gray to match PVC conduit and fittings.

PAINTING RECOMMENDATIONS

PVC weathers extremely well and does not require special protection from UV. We do not recommend painting of PVC boxes; however paint products formulated for adhesion to PVC are commercially available at paint retailers.

DRAINAGE HOLES

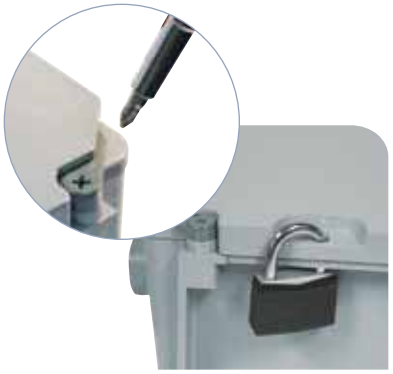
UL50 9.7.2 specifies Types 2 and 3R enclosures are constructed in accordance with 7.3.3.3 shall have instructions indicating the method of (obtaining) providing drainage openings when the enclosure is being used for Types 2 and 3R applications. This information is included on every Kraloy JBox – engraved into the bottom inside of the box.

Note: For Type 2 and 3R: Drill a 3/16" (5mm) drainage hole at the lowest point of the enclosure.

GRID LINES

All sizes of Kraloy JBoxes have embossed grid lines on the side walls of the box. These grid lines are designed to be visible when working with the box but discreet when viewed at a distance. The grid lines are a time saving feature for the installer connecting conduit raceways, cables and other fittings to the box. The grid lines offer a quick visual reference for locating the hole cutting location for a connection point. Rather than measuring and duplicating the measurement on the opposite or adjacent wall to create a parallel or perpendicular conduit run, the grid lines are there for the quick reference. Additionally, the outermost grid line defines the 'drill zone' – identifying the outermost point at which a hole can be cut and still permit a connector to be properly fastened in place (i.e. the locknut will fit on the inside without interference).

SECURITY AND RESTRICTING ACCESS



Kraloy JBoxes feature patented 'hand close/tool open' quarter turn fasteners. The fasteners are designed to require a tool (#2 Phillips or Hexagonal (11mm, 7/16") head screwdriver) to be used to open the fastener and access the box maintaining a standard degree of security access. All boxes (6x6 size and larger) have a provision for locking the cover by using the padlock security hole. The holes are located on opposite walls at the mid-point on the flanged walls (the side with the mounting feet supports). The 4" – 12" JBXH (.28" or 7mm) and 14" – 16 JBXH (.35" or 9mm) hole is designed to accommodate a pad-lock, tie-wrap or bolt (regular or tamper-resistant) to restrict unwanted access to the box.

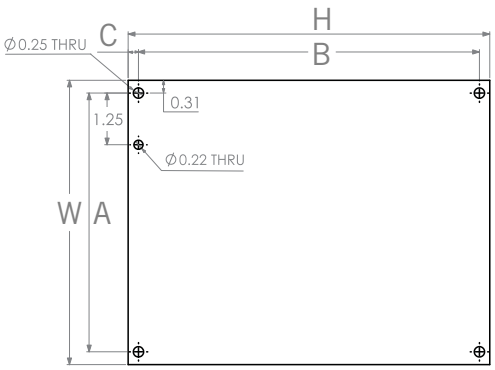
BACK PANEL AND DIN RAIL MOUNTING

Kraloy JBoxes, sizes 6" and larger, are supplied with standoffs on the inside base for the mounting of back panels. The spacing of the mounting bosses are noted on dimensional drawings but have been based on standard industry back panels. KRALOY offers 14 gauge powder coated carbon steel back panels. Panel mounting screws are not supplied with the back panels; the correct screw to use for mounting a panel into the Kraloy JBox is a Pan Head #10 x 1/2" length thread forming screw.

Din Rail Mounting

In addition to offering mounting provisions for a back plate panel, all boxes 6" and larger have raised bosses for the attachment of DIN rail. Screws are not included for mounting of DIN rail, the correct screw to use for mounting a DIN rail into the Kraloy JBox is a Pan Head #10 x 1/2" length thread forming screw.

Back Panel Cross Reference						
KRALOY	BP66CSW	BP88CSW	BP1210CSW	BP1212CSW	BP1414CSW	BP1616CSW
Panel Dimension	6.75 x 4.88	8.75 x 6.88	10.75 x 8.88	10.75 x 10.88	12.75 x 10.88	14.75 x 12.88
Hoffman	A8P6	A10P8	A12P10	A12P12	A14P12	A16P14
Hammond	14R0705	14R0907	14R1109	14R1111	14R1311	BP1614CS
Stahlin	BP86CS	BP108CS	BP1210CS	n/a	BP1412CS	BP1614CS
Rittal	n/a	LMPL108CS	LMPL1210CS	n/a	n/a	n/a
Allied Moulded	P864	P1086	P1206	n/a	P1426	P1648
Carlon	JP86	JP108	JP1210	JP1212	JP1412	JP1614



Size inches	Part Number	Product Code	W	H	A	B	C
			inches				
6 x 6	BP66CSW	077864	4.88	6.75	4.26	6.25	0.25
8 x 8	BP88CSW	077861	6.88	8.75	6.26	8.25	0.25
12 x 10	BP1210CSW	077862	8.88	10.75	8.26	10.25	0.25
12 x 12	BP1212CSW	077865	10.88	10.75	10.26	10.25	0.25
14 x 14	BP1414CSW	077867	10.88	12.75	10.26	12.25	0.25
16 x 16	BP1616CSW	077868	12.88	14.75	12.26	14.25	0.25

GROUNDING AND BONDING

Equipment system grounding and bonding are separate things.

