



Technical Bulletin

NO. 748

**TOPIC: GENERAL GUIDELINES FOR THE LOCATION OF
HIGH CURRENT MEASURING HEADS ON BUSES**

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Although the DynAmp High Current DC Metering Systems are inherently accurate, stable, and reliable, these factors may be adversely affected by the arbitrary location of the Measuring Head(s) in an environment of many and varied magnetic fields. Some secondary magnetic fields, emanating from angled sections of bus or external buses in close proximity to the Measuring Head(s), are closely related to local overheating problems. External bus currents produce magnetic fields that can sometimes cause zero offsets and errors at low current levels with certain types of high current metering systems.

There are some general guidelines to be considered when mounting the Measuring Head(s). These guidelines are listed below.

To allow general statements to be used as guidelines for locating the system heads, it is imperative that we refer to a reference dimension as it relates to each different size of head. This is because the proper location depends upon a distance related to the largest head aperture distance. This distance will be referred to as distance D. A list of these dimensions for each head size is located on page 2.

1. The Measuring Head should be mounted on the longest straight run of bus that is in an area free from other bus structures.

(Please note the diagram on page 3.)

2. The Measuring Head should be easily centered magnetically when:
 - a. The Measuring Head is located a distance of at least $2xD$ (two longest aperture dimensions) from an external bus carrying less than or equal to the current being measured. See diagram "a". This distance should be measured from the face of the nearest bus to the outline of the Measuring Head. Aperture dimensions for the ranges of the various dc Metering Systems are listed below.
 - b. The Measuring Head is located a distance of at least $2xD$ (two longest aperture dimensions) from a 90 degree elbow section in the bus. See diagram "b".
 - c. The Measuring Head is located a distance of at least $4xD$ (four longest aperture dimensions) from a "U" section in the bus. See diagram "c".
 - d. The Measuring Head is located a distance of at least $4xD$ (four longest aperture dimensions) from a "T" section in the bus. See diagram "c".

Note: Underlined dimensions are used for the aperture distance D.

LKP System	APERTURE DIMENSIONS		
	Inches	(Millimeters)	Head Shape
LKP-6	<u>4.5</u> x 4.5	(<u>114</u> x 114)	Square
LKP-12	<u>7.25</u> x 7.25	(<u>184</u> x 184)	Square
LKP-15	<u>7.87</u> x 7.87	(<u>200</u> x 200)	Square
LKP-30	<u>13.18</u> x 13.18	(<u>335</u> x 335)	Square
LKP-45	<u>20.86</u> x 20.86	(<u>530</u> x 530)	Square
LKP-60	<u>23.42</u> x 23.42	(<u>595</u> x 595)	Square
LKP-80	<u>30.51</u> x 30.51	(<u>775</u> x 775)	Square
LKP-100	<u>46.06</u> x 30.51	(<u>1170</u> x 775)	Rectangular
LKP-130	57.79 x <u>59.37</u>	(1468 x <u>1508</u>)	Octagonal *
LKP-155	<u>76.29</u> x <u>59.37</u>	(<u>1938</u> x <u>1508</u>)	Octagonal *
LKP-180a	<u>93.22</u> x 59.37	(<u>2368</u> x 1508)	Octagonal *
LKP-180b	<u>83.30</u> x 83.30	(<u>2116</u> x 2116)	Octagonal
LKP-225	<u>46.92</u> x 46.92	(<u>1192</u> x 1192)	Octagonal *
LKP-260	<u>98.50</u> x 46.92	(<u>2502</u> x 1192)	Octagonal *
LKP-300	<u>108.07</u> x 108.07	(<u>2745</u> x 2745)	Octagonal *
LKP-350	<u>119.88</u> x 92.91	(<u>3045</u> x 2360)	Octagonal *
LKP-400a	<u>146.85</u> x 92.91	(<u>3730</u> x 2360)	Octagonal *
LKP-400b	<u>131.06</u> x 131.06	(<u>3329</u> x 3329)	Octagonal
LKP-450a	<u>158.03</u> x 131.06	(<u>4014</u> x 3329)	Octagonal *
LKP-450b	<u>173.81</u> x 92.91	(<u>4415</u> x 2360)	Octagonal *
LKP-500	<u>185.00</u> x 131.06	(<u>4699</u> x 3329)	Octagonal *

* Note: Octagonal shape not symmetrical. See data sheet or manual for full dimensional details.

These general guidelines are not necessarily conservative. They should be applied only when a detailed analysis of your bus system is not available. To assure you that the ordered dc Metering System will function properly in your application, DynAmp will perform a detailed computer analysis of the proposed location of the Measuring Head(s) within your bus system at no charge. There is however, a service charge for computer studies on units out of warranty. In order for a proper bus analysis to be run, a minimum of information is required from the customer. Please refer to technical bulletin TEC941 for all the information required to process your bus analysis without delays.

