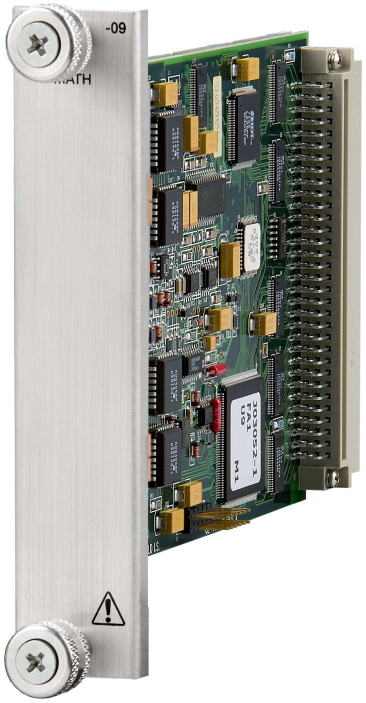
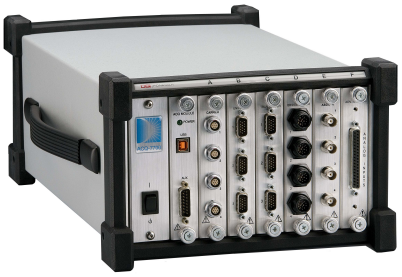
7700 Series Math Module





Features

- **Numerous, predefined math functions available**
- **Can use output from any 7700 series signal conditioner**
- **Ability to combine functions to create your own equations**
- **Up to 16 channels can be used for real-time math functions**
- **Graphical User Interface allows setup of mathematical formulas**

The Math Module utilizes a graphical interface for configuration of user specific math functions. These math functions can be applied to active channels collected from any 7700 series signal conditioner. Examples of the utility of the Math Module would include subtraction of two separate pressure channels, integration of bio-potentials, as well as statistical calculations.

Since the module does not have any connectors or knobs, interaction with the module is performed using the Graphical User Interface (GUI) within the Ponemah software. From the GUI, math functions may be selected or entered from the keyboard. These commands can then be strung together to form more complex calculations based on user requirements.

Technical Data Sheet

Model 13-7715-09
Math Module

Available Math Functions (other functions are available)	
(	Open parenthesis
)	Close parenthesis
+	Calculates the sum of two expressions.
-	Calculates the difference between two expressions.
*	Calculates the product of two expressions.
/	Calculates the ratio of two expressions.
^	Calculates x to the y power, where x is expression1 and y is expression2.
abs	Returns the positive value of the signal independent of polarity.
avg	This function performs a single-pole, low pass RC filter to average the input.
diff	The differentiation function continuously calculates the slope of the input.
exp	Calculates the exponential function of an expression.
int	Integration computes the "area under the curve" until reset.
intp	This function integrates the input and resets the result to zero when the input crosses zero.
ln	Calculates the natural logarithm of a positive expression.
log	Calculates the logarithm (base 10) of a positive expression.
max	For each sample, it returns the maximum value that was sampled in the min/max pair over the samples set.
min	For each sample, it returns the minimum value that was sampled in the min/max pair over the samples set.
neg	The result of this function is the negative portion of the input.
pi	This notation is used as shorthand for the expression 3.1415927.
pos	The result of this function is the positive portion of the input.
sq	Calculates the result of an expression raised to the second power.
sqrt	Calculates the square root of a positive expression.

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