Grounding protects equipment from damage due to induced voltages. Induced voltages (i.e. lightning) are trying to get to earth and thus ground wire connected to ground rods and plates. The equipment grounding conductor and ground rod connection does not protect the ground fault current path.

Bonding refers to the low impedance conductive path that carries a fault current from the point of a ground fault to the supply source. This low impendence path for ground-fault current facilitates the operation of the circuit overcurrent device (i.e. breaker). A fault current through ground (earth) may not create the necessary current as the earth is not a low impedance fault current path.

Electrical System Grounding:

Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.

Effective Ground-Fault Current Path:

An intentionally constructed, low impendence electrically conductive path designed and intended to carry current under ground-fault conditions from the point of a ground fault on a wiring system to the electrical supply source and that facilitates the operation of the overcurrent protective device.

Grounding of Electrical Equipment:

Normally non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected to earth so as to limit the voltage to ground on these materials.

Bonding of Electrical Equipment:

Normally non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective ground-fault current path.

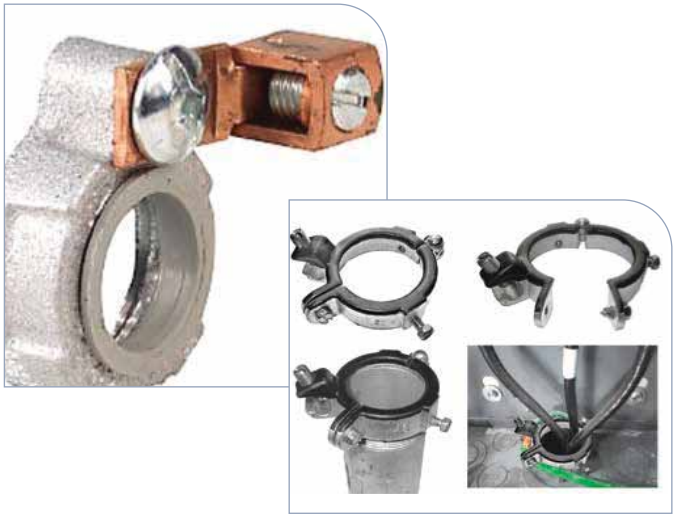
The earth shall not be considered an effective ground-fault current path.

NEC 2014

314.3 Non-metallic Boxes. Non-metallic boxes shall be permitted only with open wiring on insulators, concealed knob-and-tube wiring, cabled wiring methods with entirely non-metallic sheaths, flexible cords and non-metallic raceways.

Exception No. 1: Where internal bonding means are provided between all entries, non-metallic boxes shall be permitted to be used with metal raceways or metal-armored cables.

Non-metallic conduits connected non-metallic boxes and enclosures do not require bonding. In instances where metallic conduits are connected to a non-metallic box it is the installing electrician's responsibility to properly bond the conductive materials to ensure an effective ground-fault path. This is accomplished by using grounding bushings (or hubs) and the connection of a bonding jumper between all metal raceway and cable entries in compliance with the code rules.



DIN Rail Ground:
DIN rails are normally required to be grounded and a grounding terminal block is readily available from all of the terminal manufacturers. The grounding terminal block has a recessed center screw that engages the DIN rail and the other terminal connection points allow for ground wire attachment.

Back Panel Ground:
Most Back Panels have 4 mounting holes that align with the mounting bosses in the bottom of the box and an additional 5th hole set to the inside of one corner for the attachment of a ground lug or bolt. The ground can be located anywhere on the panel by drilling another mounting hole where desired.

KRALOY® JBox™
The Next Generation Junction Box

To get the full picture, go to
kraloyfittings.com

SHORT FORM SPECIFICATIONS

Junction boxes shall be acceptable for indoor and outdoor use and manufactured of PVC in a gray color analogous to Rigid PVC conduit and fittings. The junction box and its fasteners, hinges or components shall be entirely non-metallic. Boxes shall be NEMA rated and certified to bi-national standard UL50/50E – CSA No.94.1/94.2 by a Nationally Recognized Testing Laboratory (i.e. UL or CSA).

The cover/box gasket shall be dual-molded or permanently fixed so as to be an integrated part of the cover. The cover should be secured to the box using non-metallic quarter-turn "close by hand, tool assist to open" fasteners. To aid in the alignment and proper positioning of conduit connections the box/enclosure shall have embossed gridlines on the sidewalls. The mounting feet shall be a permanent molded feature of the box and not extend beyond the periphery of the box/enclosure. On boxes/enclosures of nominal size 6" x 6" and larger, back-panel / DIN rail mounting and pad-lock provisions shall be incorporated into the product.

Acceptable manufacturer: Kraloy JBox Series by Kraloy Fittings.

CUSTOMER SERVICE CENTER

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www.kraloyfittings.com

Kraloy has been an industry leader for over 40 years supplying the electrical trade with a comprehensive offering of nonmetallic PVC fittings. Kraloy offers adapters, couplings, elbows, access fittings, boxes, cover plates, expansion fittings and spacers – virtually any fitting required to complete the PVC conduit system.

Check out the full Kraloy product offering on our web site www.kraloyfittings.com or contact us directly for information.

Only when you specify Kraloy by name are you guaranteed The Fitting Choice.

Kraloy is proud to offer these quality brands.

INEXO® THE ICF BOX

KWIKON® ENT & FITTINGS

Sceptacon™ Trenchless Raceways Systems

KWIKFLEX® LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT & FITTINGS

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