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REPORT

on

CRANE AND HOIST ELECTRIFICATION SYSTEM

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DESCRIPTION

PRODUCT COVERED:

USL, CNL - Crane and Hoist Electrification Systems - Unipole U10 Type; see Table No. 1 for details.

GENERAL:

This system is designed to provide electric power from a fixed source to moving equipment. It is intended for use in connection with cranes and hoists where the system is to be installed in accordance with Article 610 of the National Electrical Code in addition to the installation instructions provided by the manufacturer.

This is a Unipole type system extendable for a multiconductor system consisting of insulated contact conductors, collectors and feed-devices, together with supports for mounting on tram-rails, crane bridges, hoist runways, automatic warehousing, material flow automation. These devices are intended for indoor installation, Surrounding temperature -30°C up to 85°C .

System hangers are intended to mount the powerail to the crane girder, with a maximum support spacing of 600 mm. Line or end feed sets contain Terminal Boxes for cabling into / out of the powerail system. Expansion joint sections are used to compensate for the expansion / contraction of different materials. The current collectors are made of plastic materials and carbon brushes to maintain contact with the bus. Connecting cables, Double collectors are used for transfer applications and for units with higher amperage.

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ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

CNL indicated investigation according to Canadian Standards, C22.2, No. 33-M1984, "Construction and Test of Electric Cranes and Hoists."

RATINGS:

See Table No. 1 for details.

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Table No.1 **Type U10 Series Unipole conductor system**

Component Description	Type Designation	Rating
Contact Conductor	U10/25 C	600V / 100 A ac 100% duty cycle Fig. 1, Ill. 1

Duty Cycles -- The equivalent continuous thermal current was based on the geometric average (duty cycle factor) of the nominal full load current and the indicated duty cycle percentage. For example, given a 200 A nominal full load current at 80% duty cycle, the nominal full load current (200 A) is divided by the duty cycle factor, which is the geometric average of 100% and 80% [$=\sqrt{100/80} = 1.118$].

The Duty Cycles, which are indicated above, can be used for all following systems, which were marked by the normal amperage.

Component Description	Type Designation	Rating
Terminal Boxes	AKE 80 4-12 Pol	600V / 80 A ac 100% duty cycle
	AKE 50 4-12 Pol	600V / 50 A ac 100% duty cycle
	AKE 30 4-12 Pol	600V / 30 A ac 100% duty cycle
	AKB	
Transfer Guide	USE10S	N/r Fig. 5
	USE10	N/r
	US10	N/r
	US10S	N/r
Joint	UV10	600V / 100A ac 100% duty cycle Fig. 2
Joint - Feed	UE10	600V / 50A ac 100% duty cycle Fig. 3
Line - Feed	UES10	600V / 50A ac 100% duty cycle Fig. 3
End - Feed	UEES10	600V / 100A ac 100% duty cycle Fig. 3
Joint - Feed	UEG10	600V / 80A ac 100% duty cycle
Line Feed	UEGS10	600V / 100A ac 100% duty cycle
Dead section	LT/LTE	N/r Fig. 4
Feed Clip	SE10	600V / 25A ac 100% duty cycle
Fixed Clamp	USK10	N/r Fig. 8
Anchor Bar	BFU10	N/r Fig. 6
Cable Glands for Terminal Boxes	All diameters	N/r
Insulated Hanger	KA10 / KS10-4AF Samples	N/r Fig. 7
Brush Wear Indicator	KVT 10N-4...12	28V/15A dc or 480V/15A ac
Connecting Cable	FLA 2.5mm ²	600V / 32A ac (free in air) Fig. 9
	FLA 4 mm ²	600V / 42A ac (free in air)
	FLA 6 mm ²	600V / 54A ac (free in air)
	QFLA 6 P 6 mm ²	600V / 54A ac (free in air)
	FKA 1.5 mm ²	600V / 24A ac (free in air)
	FKA 2.5 mm ²	600V / 32A ac (free in air)
	FKA 4 mm ²	600V / 42A ac (free in air)
	FKA 6 mm ²	600V / 54A ac (free in air)
Current Collector	WFLA 2.5 mm ²	600V / 32A ac (free in air)
	KUF 2/40	40 A, 480 V Fig 10, Ill. 2
	KSTF 2/40	40 A, 480 V Fig 11, Ill. 3
	KST 2/40	40 A, 480 V Fig. 12
Expansion Section	UDV10/25C	50 A, 480 Vac, Fig. 1